

WPS 1570

POLICY RESEARCH WORKING PAPER

1570

Protecting the Old and Promoting Growth

A Defense of Averting the Old Age Crisis

Estelle James

A summary of recommendations in the recent World Bank report on old-age security programs, and an analysis of why the International Labour Organisation and the International Social Security Association came to different policy conclusions. In the World Bank's view, these programs should protect the old, but because such massive resources are involved, one must also consider how they affect the general economy.

The World Bank
Policy Research Department
Poverty and Human Resources Division
January 1996



Summary findings

The current social security systems in many OECD countries were adopted before World War II, when private financial markets were underdeveloped or in disrepute. They expanded sharply in the 1950s and 1960s, when real wages and population were growing rapidly. Under those circumstances, it seemed natural to rely on a publicly managed payroll-tax-financed pay-as-you-go (PAYG) system.

But in the past 40 years, real wage growth has slowed and population growth has come to a halt in OECD countries, so tax rates must go up sharply if PAYG systems are to be retained. It has become increasingly important to minimize work disincentives and to increase labor productivity through capital accumulation, which the public pillar is not well-suited to do. Shifting partial responsibility to privately managed plans that are funded and that tie benefits to contributions is likely to improve economic growth and provide better benefits than will continued reliance on a payroll-tax-financed PAYG system, concludes the World Bank.

The OECD countries can shift gradually to a two-pillar system by reducing and flattening the benefits in their public pillars and using the released resources (plus some additional contributions) to build funded defined

contribution accounts in a new mandatory saving pillar. If developing countries follow the path the OECD countries once followed, they will encounter dramatically escalating contribution rates, great intergenerational transfers, and related problems. Given their rapid rate of demographic aging, it is important for them to establish a multi-pillar system from the start.

James argues that the World Bank position differs from those of the International Labour Organisation (ILO) and International Social Security Association (ISSA) because the Bank:

- Is more concerned about how social security systems affect the general economy.
- Is troubled by inequities often found in current systems (in practice, if not on paper).
- Believes that behavioral responses and factors of political economy sometimes make nonviable the design changes the ILO and ISSA recommend for public systems.
- Values risk diversification. (Financial markets are now both better and more global than before, so multipillar systems benefit from revenue and managerial diversification, including international diversification.)

This paper — a product of the Poverty and Human Resources Division, Policy Research Department — is part of a larger effort in the department to study the economic impact of population aging and old age systems. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Selina Khan, room N8-024, telephone 202-473-3651, fax 202-522-1153, Internet address skhan@worldbank.org. January 1996. (23 pages)

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be used and cited accordingly. The findings, interpretations, and conclusions are the authors' own and should not be attributed to the World Bank, its Executive Board of Directors, or any of its member countries.

Protecting the Old and Promoting Growth

A Defense of Averting the Old Age Crisis

Estelle James

Lead Economist

Poverty and Human Resources Division

Policy Research Department

I am pleased that representatives of the ISSA and the ILO have given considerable thought and space to the ideas presented in the World Bank report, Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth. This was well indicated in the article by Roger Beattie and Warren McGillivray "A Risky Strategy...". published in issue 3-4/95 of the International Social Security Review.¹ I am also pleased that the Editorial Board of the Review has offered me the chance to write a reply to some of the issues raised. These issues are indeed complex and controversial, and we can all benefit from a thorough public discussion.

Averting the Old Age Crisis documents in great detail the many problems we found with dominant old age systems today--publicly managed pay-as-you-go defined benefit schemes. These problems include high and rising payroll tax rates, evasion, early retirement, misallocation of public resources, lost opportunity to increase long term saving, failure to redistribute to low income groups, unintended inter-generational transfers (often to high income groups), growth of a large hidden implicit public pension debt, and fiscal nonsustainability of the current system. As a result, existing systems have not always protected the old, they especially will not protect those who grow old in the future, they have not helped (and may have hindered) economic growth, and their equity implications have been questionable.

Now, each of these problems was not found in every country, but every country we examined--both developing and industrialized--exhibited many of these problems. We concluded that these problems were inherent in the economics and politics of pay-as-you-go defined benefit schemes. That is why we recommend a radically different system for countries that are just starting up, as well as for countries whose old systems have broken down. In this article I briefly summarize our recommendations, analyze why representatives of the ISSA and the ILO came to quite different policy conclusions, and take up selected issues.

I. The World Bank's Recommended Multi-Pillar System

In place of existing systems, Averting recommends a multi-pillar system that puts greater emphasis on saving and that utilizes a mix of public and private management, full funding and pay-as-you-go financing.

Our preferred system consists of two mandatory pillars and one voluntary pillar, each using a different administrative and financing mechanism. One mandatory pillar would be fully funded and privately managed--for the reasons given below. This pillar is ideally suited for handling peoples' saving. But since we cannot rely on a privately managed pillar to provide a social safety net, a publicly managed tax-financed pillar is needed for redistribution. And a third pillar, that is voluntary, would be used by people who want additional old age security. All three pillars would co-insure against life's many uncertainties.

