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Managing Public Pension Reserves

Part I: Evidence from the International Experience

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pe'nsion n. 1. periodic payment
made on retirement or
above specified age

PENSION

re-form n. 1. & i. 1. make (institution, procedure
etc.) better by removal or abandonment
of imperfections, faults or errors

REFORM

primer n. 1. elementary book to
equip person with information

PRIMER

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Abstract. Many pension schemes mandated by governments have accumulated large reserves. The management of these funds has a direct effect on financial sustainability and potential benefit levels. It also has important indirect effects on the overall economy when the funds are large. Part I of this study surveys some of the available cross-country evidence on publicly-managed pension reserves. We find that publicly-managed pension funds (i) are often used to achieve objectives other than providing pensions (ii) are difficult to insulate from political interference and (iii) tend to earn poor rates of return relative to relevant indices. These findings are consistent across countries of all types, but returns are especially dismal in countries with poor governance. The experience to date suggests that the rationale for prefunding have been seriously undermined by public management of pension reserves. Countries with serious governance problems should probably avoid funding altogether.

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1. Introduction

Most governments force their citizens to save for retirement. In a pay-as-you-go pension scheme, contributions are immediately used to pay current pensions. Today, a majority of publicly-mandated pension schemes are financed this way. In contrast, more than fifty countries have built up reserves to cover some (partially funded) or all (fully funded) of their pension liabilities. We estimate that the stock of pension assets, including voluntary pensions, is now as much as 50 percent of world GDP.¹

This figure is likely to increase because more countries are choosing to prefund their pension obligations. For example, Canada and Ireland have recently decided to increase the funding levels of their partially funded public schemes. Meanwhile, a growing number of countries are including privately managed and funded schemes as part of their mandatory system. Management of these reserves is of vital importance both to the pension systems and the economies involved.

Government mandate does not necessarily imply government management. Countries increasingly rely on private firms to manage the mandated contributions from workers. This does not mean that government abdicates any role over investment policy. Rather, there are usually many restrictions on investment options.² In extreme situations, regulations may be so heavy handed as to effectively eliminate the discretion of private managers. Conversely, governments that directly control reserves may contract out management to the private sector or introduce some market based, objective criteria to their internal investment policy. In other words, government interference is more usefully thought of as a continuum rather than as a simple distinction between public and private management.

The influence of government can be harmful when investment policies are influenced by objectives unrelated to pension provision. Low investment returns compromise the underlying rationale for prefunding by threatening the solvency of a defined benefit scheme or, in the case of defined contribution schemes, reducing the risk adjusted rate of return. Poor performance can also distort labor markets, as workers increasingly perceive their contributions to these schemes as a tax. Low risk-adjusted returns also signal an inefficient allocation of a country's savings. Conversely, good management can generate higher, more secure benefits for members and provide positive externalities to the economy.

Often, if the fund is large enough, there are important fiscal policy ramifications. Pension reserves are tempting sources of deficit financing, a fact further encouraged by methods of fiscal accounting. This source of captive credit may lead to increase government consumption. It can also be addictive; once a government builds this source of borrowing into its budget process, it may be difficult to wean it off and make the necessary reforms. This undermines the underlying rationale for funding.

¹ These are rough estimates based on available country data. See Palacios and Pallares (2000).

² See Srinivas, Whitehouse and Yermo (2000).

Yet, despite the high stakes involved, little has been written on the international experience with managing public pension reserves. Part I of this paper documents some of the available evidence and makes a preliminary assessment of the international experience. The next section distinguishes between types of prefunding and public versus private management while the evidence is reviewed in Section 3. The last section of Part I draws some preliminary policy conclusions. Part II of this paper looks at ways to improve the governance and incentives for publicly-managed pension funds and reviews proposals in five OECD countries that are attempting to do so.

In Part I, we find that publicly-managed funds almost always face serious political obstacles that hamper their ability to invest effectively. Their asset allocation is systematically biased toward targeted investments and lending to government at low yields. As a result, returns are much lower than those found in privately-managed funds and mostly lower than bank deposit rates.

Using an index of governance as an explanatory variable, we find that normalized returns across countries are positively correlated with better government. Accounting for this factor, we also find that private management generates significantly better returns. These results should be considered preliminary. Data is not strictly comparable and the sample is small. Nevertheless, the empirical analysis supports the anecdotal evidence; publicly-managed pension funds have not been well managed. In many countries, especially those with weak poor governance records, the best policy may be to use available resources to provide a safety net where traditional old age support systems have started to unravel.

But most countries have already introduced forced savings schemes. If they are still running surpluses they must find a way to manage these funds. A second best policy would try to minimize problems by introducing competition and accountability into fund management. Competition should promote good investment policies while accountability should protect members against fraud or abuse. Short of outright privatization, some gains may be possible via competitive tender. Part II of this study considers some recent initiatives to contract out asset management and put public pension fund monies at arms' length from politicians.

2. Types of funding and management

2.1 Types of funding of publicly-mandated pensions

Publicly-mandated pension schemes with some degree of prefunding can be roughly grouped into three categories. The most common form is the *partially funded, defined benefit* scheme. These are often found in younger countries where pension schemes are still immature, as in Francophone Africa or the Middle East.³ However, a few older countries such as Sweden and Japan also fall into this category. The extent to which these DB schemes are actually funded varies across countries and over time. However, to our knowledge, a fully funded defined benefit plan run by a national government does not exist.⁴

In contrast, the second type is the decentralized, defined contribution (DC) schemes that are fully funded in the sense that assets match liabilities at any given moment.⁵ Decentralized and privately-managed DC schemes now operate in more than a dozen countries as part of multipillar pension systems. About half are in Latin America, but recently this model has spread to Hungary, Poland and Hong Kong among others. Australia, Switzerland and the United Kingdom are OECD examples. This way of prefunding publicly-mandated pension obligations has become more prevalent over the last two decades.

Finally, the third type of prefunded scheme is centrally-managed and DC, often called provident funds. These are mostly found in the former British colonies of Africa and Asia. Fewer than a dozen countries use this model and the number is shrinking. The largest one in terms of membership is the Employees' Provident Fund (EPF) in India with more than 20 million members. The Central Provident Fund (CPF) of Singapore is the best known however, with just over one million contributors. Most prescribe the yield to individual accounts every year and force investment in government bonds.

International data on funded pension schemes are not systematically collected by any single institution. The figures in Table 1 compare the ratio of accumulated reserves to national output for 55 countries using various sources documented in Palacios and Pallares (2000). Data are from the late 1980s to mid 1990s and are grouped according to the three categories mentioned above.

³ The concept of the "scaled premium" - where reserves are accumulated in order to smooth out contribution rates over time - was recommended by the International Labor Office and adopted in many developing countries in the 1950s and 1960s. See ILO (1983). Much of North Africa and Francophone sub-Saharan Africa adopted the scaled premium approach. Mesa-Lago (1991) reports nine scaled premium countries in Latin America.

⁴ There is no standard methodology for calculating unfunded public pension liabilities across countries. Nevertheless, we believe this statement to be true under any reasonable definition of full funding currently applied to private sector defined benefit schemes.

⁵ Some of these schemes include guarantees or prescribed yields that are not funded.

**Table 1 Publicly-mandated pension fund reserves in selected countries
by type of funding**

Partially funded Defined Benefit		Centrally-managed DC (Provident Funds)		Privately managed DC	
<i>(Percentage of GDP)</i>					
Egypt	33.1%	Malaysia	55.7%	Switzerland	117.0%
Sweden	32.0%	Singapore	55.6%	Netherlands	87.3%
Japan	25.0%	Sri Lanka	15.2%	UK	74.7%
Jordan	16.9%	Kenya	12.1%	Australia	61.0%
Mauritius	13.1%	Tanzania	9.4%	Chile	45.0%
Philippines	11.2%	Swaziland	6.6%	Denmark	23.9%
Gambia	11.1%	India	4.5%	Argentina	3.0%
Canada	11.0%	Nepal	4.0%	Colombia	2.9%
Belize	10.5%	Indonesia	2.8%	Peru	2.1%
Ghana	9.4%	Brunei	2.4%	Poland	1.1%
Morocco	8.7%	Zambia	0.7%	Uruguay	1.0%
Switzerland	7.1%	Uganda	0.6%	Bolivia	1.0%
Korea	7.0%			Mexico	0.5%
Tunisia	6.9%			Kazakstan	0.5%
Swaziland	6.6%			Hungary	0.4%
Jamaica	5.7%			El Salvador	0.3%
Costa Rica	5.4%			Croatia	0.0%
United States	5.0%			Sweden	0.0%
Yemen	4.0%			Hong Kong	0.0%
Honduras	3.5%				
Senegal	1.6%				
Ethiopia	1.4%				
Algeria	1.2%				
Chad	0.5%				
Namibia	0.4%				
Paraguay	0.4%				

Source: Palacios and Pallares (2000).

Notes: (1) The list does not include all countries known to have reserves. (2) Since 1995, India has had both a partially funded DB scheme and a provident fund. (3) India and Sri Lanka also have employer managed funds. (4) Privately-managed assets in column three may include some voluntary retirement savings.

The most common case - the partially-funded, DB plan - is shown in the first column. The Swedish and Egyptian schemes had accumulated assets worth almost one third of GDP by the mid-1990s. Japan, Mauritius, Jordan and the Philippines also have accumulated large funds relative to their respective economies. The smallest funds in countries like Paraguay or Yemen had assets equal to less than one percent of GDP.

The countries in bold are those for which this ratio is likely to grow significantly in the next few decades. For example, projections for Korea suggest that the ratio of reserves to GDP will more than double in just the next ten years. Recent reforms in Canada that raised contribution rates and aimed to increase returns should also lead to a much higher level of funding over the next two decades. In other countries, such as Japan, the funds will soon begin to dissipate as the scheme matures and population ages.

The largest provident funds relative to national income are those of Singapore and Malaysia. Their size is the result of four decades of accumulation, relatively high coverage and gradually rising contribution rates. Most of the other provident funds in column 2 cover a minority of workers in each country helping explain why they are smaller by this measure. The fact that investment returns have trailed income growth is also partly to blame (see below).

Among the privately-managed schemes in the third column, those of Australia, the Netherlands, Switzerland and the UK are the largest in terms of assets. These multipillar systems were built on pre-existing voluntary private pension sectors. Among the others, only Chile has the coverage levels and a long enough history to have accumulated significant assets. The rest of the Latin American countries in column three along with the new schemes in Croatia, Hungary, Kazakstan, Poland and Sweden are projected to grow rapidly in the next two or three decades. For example, accumulated funds in Argentina, Hungary and Poland are each expected to reach 40 percent of GDP by 2030.⁶

2.2 Public versus private management

The government influences the investment policies of all funded pension schemes. Private, voluntary pension funds rely on favorable tax treatment and are often subject to certain restrictions on investments and withdrawals.⁷ Private managers in mandatory schemes sometimes face an intrusive regulatory regime and often must obey strict limits on the type of assets that they can purchase. Taken to an extreme, portfolio limits can severely limit competition or choice in the market and may even be manipulated to force private funds to be invested exactly as the government chooses.

At the same time, a centrally run government monopoly could use private managers and apply market based criteria to their selection and compensation. As documented in Part II of this study, some countries are trying to build governance mechanisms that limit the direct role of politicians in the investment process. In theory, a centrally managed fund that incorporates market-based criteria could face a less restrictive environment than a privately-managed scheme subject to onerous regulations.

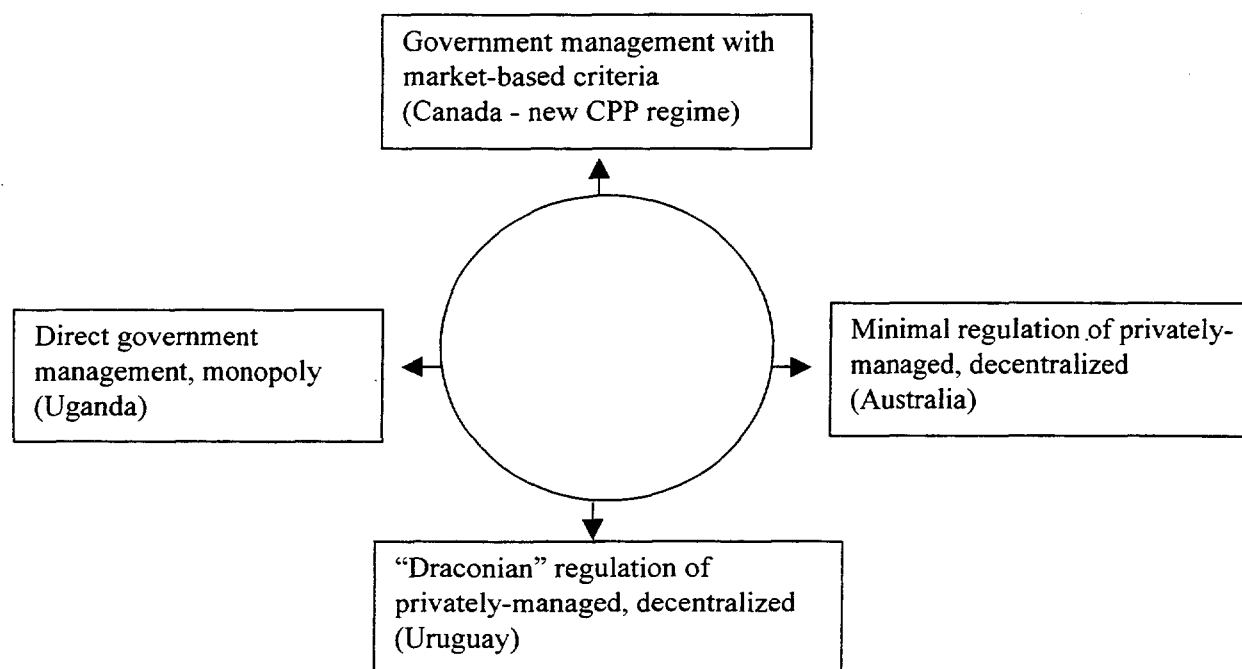
⁶ See Rofman and Stirparo (1997) for Argentina, Palacios and Rocha (1998) for Hungary and Chlon, Gora and Rutkowski (1999) for Poland.

