

IMF Working Paper

© 1998 International Monetary Fund

This is a *Working Paper* and the author(s) would welcome any comments on the present text. Citations should refer to a *Working Paper of the International Monetary Fund*. The views expressed are those of the author(s) and do not necessarily represent those of the Fund.

WP/98/61

INTERNATIONAL MONETARY FUND

Fiscal Affairs Department

Rethinking Public Pension Reform Initiatives¹

Prepared by Peter S. Heller

April 1998

Abstract

This paper argues that there are significant risks, limitations, and complications associated with reliance upon mandatory DC, fully funded schemes as the dominant public pension pillar. Policies to limit risks may result in the government being reinjected into playing an important financial role in the provision of social insurance. For many countries, the principal source of old age support should thus derive from a *well-formulated, public DB* pillar, with a significant amount of prefunding. A DC/FF pillar can play a useful supplemental role in a multi-pillar system for the accumulation of pension savings.

JEL Classification Numbers: H55

Keywords: public pensions; social security

Author's E-Mail Address: pheller@imf.org

¹Paper presented at the APEC Regional Forum on Pension Fund Reforms, Cancun, Mexico, February 4-6, 1998.

Contents

| | Page |
|--|------|
| Summary | 3 |
| I. Introduction | 4 |
| II. Characteristics of Recent Public Pension Reform Initiatives | 6 |
| III. The Risks associated with DC/FF Reforms and the Extent of a Government's | |
| Conjectural Liabilities | 8 |
| Rate of Return Risks | 9 |
| Potential variance in the rate of return across AMFs: the role of regulation .. | 9 |
| Risks associated with government interference in the management of the | |
| portfolio | 10 |
| Systemic declines over time in asset prices | 10 |
| Market turmoil-induced drops in asset prices | 11 |
| Potential Government Responses to Rate of Return Risks | 12 |
| Contingent liabilities | 13 |
| Implicit contingent liabilities | 14 |
| Conjectural liabilities? | 14 |
| The possible use of public insurance schemes to minimize the above risk | |
| factors | 15 |
| Longevity and inflation risk issues—private market failure | 16 |
| IV. The Complications Posed to Fiscal Policy Management | 18 |
| Uncertainty as to the magnitude of public debt | 19 |
| Understatements of the size of the public sector | 20 |
| Misleading measures of the burden of fiscal measures | 20 |
| Complicating macroeconomic analyses of the fiscal policy stance | 21 |
| V. How are distributional/poverty issues addressed within a DC/FF framework? | 23 |
| Distributional Neutrality of DC/FF schemes? | 23 |
| How are distributional/poverty issues addressed within a DC/FF framework? | 24 |
| VI. Concluding Thoughts | 27 |
| References | 30 |

Summary

In a world of aging populations, this paper argues, relying on mandatory defined-contribution (DC) schemes as the dominant public pension pillar carries significant risks, limitations, and complications. This is particularly the case for schemes that rely on the private sector for the collection, management, and investment of contributions as well as the payment of pensions. Three principal arguments are made:

First, the purported advantages of DC schemes can be obtained only at the expense of higher underlying risks to the incomes of future pensioners. Policies to limit such risks may result in the government being reinjected into the financing of social insurance, thus raising questions as to the relative merits of DC over defined-benefit (DB) schemes or the desirability of private sector solutions.

Second, since DC-type schemes by themselves do not redistribute income intragenerationally or provide safety nets, income security measures need to be developed to complement a DC scheme. These must be financed and managed by government. Authorities should ask whether it is more efficient and cost-effective to build such redistributive/safety net elements directly into the social insurance system, rather than make them a separate pillar. At a minimum, the cost of such elements must be factored into any overall assessment of the relative merits of DC and DB schemes.

Third, if these mandatory social insurance schemes are pursued within the private sector, both the management of fiscal policy and the assessment of the economic impact of fiscal instruments are likely to prove more difficult.

In sum, the force of these arguments suggests that a defined-contribution, fully funded pillar, while potentially playing a legitimate role in a multi-pillar system for the accumulation of pension savings, should not be the dominant mandatory pillar of the provision of pension incomes. The principal source of old-age support should arise from a *well-formulated, public* defined-benefit pillar with a significant amount of prefunding.

I. INTRODUCTION

Much attention has been given in recent years to the potential benefits of governments adopting mandatory defined-contribution, fully-funded-schemes (DC/FF) managed by the private sector. Such schemes may be new or may involve a transformation of an existing traditional government-managed defined benefit (DB) pay-as-you-go (PAYGO) approach. Both the World Bank and Asian Development Bank (ADB) have touted the merits of such schemes.² Higher average returns on savings for retirement, possibly increased national saving rates, less microeconomic distortions, greater transparency, and much reduced political risks have been the principal advantages cited (see section II). Although Chile's policies are the most often cited, the high savings rate achieved by some Asian economies that have adopted provident fund schemes (notably Singapore and Malaysia) has been used to further buttress support for such pension reform initiatives.

In a world of aging populations, this paper will argue that there are significant risks, limitations, and complications associated with reliance upon mandatory DC schemes as the dominant public pension pillar. This is particularly the case for schemes that rely on the private sector for the collection, management, and investment of contributions as well as the payment of pensions. Three principal arguments are made. **First**, the purported advantages of DC schemes can be obtained only at the expense of significantly higher underlying risks to the incomes of future pensioners. Policies to limit such risks may result in the government being reinjected into playing an important financial role in the provision of social insurance, thus raising questions as to the ultimate relative merits of DC over DB schemes or the desirability of private sector solutions.

Second, since DC-type schemes by themselves do not provide for intragenerational redistribution of incomes nor the provision of any safety net, approaches to provide for such income security need to be developed as a necessary complement to a DC scheme. These must necessarily be financed and managed by government. There is a reasonable question whether it is more efficient and cost-effective to build in such redistributive/safety net elements directly into the social insurance system, rather than having it as a separate pillar. At minimum, the cost of any such elements must be factored into any overall assessment of the relative merits of DC and DB schemes.

² The ADB report asserts that "defined contribution pension schemes have much to commend them Indeed, for an aging population (such as Asia faces), this is the *only* approach to pensions that ensures fiscal prudence. Thus, Asian countries would do well to consider defined contribution schemes." (ADB, 1997), p. 182 (my italics). See also The World Bank (1994) for the most thorough argument for these schemes as the preeminent pillar of a multi-pillar social insurance system.

Lastly, if these mandatory social insurance schemes are pursued within the private sector, both the management of fiscal policy and the assessment of the economic impact of fiscal instruments are likely to prove more difficult.

Together the force of these arguments suggests that a DC/FF pillar, while potentially playing a legitimate role in a multi-pillar system for the accumulation of pension savings, should not be the dominant mandatory pillar for the provision of pension incomes.

These issues are particularly relevant in Asia today, where the coverage of public pension systems is, in almost all cases, still quite narrow and where most countries lack any type of primary pillar of flat or means-tested benefits.³ Policy reform initiatives are still at a sufficiently early stage that the choice of policy direction is still an open question. However, the thrust of this paper's analysis is also relevant for other emerging market, transition, and developing countries contemplating the adoption or the shift to a DC/FF scheme as the dominant mandatory pension pillar. For industrial countries with established DB systems contemplating such a policy shift, the issues are equally relevant but must also take account of the way in which any such policy change would affect the important transitional generations that would necessarily be financing, in some way, the transition as between the two alternative pension systems.

In what follows, section II describes the principal thrust of these recent public pension reform proposals. Section III examines the risks and policy dilemmas facing governments that rely on a mandatory private sector DC/FF pension pillar. Section IV will examine the complications posed for fiscal management by private DC/FF schemes. Section V will

³Only Korea and Taiwan, Province of China, have DB/PAYGO public pension systems with substantial (though not universal) coverage of the work force. Labor force coverage is far more limited for other countries with DB schemes (notably Philippines, China, and Hong Kong SAR, Indonesia, and Vietnam), such that the large majority of workers are outside the system. In China, although workers in state-owned enterprises (SOE) have been covered by DB-type schemes, with minimum pensions for members, the expected rationalization and privatization of the SOE sector raises questions as to how such benefit guarantees will be honored. Even so, no more than 28 percent of China's working age population is covered by such schemes. Although Malaysia, Singapore, and more recently, Thailand and Hong Kong SAR have established provident funds, the evidence suggests that such funds are largely forced savings rather than pension schemes. Even in the most well-developed countries, the amounts that have been mobilized are not sufficient to provide an adequate retirement income (see Asher (1997a), p. 22). Only Indonesia has begun to introduce a defined contribution scheme for workers in "defined enterprises" (large enterprises and state-owned enterprises), but coverage under this scheme remains extremely limited. As to safety net schemes, **only** Hong Kong SAR appears to have a means-tested welfare scheme to raise incomes to a minimum level for eligible persons among the elderly, disabled, youth and indigent groups in the labor force.

examine some of the poverty and distributional issues confronting countries adopting DC/FF schemes. Section VI offers some concluding thoughts on the role that DC/FF schemes could play in a national pension system.

