
Public management

Part I: How well do governments invest pension reserves?

Public pension fund managers around the world control retirement savings worth more than three trillion US dollars. Their performance directly affects millions of workers forced to contribute to these schemes. The indirect impact is much broader; if long-term savings are channelled effectively, good projects are easier to finance and this leads to higher economic growth. Poor management of these savings not only reduces future pensions, it also misallocates capital. The stakes are especially high for developing countries where capital is scarce and workers depend on pensions to keep them out of poverty.

Public pension schemes with some degree of prefunding can be grouped into two categories. The most common form is the *partially funded, defined benefit* (DB) scheme. These are often found in younger countries where pension schemes are still immature, as in Francophone Africa, some parts of the Middle East and East Asia. However, a few older countries such as Sweden and Japan also fall into this category, having chosen to accumulate surpluses and offset intergenerational transfers. The extent to which these 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.

A second type is the centrally-managed, defined contribution arrangement or provident fund. These are mostly found in the former British colonies of Africa and Asia. About a dozen countries continue to use this model and the number is shrinking. The

largest in terms of membership is the Employees' Provident Fund (EPF) in India with more than 20 million members while the Central Provident Fund (CPF) of Singapore is the best known, with only one million contributors. Both prescribe yields on individual accounts and invest mostly in government bonds.

Public versus private management

The government influences the investment policies of all pension schemes. Private, voluntary pension funds rely on favorable tax treatment and are often subject to certain restrictions on investments and withdrawals. Private managers in mandatory schemes sometimes face intrusive regulators 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 and may even be manipulated to force private funds to be invested exactly as the government wishes.

At the same time, a centrally run government monopoly could use private managers and apply market based criteria to their selection and compensation. 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. In practice however, regulatory constraints are rarely so extreme as to eliminate the discretion of private managers while most publicly-managed funds are subject to restrictions and mandates.

This briefing is part of the World Bank's Pension Reform Primer: a comprehensive, up-to-date resource for people designing and implementing pension reforms around the world. For more information, please contact Social Protection, Human Development Network, World Bank, 1818 H Street NW, Washington, D.C. 20433; telephone +1 202 458 5267; fax +1 202 614 0471; e-mail socialprotection@worldbank.org. All Pension Reform Primer material is available on the internet at www.worldbank.org/pensions

Restrictions and mandates

The investment policies of public pension fund monopolies are determined by boards that include representatives from government, unions and employers. These tripartite boards have limited discretion however, due to restrictions and mandates that force them to invest in certain ways. For example, Japan, Korea and the United States are among the countries that force their public pension funds to loan surpluses directly to the government - outside the normal channels of government borrowing.

More common are mandates determined by politicians under the general heading of 'development policy'. These include social investments like housing bonds in Sweden or economically targeted investments (ETIs) like the purchase of state enterprise bonds. Since 1987 for example, Iran's pension 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". And in Japan, the pension fund has invested 17 percent of its massive reserves in health, recreation and other facilities under the heading "welfare".

But aside from government bonds, housing was the most popular investment for pension funds. In a recent study of a dozen Anglophone African countries, the International Social Security Association reports that the public pension funds in Gambia, Ghana, Kenya, Mauritius, Nigeria, Swaziland, Tanzania, Uganda and Zambia all 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.

The result of these practices is a pattern of investments that reflects the priorities of the government but that are not in line with the objectives of prefunding pensions. Most public pension funds invest heavily in government bonds and bank deposits. Many make social investments or make loans to state-owned firms and even individuals. Very little is invested in shares and foreign assets are almost never part of the portfolio.

In short, public pension funds do not hold the type of portfolio that would be recommended by private pension fund managers interested in maximizing risk adjusted returns. Instead, their investments reflect public policy objectives other than pension provision. It should be noted of course, that governments may also interfere in the investment choices of private pension funds. But the impact is typically much more benign since private managers are accountable for their performance.

Limited investment options at home

Illiquid or non-existent bond and stock markets can be another impediment to public (and private) pension fund managers. This is especially true in developing countries where the public fund may be the single largest investor in the country. For example, Sri Lanka's Employee Provident Fund (EPF) had assets that were roughly equivalent to the size of the stock market in the late 1990s. Alone, its investment decisions could move the markets. Meanwhile, a large equity position would make it the biggest shareholder in the country.

In some countries, the rule of law, definition of property rights and basic financial infrastructure do not meet even minimal standards. 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 the box below, is not unique.

While underdeveloped local capital markets are clearly a problem for any type of funding, this does not appear to explain the kind of investment patterns described above. But even in countries where capital markets do provide potential investment outlets for large public pension funds, at least three problems arise: First, ownership of a large proportion of the shares by the government would at the very least, raise important questions regarding corporate governance. Second, the government may be tempted to use pension funds to support the stock market or specific firms with political influence. Finally, the government may find itself in the awkward position of regulator and owner of certain industries, creating other possible of conflicts of interest.