⁷ See Whitehouse (1999) on tax treatment of funded pension schemes.

Given the range of possibilities, it is more useful to express government's potential influence on the investment of publicly-mandated pension funds along a continuum rather than as a sharp and simplistic distinction between public and private management. In Figure 1 below, the possibilities range from the direct control exerted by a state monopoly to a lightly regulated, private system where market forces are allowed to operate freely. In Australia for example, government regulation of investment of pension funds is very light. On the contrary, many countries fall closer to the left hand side of the circle (9 o'clock) where direct public management involves a parastatal monopoly. There is no competition and government officials determine investment policy.

As we move from the laissez faire point on the right towards direct control on the left, the level of government intervention rises. A clockwise shift represents stricter government regulation of the private sector. Movement counterclockwise signals an increase in the direct role of the government as manager of the funds. In either case, government influence on investment decisions increases.

Figure 1 Role of government in management of pension reserves



A "draconian" regulatory regime gives government a large degree of control over private managers. For example, some of the countries in the third column of Table 1 force private pension funds to invest a minimum share of their portfolios in government bonds.⁸ In extreme cases where discretion is practically non-existent, the difference

⁸ The effect of government regulation on the countries in column three of Table 1 are discussed in Srinivas, Whitehouse and Yermo (1999).

between direct control of asset allocation and indirect control through regulations can disappear altogether. This is evident in the employer-based, “exempt funds” of India that are contracted out of the centrally-managed, Employees' Provident Fund. Until recently, they have been forced to invest their entire portfolio in government guaranteed debt.

On the other hand, even in a centralized structure, the government may set up mechanisms to limit political influence over investment decisions. It may, for example, create an objective benchmark based on some desired level of risk and target return and contract with private sector financial institutions to manage the assets. It may also subject the parastatal pension agency to the same standards that are applied to private sector pension managers.

Most of the multipillar schemes including those in Latin America and Eastern Europe are privately-managed and heavily regulated. Here again there are important differences in degree; in Figure 1, Chile and Argentina would fall somewhere between Uruguay and Australia (say, at 4 o'clock) because they are less restricted than the former and more restricted than the latter. Most of the countries listed in the first two columns of Table 1 lie closer to the left side of the circle. This may be changing; recently, for example, Singapore and Fiji have allowed some members to pick private managers and to determine how a portion of their Central Provident Fund balance will be invested.⁹

The case of Bolivia provides another classification challenge. There the government split the pension market into two regional monopolies and auctioned the management rights to private consortia. Eventually, the exclusive concession will end; new firms will be allowed to enter the market and workers to switch between them. This is an example of introducing private sector management while retaining direct control over the degree of competition. A similar outcome could have been achieved by tight regulation of the conditions for entry into the market (e.g., minimum capital requirements, minimum membership etc.).

These examples illustrate the point that all countries lie somewhere along a continuum of government involvement in managing pension reserves. Regulation can influence investment just as much as direct control. Or put another way, decentralized management does not ensure more freedom of investment decision. In practice however, regulatory constraints are rarely so extreme as to eliminate the discretion of private managers while most public pension monopolies do not restrain themselves in order to reduce political interference. The remainder of Part I focuses on the experience to date with the DB schemes and provident funds found in the first two columns of Table 1.

⁹ See Asher (1999) on Singapore and <http://fiji.gov.fj> for information on Fiji.

3. International experience with public management of pension reserves

This section looks at the experience of governments or parastatal institutions that manage pension reserves around the world. After a brief discussion of how these funds are governed, we turn to investment policies and observed portfolios. The implications of our findings are then highlighted.

3.1 Governance structure

Provident funds and social insurance agencies typically have boards that set investment policy. These boards are almost always “tripartite” with representatives from labor unions, employers and the government. Sometimes pensioners are also represented. In 25 countries where information was available, only three did not have tripartite boards.¹⁰ Chairmen are typically appointed by the government and usually come from the Ministry of Finance or the ministry responsible for pension policy. The Treasury or Central Bank often plays a leading role. The Swedish case described in Box 1 is a good example.

While the board may determine overall investment policy (subject to the constraints described in the next section), an investment committee is often responsible for more detailed decisions and monitoring and evaluating the investments of the fund, trading, valuation etc.¹¹ Most schemes do everything in-house. We found only four countries that had used external asset managers and in these cases, the proportion of the portfolio involved was minimal. In some partially-funded DB schemes, an actuarial unit performs funding assessments. A few countries use external actuaries.

The composition of boards reflect domestic political circumstances. For example, in Korea the composition of the Committee for National Pension Fund Operation (NPFO) was changed in 1998 as part of a reform of the National Pension Scheme (NPS). The Minister of Health replaced the Minister of Finance as chairman and the number of members was increased from 11 to 20. The members include the vice Ministers of Finance, Agriculture, Industry, and Labor, the President of the National Pension Corporation (which administers the NPS), three employer and employee representatives respectively, six representatives of farmers, fishermen and the self-employed and two pension experts.

The changes reflected two recent developments. First, the shift of ministerial power was due to broader decline of the standing of the Ministry of Finance in the wake of the East Asian financial crisis. The addition of new members of the insured population and employer representatives reflects the expansion of coverage to new groups such as the self-employed in 1999.

¹⁰ The following figures on the number of Board members were compiled from national sources: India (42), Jordan (15), Korea (20), Malaysia (20) and Sweden (9), Tanzania (12), Kenya (10).

¹¹ The following figures on the number of staff handling investments were compiled from national sources: Ghana (11), Kenya (62), Malaysia (6), Nigeria (12), Sudan (62), Uganda (6) and Zambia (21).

Box 1 Sweden's AP funds

Six pension funds are under public management in Sweden. The largest by far are the first three that share the following features:

The board of each fund consists of nine members: funds 1, 2, and 3 include members from local government and municipalities, unions, employer organizations, consumer organizations and individuals representing the self-employed as well as representatives appointed by the government. The government appoints the chairman of the fund boards. In voting on issues, a majority rule is followed. If the board is equally divided on an issue, the chairman casts the deciding vote. (The minority opinion should be noted). The government sets compensation to the board members. The fund board can employ staff needed and decide on their compensation. Administrative costs are paid by the funds. The fund board has to report to the government on an annual basis. The following table shows the portfolio composition of these three funds at the end of 1997.

Composition of funds 1-3 as of Dec 31, 1997

	<i>Percent of total</i>
Government bonds	42
Housing bonds	40
Other bonds	7
Other interest-earning	6
Foreign bonds	1
Real estate	4

Funds 4-6 are substantially smaller than funds 1-3 and there are rules governing how many assets they can accumulate. Funds 4 and 5 each have 14 members on their boards, they have representatives from employer organizations, unions, municipalities and consumer organizations. The board of fund #6 has 5 members, all of which are appointed by the government. These funds invest in domestic and international equities and the latter cannot be more than 10 percent of assets.

* Based on Sunden (1999).

It is not always clear how the composition of the Board affects investment policy. In the case of Korea, the Ministry of Finance had been able to tap the NPS surpluses for the last decade to finance projects and public works. After the "reforms", the Ministry of Health and the new worker representatives may have other uses for these funds.

Sometimes, the composition and operating procedures of the Board are irrelevant. For example, in Malaysia during the East Asian financial crisis the Mahathir government used the Employees' Provident Fund to support certain government projects against the objections of the Board of Trustees.¹² Another example is found in Munnell and Ernsberger (1989) who note that the US Secretary of the Treasury, when constrained by a debt ceiling in 1985, ordered the conversion "...of 28 billion dollars in long term bonds held by the trust funds into non-interest bearing cash balances without notifying the two public trustees." More often, however, government control is assured through political appointments and the direct representation of the Executive branch on the Board.

¹² See, "Savings at Risk: Malaysia is being criticized for using its national pension fund to funnel cash to companies", Far Eastern Economic Review, April 30, 1998.

3.2 Restrictions and mandates

These governing bodies are often constrained by the legal framework and/or by a set of investment principles. Their discretion is limited by restrictions on investment choices and by mandates to invest in certain projects. In Korea for example, a law passed in the late 1980s, automatically channeled two thirds of the National Pension Fund to the Ministry of Finance (MOF) in the form of special loans. In other countries, including the United States, all monies must be invested in non-marketable government bonds.

Table 2 shows the portfolio restrictions of the Employees Provident Fund (EPF) in India. These refer to new investments as opposed to limits on the actual portfolio held at any given time. Notably, 90 percent of investments must be made in government or government guaranteed debt with only 10 percent allowed to be invested in private corporate bonds with investment grade rating. Prior to 1998, even this limited investment in the private sector was not allowed. Interestingly, the EPF board has thus far decided not to invest in the corporate bonds despite higher potential returns. This decision was apparently due to the risk aversion of union representatives combined with the practice of stipulating the annual minimum yield in advance.¹³

Table 2 Prescribed investment limits for the EPF in India, 1998

Instrument	% of amount invested
(i) Central government bonds	25
(ii) (a) State government bonds	15
(b) Government guaranteed bonds	
(iii) (a) Securities of Public Financial Institutions Public Sector Enterprises, Banks and Infrastructure Development Finance Co.	40
(b) CDs issued by public sector banks	
(iv) Above three categories as determined by Board of Trustees	20
(v) Private sector bonds with investment grade credit rating from two credit rating agencies (from (iv) above)	10

Source: EPF Act as amended 1998.

¹³ Discussions with EPF officials in November 1998.

But mandates and restrictions are not always so explicit. They can also take the form of investment principles or guidelines that steer the portfolio toward social and economic development objectives. Guidelines in Mauritius provide that 30 percent of the portfolio should be invested in areas with a “social dimension” and even specified the acceptable loss of return from this type of investment.¹⁴ And among the major principles guiding Jordan’s public pension scheme is:

“Contributing to the development of the productive base of the national economy through participation in economically feasible projects that, at the same time, have an appropriate developmental dimension.”

(Social Security Corporation Annual Report, 1996)

The expression “developmental dimension” opens the door to a wide array of possibilities, which probably explains why politicians find them convenient. “*Social investments*” for example, are justified on the basis that they will improve the lives of members of the scheme in ways other than receiving a pension. Personal loans for housing and education, subsidies to mortgage markets and housing construction and investment in social infrastructure (hospitals, clinics) are common examples.

Economic or development objectives give rise to another kind of mandate - “*economically-targeted investments*” or ETIs. Some proponents of this type of investment claim that inefficiencies in the capital markets leave worthwhile projects without financing and that there are externalities to some projects that can produce quantifiable benefits for members. However, such claims are difficult to substantiate as are the market failures that proponents claim exist.¹⁵ More often the motives for ETIs are related to the popularity of the projects being financed. We are not aware of any country where rigorous and objective criteria are applied to the selection of these targeted investments. Anecdotally, the selection of projects appears to be based mostly on the priorities of the government in power. In this case, the lower returns that typically accompany ETIs are a tax on at least some members of the scheme.

Examples of economically targeted investments (ETIs) of pension funds can be found in every region and in countries of every income level. This can take place at a very broad policy level. Public pension funds in five African countries responded positively when asked if there was a formal link between the government’s economic development plan and the use of pension reserves.¹⁶ Mahdi (1990) reports that in Turkey, the State Planning Board can directly intervene in investment policy. In Jordan, the Board that manages investments tries to “meet criteria, which include those established within the framework of the National Development Plan”.

¹⁴ “The yield to investments with a social dimension is expected to be 2.5% above the bank rate and commercial bank loans are expected to yield 4.5% above the Bank rate.”

¹⁵ For examples of the debate over ETIs in the US, see Watson (1994) and Nofsinger (1998). Munnell and Sunden (1999) provide a long list of examples from the US experience.

¹⁶ ISSA (1997).

Pension funds are often directed toward infrastructure projects or state enterprises. In Venezuela, for example, a substantial portion of the pension fund portfolio during the 1980s was invested in state enterprise bonds. In Tunisia, the government required investment in "equipment bonds".¹⁷ Egyptian and Moroccan reserves are invested through development banks. Since 1987, Iran's reserves have been used among other things to provide "financial facilities to industrial units of the country, to buy raw materials and machinery and improving business activities".¹⁸ Whatever the merits of these investments, all appear to have generated below market rates of return.