II. CHARACTERISTICS OF RECENT PUBLIC PENSION REFORM INITIATIVES

There are two broad foci for recent public pension reform efforts. For many countries, particularly the more industrialized ones, the debate has centered on whether to prefund existing PAYGO-financed, DB schemes and whether and how to modify the terms of such schemes so as to render them financially more sustainable over the longer term. Prefunding is essentially an effort at “tax smoothing”. Payroll tax rates are increased such that the pension system runs a financial surplus in the early years, thus avoiding the need that would occur under PAYGO systems for a steep increase in subsequent years.⁴ Also to avoid significant future increases in payroll tax rates, efforts may be made to reduce the generosity of pension benefits.⁵ Reforms may also be introduced to modify the extent to which a given DB scheme provides for an intragenerational redistribution of income (such as a higher replacement rate for lower income workers, or preferential treatment of nonworking spouses). Other reforms may seek to achieve a tighter linkage of benefits to the contributions made over a worker’s life time or the provision of more timely information to participants on the magnitude of expected benefits associated with a given contribution record.

However, the more ambitious and topical reform initiatives call for the mandatory establishment of a DC/FF system. Such systems can be private or public,⁶ but most reform initiatives suggest the former. Where such a scheme involves a shifting from an existing DB type system, provisions must be made as to how to finance the transition to the new system. For workers under the DC system, their income in retirement would be determined by the amount of contributions made over their working life (with a government-mandated minimum contribution rate specified) and by the rate of return earned on the investment of these contributions. The latter would reflect the asset portfolio chosen by the worker—either directly or through the choice of a particular private asset management fund (hereafter

⁴To render such an approach viable, it is necessary that any resulting surpluses are used to retire public debt rather than leading to higher government consumption. See Hemming (1998).

⁵This may include deferring the age for pension eligibility, reducing the generosity of indexation provisions (which may either be a discretionary feature of the system or of a prescribed character); changing the formula used for determining the initial pension benefit; restricting eligibility for disability or survivor’s benefits; and modifying the tax treatment of pension contributions or pension incomes.

⁶ See S. James (1998) for a presentation of the continuum of alternatives.

AMF)—and subject to any constraints imposed by the government on the possible composition of the portfolio. Most such schemes seek maximum choice among competing private sector AMFs, with the government's role limited to the establishment of regulatory standards and a supervisory role to ensure that such standards are adhered to. At retirement, the typical proposal calls for workers to either purchase an annuity or to draw down their pension assets through phased withdrawals. Indexed annuities may or may not be a feature of such schemes, depending on the scope of the private annuity market that may exist in a country (see section III).

Among the advantages ascribed to such schemes are:

① the expectation of a higher real rate of return on pension savings (reflecting the higher potential return associated with investing a significant share of contributions in equity markets), relative to that which would be implicitly earned on the contributions associated with a DB/PAYGO system (which is a function of the rate of growth of wages).

② the avoidance of the political risk and the intra generational cross-subsidization often observed in DB/PAYGO systems. This reflects the fact that ultimate pension incomes are a function of the accumulation of an individual's pension savings, rather than being subject to the risk that governments, at the time of retirement, may be unwilling to levy the taxes required to finance the earlier promised level of benefits;

③ less microeconomic distortions. Workers would perceive a direct link between the contributions made and the benefits ultimately received. Thus, there is a greater likelihood of compliance in making contributions. In contrast, payments in DB systems are typically simply seen as payroll taxes that bear no relationship to benefits ultimately received.

④ greater transparency. Workers at all times can see the value of their portfolio and make judgements as to its adequacy.⁷

⑤ smaller governments. Advocates see the assignment of pension savings to the private sector as reducing the role of government.

Advocates of this approach normally also assume that such a DC/FF system may be complemented by a primary, public pillar in the social security system which is of a safety net

⁷The transparency "advantage" of DC/FF schemes is also open to question. While certainly the "political risk" factor raises questions over the transparency of the benefit that a DB scheme may in fact offer (even if individual account statements were to be annually distributed), the DC scheme cannot be said to fare better. How much credibility can be attached to rate of return projections for the next 10-15 years, let alone 25-35 years? Equally, since annuity values at retirement are predicated on the rate of return that will prevail during the 20-30 years *after* retirement, the level of uncertainty is even greater.

character (see World Bank (1994)). Such a pillar may provide for universal flat rate benefits or may be targeted through means testing. In Chile, there is a minimum nominal income guarantee, thus implying a contingent public liability in the event that a particular AMF does poorly in its investment record.

III. THE RISKS ASSOCIATED WITH DC/FF REFORMS AND THE EXTENT OF A GOVERNMENT'S CONJECTURAL LIABILITIES

Fundamental to the attractiveness of DC/FF schemes is the perception that workers' contributions are effectively equivalent to own savings, that the uncertainty over potential political risks to the realization of expected pension income is removed, and that the higher potential investment yield potentially realizable in private sector capital markets can be earned on these invested savings. Such schemes are built on transparency--workers are presumed to see clearly their pension-related financial asset portfolio at any point in time and, under specific assumptions on future rates of return, are able to judge the expected income flow during retirement. The mandatory character of such contributions is not seen as a negative feature, given both the recognition of the need for the government to institute a system that ensures that individuals do save for retirement and given the counterbalancing feature of some degree of control by workers over the choice of the investment portfolio for these assets. Certainly, the higher empirically demonstrated yield from investments in equities relative to bonds in recent years has also buttressed the acceptability of this approach, implying either a higher ultimate pension income for a given level of contributions, or a lower required contribution to achieve a target pension income.

But these attractions also come with risks and additional costs. Some of the higher costs have been well-noted by commentators on the DC/FF approach and do not require elaboration here. In particular, there are higher administrative costs associated with the marketing and management of private AMFs under a mandatory DC/FF scheme. (See Diamond (1993); S. James (1997); Hemming (1998)). The risks are of two broad categories. First, the invested contributions may not, in fact, earn a higher rate of return over a pensioner's working life (net of administrative costs) relative to the implicit return that would have been associated with a DB system. More starkly put, is there a risk that a retiree's accumulated pension assets may prove to be significantly less than expected, i.e., less than the notional net present value of the stream of DB benefits discounted to the time of retirement). The particular rate of return risks may relate to the quality of the investment strategy pursued by an AMF or the way in which the Government influences the investment strategy of such pension funds; alternatively, it may arise from systemic risks that apply to all investors as a class.

The second type of risk arises from the fact that even if contributions to a DC scheme earn a higher real rate of return than would implicitly arise from a DB scheme, the assets accumulated by the time of retirement may not be sufficient to purchase a lifetime *real* annuity that would exceed that which would be provided by a government DB scheme. The issue is

the cost that would be required for private markets to offer the same level of longevity and inflation protection to all participants.

Thus, the risks relate to the potential variance in the rate of return of DC schemes, the risks that may affect the mean rate of return that can be earned in future years, and the availability of markets to provide, at the time of retirement, real annuities at low cost. In the remainder of this section, we will seek to examine the nature of these risks and whether a government may have a conjectural financial liability as a consequence.

