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The Role of the Global Economy in Financing Old Age: The Case of Singapore

Mukul G. Asher

May 2002

Singapore is the only high-income, rapidly ageing country to rely almost exclusively on a mandatory savings second tier central provident fund to finance old age pensions. This fund's broad and significant investment activities has enabled it to become a substitute for the mortgage market. Yet the development of financial and capital markets may be adversely affected because of such concentrations of savings.

International diversification of the asset portfolios of pension funds will be important in the future to generate the income growth necessary to fund pension schemes. The author lays out the fundamental reforms which are needed to provide economic security to the elderly in Singapore.



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Mukul G. Asher

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PREFACE

The ADB Institute aims to explore the most appropriate development paradigms for Asia composed of well-balanced combinations of the roles of markets, institutions, and governments in the post-crisis period.

Under this broad research project on development paradigms, the ADB Institute Research Paper Series will contribute to disseminating works-in-progress as a building block of the project and will invite comments and questions.

I trust that this series will provoke constructive discussions among policymakers as well as researchers about where Asian economies should go from the last crisis and recovery.

Masaru Yoshitomi
Dean
ADB Institute

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The Role of the Global Economy in Financing Old Age: The Case of Singapore

Mukul G. Asher

1. Introduction

As Singapore has grown into a more affluent and rapidly ageing society, the issue of financing the aged has become more pressing, requiring reassessment of the country's existing arrangements. This paper thus examines the role of the global economy in financing the aged in Singapore and suggests possible reforms.

There are two broad avenues through which the global economy could assist in financing old age. This follows from the well-known proposition that the economy's growth rate is the most important variable in providing economic security to both the young and the old (Barr, 2000; Orszag and Stiglitz, 2001). To enhance the growth rate, an appropriate level and type of integration with the world economy is needed. As Rodrik (2001) has argued, globalization should not be regarded as a shortcut to development; and there is no alternative to a home-grown business plan that not only takes advantage of opportunities in international trade and investment, but also mobilizes the capabilities of domestic institutions and investors. This is of relevance to Singapore as it has set up an Economic Review Committee (ERC) to recommend ways to find new growth niches in the globalized era, and to sustain its international competitiveness (for details of the terms of reference and composition of the ERC, see www.mti.gov.sg). One of the seven sub-committees of the ERC is on taxation, the CPF system, wages, and land.

The second broad avenue concerns international diversification of pension fund assets, designed to obtain higher risk-adjusted returns. In 2000, total worldwide pension assets, both private and public, amounted to US\$12.2 trillion, and these are projected to increase to US\$18.2 trillion by 2005 (InterSec Research Corp., 2001, Table 12, p.8). According to the study, non-domestic investment as a proportion of the total was 70 percent for Hong Kong, China; 32 percent for Europe; 21 percent for Japan; 11 percent for North America; and only 3 percent each for Latin America, Africa, the Middle East and non-Pacific Asia¹ (Table 13, p.9). In US dollar terms, 97.5 percent of non-domestic investment was by North America, Europe and Japan (Table 14, p.10).

The study does not specify the destination of non-domestic funds, but it would be reasonable to assume that these three entities invest primarily among themselves. This is not surprising as ageing trends tend to differ considerably among these countries (Dang et al., 2001, Table A1, p.44), providing opportunities for higher rates of return and/or risk diversification (Reisen, 2000). While the share of emerging markets in cross-border pension investments is growing, it is likely to remain relatively minor. Because of this, and because of the various politically and economically challenging requirements,

¹ The study reports that Singapore's provident and pension funds had no investments abroad. Reasons for such an understandable error will become clear in Section 2.

investments in emerging markets could only be a minor factor at best in addressing the financing of the aged in the more affluent countries (Holzmann, 2000).

The above discussion suggests that using the global economy to finance the aged is a major challenge. There is a need to carefully design, implement and constantly monitor measures undertaken to achieve this objective. For a small open economy such as Singapore, it may be useful to systematically monitor the difference between gross domestic product (GDP) and gross national product (GNP) as a possible indicator of the extent to which the objective is being achieved. This is because it is the GNP that is potentially available for the consumption of the citizens, therefore it should exceed the GDP by an adequate margin to help finance the aged. The word “potentially” in this context is particularly relevant for Singapore, because currently there is no mechanism to channel income from investment of national provident fund savings abroad to benefit the members (see Section 3).