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. 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. Only the small part of the portfolio in real estate maintained its real value over time.

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.

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.

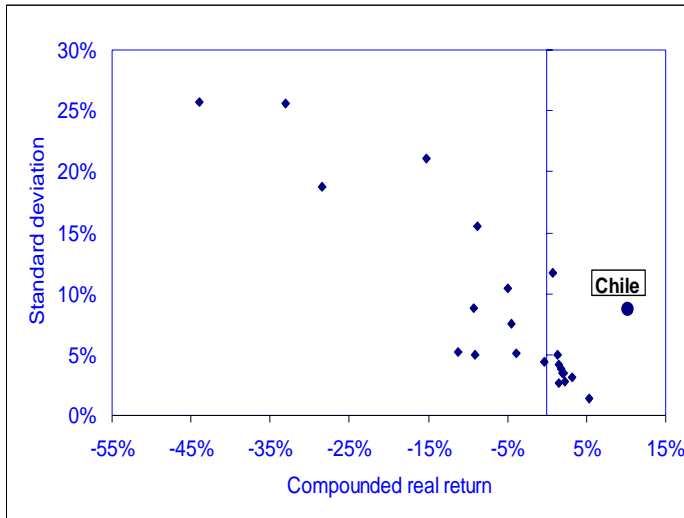
With these caveats in mind, this subsection looks at two types of returns for a small sample of countries. The first type is the return credited to the accounts of provident fund members. The second refers to the reported return on investments of partially funded,

defined benefit schemes. Countries with data for at least eight consecutive years were included in the sample

Figure 1 below plots the annual compounded rates of return and standard deviations for publicly managed schemes in a sample of 22 countries and the Chilean private pension sector. Averages are based on at least 8 and as much as 35 years of returns. Half of the sample or 10 countries failed to generate positive real returns and most were 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%).

Annual returns and volatility

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The striking feature of Figure 1 is the inverse correlation between risk and returns. Normally, more volatility would be associated with higher long run rates of return, but the opposite seems true here.

Figure 1 is difficult to interpret. Unless public pension fund managers had full access to an globally diversified portfolio, each will face very different investment opportunities. They are further constrained by mandates and restrictions as we have seen above. Finally, country-specific crises during the periods covered here could skew the results. In short, while the data confirm a pattern of low or negative returns, it does not reveal whether the returns experienced were reasonable given prevailing conditions.

In order to get a clearer picture, we can normalize returns relative to bank deposit rates in the same countries during the same periods. This should help control for some of the country-specific factors and provide a crude benchmark for the available investment alternatives. The results of this exercise are shown in Figure 2.

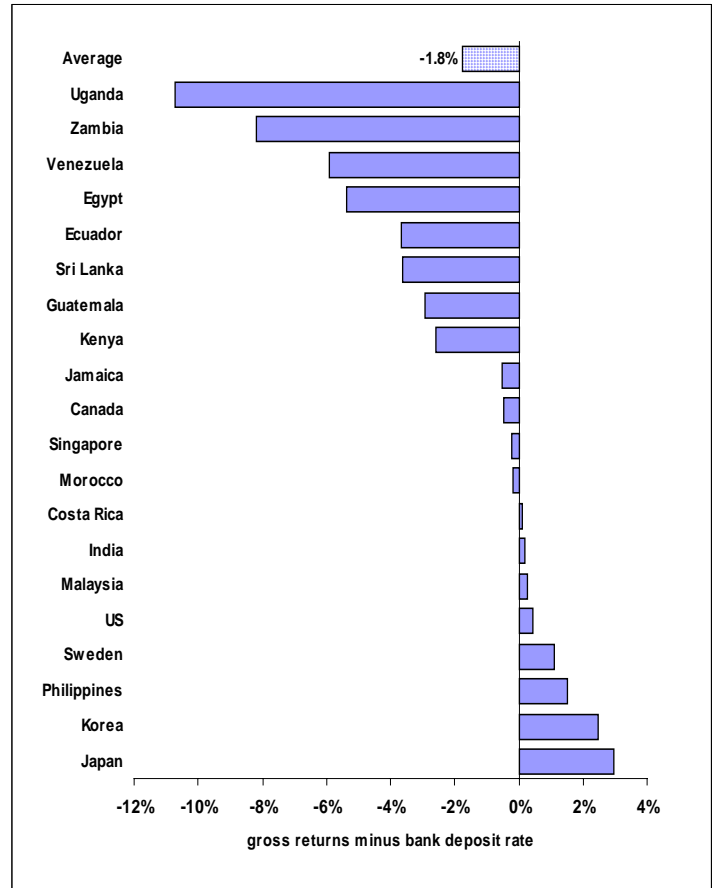
There is significant variation across the sample. Using a simple average, returns are 180 basis points lower than bank deposit rates. However, four countries - Sweden, Philippines, Korea and Japan - show returns that are more than 100 basis points higher than deposit rates. Japan and Korea stand out with returns exceeding deposit rates by 300 and 250

basis points, respectively. This is less impressive however, if we note that returns are about the same as on one year, government bonds. 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.