Rate of Return Risks

Potential variance in the rate of return across AMFs: the role of regulation

The most obvious source of excessive variance in the rate of return relate to the possibility of fraud and abuse, poor quality of investment managers, and an inappropriate portfolio mix in terms of the type and maturity of financial instruments. These are the kind of risks which are most amenable to the combined beneficial effects of adequate government regulation and supervision of the pension fund industry, sufficient competition among AMFs, and adequate transparency to investors on the past investment performance of individual AMFs. Specifically, a government supervisory authority may be seen as necessary to ensure adequate prudential standards are the norm for those private sector agents given license to manage and invest pension funds. The possibility of fraud and abuse cannot be discounted, particularly for countries with poorly developed capital markets or where the potential for conflicts of interest within financial institutions (associated with their possible multiple roles as lenders and pension fund investors) are great. Limits on the relationship between asset managers and corporations may also be established, again to avoid conflicts of interest.

In principle, competition between AMFs and transparency of information on investment performance are seen as critical to limit the severity of the potential downside risks associated with poor investment choices by individual portfolio managers. Presumably, investors who observe that their AMFs are not performing well in the market would shift to better performing ones. Given the variability in the performance across time of such managers, relative to the market, the effects of such options may be to limit the variance of returns over time, but not necessarily to boost overall performance.

Government prudential regulations are also seen as necessary to set limits on the potential riskiness of AMF investment portfolios or to constrain the risk management strategy than can be adopted (e.g., the reliance on a "prudent man" investment strategy). Such restrictions may limit the share of portfolios that can be allocated to equities, direct investments in private corporations, and assets denominated in foreign currency. At least some minimum share of the portfolio may be required to be devoted to government bonds and bills, in order to limit risk and promote adequate diversification. Limits may be placed on the share of assets that can be placed in any one investment. Regulations may also seek to ensure an appropriate matching in the maturities of assets and liabilities.

Despite such limits, some percentage of workers are nevertheless likely to make a bad choice among AMFs over the course of their working lifetime, resulting in a relatively low (if not negative) rate of return on their contributions. Perhaps this explains why Chile's DC/FF scheme provides for a minimum income guarantee, which could be said to limit the risk exposure to workers from too adverse a choice of AMF (see below). However, there are other risks which may more broadly affect an entire cohort of workers close to retirement.

Risks associated with government interference in the management of the portfolio

Some countries have gone much further than regulation and the establishment of prudential standards in terms of the extent of the government's involvement in the management and investment of such funds, magnifying the nature of the possible political risks. Singapore and Malaysia's provident funds (the CPF and EPF, respectively) and Indonesia's public pension fund (PT. Jamsotek), although in principle managed by autonomous agencies, are nevertheless government corporations. While these countries have established rules on the allowable composition of investment portfolios, these governments appear to have played a far more active role in determining the overall asset investment strategy of the funds (see Asher, 1997a, p. 9).

In particular, investible resources have been directly channeled to specific projects or lent to financial institutions intermediating projects. Recently, there have been press reports that these funds have been directed to purchase equity shares in the hope of buoying up local equity markets.⁸ In one country, there is evidence that funds were deposited, on government instructions, in specified commercial banks at less than market rates of interest. Beyond determining the investment strategy, in some of these countries, the government has effectively decided on the rate of return on the savings to be paid in any given year to contributors of the provident fund, independent of the actual return on the portfolio.⁹

Systemic declines over time in asset prices

Another risk which may be even more of concern in the future is the possibility that asset prices may not rise as rapidly as in the past; indeed, such a decline in asset prices can easily be envisaged from models that seek to assess the possible impact of the aging of the population of the industrial economies over the next several decades. Noting the dramatic

⁸ See Asher (1997a), p. 9, as concerns the establishment, by the Malaysian Government, of a M\$60 billion (U.S. 20.1 billion) fund in late 1997 to reverse recent sharp declines in stock prices on the Kuala Lumpur Stock Exchange.

⁹ In Singapore, there is often a difference between the Singapore dollar nominal return on reserves and the nominal interest rate actually paid on the CPF balances of contributors; in 1995, the difference was about 1.8 percentage points, representing an implicit tax on CPF member's balances. See Asher (1997a), p. 16; Asher (1997b), p. 4.

changes that will occur in the population share of the elderly, particularly relative to the size of the potential labor force, some writers have commented that real estate prices may drop sharply as elderly baby boomers throughout the industrial world seek to sell these assets to a younger generation of workers which is smaller in size. Moreover, this is likely to occur at a time in which the amount of physical capital relative to the size of the labor force will have increased.¹⁰

Equity prices are also likely to be influenced heavily as the large bloc of baby boomers moves through the population, with price increases to be expected through the next decade or so, but with uncertain price movements thereafter. What is important to stress is that *independent* of the quality of the investment management by AMFs, asset market prices are likely to be affected by these fundamental underlying demographic forces. While such price declines may not occur at once, they may become a clear and demonstrable trend. While the occasional pension fund may be able to play the market and exceed its performance, most asset holders would see decreasing values in their portfolios and limited prospects for recouping from their losses and seeing fruition to the expectations of DC schemes.¹¹

Market turmoil-induced drops in asset prices

The recent turmoil in Asian markets also graphically illustrates the systemic risks that can dramatically affect returns in the capital market. As of January 10, 1998, the value of stock market capitalization since end-1996 fell by 40 percent in Indonesia, 55-60 percent in

¹⁰ Such asset price declines can be seen as one way in which the “circle can be squared” of how to accommodate the tensions between the working and retired generations after 2010-2015. The elderly will require, for consumption, a greater share of the real output of that period. How much of this output will, in fact, be absorbed by the elderly, and how much by the working population and their children, and how this transfer will be intermediated are key questions. Much higher payroll taxes—as under PAYGO systems—may be one mechanism. Higher real commodity prices, reflecting the greater purchasing power of those who may hold the lion’s share of the capital stock, is another. Equally plausible, may be the possibility that reduced asset prices may limit the magnitude of the transfer that will take place between the young and the elderly.

¹¹ It is interesting to note that one explanation of the recent Asian crisis was the search by international investors for “attractive domestic investment opportunities,” given the weak growth of Japan and Europe. As Fischer (1998) notes, “large private capital flows to emerging markets...were driven, to an important degree by these phenomena and by an imprudent search for high yields by international investors without due regard to potential risks.” With inevitable limits on the pace of growth that the U.S. equity market can sustain over the medium to long term, one must wonder whether, on average, the large majority of pension funds will be able to “beat the market” and to sustain the extraordinary rates of return realized in recent years.

Malaysia and Thailand, 45 percent in the Philippines, 35-40 percent in South Korea and Singapore, and 29 percent in Hong Kong SAR.¹² The sharp racheting up of interest rates throughout Southeast Asia, while presumably not a sustainable phenomenon may, in the short-run at least, have provoked significant losses in the value of corporate and government bonds. Those industrial country investors who sought to diversify their portfolios to emerging markets have taken heavy losses, since the dollar value of the stock market's capitalization dropped even more precipitously. These losses were also borne by some East and Southeast Asian investors who invested in neighboring countries. Indeed, for the two countries for which sizeable asset portfolios had been accumulated through their mandatory provident funds, viz., Singapore and Malaysia, such investments in neighboring economies were common, and are now seriously jeopardizing the value of these portfolios.¹³ Of course, others who invested in Europe and the United States would have done particularly well.

Another illustration of such rate of return risks from market variability is provided by Hemming (1998), who illustrates the annual wealth-income ratio at retirement implied by a 40 year investment of 10 percent of income in stocks derived from Dow-Jones composite index:

Accumulation begun in 1927 would yield a wealth-income ratio above 10:1 in 1967. Accumulation begun in 1955 would yield a similar ratio in 1995. The wealth-income ratio would be lower in each of the intervening years, and it would also vary quite sharply...fall[ing] to its lowest level, nearly 4:1, in 1974.

Similar results were reported in a study by the Brookings Institution (see Hemming (1998)).

Potential Government Responses to Rate of Return Risks

In formulating a national pension system strategy, how should a government address such rate of return risks. As noted above, some responses are obvious. They include: regulation and prudential supervision of AMFs; ensuring total transparency to pension system participants as to the value of their portfolio over time and the performance of the individual AMFs; and setting quantitative limits on portfolio choices, particularly in terms of mandating a significant share of assets directed to more risk-free financial instruments. Equally important, governments should be fully candid in warning as to the nature of the systemic risks that can influence portfolio values, recognizing the high degree of uncertainty associated with alternative outcomes, even from the effects of known systemic trends. All of these choices are

¹²Even in Chile in 1997, asset prices slumped, with the valuation of the equity market dropping by 4 percent (*The Economist*, Jan. 10, 1998, p. 90).