Let me start by discussing the *pillar for saving*, because this is the most controversial part of our recommendation. This pillar is mandatory for the same reason that current systems are mandatory--because a significant number of people may be shortsighted, may not save enough for their old age on a voluntary basis, and may become a burden on society at large when they grow old. It will link benefits closely to contributions (usually through fully portable defined contribution plans), to discourage the evasion and labor market distortions that we have observed in many countries. But the most important characteristics of this pillar are that it would be fully funded and privately managed; these characteristics determine the nature of our multi-pillar system.

Funding is important for several reasons. First, it makes costs clear up front so countries won't be tempted to make promises today that they will be unable to keep tomorrow. Unrealistic benefit rates have often been set at the beginning of pay-as-you-go (PAYG) schemes, because their costs are hidden and postponed, but as the years pass these costs become quite transparent, increase exponentially and countries find themselves saddled with a huge fiscal burden. This cost escalation will take place with particular speed in rapidly aging

developing countries. Full funding diminishes the future tax increases that will be needed, gives a reality-check to pension promises and thereby helps to avoid this dilemma.

Second, funding prevents inadvertently large intergenerational transfers from young people to older workers. Once an unfunded system is set in motion, intergenerational transfers occur automatically as a result of the aging and maturation process, sometimes in ways that people did not expect and would not have chosen. For example, because of the benefit and financing formulas commonly used, some of the gainers are rich people in the earlier generations while some of the losers are poor people in the later generations.

The third reason for favoring full funding of the saving pillar is that this may be used to help build long term national savings; I will say more about this effect below. For all these reasons, we argue that a funded defined contribution pillar is a better way to provide the earnings-related part of old age systems than is a pay-as-you-go defined benefit pillar.

Averting argues that the funds in this pillar should be privately and competitively managed--to maximize the likelihood that economic rather than political objectives will determine the investment strategy, and thereby to produce the best allocation of capital and the highest return on savings. This is especially important given the large sums of money that would be involved in a mandatory saving plan; the experience of many countries, including countries that are now in transition, indicates that governments are not the best allocators of national capital. More specifically, the limited available data on returns to publicly versus privately managed pension reserves show that the former earned less than the latter and in many cases lost money throughout the 1980's. This happened largely because public managers were required to invest primarily or exclusively in government securities or loans to failing state enterprises, at low nominal interest rates that became negative real rates during inflationary periods. Publicly managed funds also run the danger of encouraging deficit finance and wasteful spending by the government, because they constitute a hidden and exclusive source of funds.

Competitively managed funded pension plans, in contrast, are more likely to enjoy the benefits of investment diversification, including international diversification, that protects them against inflation and other risks, and to spur financial market development, thereby enhancing economic growth. The private managers could be chosen by workers in the case of personal saving plans or by employer and union representatives if the funded pillar is based on employer-sponsored group plans.

(But two caveats: countries must have at least rudimentary capital markets before they can put the funded pillar in place, and considerable government regulation and regulatory capacity are needed in order to prevent fraud and excessive risk. These caveats mean that some countries are not yet ready to handle a funded pillar for mandatory retirement saving.)

The redistributive pillar. However, some people, who are low wage-earners for most or unemployed for part of their working lives, will not be able to save enough to keep themselves out of poverty in old age as well. Others may run into a spell of bad returns, despite the government regulation of the investment companies. For these reasons complete reliance on a privately-managed pillar for saving is not enough; a redistributive pillar is needed to keep old people out of poverty, and this must be publicly managed and financed.

The redistributive pillar would resemble existing public pension systems in that it would be publicly managed and tax-financed. However, unlike most current systems, the reformed public pillar would be targeted toward low income groups--providing a social safety net for the old. To accomplish this, benefits could be flat, mean-tested, or could provide a minimum pension guarantee. The tax base should be as broad as possible--either general revenue finance or a payroll tax without a ceiling on taxable earnings. Because of its limited scope and broad tax base, tax rates to support this pillar could be sharply reduced relative to their current levels.

A third pillar, **voluntary saving and annuities**, would offer supplemental retirement income for people with the means and inclination to save more, just as voluntary saving does today.

All three pillars would co-insure against individual and economy-wide risk, providing better protection to the old than any single mechanism could alone. Remember the old adage--don't put all your eggs in one basket--yet this is exactly what we have been forcing many workers to do. Risk diversification is especially important given the long time periods and great uncertainty involved. In fact, most upper income people realize this and have very diversified sources of old age income, including privately managed investment income, while lower income groups are much more heavily reliant on publicly managed pay-as-you-go programs. We believe that the national mandatory plan should also give these lower income groups the benefits of risk diversification, to bolster the protection they get through the public pillar.