Figure 2 suggests that returns in most of our sample are not even as high as what could be obtained in banks by individual savers. But pension funds handle long term savings that should be able to earn higher returns in exchange for lower liquidity. Rather than the riskless, short term rate of return, they should be able to achieve something closer to the long run return on capital.

Returns minus bank deposit rates

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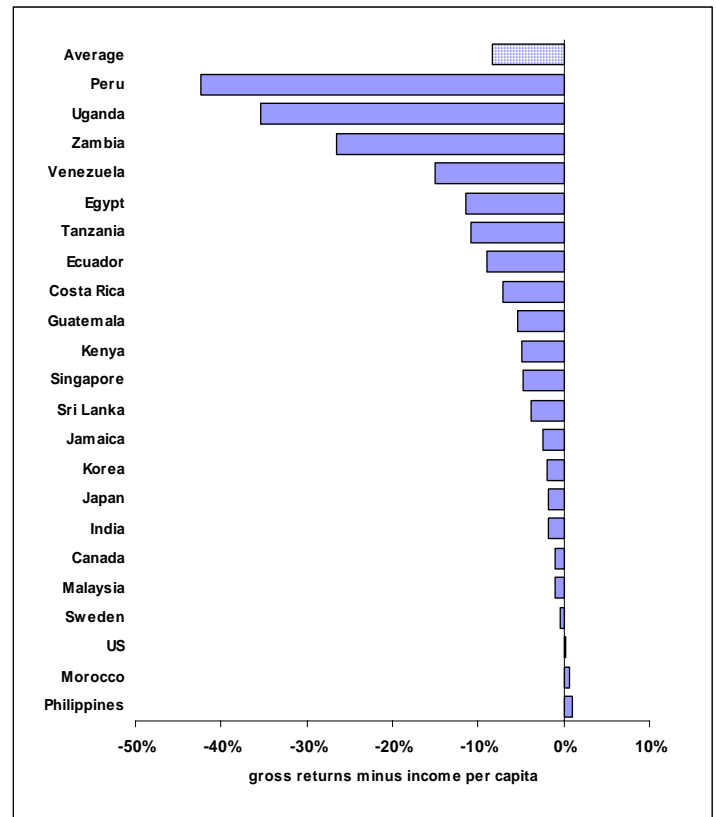


In assessing the gap between actual and potential returns we can look to the growth of incomes as a rough benchmark. In a dynamically efficient economy, returns to capital are higher than the growth in incomes over long time horizons. Thus, the returns available to publicly-managed pension funds from a diversified portfolio should be greater than income growth. Maintaining this relationship is also important if the pension scheme is to generate reasonable replacement rates.

Figure 3 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. 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 interest rates while actual investment returns are believed to have been much higher. In other words, part of the effect being observed here is an implicit taxation of returns rather than poor investment performance.

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.



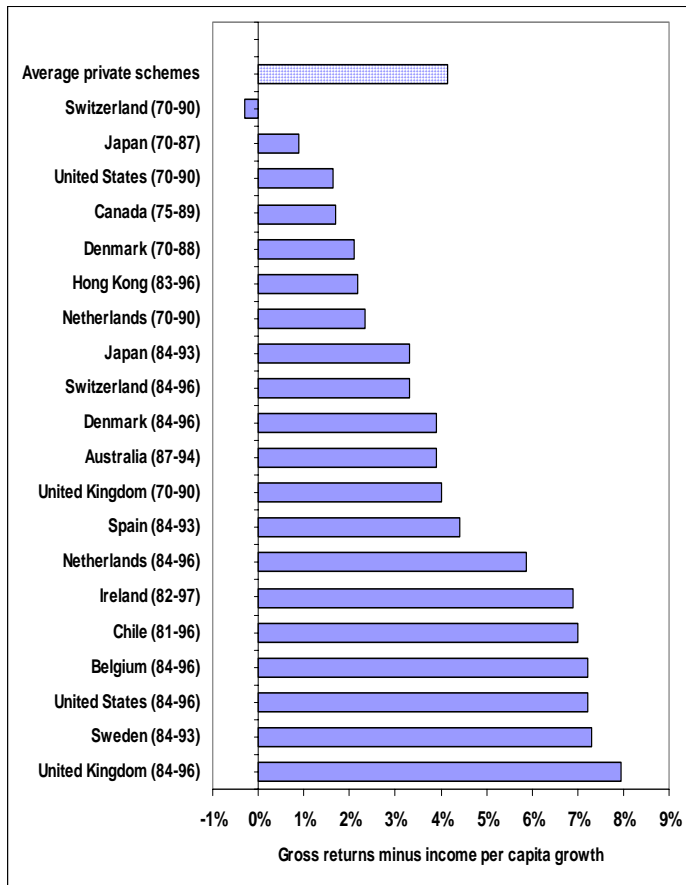
Private pension fund returns in contrast, almost always exceed the growth of incomes over the long run. Figure 4 below shows that this difference is usually at least 200 basis points. And although the time periods considered here differ, public and private pension returns over long periods of time can 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.