¹³Asher (1997b, p. 4) notes that in recent years, Singapore has "consciously directed a greater proportion of its resources (presumably including the CPF funds) into investments in East Asia."

consistent with a caveat emptor strategy for which the ultimate financial outcome is borne by the contributor.

A more active underwriting of the system can also be introduced, whereby the government seeks to either provide a conservative minimal income guarantee to pension system participants, e.g., the Chilean approach,¹⁴ or requires pension system contributors to participate in a mandatory insurance scheme to cover cases where pension funds prove financially insolvent (the approach taken by the US. Pension Benefit Guarantee Corporation (PBGC) for private DB schemes).

In characterizing these responses, the latter more active approach clearly implies that the government has "contingent liability" associated with the emergence of adverse downside risks. More interesting however is the question of whether the less active approaches give rise to a "conjectural liability." The nature of these different kinds of potential government liabilities requires further examination, since it bears on the question of the extent to which DC schemes indeed prove more efficient and free of political risks.

Contingent liabilities

At one extreme, the government can accept that it has a contingent liability in the event of the emergence of downside risks of the various kinds noted above (as in the Chilean case). Alternatively, one may consider the case of the provident funds of Singapore and Malaysia. These governments assume full responsibility to restore a contributor's accumulated savings plus investment earnings, although the yield rate is largely determined by the Government itself as a policy decision. However, in this case, the liabilities are essentially limited. Although funded in the definitional sense that the savings are accumulated, vested to the individual's account, and invested in a portfolio of assets, these are provident (or savings) funds, not pension funds which provide a stream of pension incomes. Contributors have well-defined rights as to the conditions, terms, and age at which withdrawals can occur. Beyond retirement purposes, withdrawals can occur for a variety of other reasons, including the purchase of housing and higher education expenses. Indeed, the average amount of assets typically available in Singapore at the time of retirement appears far less than what would be necessary for any significant replacement rate of wage earnings (see Asher (1997a), p. 15). Thus, the liability of the government relates less to the provision of a pension income and more to the guaranteeing of access to a contributor's savings compounded by some government-determined yield.

¹⁴ The Chilean Government guarantees a minimum pension for those with a qualifying period of contributions (20 years) if, by the time they reach retirement (65 years for men, 60 years for women), their accounts do not contain adequate resources to provide a predetermined minimum benefit (22 to 25 percent of the average wage). The Government also pays a pension for those who qualify under its social assistance programme, but the number of beneficiaries is restricted to 300,000 (see United Nations (1996), p. 196).

Implicit contingent liabilities

Indirectly, the government may, through the back door, provide an implicit contingent liability. Government restrictions on AMFs are motivated by the desire to reduce risk to the contributor and to limit the extent to which the regulatory/supervisory involvement conveys any conjectural risk by the government. The most obvious way of ensuring that such pension portfolios do have limited risk is to require that a substantial fraction are invested in medium and long-term government bonds that are sold at market interest rates (thus matching the maturity of the assets with that of the ultimate liabilities). Yet this itself may reinject significant political risk into the portfolio. The higher the share placed in government bonds, the greater the ultimate reliance on the willingness of taxpayers to bear the ultimate debt burden.

Conjectural liabilities?

In the absence of formal guarantees or insurance schemes, a government that has opted for a mandatory DC/FF pillar does not have a formal liability in the event that such downside risks do occur. In practice, the answer is less clear cut. For example, one may start by looking to analogous situations, viz., how governments have sought to protect depositors in the context of bank failures. In many other countries, despite the absence of a formal deposit insurance system, governments have nevertheless felt obligated to provide some deposit guarantee. This suggests the possibility that governments may equally perceive a similar “conjectural” liability in the event that downside risks materialize that jeopardize the financial viability of DC/FF pension schemes. One important difference in the significance of such a downside risk are simply the magnitudes involved. The financial consequences of a sharp decline in pension assets is likely to be far more substantial than the loss of a household’s bank deposits.

Such a conjectural liability would appear most compelling, the more that a Government has sought, through its regulatory/prudential role, to “protect” against adverse risks, e.g., has not maintained a fully “arms length” relationship with the DC/FF funds. The Singapore and Malaysian provident fund cases would appear the most obvious example where the government’s direct involvement in the specification of portfolio choices or on the utilization of a pension fund’s assets would give rise to such a liability. Most obvious would be situations where the Government played an important role in directing the allocation of pension savings toward particular real or financial investments.

Does the fact that a Government has exerted a significant regulatory role create a conjectural liability? Some observers have argued that to *avoid moral hazard*, viz., AMFs taking an excessively risky posture because of the assumption that the government will intervene in the case of excessively poor out turns, that adequate regulation and prudential supervision is required. The implementation of adequate regulation could be construed as “freeing” the government of any conjectural liability in the sense that a prudent risk management standard would thus ensure negligible risks of an adverse out turn. However, it may be that such a conjectural liability can be seen to emerge as a *direct consequence* of the

government's taking on such a regulatory role, or indeed, from the fact that contributions to such schemes are mandatory. In effect, by establishing the rules and monitoring their implementation, the government could be perceived as validating the acceptability of whatever investment strategies are pursued within that regulatory framework, as well as the likelihood that the outcomes will not be excessively adverse. Similarly, by legally requiring contributions, does the government not assume some responsibility in the event that the ultimate investment outcome proves unsatisfactory (i.e., below some notionally reasonable or acceptable rate of return)?

Does not the government's involvement in the supervision of private pension funds entail some responsibility if these funds fail to yield satisfactory returns (let alone if there is fraud or bankruptcy)? Does the government's attempts to regulate the possible composition of an asset portfolio in order to limit risk nevertheless imply some responsibility if the investment outcome nevertheless proves to have been risky, say, because of unanticipated systemic risks?¹⁵

In effect, there is a political bind; the greater the government's involvement in mandating and regulating such privately managed funds, the greater the conjectural liability that is created. Conversely, a government's conjectural liability would be negligible only in two cases: where the government has not sought to supervise or regulate such private funds; alternatively, where such funds do not constitute the principal source of workers' retirement incomes. In the former case, there is a greater risk of a socially and politically disequilibrating outcome, where significant numbers of the elderly population are exposed to the risk of highly adverse circumstances.

The possible use of public insurance schemes to minimize the above risk factors

Public insurance of pension schemes do exist in some cases, but notably only for private sector DB plans. In the United States, the Pension Benefit Guarantee Corporation (PBGC), a US government agency, provides for a mandatory public sector instrument to ensure that private sector funded occupational DB plans are able to finance the entitled benefits. The law requires all such plans to pay an insurance premium per participant to ensure

¹⁵ The issue of conjectural liability can also be extended beyond pensions to other areas of social insurance where contributions to a private insurance fund are mandatory, e.g., mandatory contributions to private medical insurance funds (as in Korea). What obligations does the government have to cover operating deficits of such insurance schemes in the face of unexpected economic pressures? For example, in Korea, it would not be surprising if the economic downturn in 1997-1998 resulted in a fall in such contributions funds. Presumably, outlays of such funds would be less sensitive to cyclical developments, such that these funds could begin to run deficits. Pressures on the government would also emerge from government obligations to cover the premia of the rising number of unemployed workers.

against the risk of a private sector plan's default. Private sector pension plans are also monitored to ensure that in cases where a plan appears under funded, the specific plan is required to pay a progressively higher premium, depending on the degree of under funding assessed by the PBGC.

What makes this an effective insurance instrument is the extent to which there is a defined benefit for which one is assessing the adequacy of funding. With a defined contribution scheme, the risk is wholly on the participant, so one would need to legally define a minimum defined outcome—in terms of an effectively guaranteed rate of return—for which participants would have a guarantee, and for which governmental insurance could then be established.

In principle, insurance schemes analogous to that observed under the PBGC could be considered for DC types of schemes, such that contributors receive an indexed minimum income guarantee in the event that the assets accumulated under the individual accounts fall below a specified minimum. Explicit insurance premia would be paid by contributors and with the financial underwriting of the government in cases where such premia prove insufficient to pay the benefits. The amount of premia to be charged would depend on the extent of the replacement rate guaranteed.