This paper is organized as follows. A brief overview of economic, demographic and labor force characteristics of Singapore is provided in Section 2. This is followed by an analysis of Singapore’s current pension system in Section 3. Section 4 summarizes the manner and extent to which current arrangements are able to benefit from the global economy. The final section provides suggestions for reforms.

2. Economic, Demographic and Labor Force Characteristics

The brief overview of economic, demographic and labor force characteristics in this section is designed to indicate the extent of the ageing problem, and of the internationalization of Singapore’s economy.

Economic Characteristics: The main economic characteristics of Singapore are presented in Table 1, on the basis of which the following observations may be made. In 2000, Singapore had a per capita GDP of \$39,585 and per capita GNP of \$42,212, placing it firmly in the affluent group of countries. The higher value for per capita GNP reflects the fact that as a net lender, Singapore is able to transcend the limitations of its domestic economy by generating income from investments abroad.

The share of wages and of private consumption in GDP, at around 40 percent in 2000, however, remains low. This suggests that Singapore has the resources to meet the challenges of financing old age. But whether the political system enables a greater proportion of the elderly (those older than 65 are expected to comprise a quarter of the electorate by 2030) and near elderly to express their preferences for meeting these challenges remains an open question. Much will depend on the extent to which the current mono-centric power structure evolves to accommodate greater political and social contestability.

Table 1
Singapore: Macroeconomic Indicators, Selected Years

Indicator	Unit	1990	1995	2000
Gross Domestic Product (GDP)	Million \$	66,464.4	117,768.4	159,041.8
Per Capita GDP	\$	21,812	33,404	39,585
Gross National Product (GNP)	Million \$	68,288.4	121,351.3	169,596.5
Per Capita GNP	\$	22,411	34,420	42,212
Share of GDP				
Manufacturing	Percent	27	24.8	26.5
Services	Percent	66.3	68.1	67.9
Others	Percent	6.6	7.1	5.6
Share of Wages of GDP	Percent	43	42.9	42.2
Share of Expenditure of GDP	Percent			
Private Consumption		46.4	41.5	40
Government Consumption		10.2	8.6	10.5
Gross Fixed Capital Formation		32.5	33.9	29.5
Net Exports of Goods and Services		6.9	16	18.5
Others		4	0	1.5
Gross Domestic Savings as % of GDP		43.6	50.7	49.8
Overall Budget Balance as % of GDP		10.8	13.2	3.0
Inflation Indicators				
Consumer Price Index	Percent	3.4	1.7	1.3
International Trade (Goods and Services)				
Exports as % of GDP	Percent	184	178.2	179.9
Imports as % of GDP		177.1	162.3	161.4
Total International Trade as % of GDP		361.1	340.5	341.3
Visitor Arrivals	Million	5.3	7.1	7.7
Average Length of Stay	Days	3.8	3.7	3.2
<i>Source: Calculated from ROS, 2001.</i>				
<i>Various Tables. Asher, 2002, Table 2.</i>				

Singapore is among the most internationalized economies in the world, its economy dominated by multinational enterprises and state-controlled firms. These firms have traditionally enjoyed significant control over resources (for example about 85 percent of Singapore's land area is owned by the State and there is no constitutional or common law right to land ownership) and significant monopoly power.

Globalization forces in general, and greater competition from Malaysia and to a lesser extent from Thailand in sea and airports and tourism, are challenging Singapore's position as a Southeast Asian business centre.² These developments in turn are reducing the monopoly pricing power of Singapore's state-controlled firms. Nevertheless, the concentration of their economic (and political) power remains substantial. As a result, economic restructuring in Singapore faces a dilemma. Any restructuring that permits competitive market forces to play a major role in the economy (such as in the housing mortgage market) and brings about substantive changes in the current methods of economic (and social) management will have a far-reaching impact on the political economy of Singapore.

The high degree of dependence on international trade implied by the trade to GDP ratio of 3.4 suggests that Singapore is both an export- and import-dependent economy, as well as a major entrepôt centre.³ Since most consumption items are imported, the trade-weighted exchange rate has a significant impact on real income and consumption. Any currency depreciation (or appreciation) will thus affect the real value of accumulated pension wealth and, therefore, the welfare of the elderly as well. Exchange rate trends and volatility must be considered in assessing Singapore's pension system. The exchange rate risk is similar to the risk that tax increases (or the introduction of a new tax such as a sales tax) could reduce the real value of pension wealth by raising price levels. This could either be on a one-time basis only or through a long-term rise in the inflation rate.