In East Asia, ETIs have been used extensively by publicly-managed pension funds. In Japan for example, a portion of the surpluses are transferred to a Trust Fund Bureau that in turn makes them available to the Fiscal Investment Loan Program (FILP). Under the direction of the Ministry of Finance, this agency invests in hospitals, housing, infrastructure projects, resorts and welfare facilities. Korea has followed the Japanese model closely. As in Japan, a substantial portion of the reserves have been lent to the Ministry of Finance which in turn has used these funds to invest in various public projects. This portion has grown to more than two thirds of the total portfolio. These funds also make *social investments*. The category labeled "welfare" has risen from zero to about 3 percent of the portfolio in Korea and was 17 percent in Japan by 1995.¹⁹

Government mandates are most popular for the purpose of providing housing. Investments by pension funds in this sector can take many forms. A government might force the pension fund to purchase mortgage bonds in an effort to create a market for such instruments. Alternatively, the pension fund could provide loans directly to members for construction or purchase of housing. It could also invest in public housing projects through special bonds or loans to developers.

Sweden provides an example. In the 1960s and 70s, the Swedish government was interested in expanding housing opportunities. Growing public pension reserves presented a convenient source of long term financing. This match was made when the Central Bank effectively forced the public pension funds (or AP funds) to purchase low interest housing bonds. As a result, note Munnell and Ernsberger (1989), "...the priorities of the AP managers were often at odds with the goals of the Central Bank".²⁰ The pension fund managers lost the battle and the AP funds earned lower returns in order to meet the government's housing policy objectives.

In Jordan, housing projects which "meet the needs of medium and low income families" were favored and interest rates on these loans "are below prevailing interest rates on normal deposits". Social investments are also reported in Algeria, Iran, Tunisia and Morocco, mostly in the form of investments in housing and medical facilities. Vitas

¹⁷ Vitas (1993) states that these restrictions were being lifted in the early 1990s.

¹⁸ SSRI (1997) p. 76.

¹⁹ The Employees' Pension Insurance and the National Pension System have 63% of their funds in national financial investments and loans programs, 17% in welfare operations, and 20% in market-based investments (24 trillion in 1998).

²⁰ Munnell and Ernsberger (1989).

(1993) reports that social housing investments were being phased out in the early 1990s in Tunisia but were being replaced by housing and personal loans at below market interest rates. In Iran, the annual report of the social insurance agency cites housing loans to cooperatives and individuals between 1987 and 1993.²¹ Algeria's pension funds were invested in social infrastructure projects yielding negative returns.²²

Housing was also found to be the most popular social investment in a recent study of a dozen Anglophone African countries. ISSA (1997) reports that the public pension funds in Gambia, Ghana, Kenya, Mauritius, Nigeria, Swaziland, Tanzania, Uganda and Zambia played a role in housing finance and/or construction. In Tanzania and Zambia for example, the fund itself constructs housing which is then rented to individuals.

Sometimes these loans are not directed at the average worker. In Nigeria, for example, housing investments "are restricted to the provision of commercial housing largely for high net worth individuals", although it was noted that the fund was "considering the development of mass housing for middle and low income persons in urban areas" (ISSA (1997)). In Tanzania, as described below in Box 2, housing is provided to privileged individuals including the Prime Minister.

Box 2 The house that the Tanzanian Provident Fund built

In November 1998, Tanzania's parastatal Pension Fund commissioned PriceWaterHouseCoopers to review its investment portfolio and financial planning and management and advise it on future activities. The inquiry followed the revelation that contrary to earlier denials by the press secretary, Prime Minister Sumaye publicly admitted to having borrowed 50 million Tsh (about 75,000 US\$) to construct his third house. Another powerful official receiving a similar loan was Dr. Idris Rashidi, governor of the Bank of Tanzania who was recently replaced after completing his term. Several private firms received questionable loans.

The National Social Security Fund (NSSF) collects contributions from public and private sector workers but exempts politicians and high government officials. In addition to personal loans, in recent years it has invested in huge residential and commercial buildings despite financial guidelines from the central bank requiring that social security funds to be used to purchase liquid assets.

The Director General, Mr Mataka said the fund had stopped giving out loans awaiting the results of the PriceWaterHouseCoopers evaluation. The fund, he said, would stick to treasury bills and government deposits.

Source: News report by Premy Kibanga, Dar es Salaam, November 25, 1998.

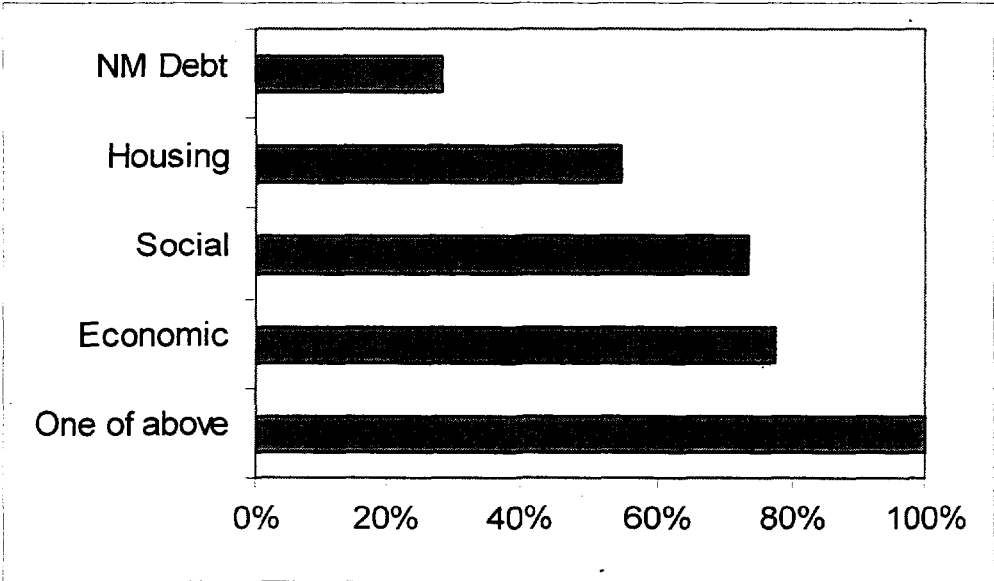
²¹ Social Security Research Institute, Iran (1997).

²² Boersch-Supan et. al., (1999).

Restrictions and mandates can also be used to force pension funds to lend money to the government. Governments prefer to borrow from public pension funds for at least three reasons. First, the flow of pension fund surpluses is usually predictable, making it easier to finance anticipated deficits. Second, by forcing the pension funds to purchase non-tradable bonds with no transparent market pricing mechanism, the government may be able to reduce its borrowing costs. Finally, fiscal accounting practices may reward this form of borrowing since purchase of government securities by a public pension fund reduces net government debt.²³ Many countries apply rules that explicitly or implicitly force public pension fund managers to purchase government bonds. In some cases, such as the United States, this is the only investment allowed.

Figure 2 summarizes the type of mandates and restrictions that were found in a sample of more than 30 countries. In each, some portion of the portfolio was directed to either ETIs, social investments or to the purchase of government or state enterprise debt. Housing was the most popular type of directed investment.

**Figure 2 Directed investment of publicly-managed pension funds
(Percent of funds with these practices)**



NM = non-marketable government debt.
Source: authors' calculations based various country sources.

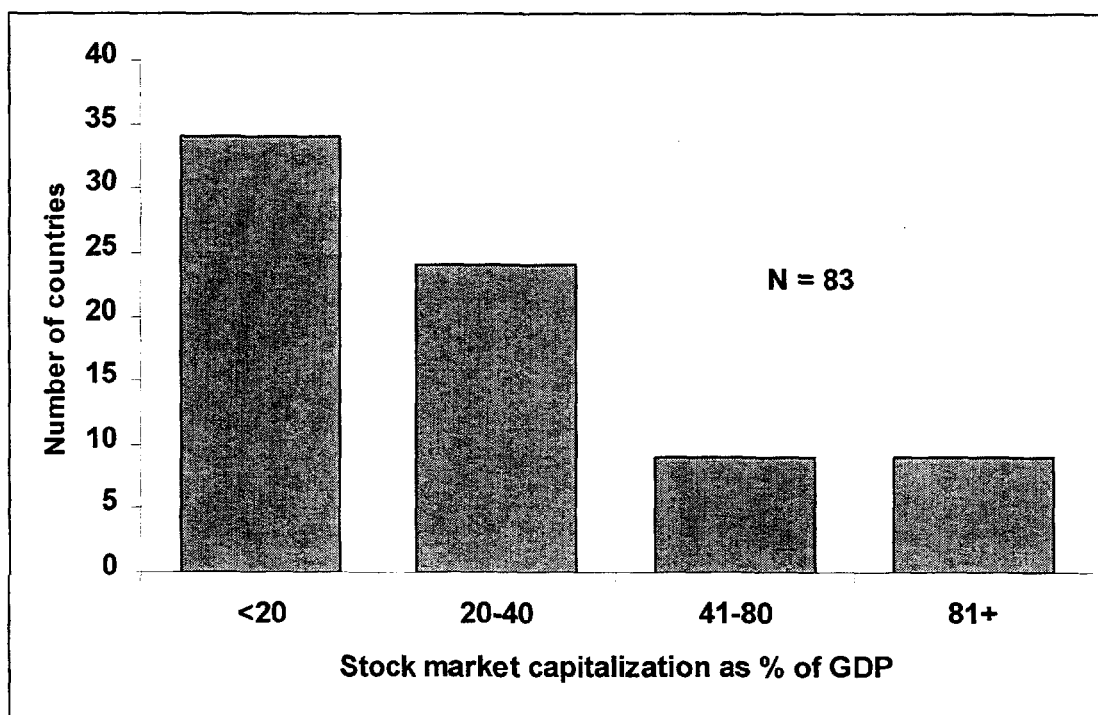
²³ The IMF's GFS Statistics methodology treats the purchase of government bonds by public pension funds as repurchase of government debt.

3.3 Limited domestic investment options

In addition to the constraints imposed by governments, underdeveloped capital markets and shallow financial sectors can be a major obstacle for pension fund managers, be they public or private. While allowing for investment abroad would ease this constraint (and is generally to be recommended), it is often not an option because of exchange controls, high transaction costs, and perhaps most importantly, political pressure to keep scarce investment funds at home.

Figures 3 and 4 use stock market capitalization and commercial bank credit to GDP to highlight the wide variation in the depth of financial sectors across countries.²⁴ Not surprisingly, the countries with the lowest ratios are found in sub-Saharan Africa and the poorer parts of the former Soviet Union. Pension fund managers in these countries would encounter few options for investment in domestic markets. They are also the countries with the weakest legal and regulatory structures, thinnest market for government bonds and the most limited human resources for operation and supervision of funded pension schemes.

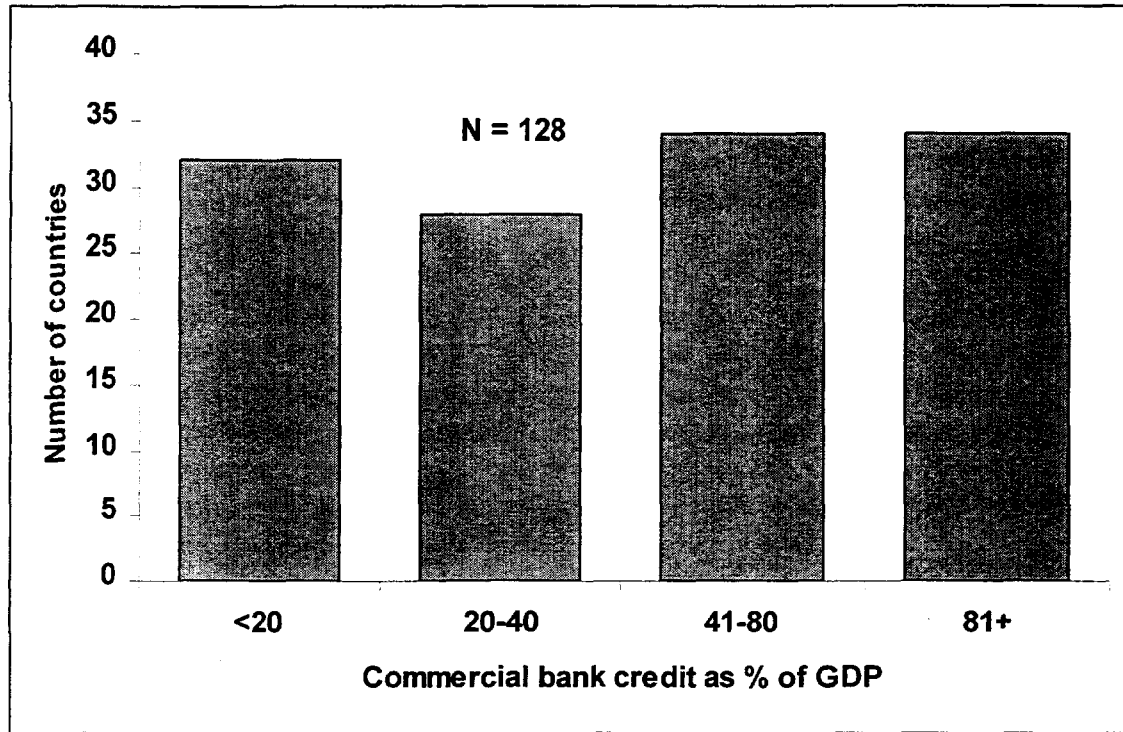
Figure 3 Distribution of countries by financial sector depth
(Stock market capitalization as percentage of GDP)



Source: World Development Indicators 1997, Table 5.10.