The report does not have a simple blueprint that is good for all countries. One way that variation could take place is through the relative size of the two pillars. While each pillar should be large enough to benefit from economies of scale, the division of responsibility and contributions between the two could vary, roughly between one-third and two-thirds of the total. The nature of the two pillars also offers choice. The public pillar could be means-tested, flat or could provide a minimum pension guaranty. The funded pillar could be based on occupational plans or on personal saving plans. Further, different countries should approach this multipillar system at different speed, as some (e.g. in Africa) do not yet have the regulatory or financial market capacity to establish the funded pillar, some (e.g. in Latin America) need to reform urgently, and others (e.g. the OECD countries) can make a gradual transition. The important thing is for all countries to have a vision of where they are going, and to start moving in that direction.

This is not an ivory tower proposal. The key features in this framework--separate mechanisms for redistribution and saving, shared responsibility between the public and private sectors, funded and tax-financed plans--have already been adopted by several countries, including Chile and Argentina (where the funded pillar is based on personal saving plans), Australia and Switzerland (where it is based on mandatory employer-sponsored plans), and Denmark and the Netherlands

(where employer-sponsored plans are mandated by widespread collective bargaining, rather than legislation).

II. Why Do the ISSA and the ILO Make Different Policy Recommendations?

The Review article basically accepts our diagnosis of the problems with social security systems today. And we agree on several much-needed reforms--the importance of raising the retirement age, of having a strong governmental role, and therefore of increasing the governmental capacity in developing countries. But the authors of the article, and by inference the organizations that they represent (the ILO and the ISSA) come up with a very different basic solution from ours. Rather than recommending a fundamental change in system, they believe that the old system can be "fixed up" by appropriate design changes. In contrast, we believe that a fundamentally different system is preferable, especially for countries that are just starting out or expanding their systems. Why do we come to such different conclusions about policy, when we largely agree on diagnosis?

It seems to me that there are four underlying reasons for this divergence:

(1) The Review authors are not concerned about the impact of social security systems on the broader economy, and/or they believe these effects are negligible, while we believe they can be substantial;

(2) The Review article defines current systems as equitable--as they often look on paper--and is less troubled by the inequities that we often find in practice;

(3) The Review article seems to hold that people, acting as citizens and individuals, will not thwart the recommended design changes, while we believe that behavioral responses and political economy factors sometimes make these changes non-viable; and

(4) The Review article does not acknowledge the benefits of risk diversification or weight them very heavily, while we believe diversification is very important for programs with a long time horizon in a very uncertain world.

I consider each of these in order.

Effects on economic growth

Most important, the World Bank report was very concerned about the effect of old age programs on the broader economy. We are especially concerned because, given demographic aging, it is imperative to take steps to increase productivity and growth, which will enable a smaller working age population to support a larger old population. Social security expenditures exceed 10% of GNP and taxes exceed 25% of payroll in many countries today, and both numbers will grow in the future. It is hard to believe that taxes and expenditures of this magnitude will have no impact on the broader economy, especially when we bear in mind that they are on top of other taxes and expenditures that deal with population aging (for example, health and custodial care of the old) and that support other important public goods.

Some examples: High taxes either mean lower take-home pay for the workers or higher labor cost for the employer--which could lead employers to substitute capital for labor, shift into less labor intensive products, become less competitive internationally, and therefore hire fewer workers. Evasion and escape to the informal labor sector (where productivity is lower) are large in some countries, in part because workers and their employers do not want to pay these high payroll taxes. The Atkinson book referred to by the reviewers finds that in industrialized countries most of the payroll taxes are shifted to workers in the form of lower pay, hence the employment effects are small. But since payroll taxes are regressive, the impact on living standards at the bottom end of the wage distribution may be large. Market imperfections and the greater possibility of escape to the informal sector may lead to less shifting and greater employment effects in developing economies.

Current systems may also have led to declining labor force participation rates among older males, and therefore lower GNP. While generous pensions at an early retirement age and penalties for continued working after the normal retirement age are certainly not the only reason for this decline, they surely have been a contributing force. It should be noted that the participation rate

began to decline in the 1960's, before unemployment became a big problem, but after current old age programs were put in place. Indeed, the Atkinson book agrees that pension plans have probably facilitated early retirement. In the US, for example, retirement jumps discontinuously at ages 62 and 65, when workers become eligible for partial and full social security, respectively.

The issue of whether PAYG systems have decreased saving is highly contentious and we will probably never get an unambiguous answer, because economists disagree about the appropriate counterfactual. However, even if these schemes have not decreased saving, a mandatory fully funded plan of sufficient magnitude will increase long term national saving--providing the government does not use this as an opportunity to augment its dissaving. And, countries facing fiscal difficulties because of their large PAYG pension obligations will be forced to cut back on the provision of other important public goods or to fuel inflation by using deficit finance, either of which are bad for growth.

When economic decisions are distorted and productivity and growth decline, both the old and the young are hurt. Therefore it is essential that we take account of these effects, rather than acting as if they do not exist. Otherwise, we are not doing a good job of protecting the old and those who will grow old in the future.