However, the setting of premia and the avoidance of the government's exposure to a significant conjectural liability may be difficult. Specifically, while it would be desirable to increase the premia in cases where a private DC fund's assets appear insufficient to cover the minimum guarantee (as with the PBGC), this would not address the problems of underfinancing that could arise from instances of a systemic collapse of asset prices. Specifically, it would be difficult to judge, in a period of a bull market, whether AMFs are inadequately funded to meet a guaranteed rate of return requirement. Clearly if such an assessment had been made in Asia in late 1996, one would have asserted that asset prices were more than enough to provide for a conservatively set minimum guaranteed return.

Mechanisms for avoiding moral hazard would also need to be sought (*viz.*, does such a guarantee encourage a more risky posture by a private pension fund than in its absence?), but may be difficult to obtain. Thus, the magnitude of the potential conjectural risk to the government and the cost to it of such a guarantee may be difficult to determine. Equally, the acceptability by contributors of such a minimum guarantee, which most likely would sharply deviate from the expected return under the DC scheme (and certainly from that replacement rate which is the norm under most DB schemes) may be problematic. Factoring in the cost of such a scheme may reduce the perceived advantages of a DC-FF scheme.

Longevity and inflation risk issues—private market failure

A second class of risk arises for the period *subsequent* to retirement. Under a DB type scheme, the retiree will know, as a minimum, the nominal amount of benefit to be received over the course of retirement; in some schemes, the terms of any indexation may also be

specified (to the CPI, to net wages, etc.). Under a DC/FF scheme, the assets accumulated during the period of contributions and investment under the scheme are to be utilized to finance the period of retirement. The Chilean scheme offers the normal choice at that point: phased withdrawal of assets or the purchase of an indexed lifetime annuity. Choice of the former exposes the retiree to two risks: unexpectedly great longevity and, to a lesser extent, the risk of inflation (the latter being somewhat minimized to the extent that the nonwithdrawn assets can be invested in assets that can presumably hold their real value). In principle, choice of the latter option avoids these two risks. However, for countries where governments do not offer to sell indexed annuities, they may be available in private markets only at significant costs, given adverse selection problems. In the absence of an indexed annuity, pensioners would confront the political risks associated with whether a government's macroeconomic management is adequate to maintain a low inflation environment.¹⁶

Private sector solutions may prove inefficient in responding to the above risks and do not free the retiree of incipient political risk. First, life annuity markets remain highly undeveloped in most countries. Second, there is a substantial literature which demonstrates that private annuity markets are subject to both the adverse selection problem, viz., that private insurers will seek to minimize the sale of annuities to those who have a high probability of considerable longevity, and the use of quantity restrictions (or as S. James (1998, p. 16) puts it, the " 'creaming' of the risks by insurance companies").¹⁷ The cost of annuities for those in the latter group is thus likely to be very high. Third, it is unlikely that private sector agents will sell indexed annuities unless at significant margins, given the uncertainty which they confront in ensuring that a portfolio protects against the risk of inflation. A government role can thus reemerge in two forms: as the provider of indexed annuities or bonds or as the provider of a pension of last resort in the event that accumulated pension assets prove inadequate, given the possibility of greater than expected longevity.

To conclude, this train of logic has several implications. First, if one goes the DC-FF route, one must accept the prospect of significant conjectural liabilities for the government and the possibility that the government will nevertheless end up providing pension benefits or being the source of safety net incomes in the event that DC-FF assets prove insufficient. The occurrence of the downside risks could arise at any time, but the risks may become most evident, and indeed the onset of adverse events may actually begin to occur, as the retirement

¹⁶ Even where governments provide indexed annuities, there may be risks associated with how governments measure the extent of inflation. The choice of inflation index may be distorted by inclusion of commodities subject to price controls.

¹⁷ Indeed, as S. James points out, the World Bank (1994) itself notes the difficulties of ensuring sufficient adequate public regulation of private annuity markets, particularly if they were to become mandatory. But with voluntary annuitization, "private annuity markets will suffer from adverse selection and the key characteristic of a pension—the efficient provision of longevity insurance—will be absent." (p. 17).

of the mass of baby boomers approaches.¹⁸ As most studies of how to “fix” DB schemes have shown, the costs of delay in addressing the problems implied by aging population are large. Similarly, developing a “fix” to address financial weaknesses in a mandatory DC-FF pillar may be equally large and costly if it must take place when there is already a significant retired population.

This underscores the importance that the primary pillar must play in any public pension scheme: the adequacy of the pillar, the conditions under which a worker or a family would have recourse to it, and the basis for its financing, become critical issues. In countries with aging populations, understanding the potential fiscal magnitudes of such a pillar become as critical as knowing the size of the “unfunded fiscal liability” associated with traditional DB/PAYGO schemes.

IV. THE COMPLICATIONS POSED TO FISCAL POLICY MANAGEMENT

A less remarked upon consequence of *mandatory* social insurance schemes intermediated through the private sector are the difficulties created for the analysis of fiscal policy, and indirectly, for macroeconomic policy management. These difficulties emerge in three spheres: underestimation of the potential magnitude of future public debt; understatement of the true burden of taxes and social insurance contributions required by the government; and obstacles to achieving an accurate view of the macroeconomic impact of fiscal policy on the economy.

What creates these difficulties is the mandatory nature of the schemes, coupled with their operation wholly within the private sector. This creates the presumption, at least in the collection and presentation of statistics on public sector activities, that such funds are *not* within the public sector, no more than any other private sector industry that is subject to some

¹⁸ In countries where there is to be a transition from a DB/PAYGO pillar, it is generally recognized that the transition generations (viz., typically the current working population) will pay a double burden of pension support, associated with the payment, through taxes and debt service, of the cost of supporting existing retirees as well as the cost of the contributions required to accumulate assets for their own retirement. Less recognized is that there may be a further burden that may still need to be borne, either by this transitional generation or subsequent working generations, to the extent that the value of the assets accumulated by the time of retirement under the new schemes proves insufficient to cover the costs of retirement (because of possible asset price deflation) such that benefits are less than envisaged or the government is required to finance additional benefits from general tax revenues.

governmental regulation.¹⁹ Yet if one considers the fiscal instruments mandated for the financing (viz., a required contribution rate) and the possible conjectural liabilities that can arise from the operation of these pension funds, one may ask whether such private funds differ much from comparable social insurance systems operated by the government, and financed by payments which are labeled as “payroll taxes”.

Uncertainty as to the magnitude of public debt

The discussion in section III has already highlighted one potential difficulty, viz., the uncertainty in judging the magnitude of potential government debt that is of a “conjectural” nature. These uncertainties are not new. *Quasi-fiscal liabilities* that emerge from the operation of public sector agents—autonomous government bodies, the Central Bank, etc.—arise from explicit fiscal transfers or outlays which occur indirectly and outside the coverage of the budget, but nevertheless at the behest of the government. They may give rise to debts off-budget which sooner or later will need to be absorbed by the government. Similarly, much discussion has occurred in recent years on the extent of *unfunded pension debts* that have arisen from traditional public sector DB/PAYGO pension or medical insurance systems in the context of aging populations. Simply put, if one assumes unchanged contribution rates and benefit levels, one can estimate the gap in revenues to finance these benefits. The net present value of the resulting deficits could equal the unfunded pension debt. Of course, such measures implicitly assume that public policy makers will not take actions to foreclose the emergence of such deficits by policy measures, such that the deficits and thus the debts would not emerge.²⁰ Finally, *contingent liabilities* associated with government guarantees of debt or bank deposits have always been lurking in the undergrowth of official debt statistics. Now, as in the Chilean case, public pension reform initiatives have been added to the list of such

¹⁹ Similar issues also arise in the context of national medical insurance reform initiatives, whereby mandatory contributions are legally required for the funding of private medical insurance funds (as in Korea (see Heller, 1997)).