What explains poor performance?

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

Private managers do better

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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. 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.

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 potential causes of underperformance would also reflect the quality of governance: Some 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. Conversely, the countries that rank poorly in terms of bureaucratic efficiency and corruption are found to have worse living standards. Based on the evidence, one study tested the following hypotheses:

- the level of governance in a country affects performance across countries and that,
- there is a general "public management effect" that itself reduce returns

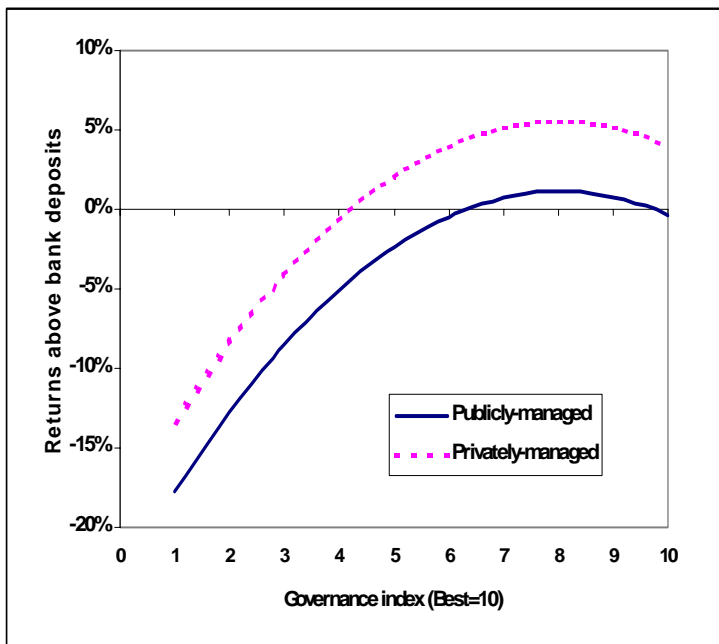
These hypotheses were tested in a multivariate regression analysis using gross returns minus bank deposit rates as the dependent variable. An index of governance and private management were used as explanatory variables. The governance measure is an average of three indices covering surveyed perceptions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

The sample used included 16 country observations of long term, gross returns minus bank deposit rates from Figure 2 above. The governance index

was not available for the other countries. 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 available for Canada, the United States, Sweden and Japan.

What were the results? 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 5 which plots the fitted lines for publicly and privately managed returns against different values of the governance 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.

Governance and pension returns 5



The difference between the parallel lines in Figure 5 are due to the public management effect. 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.

Figure 5 also shows that privately-managed schemes are likely to produce reasonable returns in countries with medium or high governance ratings. In countries rated 7 or better, private returns exceeded 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 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, good governance is important for private management. Finally, poorly governed countries should probably avoid funding their mandatory pension systems altogether.

These findings are preliminary and subject to several caveats. In particular, the data set used suffers from certain problems of quality and comparability. Valuation methods vary and administrative charges to the fund are ignored. 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. And unfortunately, time series data on governance is not readily available. The analysis implicitly assumes that relative governance capacity has not changed over the time periods analyzed.

The results may also be skewed by the fact that the privately-managed schemes in our sample are from countries with better governance. 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 findings of the analysis are quite robust and are consistent with a large body of anecdotal evidence.

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 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.

Further reading

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- Weaver, C. ed. (1990), "Social Security's Looming Surpluses: Prospects and Implications", American Enterprise Institute, Washington D.C..

The box on Cameroon is based on:

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

Conclusions and recommendations

- ❑ publicly-managed pension reserves are often used to finance non-pension policy
- ❑ public pension fund managers tend to invest based on objectives unrelated to pension provision
- ❑ these include social and economically target investments such as housing
- ❑ but often governments look to pension reserves as a convenient and cheap way to finance deficits
- ❑ one result is that public management produces poor returns relative to what could potentially be earned
- ❑ good governments perform better but public management produces inferior returns across all countries
- ❑ as a result members of the scheme have to pay higher contributions or receive lower benefits
- ❑ the evidence suggests that public management of pension reserves should generally be avoided
- ❑ any prefunding of long term pension obligations requires some minimal level of good governance