²⁴ Other indicators such as M3/GDP, stock market capitalization and liquidity etc. produce a similar distribution across countries.

Figure 4 Distribution of countries by financial sector depth
(Commercial bank credit as percentage of GDP)



Source: World Development Indicators 1997, Table 5.10.

Clearly, public pension fund managers in different countries face very different constraints. Sometimes options in the domestic market are practically non-existent. In some countries, the rule of law, definition of property rights and basic financial infrastructure do not meet minimum standards. In such a situation, the riskless benchmark does not exist since the government may default on its bonds or fail to ensure the solvency of the banking system. Unfortunately, the case of Cameroon, described in Box 3, is not unique.

But even in countries where domestic capital markets do provide potential investment outlets for large public pension funds, at least three obvious problems emerge: First, ownership of a large proportion of the shares by the government would effectively nationalize the industries involved. At the very least, it would raise important questions regarding corporate governance. Second, the government may be tempted to use the pension fund to support the stock market or to support specific firms with political influence.²⁵ Finally, the government may find itself in the awkward position of regulator and owner of certain industries, creating other possible of conflicts of interest. These are among the major challenges facing supporters of the idea of investing public funds in private markets.²⁶

²⁵ Recent examples include the questionable purchases of banks in the Philippines (Wall Street Journal, July 3, 1999) and the use of Taiwan's state controlled pension fund to prop up the stock market (Wall Street Journal, July 19, 1999).

²⁶ See Angelis (1998) for a good review of the issues in the US context.

Box 3 Cameroon – no safe haven for public pension funds*

In the 1980s, the public pension fund in Cameroon (CNPS) had a difficult time finding safe places to invest its growing funds. There were few private securities available domestically. It was forced to purchase medium term, low interest bonds from the National Investment Company and invested some more in the Bank for Trade and Industry but all of this accounted for only a small part of the overall portfolio.

Bank deposits were the second largest item in the portfolio but these deposits turned out to be quite risky. The accounts were frozen when several banks were closed in the 1980s. A small part of the portfolio was in real estate. This provided rental income and appeared to have maintained its real value over time.

But the largest part of the portfolio was held in the form of government bonds. Naturally, it would be safe there. Or would it? In the mid-1980s, the government of Cameroon covered part of its burgeoning deficit by borrowing large sums from the CNPS. More loans were mandated to state enterprises like the Cameroon Sugar Corporation and the Cameroon Banana Organization. Social housing was financed through loans to the Cameroon Housing Company. These loans were made upon the instruction of the President of the Republic or the Minister of Finance while the CNPS management was restricted to carrying out instructions. The duration of the loans was 10 or 20 years and the interest rates were often lower than those given on bank deposits. Some state companies were unable to repay the loans while others simply chose not to repay. One official expressed his dismay,

“The managers of the CNPS have no real means of exerting pressure on the government since the Fund is a public establishment... This situation justifies the fears of those who worry that the temptation of the abundant reserves accumulated by social security schemes will be too strong for public authorities, which will draw on them for more dubious purposes.”

Frustrated managers at the CNPS even advocated depositing some of the pension fund money abroad but this was rejected by the government. In the end, there seems to be no safe haven for the savings of Cameroon's workers.

Source: This material is drawn from Mounbaga (1995).

3.4 Observed Portfolios

Table 2 reports broad portfolio allocations for public pension schemes in more than thirty countries from every region of the world. The data come from various sources and the original categories were reclassified into four broad asset classes. The share in each category is rounded.

Clearly, there is a bias in most countries toward holding large shares in bank deposits and government securities. For the sample as a whole, the simple average of holdings in this category is 75 percent of total assets. In most of these cases, there is little or no secondary market for the government bonds that are being held by the pension fund. Most of the bank deposits are in state-owned banks.

Only five countries invest less than half of the public pension fund in this asset. These countries – Ecuador, Philippines, Sweden, Sudan and Tunisia – have above average holdings of loans for housing and other purposes. This is the second most popular category for investments. Loans were significant in nineteen of the countries and there is no obvious pattern by income level or region. The majority of these loans are made outside the formal financial system and involve implicit subsidies.

The last column includes property such as hotels, commercial office space and land along with some other items, which were not easily classified. Nineteen countries had some investments in these items, but with the exception of four countries, never more than one fifth of the portfolio. Typically, these transactions involve long term ownership in an illiquid real estate market making valuation extremely difficult. Again, no clear pattern held with regard to the proportions of real estate held.

Table 2 illustrates the very limited use of private capital markets by public pension funds. The least popular investment is in equities. Only about one third of the countries had any investment in this category. On average only three percent of the portfolios in the sample are invested in shares. The size and liquidity of the stock market is not necessarily the constraint, as low equity holdings are not correlated with these indicators. For example, Korea had a relative large and liquid stock market but has chosen to invest less than three percent of pension reserves in equities. Similarly, the absence of shares in US and Canadian portfolios has nothing to do with the domestic capital market conditions. Certainly, thin local capital markets in many countries could discourage pension fund managers, especially if foreign investment were prohibited. It is doubtful however, that it was a binding constraint in most cases.

Private pension investment patterns in the 1980s and 90s were significantly different. A recent study of 10 OECD countries found that the unweighted average proportion of private pension portfolios invested in equity in 1996 was around 32 percent. Weighted by assets, the figure rises to almost 50 percent.²⁷ Investments in equities in Latin America's new private pension schemes also tend to be significantly higher than what is observed in Table 2. Private pension funds in Peru and Argentina for example, held 22 and 35 percent of their respective assets in equities in mid-1997. Since restrictions on equity investments were lifted in the mid-1980s, Chilean AFPs have increased investments in shares to about 30 percent by mid-1997. Around three-fourths of Hong Kong's private pension assets were in the form of equities between 1990-1995. We are not aware of social investment mandates or ETIs in private pension systems.

²⁷ See table V.5, OECD (1998). This average includes Australia, Belgium, Canada, France, Italy, Japan, Germany, Netherlands, Switzerland, the United Kingdom and the United States.

Table 3 Publicly-managed pension fund portfolios in 34 countries, 1980s and 1990s

Country	Year	Govmt. Bonds/ Fixed Deposits	Loans/Mortgages/ Housing Bonds	Shares/ Equity	Real Estate/Other	Total
		<i>percentages</i>				
Canada (CPP)	1991	100	0	0	0	100
Egypt	1995	100	0	0	0	100
Pakistan	1981	100	0	0	0	100
Sri Lanka	1997	100	0	0	0	100
Switzerland	1997	100	0	0	0	100
United States	1997	100	0	0	0	100
Yemen	1996	100	0	0	0	100
Colombia	1982	100	0	0	0	100
India	1995	100	0	0	0	100
Venezuela	1981	100	0	0	0	100
Niger	1980	96	3	1	0	100
Senegal	1980	93	6	1	0	100
Jamaica	1987	91	9	0	0	100
Tanzania	1996	90	0	0	10	100
Korea	1997	89	3	3	6	100
Rwanda	1980	82	4	5	8	100
Ethiopia	1996	80	0	0	20	100
Costa Rica	1987	79	15	0	6	100
Burundi	1981	78	9	6	8	100
Peru	1988	76	7	0	17	100
Kenya	1994	73	0	11	16	100
Uganda	1994	68	8	1	23	100
Japan	1995	63	17	19	0	100
Malaysia	1996	63	21	15	1	100
Togo	1981	59	1	3	37	100
Morocco	1994	58	32	7	3	100
Cameroon	1989	57	40	2	1	100
Mauritius	1996	56	0	2	42	100
Jordan	1995	52	25	17	6	100
Philippines	1995	44	38	10	8	100
Tunisia	1990	43	30	0	27	100
Sweden	1996	42	40	0	18	100
Sudan	1982	26	58	0	16	100
Ecuador	1986	10	83	3	3	100
Mean		75	14	3	8	100

Source: Palacios and Pallares (2000).

Note: Provident funds in bold.

As already noted, investment abroad by public pension funds is rare. We found only a few countries where foreign securities were held by public pension funds including Japan (<1%), Mauritius (5%) and Sweden (2%). A 1997 legislative change allowed the main public scheme in the Philippines to invest up to 7.5 percent abroad, but this had not occurred by 1999.²⁸ This is poor policy in light of the limited investment options available in most countries and especially when the funds are large relative to domestic

²⁸ In fact, the finance minister recently announced that no foreign investments would be allowed.

capital markets. Nevertheless, the political pressure to keep workers savings at home is a constant theme in the policy debates of rich and poor countries alike.²⁹

In contrast, data for seven OECD countries (including some voluntary schemes) show that private pension funds have increased the average share of their portfolio in foreign assets from 12 to 17 percent between 1990 and 1996.³⁰ This trend is likely to continue and restrictions on cross-border investments by pension funds have already been relaxed in many OECD countries.

3.5 Investment returns and volatility

Perhaps the most important single indicator of how public pension reserves are being managed is the rate of return. Unfortunately, data are not readily available for most countries and where they are, may not be strictly comparable. For example, valuation methods vary, with most countries using book values rather than marking to market. In other countries, returns are simply not published. The dearth of good information in this area is itself symptomatic of the lack of accountability and transparency that characterize many of the schemes (see Box 4).

With these caveats in mind, this subsection looks at two types of returns for a small sample of countries. The first type is the return credited to the accounts of provident fund members. The second refers to the reported return on investments of partially funded, defined benefit schemes. Countries with data for at least eight consecutive years were included in the sample (see Annex 1).

Figure 5 below plots the annual compounded rates of return for a sample of 22 countries for different time periods against the standard deviations of annual returns. Half of the sample or 10 countries failed to generate positive real returns. For those that did, returns were low, mostly between 1-2 percent. Only members of provident funds in Malaysia and the partially funded, defined benefit scheme in Korea earned real returns in excess of three percent. The Korean performance was the best at 5.4 percent per annum. The worst returns were found in Uganda (-50.5%), Peru (-46.6%), and Zambia (-30.5%).

²⁹ For example, proposals for the new Investment Board to allow the CPP to invest as much abroad as private pension funds (20%) have been hotly contested by Canadian unions.

³⁰ The sample did not include Australia where pension funds tend to hold more than 15 percent in foreign assets.

Box 4 Morocco's CNSS at the Center of a Conflict

The head of one of Morocco's biggest labor union, the UMT, is requiring Prime Minister Youssoufi to answer some tough questions regarding the country's social security fund known as CNSS. In a letter sent to the head of the government, Mahjoub Benseddik of the UMT labor union said that he wanted answers on three main questions. These questions are:

"What were the losses incurred by CNSS members due to the mismanagement of the CNSS over the last 20 years?" "Who is responsible for this mismanagement and how will this/these person(s) be liable in court and what the government intends to do again this/these person(s)?" "How the government intends to give back control of the CNSS to its legitimate contributors?"

In his letter, Benseddik reminds Prime Minister Youssoufi that "since 1983 it was his organization (UMT) that was constantly protesting against the abuse of power with total impunity by representatives of the central government." Between 1978 and 1992, Benseddik calculates that "subscribers to the CNSS have lost some DH 20 billion." In his letter he enclosed a file containing various reports of "dilapidation of workers wealth."

Mr. Benseddik gives indeed a concrete example on what he considers is "workers' wealth dilapidation." One example is the "illegal agreement secretly signed in 1988" by the two ministers overseeing the CNSS, the ministers of finance and public health. The agreement was about the health clinic network owned by the CNSS which was "illegally" taken over by the government. For Benseddik, this unacceptable transfer caused tremendous damages in financial and technical terms to the CNSS and hence to its members.

The Secretary General of the UMT, Mr. Benseddik, reminds Youssoufi that it was the mismanagement of the CNSS that led his organization to withdraw from the Fund's Executive Board in 1993. Mr. Benseddik goes further as to demand from Mr. Youssoufi all the financial documents, accounting audits, and other investigative reports made by experts of the International Labor Union since 1992 as regard to the Fund. The goal, Mr. Benseddik says, "is to let the public opinion know, in a very precise manner, who is responsible, who embezzled funds, and who got rich as a consequence."