²⁰ Some have raised the question of why one might wish to distinguish between future outlays on pension and medical insurance from other types of government expenditures for which there is a similar type of commitment, e.g., education outlays. Formally, one should include such expenditures as well. However, the issue principally arises because one can expect that the impact of aging populations will be to increase pension and medical care expenditures significantly, with increasing deficits at current tax or contribution rates. In contrast, for education, one might expect indeed to see some *decline* in the tax rates required to finance this sector, given trends in the share of the youth population. Consistency would thus equally require a reduction in the magnitude of public debt in the future (or correspondingly a reduction in tax rates). As shown in Heller (1987) and more recent OECD studies, however, the magnitudes of potential savings do not appear large. Thus, for empirical rather than analytical reasons, the issue has not acquired much policy significance.

contingent liabilities, viz., the contingency that the minimal income guarantee will come into force.

What makes the *conjectural debt liability* issue different from that of “unfunded liabilities” associated with public pension systems, is the fact that the former arise from private schemes. This may result in the possibility of these debts being seriously discounted as an issue of public policy. Equally important, the discounting of the relevance of this possibility is likely to *result in far less available data to assess the status of these private pension funds, the prospective financial position of future pensioners reliant on these sources of pension incomes, and the extent to which conjectural debt is a policy issue or not.*

Understatements of the size of the public sector

Measurements of the *size* of the public sector also become significantly more difficult. The level of revenues and outlays of the government will be significantly lower in those cases where pension schemes are operated in the private sector or as autonomous public entities (as with the provident funds of Malaysia and Singapore). Yet essentially the economics of the situation may not be significantly different from cases where the schemes are classified as governmental, at least in terms of the flow of revenues which are mandatorily taken from consumption and the amount and timing of outlays. Thus, comparing relative aggregate tax burdens across countries or the size of the public sector, in terms of the share in GDP, may be increasingly problematic. Countries that appear to have small government or public sectors and low tax ratios may have simply masked the scale of their public sector’s level of involvement.²¹

Misleading measures of the burden of fiscal measures

In a similar vein, in assessing the burden of taxes on business operations, does the distinction between payroll taxes and mandatory contributions at government defined rates have much meaning? From the perspective of a businessman evaluating the cost of labor in a country, both would constitute mandatory payroll-related costs. Yet any cataloguing of fiscal exactions would typically ignore such mandatory contributions, thus suggesting a lower burden of taxes in the economy. The issue ultimately boils down to the characterization of payments required of citizens for the financing of a private and mandatory pension scheme,

²¹The tax treatment of pensions can equally create distortions on the size of taxes and expenditures. Where pension contributions are tax deductible and taxation is deferred until the pension income is realized at the time of retirement (both the original contribution and the rate of return earned over the period of accumulation before retirement), it is equivalent to a tax being received by the government which is then relented to the individual, which would of course lead to both higher government revenues and expenditures at the time of the pension contribution. In fact, such a treatment of pension contributions is effectively equivalent to a tax expenditure and thus excluded from revenue and expenditure statistics.

and the implicit contractual “claim” by a worker who has made such a payment. Clearly, the claim implied is much different from that associated with income or sales tax payments that finance general government operations. While one could argue that a mandated contribution to a DC scheme conveys a clearer “harder” claim that the resources will ultimately be available to the contributor, the difference of this claim from that associated with a well-structured DB/PAYGO scheme is only one of degree. In substance, they may largely be identical.

Complicating macroeconomic analyses of the fiscal policy stance

There is a well-developed literature assessing the potential role of fiscal policy in influencing the aggregate economy, the conditions under which deficit financing may be appropriate, and the implications of given levels of public debt for fiscal sustainability. From the perspective of fiscal policy management, the formal categorization of many of these schemes as being in the private sector, may distort this assessment of a government’s fiscal policy stance. Again, this is not wholly a novel issue. Even when social security schemes are fully organized and managed within the public sector, the issue of whether to analyze the overall financial position of the public sector inclusive or exclusive of these schemes is typically a matter of debate. There are obviously many factors that influence the fiscal balance *exclusive* of the social security system; both policy and cyclical factors may influence particular expenditure and revenue variables. The movement of social security balances can be said to be influenced by very different factors—both policy-specific and demographic.

Separating out the stance of the social security operation may be particularly relevant for evaluating whether a funded public social insurance scheme, that in the context of an aging population may be necessarily running a surplus, may be offset, in its impact on national savings, by the effects of operating deficits by the rest of the government. Equally, there is much to be said for analyzing separately whether such pension systems are imparting a net fiscal contractionary or expansionary stimulus to the economy. Equally useful, are budgetary balance measures inclusive of social security which provide a comprehensive view of the impact of changes in the overall stance of fiscal policy.^{22 23}

Analytically, the fact that social insurance schemes are financed by mandatory contributions and directly channeled to the private sector should not make any difference for

²²In the United States, the budget is inclusive of social security operations. In Japan, the general government balance is typically portrayed inclusive and exclusive of social security operations.

²³Even such measures are often then subject to more complex analysis—taking account of the weighted impact of different types of fiscal instruments. More broadly, if one is a Ricardian, one may seek to assess the extent to which private sector agents seek to offset the impact of current fiscal operations that engender government debts that will need to be paid off by higher taxes in the future.

assessing the macroeconomic implications of the stance of fiscal policy. The only difference would be in terms of the formal classification of the scheme within the private rather than the public sector. Nothing prevents the schemes from being aggregated financially with the rest of the government sector for analytical purposes. Practically, however, it is far more likely that the influence of such mandatory private sector schemes will not be taken into account. Indeed, public decision makers are likely not to have available the statistical information necessary to assess whether the macroeconomic operating stance of such mandatory social insurance schemes would add or detract to the fiscal impulse engendered by the government's fiscal operations. As private sector schemes, the issue of whether to include such operations may not even be considered as a relevant issue.

To place this issue in the context of Asia, for example, there could be significant shifts in the overall fiscal stance from the operation of Singapore's CPF or Korea's health insurance sector—essentially operating as fiscal instruments. Yet in both cases, these would not be revealed by statistics normally provided by the public sector or analyzed in the context of public sector operations.

One counterpoint to this argument is obvious and formally true. Any careful analysis of an economy goes beyond analyses of the public sector and includes detailed analyses of private sector industries, and private sector macroeconomic aggregates. To the extent that private social insurance entities are larger and more comprehensive, and subject to more well defined behavioral characteristics (as in the case of payroll taxes or social security benefit payouts), such entities need to be more clearly monitored by national statistical agencies, and more clearly taken account of in macroeconomic analyses. To the extent that there is a public interest, and potential conjectural liability, similarly, the public sector should ensure that its regulatory interest equally includes adequate provision for data to be collected and available to public sector regulators.

Equally important, such statistics gathering should facilitate analyses that allow for transparent understanding across countries of the weight of such social insurance schemes, and to avoid inappropriate characterizations of the true size of public sector operations across countries. Yet what is striking is the extent to which these statistical initiatives remain unaddressed. National income account statistics certainly do not allow for any capture of data on pension funds or the medical care sector (the latter is usually lumped together in a grab bag social services sector that also includes education, science, and culture).

A second counterpoint would argue that most analysts do not expect many other mandatory publicly regulated insurance schemes, e.g., automobile insurance, are classified within the private sector. Why would the classification of mandatory private pension schemes be any different? Three obvious differences can be cited. First, such schemes are only mandatory for those in the population that choose to avail themselves of the particular benefit (viz., driving a car)—from the perspective of business agents, there is no presumption that an employee will need to finance such costs. Second, such schemes do not typically involve the systematic accumulation of significant financial reserves. Particularly in the context of an

aging population, defined contribution, public pension schemes will involve periods of significant accumulation of assets (which may result in a net increase in national saving rates) and subsequent periods of decumulation. Such effective “surpluses” or “deficits” cannot be ignored in the assessment of fiscal stance. Third, such types of insurance are not likely to incur unfunded liabilities—as can arise in PAYGO schemes in the context of aging populations, and where there will be a political imperative to necessarily raise insurance premia or contribution rates.

To conclude, if the policy choice is a funded DC scheme, there are strong arguments to be made that it should be classified in the public sector (even if managed by private sector agents under public regulation) and not lost in the accounts of the private sector.

V. WITH DC/FF SCHEMES, DISTRIBUTIONAL AND POVERTY ISSUES REMAIN TO BE ADDRESSED

Distributional Neutrality of DC/FF schemes?