In contrast, the Review article apparently holds that high taxes do not affect the behavior of workers or employers, that evasion can simply be eliminated by better enforcement, that people won't be induced by generous pensions to retire early, that there is no effective limit on the government's ability to finance public goods, and that full funding can't be used to increase saving--or else that increased saving isn't important. (But here there is an inconsistency--concern is expressed about the huge amount of funds that would be built up under full funding; in fact the authors worry more about the possible future oversaving than about the undersaving right now).

Perhaps the ISSA/ILO assumptions are valid in some countries--where there is a high degree of social cohesion and conformity, a strong work and saving ethic, a labor market that facilitates tax shifting to the worker, a willingness

to comply with a high tax regime and a government that backs this up with effective tax enforcement. But unfortunately, experience demonstrates that these assumptions are not valid in most countries. Our recommendations are designed to improve old age systems as well as the broader economy in the majority of countries where the ILO/ISSA assumptions do not hold.

Equity implications

Moving on now, to the distributional effects of current systems: Supporters of current systems often point to their stated purpose of poverty alleviation and their seemingly progressive benefits formulas, whereas the World Bank report examined the empirical evidence on how they actually work in practice, and found this quite disappointing on equity grounds. In fact, studies of lifetime taxes and benefits under social security in several countries show little if any redistribution from high to low income groups.

Perhaps this lack of redistribution was necessary in order to win the political support of high income groups. Yet, there is a "myth" that social security protects low income groups. Why is there so much misunderstanding about this issue? And, was the decision about redistribution reached fairly, after an open discussion among all participants? The same answer covers both questions: the non-transparency of defined benefit formulas limited intra-generational redistribution and the large inter-generational transfer in pay-as-you-go plans enabled both rich and poor to benefit in the early years of old age schemes at the expense of later cohorts--without a complete understanding by many citizens about how this would work.

Close examination reveals that most benefit formulas contain a number of features that chiefly help high income groups: they generally give a higher pension to higher wage-earners; they do not take into account (by charging a higher risk premium) the longer expected lifetime of high income groups; they often base the pension on wages of the past year or past three years, which gives an advantage to those with steeply rising age-earnings profiles (who usually are high earners); they do not give heavier weight to contributions made at an early age, which therefore have a higher present value at date of retirement (this

hurts low earners who had fewer years of schooling); the payroll tax is usually proportional to earnings (in contrast to the progressive income tax in many countries); the ubiquitous ceiling on taxable earnings means that at the margin high earners do not pay the tax; and non-wage income, of which high-earners have more, is not taxed for social security.

At the same time that intra-generational redistribution from rich to poor seems to be absent, intergenerational redistribution has played a very important role. In general, the first 20-30 years of workers who retire under a new or expanded PAYG system get a positive income transfer (a rate of return much higher than the market rate), while later generations get a negative income transfer (a rate of return lower than the market rate). Thus the review article is incorrect in stating that only the last generation to be covered by a pay-as-you-go scheme will lose. In fact, simulations done for OECD countries have shown that generations that retire in the first part of the twenty first century will lose, because the present value of their benefits will be less than the present value of their contributions.

Both rich and poor benefited in the early years, accounting in part for the reduction of old age poverty that accompanied the expansion of old age systems in OECD countries. But the rich typically benefited most of all. The first groups to be covered, who generally receive the highest returns, tend to be high income workers. And the largest income transfers in these early cohorts go to the highest earners, who have the highest pensionable wage base. As a result, it is not unusual in industrial countries today to find young low wage workers paying a high payroll tax to finance a pension and an income transfer for high income retirees. Poverty reduction among both the young and old will require a more targeted distribution of costs and benefits in the future, as the income transfer for the cohort as a whole becomes negative rather than positive.

These inter-cohort redistributions are sometimes justified as resulting from an intergenerational contract. But a contract is usually entered into voluntarily by two parties, both of whom expect to gain. In this case, the "contract" was voted into existence by the winners, at a time when the losers

were not born or were not old enough to be politically articulate. This raises serious questions about the fairness of the political process that set up most current systems. Apparently neither the political procedure nor the empirically-based equity consequences upset the ISSA or the ILO enough to change its basic recommendation. Both of these troubled us when we wrote the World Bank report.

Political manipulation and behavioral responses.

The Review article recommends design changes such as raising the retirement age, eliminating special regimes for privileged groups, and in some cases reducing the wage replacement rate, while retaining the basic structure of current systems. While supporting the need for such design changes, we do not believe that this alone will do the job, in part because it fails to take account of the behavioral response of individuals, citizens and politicians.

For example, the retirement age will have to be raised continuously as longevity increases, but politicians are likely to encounter political resistance at each round; so even if the retirement age is "fixed" today, the problem will reappear tomorrow. Privileged groups will not want to give up advantages such as benefit formulas with relatively generous replacement rates, especially as pay-offs for the cohort as a whole decline. If people feel they are no longer getting a high return from the system, they will evade by "working off the books"--as many already do.