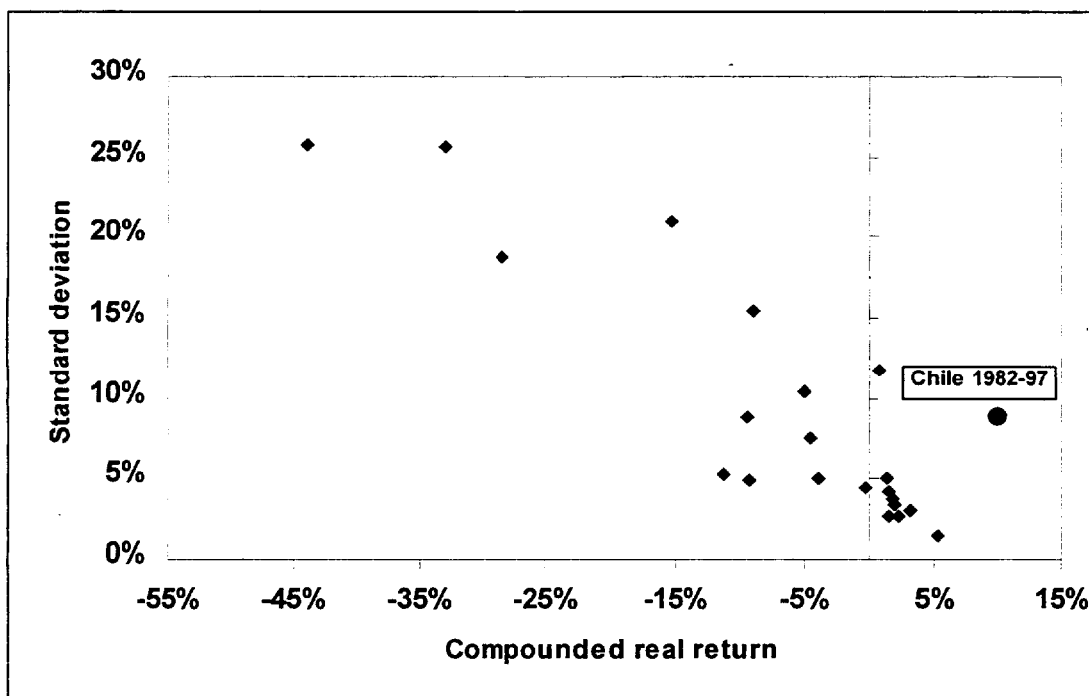
Observers say that Mr. Benseddik's remarks and demands are somehow unjustified. His organization, the UMT, is the principal labor union affiliate to the CNSS. As a Board member, the UMT has always had the right to question and review every aspects of the management of the Fund and could have made changes if it found that something was wrong. In fact, the UMT labor union withdrew from the CNSS board in 1993, when the government requested that other labor unions, the UGTM and CDT, have a seat. The UMT had then 8 seats. With the arrival in power of a government of 'alternation' led by a Prime Minister affiliated to a rival union, the UMT sees its position at high risk. It has recently been angered by the issue of representation to the ILO's international meeting in Geneva. Youssoufi asked the three main unions to come up with a single representation but Benseddik did not approve of such request since he has been the only representative of Morocco for decades.

For Youssoufi, this is an opportunity to fix the CNSS' problems. It is time that the CNSS problems are solved in total transparency and now Youssoufi has the opportunity to do so.

Source: reprinted from North Africa News website.

A striking feature of Figure 5 is that volatility, as measured by the standard deviation of annual returns, is inversely related with the average compounded return. Given that the data are from different countries and years, they do not represent a comparable set of points along a risk-return frontier. Nevertheless, we would expect that cross country results would be roughly consistent with the ideas that higher risk is rewarded by higher returns. This is not the case. Instead, half of the sample hold risky portfolios and gets dismal returns. The other half get low but stable returns. We also report the returns for Chile for private pension industry between 1982 and 1997 as reported in Srinivas and Yermo (1999).

Figure 5 Annual, compounded, real returns and volatility in twenty-two publicly-managed pension funds



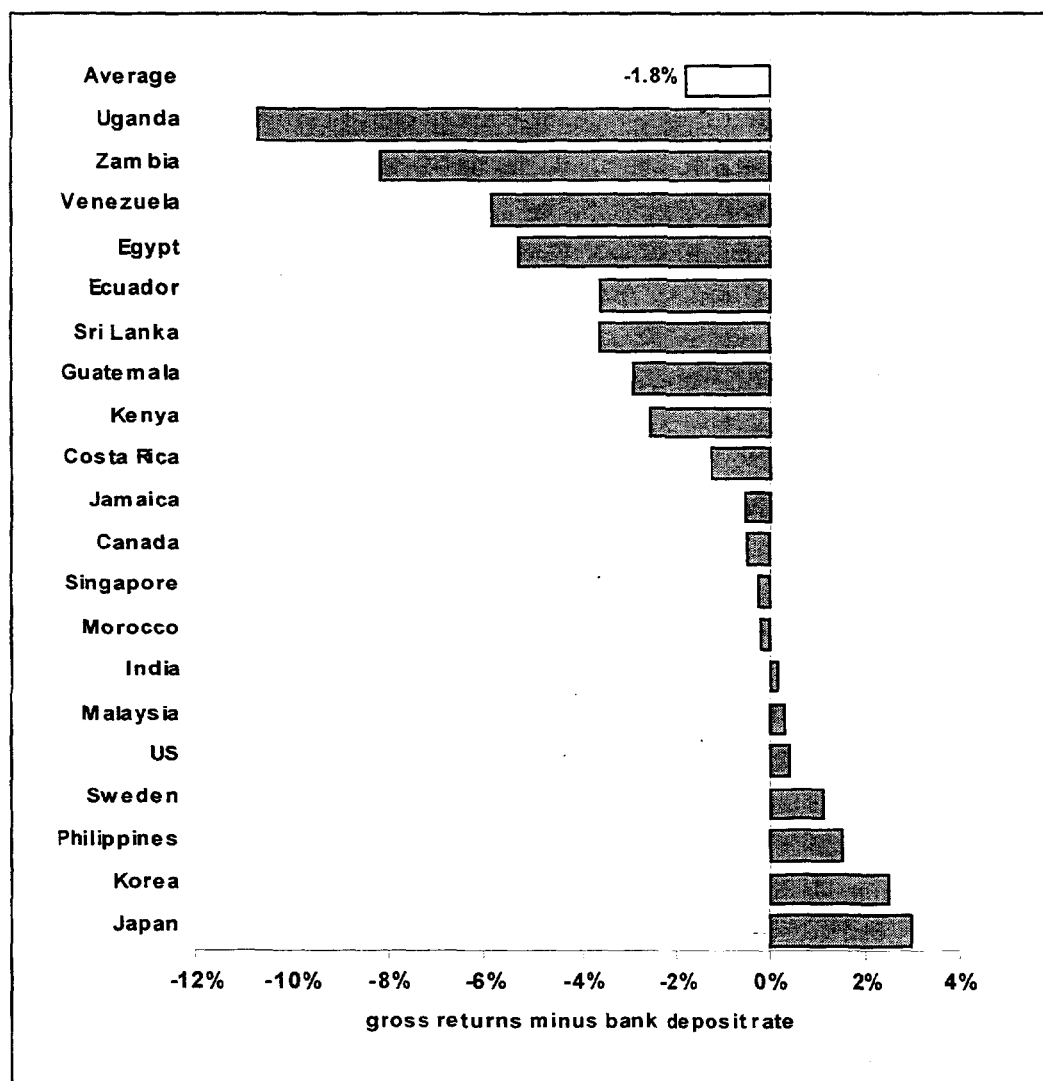
Source: Author's calculations based on data in Palacios and Pallares (2000).

Figure 5 is difficult to interpret. Except for a truly international portfolio, risk/return profiles of the investments available to public pension funds vary greatly across countries. Public pension managers in each country had to deal with available rates of return in their respective economies. Recent evidence suggests that these may be low even in capital-scarce countries.³¹ Mandates and restrictions further constrain the opportunity set. Finally, country specific factors affecting particular economy during the period covered here could skew the results. In short, while Figure 4 confirms low or negative returns for all of the publicly-managed schemes, it does not reveal whether the returns experienced were reasonable given prevailing conditions.

³¹ Easterly (1999) for example, finds very low returns to capital in Sub-Saharan Africa.

In order to get a clearer picture, we looked at the returns relative to bank deposit rates in the same countries during the same periods. Normalizing in this way should help control for some of the country-specific factors and provide a crude benchmark for investment alternatives. Figure 6 shows the difference between pension fund returns and short-term bank deposit rates for 20 countries. There was a very high correlation between the rates of return on pension funds and the bank deposit rate. This is not surprising given the high shares of the portfolio that are invested in bank deposits and/or short term government bonds and the effect of inflation on both.

Figure 6 Difference between annual compounded real publicly-managed pension fund returns and bank deposit rates in 20 countries (from worst to best)



Source: IMF IFS Statistics; Figure 4; Authors' calculations.

There is significant variation across the sample. Using a simple average, returns are 180 basis points lower than bank deposit rates. However, four countries - Sweden, Philippines, Korea and Japan - show returns that are more than 100 basis points higher than deposit rates. Japan and Korea stand out with returns exceeding deposit rates by 300 and 250 basis points respectively. We should note however, that this differential evaporates if the yield on t-bills is used instead of bank deposit rates. Most of the sample posted returns well below the short-term interest rate. In the worst cases, the funds would have earned 400-1000 basis points more per annum by keeping all of their money in bank deposits. Worse yet, workers in these countries were not compensated for these poor returns by lower risk; the volatility of bank deposit interest rates was the same as or lower than the volatility of pension fund returns (see Annex 1). By contrast, compounded real returns in Chile's private pension funds outpaced bank deposit rates by 370 basis points between 1982-1997 according to Srinivas and Yermo (1999).

Figure 6 suggests that returns in most of our sample are not even as high as the short-term returns that can be obtained in banks by individual savers. In some cases, the returns are much worse. But pension funds handle long term savings that should be able to earn higher returns in exchange for lower liquidity. Rather than the riskless rate of return on liquid assets, they should be able to earn something closer to the economy's long run return on capital. This could only be achieved of course, if investments were made in the private capital markets. In the last section we have already shown that this is uncommon for publicly-managed funds.

In assessing the gap between actual and potential returns we can look to the growth of incomes as a rough benchmark. In a dynamically efficient economy, returns to capital are higher than the growth in incomes over long time horizons. As shown by Abel et. al., (1989), this can be the case even when the riskless rate of return (e.g., interest on t-bills) is below GDP growth. Thus, the returns available to publicly-managed pension funds from a diversified portfolio should be greater than income growth, other things constant. This relationship is also important if the pension scheme is to generate reasonable replacement rates.

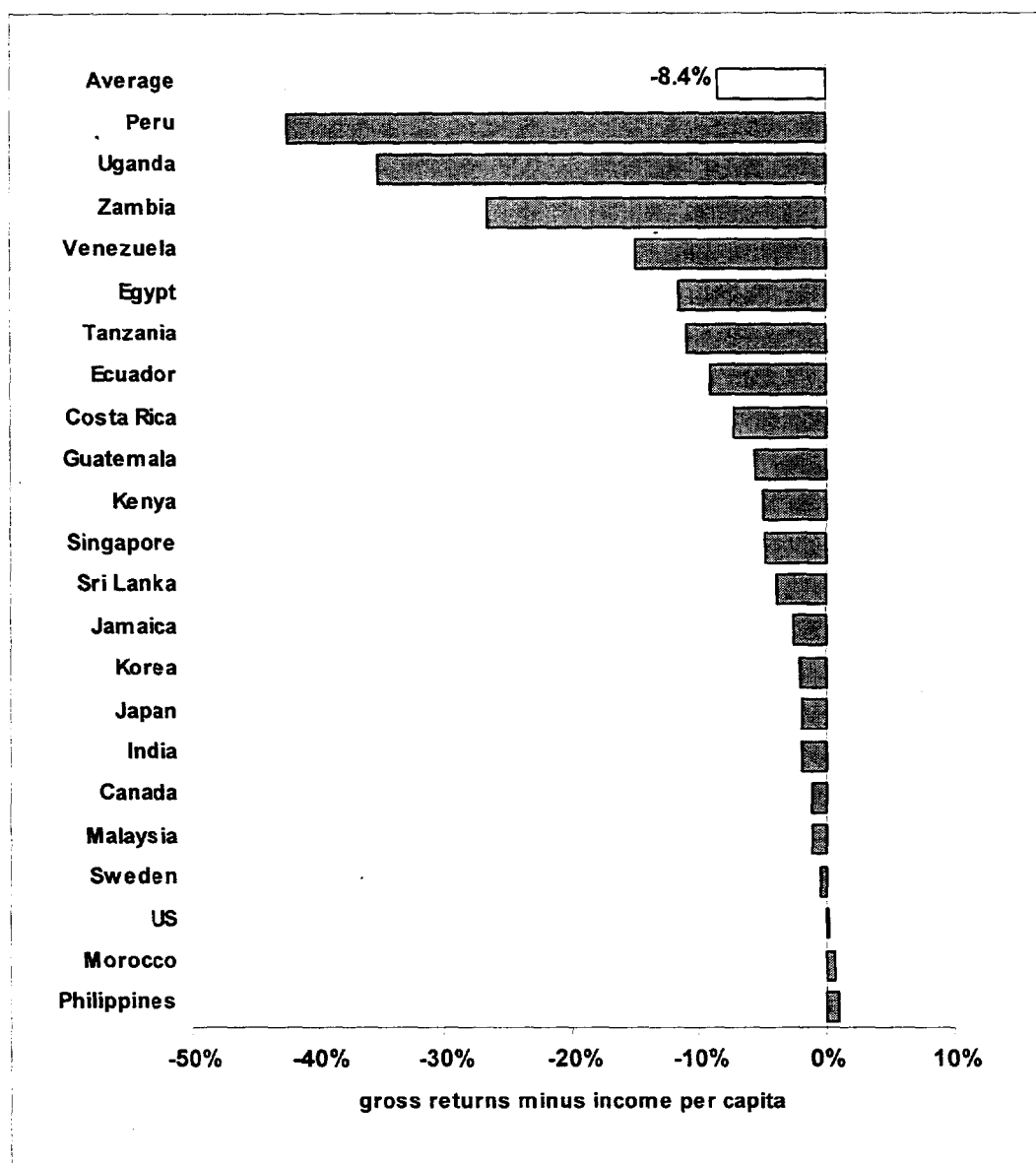
Figure 7 shows that only two publicly-managed pension schemes earned returns that were greater than the growth of income per capita during the periods in question. Only in the Philippines and Morocco were returns greater than income growth and then only by a small margin.³² In most countries, returns trailed income growth. In half the sample, the differential in favor of income growth was greater than 300 basis points.