One of the perceived merits of a DC/FF scheme is that it is not redistributive. Workers can be assured that contributions are allocated directly to an individual account and accrue wholly to the individual upon retirement; the link between contributions and ultimate benefits thus appears not to be intermediated by any intergenerational or intragenerational redistributive element. Thus, the microeconomic distortions that can arise from a badly structured or poorly understood DB scheme financed from payroll taxes is thus said to be avoided. In contrast, DB benefit type schemes are often explicitly structured to embed some regressive redistributive element in benefits, such that the poor receive higher benefits as a share of their income than would the rich, relative to their original contributions (e.g., through a tapering of benefits as average wage income at retirement increases).²⁴ Whether such redistribution actually occurs or not is an empirically more open question.²⁵

²⁴ Such schemes also typically incorporate other types of redistribution associated with the treatment of benefits for nonworking spouses, working spouses, children, and, in some cases, even for unmarried daughters. Specific occupational groups in hazardous activities may also receive additional benefits.

²⁵ There have been many empirical studies seeking to estimate the actual redistributive consequences of such DB/PAYGO schemes (see the World Bank (1994) for a useful survey of the results, which largely derive from a few industrial countries—the US, UK, Netherlands, and Sweden). Such studies have not only focussed on the extent of intragenerational redistribution across income groups but also on the extent to which different generations receive different rates of return on their lifetime contributions. Intragenerational studies have revealed that taking account of differences in the length of the overall working life, the pattern
(continued...)

However, the so-called “distributional neutrality” of a DC/FF scheme may be overstated, because one must also consider the distributional implications of the tax treatment of pension contributions and incomes. The recommended convention is that if pension contributions are tax deductible, pension incomes are fully taxable at the time of withdrawal; conversely, if contributions are not tax deductible, then a certain share of pension incomes is nontaxable upon receipt. Often however, tax incentives are formulated so as to encourage savings in this form. This may lead to both tax deductibility at the time of contribution and tax free status upon retirement.²⁶ Alternatively, one may observe that not only the original contribution but the investment return on the contribution is tax free.

For countries where income taxes are well established and are borne by most of the employed, upper income groups subject to higher marginal tax rates receive relatively greater tax saving benefits on their contributions and the income earned on their invested contributions than those in lower income groups. *A fortiori*, in more developing countries, where the income tax is borne by a far smaller segment of the labor force (and where most wage earners pay little tax because of high initial deductions), only upper income groups benefit from the tax incentive offered. In effect, DC schemes tend, by virtue of progressive income tax rate schedules, to offer effective public subsidies that are distributionally progressive, e.g., benefiting upper incomes relatively more.

How are distributional/poverty issues addressed within a DC/FF framework?

The fact that a DC/FF scheme may not seek any form of redistribution typically implies that some other element of the fiscal system—and other sources of tax revenue—must absorb the burden of financing public redistributive objectives that focus on the elderly population. More simply put, adoption of a DC/FF scheme does not remove the need to address poverty or redistributive issues. There may be significant elements of the elderly population that

²⁵(...continued)

of wage and salary income over the course of a working life, and in the life expectancy prospects of workers of different income groups, the intentions built into the legal formulae to achieve redistribution may not in fact occur. Since the poor start work earlier, typically have flatter age-earnings profiles, and die earlier, their contributions tend to be higher, and their benefits are both lower relative to lifetime income and lesser in duration during retirement. What is striking to a reader of these studies is the difficulty of making any conclusive assessment of the redistributive consequences of a public pension scheme, given the multiple perspectives that one can have on how to evaluate any redistribution that may occur.

²⁶See Asher (1997a). In Malaysia, “contributions (subject to deduction ceiling), interest paid on balances, any capital gains arising from withdrawals before retirement for housing and other assets, and retirement withdrawals are all exempt from income taxes and estate duties. As the income tax rates are nominally progressive, ...the tax saving is proportionately greater for those earning higher wages.” (P.7). A similar approach prevails in Singapore (p. 14).

have not been able to accumulate adequate assets to finance much, if any, of a retirement income. Inflation or excessive longevity may push elderly that had been initially covered, into a financial position with negligible remaining assets or income. Thus, most advocates of a DC/FF pillar recognize the need for some form of public social insurance scheme to address these issues.

The redistributive ambitiousness of such schemes can differ enormously. The least ambitious focus not on redistribution or poverty alleviation *per se*, but rather on ensuring that participants in a mandatory DC/FF scheme have a minimal backup guarantee in the event of an adverse performance of their investment funds--in effect, the acceptance by the government of some form of conjectural fiscal liability. In Chile, the provision of a minimal nominal pension income guarantee is of this form. How such a guarantee would work remains to be seen. Would it be financed from general government revenue? Would there be an indexation guarantee? The cost and potential timing of such a guarantee obviously remains uncertain.

A more expansive distributional role would arise if a government feels the need to provide some form of social safety net for its elderly population. Most advocates of the DC/FF approach would place such a safety-net scheme within the framework of a multi-tier system whereby the first tier provides this kind of minimal benefit (see World Bank (1994)). A number of approaches are possible. Such a first pillar can take the form of a social insurance scheme whereby, in exchange for mandatory contributions (typically payroll taxes), workers earn the right to a minimum benefit. The flat benefits associated with the UK National Insurance Contributions (NIC) are the most obvious example.²⁷ Such a scheme may involve only minimal redistribution, in that the ultimate benefit may bear some actuarial relationship to the payroll taxes paid over the worker's lifetime. Alternatively, such benefits may have some level of means testing, such that there may be a form of negative income tax associated with eligibility or the magnitude of benefits derived from such a program.

Alternatively, such a pillar may be explicitly perceived as redistributive, being both means tested and financed from general tax revenues (e.g., from income or consumption taxes) for which there would be no necessary link between having made contributions over a lifetime and the eligibility for benefits. Such a scheme may or may not be linked to other

²⁷In the case of the UK, where there is provision for some contracting out to the private sector of funded DB plans, the National Insurance Fund, which is funded by contributions by workers, nevertheless provides for an indexed flat rate (minimal replacement rate) basic pension, paid in full to those who have paid NICs for 90 percent of their working life. For those who have contracted out of the State Earnings Related Pension Scheme (SERPS), there may also be an entitlement to additional SERPS payments to the extent that their entitlement under the guaranteed minimum pension of the private schemes is less than would be the guaranteed minimum under the SERPS.

means-tested safety net schemes that seek to address problems of poverty in a society (whether among children, the elderly, or female headed households, etc).

A final form of redistributive element that exists in well-developed public DB systems relates to the financing of the benefits associated with an immature system. Specifically, to the extent that a PAYGO system has resulted in benefits to early participant generations that imply, by any reasonable measure, rates of return on their payroll tax contributions in excess of what could be reasonably earned if these contributions had been invested in average financial market instruments, there is an effective redistribution from subsequent worker generations to these early retirees in the system. This form of intergenerational redistribution will necessarily occur, even if with a full transition to a DC/FF scheme.

In summary, it is clear that adoption of a DC/FF scheme does not imply that the issue of redistributive financing or addressing the basic needs of elderly that were not participants in the DC/FF scheme can be ignored. Even a narrow focus on the outcome for contributors to the system poses issues of how the costs of a safety net are to be financed. Indeed, the fact that the tax benefits of pension schemes are unequally distributed already is itself an argument to avoid over stressing the so-called distributional neutrality of DC/FF schemes. The financing of some kind of minimal income guarantee or flat rate benefit will involve either a tax element on contributions (thus reducing the implied rate of return on such DC schemes, and narrowing the potential difference with DB schemes) or recourse to some general revenue financing. If the latter approach were equally applied to DB systems (hiving out the redistributive element), the relative attractiveness of the DB scheme would strengthen. Thus, both types of systems thus involve some costs in this regard.

In principle, if the conjectural risk is seen to be limited to those groups for which investment performance proved inadequate in a frequency distribution where the large majority of pension funds or accounts performed adequately, the Chilean type approach may be deemed an adequate response to the conjectural risk issue (viz., a minimum nominal income guarantee). However, if there is a significant probability of a more systemic asset price decline or where many pensioners may prove susceptible to unanticipated longevity risks, the need for a more well-developed primary, prefunded safety-net pillar would appear more critical. Otherwise, pensioners may be exposed to the same political risks that are normally imputed to DB type schemes, without the advance planning that the latter could allow for.