We need a system that is better insulated from political manipulation and behavioral responses that reduce contributions or increase benefits. In our recommended system, retirement age increases automatically with longevity (or else the benefit rate goes down at the old retirement age). Since defined contributions are used in the saving pillar, people do not get out more than they have put in, plus investment income. Redistributions take place through the public pillar, in a very transparent way, and with the limited goal of providing basic income protection. If a person evades contributions, that same individual (not others) loses his benefits, so there is no unintended redistribution and the system is not placed in financial jeopardy. Private management of pension reserves minimizes opportunities for appropriation by the government. To be sure,

no system is completely immune to the dangers described above, and every system will function better if government behaves. But the structure we have recommended contains checks and balances, that place limits on each actor. We believe such a system is less susceptible to distortions and more sustainable.

Risk aversion and diversification.

Although the Review article claims that the World Bank report adopts a high risk strategy, actually the opposite is true. We adopt a very risk averse strategy, by recommending a diversified source of retirement income, while the ISSA and the ILO representatives recommend a non-diversified and therefore riskier strategy, depending largely on a publicly managed payroll tax financed system.

None of us can predict with certainty what the future will hold, especially the long term future, which is relevant for old age planning. This creates risk, albeit of different sorts, both for PAYG DB plans and fully funded DC plans. For example, under current defined benefit schemes, the young worker does not know what his pension will be; it depends on how many years he ends up working, what his wage is during his last few years of employment, and what changes the government decides to make in the benefit formula and retirement age between now and then. (These changes may be desirable, but nevertheless they create risk for the worker). Pension formulas are often complex, making it difficult for workers to estimate how much they will eventually receive.

In a funded defined contribution plan, in contrast, the worker faces the risk that investment income may be volatile and low, producing a smaller pension than expected. The rate of return in the capital market does indeed fluctuate widely from year to year, ranging from negative to highly positive. However, it should be noted that the average return over long periods of time (most relevant to retirement planning) is much more stable. Government regulations could rule out the most high-risk investments as vehicles for mandatory retirement saving. And historical evidence presented in Averting indicates that the probable rate of return on capital is greater than the probable return on contributions to a payroll tax financed system, under conditions of slow growth in population and

wages.

Because both a pay-as-you-go defined benefit scheme and a funded defined contribution scheme involve risk, of different sorts that are not completely correlated, we favor a diversified system to minimize this risk. The benefit from the saving pillar would depend on investment returns, while the public pillar would provide a defined benefit that is financed by a tax on payrolls or broader revenue sources. In contrast, the Review article wants to stick to a more monolithic defined benefit payroll tax-financed system that involves greater risk because of the lack of diversification.

Basing part of the system on capital accumulation has the additional advantage that some of it can be invested abroad, which further diversifies risk. Suppose the domestic economy falls into a recession, or suppose interest rates or wages decline--a pension plan that is financed by a payroll tax cannot avoid these country-specific risks while one that includes capital invested abroad is partially insulated. Since different countries are aging at different rates, international diversification enables pension plans to minimize the financial consequences of the demographic transition. While pensioners from one country are selling the assets they have acquired to support their retirement, thereby lowering asset prices and raising the interest rate, workers from another country are still accumulating, thereby stabilizing rates. Thus international investment is a particularly valuable risk-minimizing device in the face of the demographic transition. The authors of the Review article apparently do not see the value of diversification.

In sum, if there were no distortionary effects stemming from high taxes, or evasion by workers and employers, or political pressure for attractive early retirement provisions, or fear of misallocated public resources, or need to increase long term national saving, or concern about the lack of redistribution from rich to poor, or lack of concern about intergenerational transfers, or need to diversify risks, old-style social security systems favored by ISSA and the ILO would do just fine. But we believe these concerns are present, serious, and motivate a shift to the multi-pillar system described above and at greater length

in the report.

III. Some Miscellaneous Rejoinders

Affordability, sustainability, and the implicit public pension debt

The review article questions our use of these terms. In inquiring about the affordability of a scheme, we are asking whether the costs it imposes on the economy are greater than the value that the society places on its benefits and, indeed, whether the promised benefits can be financed given the impact on growth and taxes. By nonsustainability we mean that the current benefit and contribution schedules are inconsistent with each other; either presently or in the near future, pension obligations will exceed revenues and one or the other will have to change. An OECD study showed that, for industrialized countries, the current tax rate is not nearly high enough to pay the promised benefits. Given demographic aging, this is even more likely to be the case in most developing countries.

Along similar lines, the implicit public pension debt (the present value of the pension promises made to current workers and retirees) is a problem because the country may have incurred these obligations without fully realizing the future costs. High and increasing taxes may be needed to cover that debt, crowding out other important public goods. If the country decides it has made a mistake, it is politically very difficult to reverse directions. And if it does not reverse directions the debt and revenue gap will increase still further. In most industrialized countries the public pension debt exceeds 100% of GNP and in some it exceeds 200%. Developing countries now establishing or extending their systems should be aware that, even if initial cash flow requirements are low, from the beginning PAYG systems are building up a hidden irreversible debt, which will require high future taxes. Contrary to the review article, the implicit debt and the projected cash flow deficit are problems not only for countries that choose to change their systems, but even more so for countries that do not reform rapidly enough.