The results for Singapore and Malaysia merit further discussion. Both provident funds exhibit low but positive real rates of returns for their members. However, incomes in both countries were among the fastest growing in the world over the last three decades. Another similarity is that prescribed yields to members have been based on short-term

³² It should be noted that as in all of the countries, our data refers to the main public scheme for private employees - in this case the SSS. However, a fund of similar magnitude for civil servants was also being managed during this period and returns appear to have been much lower there.

interest rates while actual investment returns are believed to have been much higher. For example, Asher (1998) suggests the actual investment return in Singapore may have been more than three percentage points higher than what has been credited to their accounts. In other words, part of the effect being observed here is an implicit taxation of returns rather than poor investment performance.

Figure 7 Difference between real annual compounded publicly-managed pension fund returns and real income per capita growth in selected countries



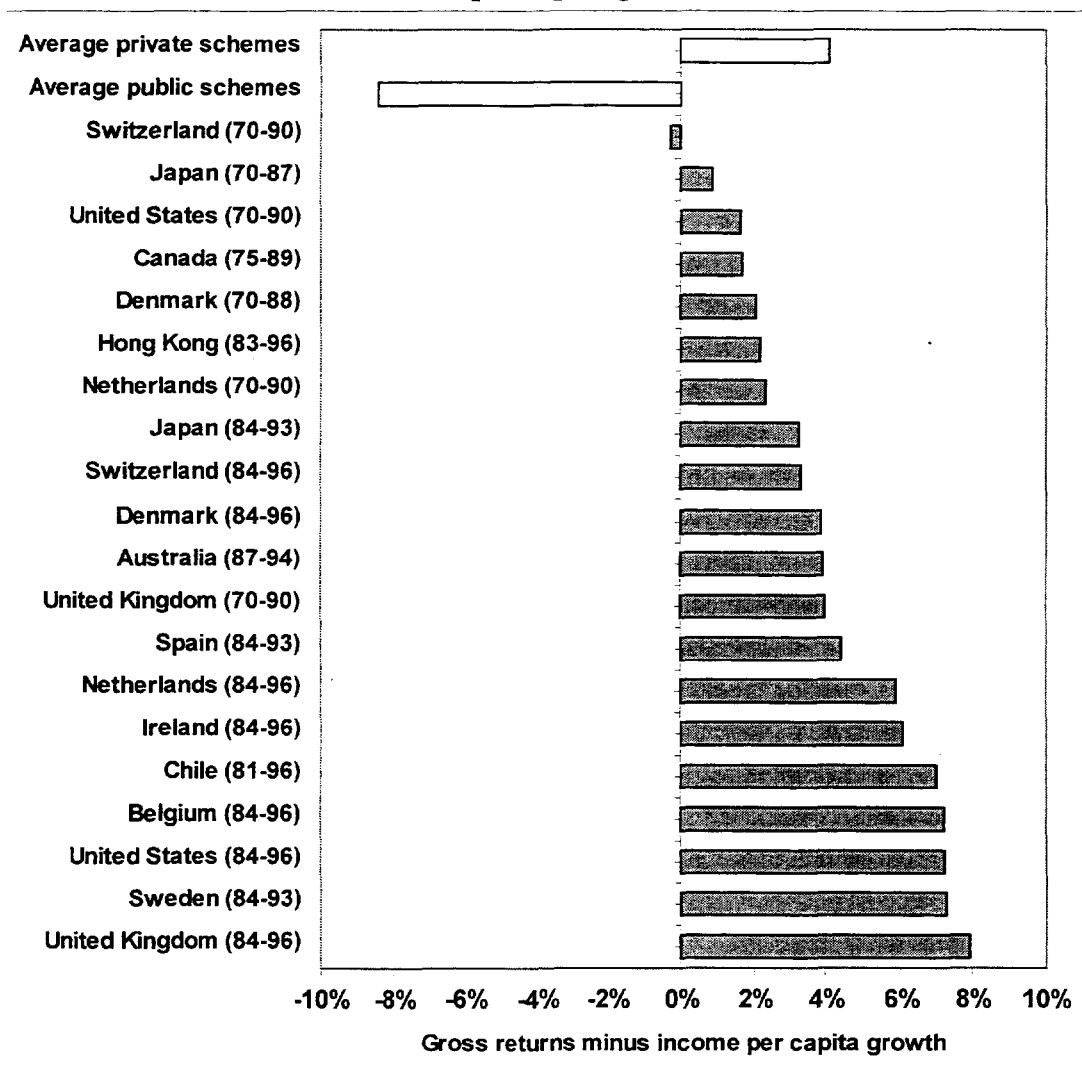
Source: IMF International Finance Statistics; Authors' calculations.

From the worker's perspective, the result of this implicit taxation is a low replacement rate. Assuming that average wages and income per capita moved in tandem in both countries, a worker who began his career in 1960 would have seen his wage grow eightfold in Singapore and almost tenfold in Malaysia by 1995. Meanwhile, the

contribution he made in 1960 would only have doubled in Singapore and tripled in Malaysia. Not surprisingly, criticism of these schemes has increased as workers about to retire after contributing their entire working lives find that low balances are insufficient to maintain pre-retirement living standards.³³

Private pension fund returns in contrast, almost always exceed the growth of incomes over the long run. Figure 8 below shows that this difference is usually at least 200 basis points. And although the time periods considered here differ, public and private pension returns over long periods of time can also be compared for a few countries. For example, privately-managed funds in Sweden and Japan earned returns that were respectively, 300 and 500 basis points higher than their public sector counterparts.

Figure 8 Difference between real annual private pension fund returns and the real income per capita growth selected countries



Sources: Davis (1993); OECD (1998); Wyatt (1998); Srinivas and Yermo (1999); Piggott (1999); IMF IFS statistics.

³³ See for example, Asher (1999) and Leong and Das-Gupta (1998) on Singapore.

3.6 Underlying causes of low returns in publicly-managed schemes

In Figures 5 and 6, we ranked publicly-managed pension funds in our sample based on the difference between investment returns and bank deposits or income per capita growth. The first measure served to crudely control for broader policies and shocks that would affect most investments. It also provided a benchmark return that was presumably available to all investors in the same country during the same time period. The second measure focused on the gap between actual returns and the return that should be available in the private markets, i.e., a return exceeding the growth of incomes. In both cases, we found that public pension fund returns fared badly; in some cases, they were simply disastrous. We also noted that where data are available, private pension fund returns are almost always greater than income growth.

The direct causes for underperformance have already been mentioned: They include government interference in investment ranging from the imposition of social or development objectives on the pension fund to forcing pension funds to finance deficits or state enterprise losses often at interest rates lower than what is available on the market. The common prohibition on investment abroad posed another major challenge to public pension fund managers trying to diversify their (often significant) country-specific risk. While we noted that thin and/or badly regulated capital markets might not provide the investment opportunities required by large funds, this constraint did not seem to be binding in most countries. It certainly could not explain why returns were lower than bank deposit rates.

We also noted that normalized returns vary widely across publicly managed pension funds. This suggests that additional factors are either exacerbating or mitigating the general deficiencies that affect public management. The obvious question is why do some countries perform better than others do?

Explaining private pension fund performance has focused on strategic asset allocation. These decisions have been found to explain more than 90 percent of the variation in risk adjusted returns across private pension funds.³⁴ In public pension funds, we have shown that these decisions are largely determined by the mandates and restrictions imposed on public pension fund managers. Asset allocation decisions are largely political and have little to do with any application of portfolio theory. Furthermore, given that public managers tend to use criteria that ignore the concept of risk adjusted return and typically invest very little in private capital markets, performance is not likely to depend very much on the skill of internal asset managers.

In short, the problem is that investment policy is driven by political motives. This means that performance differentials observed across countries are most likely correlated with lack of transparency that allows the fund to be used for non-pension purposes. Other characteristics would also reflect the quality of governance: Some

³⁴ See Brinson et. al., (1986) and Brinson et. al., (1991).

governments may be less dependent on cheap borrowing from pension reserves while others may be more resistant to lobbies for social investments. Some may be even be more susceptible to corruption.

Recently, good government has been found to be associated with a wide array of positive development outcomes across many countries.³⁵ Conversely, after accounting for other factors, the countries that rank poorly in terms of bureaucratic efficiency and corruption are found to have worse living standards. In the case of public pension fund management, the link may be even more straightforward:

Based on the evidence, we are motivated to test the following hypotheses:

- The level of governance in a country affects performance across countries
- There is a general "public management effect" that itself reduce returns

These hypotheses were tested in a multivariate regression analysis using gross returns minus bank deposit rates as the dependent variable. An index of governance and a dummy variable for private management were used as independent variables. The governance measure is an average of three indices covering surveyed perceptions of (i) the efficiency of the judiciary system, (ii) the amount of "red tape" and (iii) corruption as found in Appendix 3 of Mauro (1995). The specific proposition here is that poor governance leads to conditions - corruption, politicized investments, the need for captive financing for deficits etc. - which in turn lead to poor returns.

Several specifications were attempted. The sample used included 16 of the multi-year country observations of gross returns minus bank deposit rates from Figure 5. The governance index was not available for the other countries.³⁶ The sample also included observations of the same indicator from 14 countries for which private pension returns were available. Observations of both public and private management were used from Canada, the United States, Sweden and Japan. An intercept dummy for private management was included.

The functional form that yielded the best fit was quadratic, suggesting that the impact of governance on performance is greater in the lower part of the range and gradually levels off. Using this specification, the adjusted R^2 was .58. Both of the variables were statistically significant (at the five percent level) and had the expected signs. Better country governance rankings were associated with higher returns while public management lowered them.

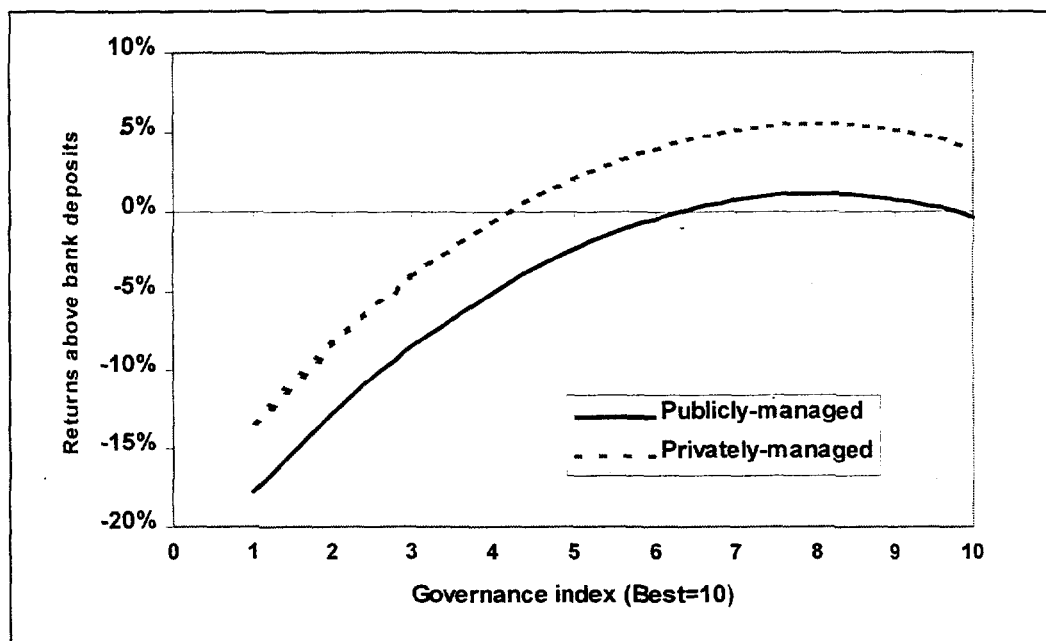
The extent of these two effects can be seen in Figure 9 where we plot the fitted lines for publicly and privately managed returns against different values of the governance

³⁵ See Kaufmann et. al., (1999).

³⁶ We ran a separate set of regressions with estimated values for four countries based on the correlation between Mauro's index and the corruption index produced by Transparency International. The regression was more robust with these observations included.

index. The effect of governance is strong: on a scale of 1-10 with 10 being the best governance, an increase from 4-5 to 8-10 increases returns relative to bank deposits by 5-7 percentage points. Most of the gains come at the lower part of this range and begin to disappear after a country achieves a governance rating of around 8.