In contrast, by utilizing a *well-designed, prefunded* DB approach, these distributional issues can be addressed directly and more efficiently at the outset. The relevance of this argument *a fortiori* is stronger, the more that there is a need for a primary pillar which goes beyond only that segment of the population that has contributed directly to the social insurance system.

The bottom line is that redistributive issues must be considered at the outset in assessing and formulating public pension schemes. Certainly, governments should be as clear as possible as to the explicit or implicit redistributive elements built into any DB formula or in the tax treatment of DC schemes. Analyses should be conducted that clarify the possible redistributive character of a scheme. This would need to include an analysis of who benefits from the way in which pension benefits and contributions are treated under income tax laws. The redistributive effects that arise from demographic or economic behavioral considerations also need to be considered. **Even more important**, there needs to be recognition that in any type of publicly mandated scheme—whether DB or DC—an explicit component must be developed to ensure minimal benefits to contributors that have met some minimum participation period in the scheme. Such a component is normally built into the design of a DB scheme. Its importance in a DC scheme reflects the potential risk considerations raised in section III. Such a minimum income guarantee should not be means tested and some level of indexation is politically inevitable.

VI. CONCLUDING THOUGHTS

A number of basic conclusions can be drawn from the above discussion. **First**, while there are many advantages to a DC approach, the conjectural and contingent liabilities that could arise should be of sufficient concern that public policy makers would wish to minimize them. This can be achieved in two principal ways: through adequate prudential supervision and regulation *and* by limiting the basic importance of this pillar in terms of the share of retirement income that it will provide. If it is only a “supplemental” and not the principal pillar for basic income support, and if it is not expected to carry the burden of longevity and inflation risks, then in the event of adverse developments in asset prices, the elderly cannot assert the political argument that they were left out in the cold.

Adequate transparency by the government as to the strengths of such schemes and the nature of the risks that can arise, even in the context of adequate prudential monitoring and supervision, is equally critical. Mechanisms for establishing such plans should be easy. Making them mandatory may inject a further element of conjectural risk but may equally be an important vehicle for ensuring adequate savings efforts by the working generations. Tax benefits associated with such schemes should be distributionally neutral in the context of a progressive income tax system, arguing for refundable tax credits (particularly in systems where the income tax may not apply to a significant part of the labour force). If contributions are initially taxable, only the original contributions, not the return on the contributions, should be tax free.

Second, the principal source of old age support should arise from a *well-formulated, public* DB pillar. Well-formulated is an important qualifier. It means that there should be:

- ① a strong notional linkage, in the design of the scheme, between the contributions made over a lifetime, in constant real prices, and the ultimate benefits received, with the implicit return conservatively set; whether labelled as “contributions” or payroll taxes,” there should be clarity to the public that such payments by workers accrue rights associated with their forced savings character, and are thus not “taxes” *per se*.
- ② significant pre-funding, such that the scheme can be seen as fiscally sustainable, thus avoiding the expectation of significant and transparently obvious unfunded liabilities.
- ③ adequate mechanisms to ensure political insulation of pension schemes in terms of determining benefit formulae and adjustments.
- ④ clarity as to how distributional objectives are being met and financed within and without the scheme; specifically, the redistributive element of the benefit structure, to the extent that it provides greater benefits relative to contributions at lower income levels should be clear, and the financing of this implicitly higher return for lower income contributions should reflect either a clear designated portion of the contribution (or payroll tax) or should be explicitly financed from designated general revenue sources (say, an explicit component of a general consumption tax).
- ⑤ general revenue financing of significant unfunded liabilities that have arisen from immature systems, viz., the granting of pensions to existing retirees or soon to be retired which recognizably have exceeded a full lifetime of contributions. Such implicit subsidy elements should be financed from general tax revenues. They should not be a burden laid at the feet of a particular generation of workers; and
- ⑥ broader poverty alleviation or redistributive goals of a society can be met through such DB schemes, but are probably best dealt with through separate general revenue financed social safety net or means tested schemes.

Reliance on such a public DB approach also allows for the system to explicitly provide for a system of lifetime real annuities that avoids the problems of adverse selection to which a private annuity market gives rise. Administrative costs are also recognizably less under such a DB system, both in terms of the collection and management of funds, and in terms of the costs of provision of annuities in retirement. Also by the scheme being public, there can be no issues arising from lack of transparency in the fiscal accounts.

Third, a strong capacity for macroeconomic policy management requires that authorities are in a position to monitor financial flows and reserve accumulation and decumulation practices for pension funds for which individuals are mandatorily required to contribute. Clearly, understanding the determinants of savings and financial behaviour in an economy is obviously critical to intelligent macroeconomic policy management. But in situations where the government itself requires savings to occur in an organized manner

through the private sector, and where demographic forces might suggest swings in national savings rates over time, there is a legitimate public interest in monitoring the magnitudes involved.

Analogously, in situations where other forms of social insurance are mandatory, e.g., medical insurance, and run through the private sector (e.g., as in Korea), there is a legitimate medium term macroeconomic and fiscal policy interest in the authorities monitoring the magnitude of financial flows and the longer term viability of such schemes. The need for this can be illustrated in a situation where the confluence of medical technological trends, use patterns, and demographic forces would require medical insurance funds to continuously raise contribution (i.e., payroll tax) rates in order to maintain a balanced financial balance. While perhaps not giving rise to complications in fiscal policy management, the microeconomic distortions associated with increasing contribution rates are obviously relevant in the context of assessing the scope for resource mobilization for other public sector purposes.

Finally, in the current context, it is useful to step back and consider some of the implications of this discussion for the countries of Southeast and East Asia. When one examines the status of social insurance schemes in the region, one is struck by the limited coverage of existing pension schemes and the extent of the cracks that most of the elderly are exposed to. Redistribution, to the extent that it occurs, is minimal (and indeed may accrue more to the wealthy, to the extent that they are the principal beneficiaries of tax incentives). Primary pillars that guarantee some form of minimum income or defined benefit are available only in those countries with defined benefit schemes, which presently are available to only the limited share of the work force covered by such schemes. The recent turmoil in Asia suggests the risks that may be attendant upon pursuing the DC approach to mandatory schemes. Prospects for increased unemployment also starkly highlight the social burdens that will emerge for many in the absence of any well-articulated social safety net schemes. Whether the informal family ties are still strong enough to cushion these burdens will be an important issue to be analyzed in the coming months.

References

- Asher, Mukul G., 1997a, "The Future of Retirement Protection in Southeast Asia," (unpublished, Washington DC, 1997).
- _____, 1997b, "Singapore's Social Security System: How Well Does it Address the Central Issue in Social Security Reform?" paper presented at a Conference on Solving the Global Pension Crisis (draft: Washington DC, 1997)
- Asian Development Bank, 1997, *Emerging Asia—Changes and Challenges* (Manila).
- Diamond, Peter, 1993, "Privatization of Social Security: Lessons from Chile," NBER Working Paper No. 4510 (October).
- The Economist*, 1998 (January 10) *Emerging Market Indicators*, p. 90.
- Fischer, Stanley, 1998, "The Asian Crisis: A View from the IMF" (Speech delivered on January 22) (IMF: Washington DC)
- Heller, Peter S., 1997, Aging in the Asian "Tigers": Challenges for Fiscal Policy," IMF Working Paper, WP/97/143 (October).
- _____, R. Hemming, P. Kohnert, and a staff team from the Fiscal Affairs Department, 1986, *Aging and Social Expenditures in the Major Industrial Countries, 1980-2025*, Occasional Paper No. 47 (Washington: International Monetary Fund).
- Hemming, Richard, 1998, "Should Public Pensions be Funded?" (unpublished, International Monetary Fund).
- James, Steven, 1997, "A Public versus a Private Canada Pension Plan: A Survey of the Economics," Government of Canada, Department of Finance Working Paper.
- OECD, 1985, *Social Expenditure: 1960-1990, Problems of Growth and Social Control* (Paris).
- U.S. Government, 1998, "The Pension Benefit Guaranty Corporation, About PBGC." Available via Internet: <http://www/pbgc.gov/about.hpt>.
- United Nations, 1995, *World Economic and Social Survey, 1995*, (New York: United Nations).
- World Bank, 1994, *Averting the Old Age Crisis* (New York: Oxford University Press).