The Monetary Authority of Singapore, the country's central bank, appears to be aware of the importance of the exchange rate in keeping inflation, as measured by the consumer price index (CPI), low. But as an open economy, Singapore is vulnerable to external macroeconomic shocks and international investors' adverse perceptions about Southeast Asia (IMF, 2001).

In 2000, services accounted for 68 percent and manufacturing for 26 percent of GDP. The share of manufacturing in total employment is around one fifth. Thus, it is the services sector that provides the bulk of GDP and employment in Singapore. And it is in this sector that globalization forces and economic restructuring are making the employer-employee relationship more flexible, and increasing the opportunities for self-employment. Singapore will also find it difficult to maintain its current share of

² Thus, Malaysia's Port of Tanjung Pelepas (PTP), located just across from Singapore has been competing aggressively on pricing and other factors, reducing the Port of Singapore Authority's (PSA) pricing power. A similar aggressive competition is being waged by the Kuala Lumpur International Airport (KLIA) with Singapore's Changi Airport. This has also reduced the latter's monopoly power. The beneficiaries are the users of their services.

³ Singapore's neighbors perceive that her preferential trade agreements (CTPAs) (misabeled as free trade agreements, FTAs), with major trading partners around the world, such as Japan, and the United States, are in part motivated by the desire to sustain its current status as Southeast Asia's pre-eminent trading and business hub, and lessen the impact of aggressive competition by its neighbors who possess with better resource endowments in areas of land and have lower labor costs.

manufacturing in GDP without creating large distortions elsewhere in the economy. This, in turn, will have an impact on the formal pension systems based on relatively stable wage employment.

Singapore is a high savings economy, with a gross domestic savings to GDP ratio of 49.8 percent in 2000, while the gross domestic fixed capital formation to GDP ratio was 29.5 percent, the difference being potentially available for net lending abroad. Most of the savings are generated by the public sector through large structural budget surpluses (IMF, 2001, p.54) and accounting profits of state-controlled firms. The Government, thus, controls most of the flow and stocks of savings, including mandatory savings schemes for retirement (as discussed elsewhere in this paper). The efficiency with which these savings are translated into productive investments is therefore an important issue.

Demographic and Labor Force Characteristics: The total population of Singapore in 2000 was 4.02 million, of which 3.26 million were citizens and permanent residents, the rest being foreigners resident for more than one year (ROS DOS, 2001, Table 1.8, p.8). The non-residents constitute about one quarter of the population as well as the labor force of 2.2 million, one of the highest such proportions in the world. A significant implication for pension arrangements is that Singapore has a larger labor force to generate output and an enhanced tax base to finance the retirement needs of its residents.

Singapore's resident population growth rate has varied between 1.3 and 2.2 percent during 1991-2000 (ROS DOS, 2001, Table 3.1, p.22). Singapore's total fertility rate (TFR), which reflects the average number of births per woman, has been lower than the replacement rate of 2.1 since 1975 (it was 1.42 in 2001). Thus, the population of Singapore will begin to decline absolutely in the next decade or so, unless the rate of new permanent residents is maintained or increased. But the inflow of permanent residents during the past two decades is already beginning to subtly alter the social and political dynamics of Singapore. Any substantial increase in the net inflow of permanent residents is therefore not sustainable much longer. Thus, Singapore is unlikely to be able to rely in the future on an increasing population and labor force to generate higher output, and thereby help finance old age. Indeed, the rate of labor force growth is likely to be negative by around 2030 (Heller, 1997). Consistent with experiences of affluent and ageing societies elsewhere, average annual economic growth is likely to decelerate considerably from the around 9.0 percent experienced during the last three decades of the 20th century.

The median age of the population has also been increasing rapidly—from 29.8 years in 1990 to 34.2 years in 2000—and this is projected to reach 41.2 years in 2030. Meanwhile, the proportion of the population over 65 years of age is projected to increase by 2.6 times from 7.3 percent in 1997 to 18.9 percent in 2030 (ROS, 1999, Table 1.1, p.29). The Old Dependency Ratio, defined as residents over the age of 65 divided by residents aged between 15 and 64, is expected to almost triple from 10.4 in 1999 to 29.5 by 2030 (ROS, 1999, Table 1.1, p.29).