Figure 9 Predicted normalized returns for different levels of governance for privately and publicly-managed schemes based on regression results



Sources: Figure 6; Mauro (1995);

Note: Regression results used to generate the figure are from the following equation³⁷:

$$-2.36 + .06151 * GOVINDEX - .0038 * GOVINDEX^2 + .0437 * PRIVATEDUM$$

(2.14) (1.96) (-1.83) (3.83)

t-stats in parentheses; adjusted $R^2 = .58$; number of observation = 30.

The difference between the top and the bottom lines in Figure 8 is due to the significant and positive coefficient of the private management dummy. This is an intercept dummy. (A slope dummy was found to be insignificant.) According to our results, private management produces returns that are about 430 basis points higher than publicly-managed schemes after taking into account differences in the governance index. In other words, the "public management effect" is strongly negative as expected.

When the two effects shown in Figure 8 are combined, several tentative conclusions can be drawn: First, based on the experience to date, publicly-managed schemes are likely to perform very badly in countries with low governance ratings. Countries with good governments fare better but are unlikely to outperform short term

³⁷ An interactive term was tested and found not to be significant.

interest rates. This presents a major policy dilemma for countries that choose to partially fund their defined benefit obligations in the hope of improving sustainability and stabilizing payroll taxes in the face of population aging. It is an even greater problem for countries that choose to run centrally managed defined contribution schemes where benefits depend directly on the investment return.

Second, Figure 9 shows that privately-managed schemes are likely to outperform short term interest rates in countries with medium or high governance ratings. In countries rated 7 or better, private returns exceed bank deposit rates by more than 400 basis points. On the other hand, countries with the worst governance ratings, say below 4, would not produce reasonable returns even with private management. The difference between normalized returns in a privately-managed scheme in a country with good government and a publicly-managed scheme in a poorly governed country would be on the order of 10 percentage points.

The policy implications are significant: First, unless public management can be improved, it is not likely to be effective in achieving the objectives of either a partially funded DB or a funded DC scheme. Second, poor performance of publicly-managed schemes is likely to signal misallocation of savings with important macroeconomic implications if the fund itself is large. Third, privately managed schemes tend to produce gross returns that are consistent with the objectives of pension policy but only where a certain level of governance has been attained. Finally, poorly governed countries should probably avoid funding their mandatory pension systems altogether.³⁸

There are several important caveats however. First, this analysis ignores risk. This would not affect the story for countries in the low governance category where poor returns are also very volatile (see Figure 5). However, in the well-governed countries, adjusting the publicly-managed scheme returns for risk would reduce the advantage to private management and increase the importance of good governance in our regression. At the same time, it is not clear that annual volatility is the appropriate measure of risk for these long term savings vehicles. Considering longer periods favors private management.

The data set used suffers from certain problems of quality and comparability already highlighted. Also, the sample is quite small despite the fact that the 30 country observations represent more than 400 country/year data points for each variable. Unfortunately, time series data on governance is not readily available. The cross section regression implicitly assumes that relative governance capacity has not changed over the time periods analyzed.

³⁸ A possible criterion would be the governance level at which the regression would predict that returns would be greater than bank deposit rates. Based on Mauro (1995), the following countries would not achieve this standard: Bangladesh, Egypt, Ghana, Haiti, Indonesia, Iran, Liberia, Nigeria, Pakistan, Thailand, and Zaire.

Our results are also likely to be skewed by the fact that the privately-managed schemes in our sample are from countries with better governance. In future work, we hope to expand the overall sample and especially the available information on private pension funds in low governance countries. Finally, it should also be noted that the privately-managed returns are sectoral averages hiding potentially significant variation across funds within a country.

Nevertheless, the preliminary conclusions of the analysis are quite robust and are consistent with a large body of anecdotal evidence.

3.7 *Direct effect of poor management of public pension reserves*

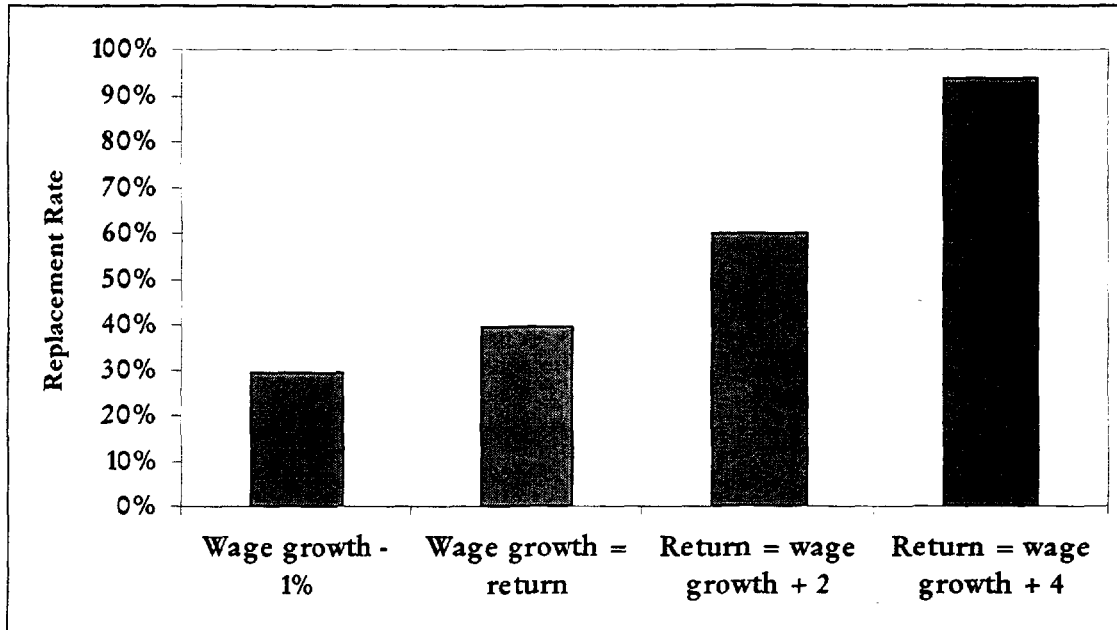
The portfolios of publicly-managed pension funds tend to fall into two categories - high proportions of government or government-guaranteed debt and bank deposits or a combination of these with socially and economically targeted investments. With a few exceptions, very little is invested in private securities and foreign investment is almost never observed. These practices produce several problems for members of the pension fund and for the economy as a whole.

The most visible consequence for the members of the fund is the low rate of return. For partially funded DB schemes, low returns hasten the day when benefits must be cut or contributions raised. This has already happened in many developing countries where deficits have arisen or contribution rate increases have been forced after just one or two decades of operation largely due to poor investment returns. In other words, poor investment policy leads to a lower internal rate of return to participation in the scheme. The return could even be lower than the hypothetical return possible under a pure pay-as-you-go financing arrangement, namely the growth of the covered wage bill.

The members of a publicly-run DC scheme feel the effects much more directly. A worker that contributed 100 shillings to the Kenyan provident fund in 1978 would have retired in 1990 with about 60 shillings in real terms. And even where the real returns are positive, the fact that they do not keep up with the growth of incomes means that their consumption smoothing function is compromised. As shown in Figure 10 below, a contribution of 20 percent of wage with a return that exceeds wage growth by 2 percentage points can produce a hypothetical indexed annuity of around 60 percent while a return one percentage point below wage growth would produce a replacement rate of only 30 percent.

Figure 10 uses parameters for the annuity calculation based on the Sri Lankan case. In fact, the actual growth of income in Sri Lanka was more than 3 percentage points higher than the return on the Employees Provident Fund investments. This type of return differential means that very significant contribution rates cannot hope to produce reasonable replacement rates.

Figure 10 Hypothetical annuity produced by a 20 percent contribution for a full career worker in Sri Lanka according to investment return/wage growth differential



Note: Calculations based on hypothetical inflation adjusted annuity after 37 years of contributions using current life expectancy at age 60 in Sri Lanka.

Low returns over long periods of time as in Sri Lanka can gradually erode the credibility of the system. To the extent that workers increasingly perceive the lost returns as a tax, they will be encouraged to evade the scheme and hide their income from the government. An extreme case of this phenomenon occurred recently in the small island nation of Vanuatu. In February of 1999, workers voted with their feet. Australian press reported the following story:

“Over two-thousand members of the National Provident Fund have received their contribution payments totaling just over two-million dollars. The Fund's acting general manager, Joses Kenneth says the fund is processing a daily payment of 40-thousand dollars to some 500 members. The decision to payout the money was reached after riots broke out in Port Vila last month when worried depositors stormed the fund's head office which the Ombudsman said gave preferential loans to politicians and their supporters.”

3.8 *Public management of pension reserves and savings*

The relationship between public pension systems and national savings is complex and a vast literature exists on the subject. One specific question is directly relevant to public management of pension reserves. This is the question of how fiscal policy is affected by the presence of pension surpluses. There is some evidence for example, that forced purchase of government debt may lead to increased government consumption. Cogan (1998) provides econometric evidence of such an effect in the United States and Von Furstenberg (1979) finds that spending at the provincial level increased due to the subsidized credit provided by the Canadian Pension Plan.

Unfortunately, evidence is scarce, but the idea that easy access to these funds increases the government's appetite for spending seems a reasonable hypothesis. (The effect is made more likely by the fiscal accounting methods that consider public pension fund government bond holdings as repurchase of government debt as is the case in the IMF's Government Finance Statistics framework.) If such an effect does exist, the rationale for prefunding must be seriously undermined. In the extreme case where borrowing increases exactly in step with the surpluses, the "funded" scheme would have the same intertemporal economic impact as a pure pay-as-you-go scheme. A similar result could be obtained by maintaining pay-as-you-go financing but simply reporting the liabilities as part of the fiscal accounts.³⁹

How likely is it that non-pension government spending increases (or non-pension taxes are reduced) in such a way as to completely offset pension surpluses? The answer depends to some extent on the government's target budget deficit concept. Most governments focus on a deficit concept that includes the central budget as well as pension spending and revenues.⁴⁰ These "headline" deficits may not accurately reflect the intertemporal fiscal stance of the government but are nevertheless often at the center of the annual budget discussions.

This important point was made by a number of prominent economists analyzing the emerging surpluses of the US Social Security program in the late 1980s.⁴¹ The question addressed was whether these surpluses were likely to add to national savings, a key underlying assumption of the commission that raised contribution rates in the early 1980s in order to generate surpluses. One of the analysts was James Buchanan who described the scenario in which a comprehensive deficit target is used but the public pension program is running surpluses as follows:

³⁹ See Kane and Palacios (1996) for a discussion of reporting the implicit pension debt.

⁴⁰ Munnell and Ernsberger (1989) claim that the Swedish government is an exception in that targets exclude the AP fund surpluses.

⁴¹ Weaver (1990).

“...suppose that the comprehensive budget was in deficit...but that medium range legislative targets were established to reduce and then eliminate the comprehensive budget deficit... In this case, surpluses in the social security account allow the deficit reduction targets to be satisfied, while still allowing for increases in the non-social security deficit. Much the same results emerge under any scheme for deficit control that uses balance or imbalance in the comprehensive budget as a criterion for policy achievement. As a final example, suppose that a decision is made to keep the relationship between the measured comprehensive budget deficit and the gross national product constant. Again, satisfaction of this norm would allow non-social-security deficits to increase during the period of trust fund accumulation.”⁴²

The consequences are straightforward: If the additional spending induced by the availability of these surpluses takes the form of government consumption, ‘there will be no induced increase in the rate of private capital formation in the economy. There will be no direct or indirect funding of the future pension obligations’⁴³. In other words, as long as governments focus on targets based on the standard definition of its budget deficit, the intergenerational fiscal burden does not improve through this type of prefunding.

⁴² Buchanan (1990).

⁴³ Ibid.

4. Summary and conclusions

Part I of this paper reviewed some of the available information on how publicly-managed pension funds invest and how their returns compare to relevant benchmarks. The general finding is that public pension funds are subject to a series of restrictions and mandates that produce poor returns. The non-pension objectives of the government often lead to social and economically targeted investments and forced loans to the government to finance its deficits. These investments yield returns that are often below bank deposit rates and almost always below the growth of incomes. This contrasts with privately-managed pension fund returns, which generally exceed income growth. The worst returns are produced by publicly-management in countries with poor governance records.

The low rates of return found in many publicly-managed schemes over the last few decades have direct and indirect negative consequences. Direct consequences are felt by members of partially funded schemes that must pay higher contributions during their lifetimes or receive lower benefits. For provident fund members poor returns (or prescribed yields) directly reduce their retirement savings and make it impossible to maintain pre-retirement consumption levels.

Indirectly, the presence of these reserves may lead to higher non-pension government deficits if target deficit levels are based on the consolidated budget. Also, the diversion of an important pool of long term savings to projects with low returns or for higher government consumption implies an important opportunity cost for the economy. Private capital markets are robbed of liquidity and good projects do not find financing. The larger the fund relative to the capital markets the greater is this cost.

There is considerable evidence that public management of pension funds should be avoided. But a number of caveats were mentioned and further research is clearly needed. It should also be noted that Part I has focused on the past. Therefore, the discussion ignores recent policy initiatives in some countries that may remedy some historical problems with public management. Faced with demographic aging and scheme maturation, some publicly-managed funds are starting to invest more of their portfolio in the private capital markets. This trend is likely to continue, raising a new set of policy issues. In particular, as public pension funds become shareholders in private industry, the government faces a potential conflict between its role as regulator and its role in corporate governance. Part II of this study reviews current reform proposals in several OECD countries and looks at possible ways of improving public management of pension reserves.