Notional defined contribution accounts

In the past, in almost all countries, defined contribution plans were fully funded. Contributions accumulated in the worker's account earning investment income, and upon retirement the entire accumulation was turned into a lump sum payment or pension. However, in the past year several countries (including Sweden, Italy and China) have begun experimenting with "notional" defined contribution plans, which are essentially pay-as-you-go, so it is no longer accurate to say that defined contribution plans are, by definition, fully funded.

The basic idea is that a worker's account is set up, as a book-keeping device, to keep track of contributions plus imputed interest at a rate determined by the government, but funds are never accumulated in these accounts. Instead, the accounts are notional or empty accounts, since the money is paid out to current pensioners as soon as it comes in. When the worker reaches retirement age, the notional accumulation in his or her account is converted into an annuity, and paid to the retiree out of contributions by other younger workers, who are beginning to build their own notional accounts.

Notional accounts are very attractive to countries that want to reform but, because they already have a large public pension debt, find a shift to full funding difficult to achieve. A plan based on notional accounts accomplishes some but not all of the objectives of a reform. It produces a close transparent relationship between contributions and benefits, thereby deterring evasion and other distortionary behavior. It eliminates some undesirable redistributions within the same cohort of individuals. It automatically adjusts retirement age up or benefits down as expected lifetimes increase, thereby preventing pension costs from rising as fast as they would otherwise.

However, so long as the account remains notional it will not increase long term national saving. It will produce large inter-generational transfers as a result of demographic change. And the notional interest rate is highly subject to political manipulation. Since notional do not accumulate assets or generate investment earnings to cover the promised annuity, they leave governments with the full responsibility to cover the annuity on a pay-as-you-go basis, and for this reason they continue to require a sharp rise in payroll tax rates as

populations age.

Social insurance, annuity pools and redistribution

A crucial question is whether everyone in the population should be grouped together, or whether separate risk categories should be utilized for people with different life expectancies. Current social security plans sidestep this question by using a defined benefit formula that depends only on years of service and average earnings during a specified base period. Because other demographic or economic factors related to expected longevity (gender, occupation, total income) are not included in this formula, implicitly these plans are putting everyone into the same risk category. But this creates perverse redistributions given the fact that high income people live longer (and will therefore receive benefits for more years) than low income people, teachers live longer than miners, etc. This decision to put everyone into the same risk category and thereby give a large non-transparent advantage to high income groups was made without an open public discussion of its desirability.

The Review article claims that redistributions to the longer lived (who on average have higher incomes) are inevitable in a social insurance scheme, whether public or private, that is designed to protect people against the risk of longevity. To assess this claim it is necessary to distinguish between ex ante (expected) transfers and those that result from random differences in actual lifetimes. If expected lifetimes are the same within a group, then actual transfers to those who happen to live longer are indeed inevitable under longevity insurance--but these transfers are random; it is impossible to predict ahead of time who will gain and who will lose. However, if expected lifetimes differ among individuals and the premiums they are charged do not reflect their relative risks, then the winners and losers are predictable ex ante. Such ex ante transfers are redistribution, not insurance, and we should think carefully about whether these redistributions are desirable.

Competition usually forces private insurance companies to avoid such redistribution, by grouping people according to observable characteristics that are correlated with their ex ante risk. The premium charged is then higher for

higher risk groups, or for groups where the total insured loss is greater. For example, it is common for young male automobile drivers to be charged a higher premium than older more experienced drivers and a higher premium is charged to insure higher value cars against fire or theft. If private insurance companies were the dominant providers of annuities, they would probably compete for business by creating multiple risk categories in which miners, for example, would pay a lower premium than college professors, because they are expected to live and collect benefits fewer years. One virtue of a privately managed DC plan that converts to an annuity upon retirement is that an explicit discussion is then needed about which risk categories should be allowed and disallowed by government regulations.

In contrast, in most public annuity schemes everyone is placed into the same risk category, without open discussion, so that some groups (the short-lived high risks) lose, while others (those with a long expected lifetime) gain. This is one of the ways that high income people avoid redistributing to lower income people in these schemes.

Annuities

The Review article claims that private annuities cannot index pensions against inflation, as public annuities can. But in fact, inflation-indexed annuities are provided privately in Chile. To be sure, they are partly funded through the purchase of indexed public bonds, but also partly through the purchase of equities, real estate and (to a much lesser extent) foreign assets, that are likely to provide inflation protection. It is useful to recall here that most developing countries do not provide automatic inflation adjusted public pensions. When pensions are not inflation-indexed a conflict of interest is created: government policies can produce the inflation from which the government pension agencies benefit financially, as the real value of their pension obligation plummets.

The Review article goes on to list other possible sources of problems in private annuities markets. It does not explore whether simple mechanisms could be developed to offset these problems. For example, lack of financial experience

among retirees can be mitigated by requiring insurance companies to offer standard form contracts, on which price can more easily be compared. The risk of a low interest rate on the day when the capital accumulation is turned into an annuity can be countered by allowing people to purchase variable annuities (where the unit value varies as the interest rate changes), or to spread their annuity purchases over, say, a 20-year period. The latter option would enable those people who perceive great risk in defined contribution plans to avoid that risk by purchasing fixed annuities during their working lives--but it would not require everyone to do so.

Another approach to the interest rate problem is to allow retirees to take out scheduled withdrawals calculated to last an average lifetime. One problem with scheduled withdrawals is that people who live longer than an average lifetime might be left without funds. This problem could be resolved by requiring people on scheduled withdrawals who die earlier than expected to turn over a portion of their remaining retirement funds to a public pool, out of which an annuity is paid to those who live longer than expected; this self-financing system is under consideration in parts of China. Thus, if private annuities markets fail to work well, the public sector could play a role here, but one that is much smaller than the role it plays today.

Absorptive capacity of capital markets.

The Review article is concerned that the financial markets of many countries will be unable to absorb the large amounts of capital that will accumulate under a mandatory saving plan. But it fails to emphasize that many countries want more saving and, moreover, that the capital accumulation takes place gradually over time. Suppose the required contribution rate is phased in, starting at 4% and increasing to 10% over a 7 year period. Suppose further that wages are 50% of GNP. Then, in the first year capital accumulation will be 2% of GNP and in the second year another 2.5% will be added, etc. Some of this will displace other savings, bringing net capital accumulation over the first 7 years to about 20% of GNP. Countries that do not have the capacity to absorb this amount of capital domestically could invest it abroad, wherever the return/risk

mix is best. This option was not available to funded plans in earlier years, but it has become feasible now due to the development of global capital markets. Moreover, many countries with limited absorptive capacity probably do not have the capacity to handle an ambitious public pension plan either. They should have a very modest public plan aimed at providing a social safety net and leaving space for development of a funded pillar later on.

Administrative costs.

The Review article asserts that in the US about 35% of contributions to "commercially managed" personal pension schemes go to administrative costs and profits, using this as an argument against such schemes. It is not clear what the authors mean by "commercially managed". Certainly it does not mean mandatory, where economies of scale and careful regulation would be present, since the US does not have such a scheme. Apparently it also does not mean occupational schemes, where only 6% of contributions, or less than 1% of assets, were spent on administrative costs for employer-sponsored plans with 100 or more participants in 1989 in the US. In these plans, income from interest, dividends and capital gains was double the income from contributions, and more than covered all the expenditures on benefits as well as administration; the totality of contributions went into the accumulated reserves. Much of the administrative expense, of course, was used to generate this income.

Similarly, in Chile administrative costs of running the mandatory pension scheme, including the investment of pension reserves, are about 1.8% of assets or 12% of new contributions each year. The high return on investments (an average of 13% of assets during the 1980's) more than covered these costs and left an 11% annual net return that pay-as-you-go publicly managed plans would relish. The Chilean pension system is also credited with helping to build the country's financial markets and therefore its high rate of economic growth. These numbers are surely an argument for rather than against funded privately managed plans-- their investment income finances the pensions and also represents a net addition to the capital stock that builds the economy.

Are pay-as-you-go systems financed by contributions or taxes?

The Review article maintains that current systems are financed by "contributions" which are superior to the "tax" financing that we recommend for the public pillar, because contributions meet with less political resistance and generate a stronger claim on benefits. In the period when benefits exceeded payments because of the inter-generational transfer, most people were quite willing to call their payments "contributions" that justified their benefits, even though these lifetime contributions were generally far less than the lifetime pensions that they received. However, now that we are entering an era where benefits, on average, will be less than lifetime payments into the scheme, have only a weak relationship to these payments, and could be increased by opting out of the system, most people will know that their mandatory payments are taxes, regardless of what we in this journal choose to call them. In fact, the World Bank proposal, which increases the expected benefit, draws a close connection to contributions, and gives the worker or employer control over the choice of fund manager, is more likely to be considered as contribution-financed and to win popular approval over the long run.

IV. Conclusion

Many OECD countries adopted their current systems before World War II, at a time when private financial markets were undeveloped or in disrepute. These systems were expanded sharply in the 1950's and 1960's, at a time when real wages and population were both growing rapidly. Under these conditions, it seemed natural to rely on a publicly-managed payroll-tax-financed pay-as-you-go system.

However, the world has changed dramatically over the past 40 years. Real wage growth has slowed down and population growth has come to a halt in OECD countries, so that tax rates will have to go up sharply if pay-as-you-go systems are retained. It has become increasingly important to minimize work disincentives and to increase labor productivity through capital accumulation, which the public pillar is not well suited to do. Financial markets are better developed than they were before and are global in nature, allowing funded plans

to benefit from international diversification. Under these changed conditions, shifting increased responsibility to privately-managed funded plans that tie benefits to contributions is likely to enhance economic growth and provide higher benefits than continued exclusive reliance on a payroll-tax-financed pay-as-you-go system.