Annex 1 Summary tables for data used in Figures 4-8

Compounded real annual pension fund returns, standard deviation and Sharpe Ratio

(Ranked from highest to lowest average return)

Country	Period	Compounded Return	Standard deviation	Sharpe Ratio
Korea	1988-97	5.4%	1.4%	3.83
Malaysia	1958-96	3.2%	3.1%	1.05
Morocco	1985-96	2.3%	2.7%	0.85
Sweden	1961-95	2.1%	3.4%	0.60
US	1955-96	2.0%	3.4%	0.58
Canada	1971-89	1.8%	3.8%	0.48
India	1977-97	1.6%	2.7%	0.57
Singapore	1961-95	1.5%	4.2%	0.36
Japan	1970-94	1.4%	5.0%	0.27
Philippines	1978-91	0.8%	11.7%	0.07
Sri Lanka	1960-97	-0.3%	4.5%	-0.08
Kenya	1978-90	-3.9%	5.1%	-0.76
Jamaica	1979-86	-4.5%	7.5%	-0.60
Guatemala	1985-95	-4.9%	10.4%	-0.47
Costa Rica	1980-96	-5.0%	15.5%	-0.32
Egypt	1981-95	-9.1%	4.9%	-1.85
Ecuador	1980-87	-9.3%	8.8%	-1.06
Tanzania	1986-96	-11.2%	5.2%	-2.14
Venezuela	1979-89	-15.3%	21.0%	-0.73
Zambia	1980-91	-28.5%	18.7%	-1.52
Uganda	1986-94	-33.1%	25.6%	-1.29
Peru	1981-87	-44.0%	25.7%	-1.71
Unweighted Average		-6.7%	8.8%	-17.5%
Maximum		5.4%	25.7%	
Minimum		-44.0%	1.4%	
Total observations (country x years)	325			

Compounded real annual real bank deposit rates and standard deviation

Country	Period	Compounded Return	Standard deviation
Canada	1975-89	2.6%	2.5%
Costa Rica	1982-96	-2.3%	11.7%
Ecuador	1980-87	-5.6%	6.7%
Egypt	1981-95	-3.7%	3.5%
Guatemala	1985-95	-1.9%	5.2%
India	1977-97	1.3%	3.3%
Jamaica	1979-86	-4.3%	7.5%
Japan	1970-94	-1.6%	4.3%
Kenya	1978-90	-1.3%	5.0%
Korea	1988-97	2.9%	1.2%
Malaysia	1958-96	3.0%	2.8%
Morocco	1985-96	2.5%	2.1%
Peru	n.a.	n.a.	n.a.
Philippines	1978-91	-0.4%	7.1%
Singapore	1972-95	1.1%	3.6%
Sri Lanka	1978-97	2.8%	5.1%
Sweden	1962-95	0.9%	2.5%
Tanzania	n.a.	n.a.	n.a.
Uganda	1986-94	-22.7%	27.3%
US	1960-96	1.7%	2.4%
Venezuela	1982-89	-8.6%	13.1%
Zambia	1980-90	-18.4%	15.4%
<hr/>			
Unweighted Average		-2.6%	6.2%
Maximum		3.0%	27.3%
Minimum		-22.7%	1.2%

Compounded real annual income per capita growth and standard deviation

Country	Period	Compounded Return	Standard deviation
Canada	1971-89	2.9%	2.6%
Costa Rica	1980-96	2.2%	5.8%
Ecuador	1980-87	-0.3%	3.8%
Egypt	1981-95	2.3%	2.9%
Guatemala	1985-95	0.5%	1.6%
India	1977-97	3.3%	3.2%
Jamaica	1979-86	-2.1%	4.7%
Japan	1970-94	3.2%	3.6%
Kenya	1978-90	1.0%	5.1%
Korea	1988-97	7.4%	3.3%
Malaysia	1961-96	4.3%	2.7%
Morocco	1985-96	1.7%	4.7%
Peru	1981-87	-1.6%	3.3%
Philippines	1978-91	-0.2%	3.2%
Singapore	1961-95	6.2%	3.8%
Sri Lanka	1960-97	3.4%	4.5%
Sweden	1961-95	2.5%	2.2%
Tanzania	1986-96	-0.4%	4.5%
Uganda	1986-94	2.3%	3.4%
United States	1955-96	1.8%	2.1%
Venezuela	1979-89	-0.4%	4.0%
Zambia	1980-91	-1.9%	4.8%

Governance index for sample of countries

Sample	Governance Index ¹
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Japan	9.08
Korea	6.08
Philippines	4.75
Sweden	9.25
US	9.75
Malaysia	7
India	5.5
Morocco	5.88
Singapore	10
Canada	9.58
Jamaica	5.44
Kenya	5.08
Sri Lanka	6.67
Ecuador	5.58
Egypt	4.25
Venezuela	5.42
Switzerland	10
Hong Kong	9.25
United Kingdom	9
Australia	9.75
Denmark	9.58
Spain	6.42
Chile	8.58
Netherlands	10
Belgium	9.08
Ireland	8.67
Extended sample ²	
Zambia	5.3
Uganda	4.5
Costa Rica	6.4
Guatemala	4.2

1/ Taken from Appendix 3, Mauro (1995).

2/ Based on Transparency International Corruption index.

References

- Abel, A.B., Mankiw, N.G., Summers, L.H., and Zeckhauser, R.J. (1989). "Assessing dynamic efficiency: theory and evidence", Review of Economic Studies, vol. 56, pp. 1-20.
- Asher, Mukul (1997), "Investment Policies and Performance of Provident Funds in Southeast Asia", unpublished paper prepared for the Economic Development Institute of the World Bank workshop in China, January, 1998.
- Asher, Mukul. (1999). "The Pension System in Singapore", forthcoming as World Bank Social Protection Working Paper.
- Brinson, Gary, L. Randolph Hood and Gilbert L. Beebower. (1986). "Determinants of Portfolio Performance", Financial Analysts Journal, July-August 1986.
- Brinson, Gary, Brian Singer and Gilbert Beebower. (1991). "Determinants of Portfolio Performance II: An Update", Financial Analysts Journal, May/June 1991.
- Cogan, John F. (1998). "The Congressional Response to Social Security Surpluses, 1935-1994", Hoover Institution, Stanford University.
- Davis, E.P., (1993). "The Structure, Regulation, and Performance of Pension Funds in Nine Industrial Countries", Policy Research Working Paper, #1229, December 1993.
- Easterly, W. (1999). "Are African Savings Too Low?", unpublished working paper, World Bank.
- Far Eastern Economic Review (1998). "Savings at Risk: Malaysia is being criticized for using its National Pension Fund to funnel cash to companies".
- Government's Actuary Department, United Kingdom (1998). "Mauritius National Pensions Fund, Actuarial Review as at June 30, 1995, London.
- Gunji, Takumi. (1999). "Presentation on Public Pension Fund Investment in Japan", unpublished, Tokyo.
- International Labour Office. (1983). "Methods of Financing Social Security Schemes in Developing Countries with Particular Reference to the Accumulation of Reserve Funds", paper presented at the Meeting of Experts on the Investment of Social Security Funds in Developing Countries, Geneva.
- International Labour Office (1994). "United Republic of Tanzania: The investment policy and financial management of the National Provident Fund of Tanzania, project findings and recommendations, Geneva.

International Labour Office. (1996). "Uganda: Rehabilitation and development of the National Social Security Fund, actuarial study of proposals for reform, Geneva, UNDP programme.

International Social Security Association. (1997). "Investment of Social Security Funds by Social Security Organizations in English Speaking Africa", paper presented at Meeting of Directors of Member Organizations in English-Speaking Africa, Kampala, Uganda.

International Monetary Fund. Various years. "International Finance Statistics Yearbook".

Goetzmann, W. and P. Jorion. (1997). "A Century of Global Stock Markets", NBER Working Paper Series, #5901, Cambridge.

International Monetary Fund. various years. "International Finance Statistics".

Kane, C. and R. Palacios. (1996). "The Implicit Pension Debt", Finance and Development, June 1996.

Kaufmann, D., Aart Kraay and Pablo Zoldo-Lobaton. "Governance Matters", (1999). unpublished draft working paper, World Bank, May 1999.

Leong, Lun Yee, Arindam Das-Gupta. (1998). "Returns to Social Security in Singapore: A Life-cycle Evaluation", unpublished mimeo, Nanyang Business School, Nanyang Technological University, Nanyang Avenue, Singapore.

Levine, R. and S. Zervos. (1996). "Stock Market Development and Economic Growth", The World Bank Economic Review, Vol. 10, No. 2, May.

Mahdi El Farhan, Mohammad. (1990). "Investment of Social Security Funds: Comparative Report on Pension Schemes in Asia and the Pacific", in Proceedings to Meeting of Experts on Investment of Social Security Funds in Developing Countries, ISSA, 1989.

Mauro, Paolo (1995). "Corruption and Growth" in The Quarterly Journal of Economics, August 1995 pp. 681-712.

Mesa-Lago, Carmelo (1991). "Portfolio Performance of Selected Social Security Institutes in Latin America", World Bank Discussion Papers, Washington D.C..

Mounbaga, Emmanuel. (1995). "The investment of social security reserves during periods of crisis: The experience of Cameroon", International Social Security Review, Vol. 48, 2/95.

Munnell, Alicia and C. Nicole Ernsberger. (1989). "Public Pension Surpluses and National Saving: Foreign Experience", New England Economic Review, March/April 1989.

National Provident Fund, Tanzania. (1996). "Annual Report for the Financial Year 1995/96", Head Office, Bibi Titi Mohammed/Morogoro Road, Dar Es Salaam.

National Provident Fund, Tanzania. (1997). "Annual Report for the Financial Year 1996/97", Head Office, Bibi Titi Mohammed/Morogoro Road, Dar Es Salaam.

National Social Security Fund of Kenya (1998). "Annual Report for 1996/97", Kenya.

Nofsinger, John. (1998). "Why Targeted Investing Does Not Make Sense" *Financial Management*, Vol. 27, No.3, Autumn, 1998, pp. 87-96.

OECD (1998a), "Private Pension Systems: Regulatory Policies", Working Paper AWP 2.2, Paris.

OECD. (1998). Maintaining Prosperity in an Ageing Society, Paris.

Palacios, R. and M. Pallares-Miralles. (2000). "International Patterns of Pension Provision", Human Development Network, Social Protection Working Paper Series, World Bank, Washington D.C..

Social Security Research Institute. (1997). "Social Security in Iran", Tehran, Iran.

Srinivas, S.P. and J. Yermo. (1999). "Do Investment Regulations Compromise Pension Fund Performance?", World Bank Latin American and Caribbean Studies, Discussion Paper Series, Washington D.C..

Srinivas, S.P., E. Whitehouse and J. Yermo (1999). "Portfolio limits in mandatory pension schemes, Human Development Network, Social Protection Working Paper Series, World Bank, Washington D.C..

Schwarz, Anita and Asli Demirguc Kunt. (1999). "Taking Stock of Pension Reforms around the World", World Bank Pension Reform Primer Series.

Sunden, Annika. (1998). "The Swedish Pension Reform", unpublished.

Vittas, Dimitri. (1993). "Options for Pension Reform in Tunisia", World Bank Policy Research Working Paper Series, WPS 1154.

Watson, Ronald. (1994). "Does Targeted Investing Make Sense?", *Financial Management*, Vol. 24, No. 4, Winter 1994, pages 69-74.

von Furstenberg, George. (1979). Social Security versus Private Saving, Cambridge, Massachusetts, Ballinger Press.

Wall Street Journal. "Taipei Signals Willingness to Discuss Unification if Beijing Accepts Taiwan as Diplomatic Equal", p. A10, July 19, 1999.

World Bank. (1994). "Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth", Policy Research Report, Policy Research Department, 1994.

World Bank (1994). "The Democratic and Popular Republic of Algeria: Country Economic Memorandum: The Transition to a Market Economy", World Bank Report No. 12048-AL, Middle East and North Africa Region.

World Bank (1996). "Report on Social Security Corporation of Jordan", World Bank December 1996, unpublished.

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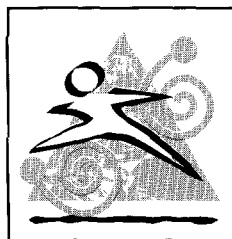
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Summary Findings

Many pension schemes mandated by governments have accumulated large reserves. The management of these funds has a direct effect on financial sustainability and potential benefit levels. It also has important indirect effects on the overall economy when the funds are large. Part I of this study surveys some of the available cross-country evidence on publicly-managed pension reserves. We find that publicly-managed pension funds (i) are often used to achieve objectives other than providing pensions (ii) are difficult to insulate from political interference and (iii) tend to earn poor rates of return relative to relevant indices. These findings are consistent across countries of all types, but returns are especially dismal in countries with poor governance. The experience to date suggests that the rationale for prefunding have been seriously undermined by public management of pension reserves. Countries with serious governance problems should probably avoid funding altogether.

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