In addition, over the past 40 years countries with PAYG defined benefit plans have experienced unanticipated problems, that threaten their sustainability in the years ahead. Developing countries have the advantage that they can learn from this experience and benefit from the improved global capital market. But they must learn fast, given the rapid rate of demographic aging they face in the near future. The system that seemed right for OECD countries 40 years ago is simply not right for developing countries today. If they follow the old path, they will encounter dramatically escalating contribution rates, large intergenerational transfers, and all the other problems described above.

As for the OECD countries, once having started down the PAYG path and accumulated large implicit pension debts, it will be very difficult for them to rapidly reverse directions. They can, however, make a gradual transition--by reducing and flattening out the benefits in their public pillars and using the released resources (plus some additional contributions in most cases) to build funded defined contribution accounts in a new mandatory saving pillar.

The Review article claims it is unfortunate that the discussion of pension reform has been mixed up with the wider debate about the role of government, and one should not expect pension systems to solve the broader problems of underinvestment and low economic growth. But this is the crux of the argument: To analyze what is an efficient and equitable old age system, we have to consider the appropriate role of government versus the private sector. And, given the large sums of resources involved, we have to consider the impact of these systems on the broader economy. Indeed, only by using these systems as well as other means to increase economic growth, can we assure a reasonable and rising standard of living for the future old and their children.

We must also remember that the "successful" social security systems of the industrialized world have just matured and are about to confront the demographic transition. Until now the income transfers have been positive; in the future, they are likely to be negative. Only the future will tell whether the recipients of these negative transfer consider their systems successful.

We don't defend private schemes as they exist. In fact, we are very critical of the underfunding, lack of vesting and portability, etc. that are found in unregulated private schemes. Moreover, voluntary private schemes usually cover only a minority of the work force, the upper income groups, or they give better deals to these groups. That is why we argue for a system that is mandatory, privately managed but publicly regulated, defined contribution so it avoids the problems of portability, vesting, and nontransparent redistributions.

Industrialized systems. Many public systems in industrialized countries do indeed operate more efficiently than those in developing countries. Evasion is low because of better tax-enforcement capabilities. Inflation indexation is usually included. Administrative costs tend to be relatively low for high income countries, whether the plan is publicly or privately managed (James and Palacios, 1995). But even these well run systems have not encouraged saving, have facilitated early retirement, have not redistributed from rich to poor, have redistributed from the younger to the older generation, and have run up a huge social security debt that will require higher taxes in the future.

Endnotes

1. R. Beattie and W. McGillivray, "A risky strategy: Reflections on the World Bank Report *Averting the old age crisis*, *ISSA Review*, 48, 3-4/95.

Policy Research Working Paper Series

Title	Author	Date	Contact for paper
WPS1558 In Search of Price Rigidities (Recent Sector Evidence from Argentina)	Jacques Morisset	December 1995	N. Cuellar 37892
WPS1559 Have Transport Costs Contributed to the Relative Decline of Sub- Saharan African Exports? Some Preliminary Empirical Evidence	Azita Amjadi Alexander J. Yeats	December 1995	S. Lipscomb 33718
WPS1560 Trade and Fluctuations	Aart Kraay Jaume Ventura	December 1995	R. Martin 39065
WPS1561 Income Inequality and Aggregate Saving: The Cross-Country Evidence	Klaus Schmidt-Hebbel Luis Servén	January 1996	E. Khine 37471
WPS1562 Catching Up with Eastern Europe? The European Union's Mediterranean Free Trade Initiative	Bernard Hoekman Simeon Djankov	January 1996	F. Hatab 35835
WPS1563 Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues	Michael Bruno Martin Ravallion Lyn Squire	January 1996	P. Sader 33902
WPS1564 From Plan to Market: Patterns of Transition	Martha de Melo Cevdet Denizer Alan Gelb	January 1996	C. Rollison 84768
WPS1565 Housing Finance in Transition Economies: The Early Years in Eastern Europe and the Former Soviet Union	Bertrand M. Renaud	January 1996	R. Garner 37670
WPS1566 Liquidity, Banks, and Markets: Effects of Financial Development on Banks and the Maturity of Financial Claims	Douglas W. Diamond	January 1996	D. Evans 38526
WPS1567 Population Growth, Factor Accumulation, and Productivity	Lant Pritchett	January 1996	S. Fallon 38009
WPS1568 Determinants of Diarrheal Disease in Jakarta	Anna Alberini Gunnar S. Eskeland Alan Krupnick Gordon McGranahan	January 1996	C. Bernardo 37699
WPS1569 Improving Water Resource Management in Bangladesh	Rashid Faruquee Yusuf A. Choudhry	January 1996	C. Anbiah 81275

Policy Research Working Paper Series

Title	Author	Date	Contact for paper
WPS1570 <i>Protecting the Old and Promoting Growth: A Defense of Averting the Old Age Crisis</i>	Estelle James	January 1996	S. Khan 33651