Life expectancy at birth was 76 years for males and 80 years for females in 2000; this is expected to rise further (ROS DOS, 2001, Table 1.11, p.10). As a comparison, the corresponding figures for Organisation of Economic Co-operation and Development

(OECD) countries as a group are 74.1 and 80.6, respectively (Dang et al., 2001, Table 1, p.22).

As the pension needs are for old age, life expectancy at age 60 (and 65) is more relevant than life expectancy at birth. According to the Singapore life tables based on the 1990 Census, the average female at age 60 and 65 in 1990 was expected to live for 20.9 and 17.0 years respectively; while the corresponding figures for males were 17.5 and 14.2.⁴ As females are expected to live longer than males, they require greater resources to finance old age. Females will also constitute a disproportionate number of the old-old, i.e., those over 75 years, an age when health care requirements and expenses rise sharply.

Singapore's females thus will have on average greater need for old age financing than males. Their labor force participation rate in 2000 at 55.5 percent was lower than the rate for males (81.1 percent), while their average monthly earnings at \$2,530 were only 72 percent of the earnings of males (ROS MOM, 2001, Tables 1.6, 2.3 and 2.4).

The retirement age in Singapore was 55 years until July 1993, when it was raised to 60 years through the introduction of the Retirement Age Act (ROS MOL, 1997). The retirement age was raised to 62 from 1 January 1999; this is expected to rise gradually and flexibly to 67 years over time. The current retirement age of 62 is, however, also applied flexibly across sectors, activities and organizations; and the raising of the retirement age since 1993 has been accompanied by lower wages and statutory benefits, including mandatory retirement savings. As a result, the positive impact on the reduction in the duration of retirement financing needs has been diluted.

3. Current Pension Arrangements in Singapore

Using a multi-tier framework of the World Bank (1994), as modified by Fox and Palmer (2001), the most striking characteristic of Singapore's pension system is the near exclusive reliance on a mandatory, publicly managed, portable, defined contribution (DC) tier. The main vehicle for this tier is the Central Provident Fund (CPF). Only Singapore citizens and permanent residents are eligible for membership of the CPF. Its members are entitled to withdraw all of their balances if they leave Singapore and West Malaysia permanently.

There is a virtual absence of any mandatory tax financed, defined benefit (DB), social risk pooling and redistributive first tier.⁵ Singapore, however, does administer a Public Assistance Scheme. It is stringently means-tested, provides extremely low benefits (about 7 percent of per capita income in 2000) and has negligible coverage. There is also a health care plan, the Medifund Scheme, which started in 1993 and is targeted at the elderly. This is a health endowment fund to pay for inpatient as well as

⁴ Figures provided by K.C. Tan of the Nanyang Technological University in a personal communication with the author.

⁵ It is ironic that a society whose elites extol the virtues of communitarian principles have by choice not developed the first tier, which usually forms the basic tier in affluent and many middle income countries. Individuals are thus left to cope on their own with the risks, particularly inflation and longevity risks, of old age. Inflation poses the risk that price increases will erode the purchasing power of the monthly pension income or benefits. Longevity risk arises because a retiree may live longer than expected (or has an unexpectedly large need for health care expenditure), which may exhaust accumulated savings.

outpatient care that aims to assist those elderly who pass a stringent means test. Since its inception, \$75.2 million has been distributed, or \$224 per case. Thus, the amount of subsidy is quite small. It is supplemented by a variety of ad hoc schemes, though these are not necessarily targeted at the elderly.

In April 2001, Singapore introduced the Supplementary Retirement Scheme (SRS), which is a tax-advantaged voluntary savings scheme open to residents and foreigners. The SRS may be characterized as belonging to the third tier.

Singapore's pension system merits special attention because it is the only high-income, rapidly ageing country to almost exclusively rely on a mandatory savings second tier to finance old age. Since the main instrument for this tier is the CPF, it is essential to examine it in some detail.

The Main Features of the CPF Scheme: The CPF was established in 1955, before independence, and falls under the purview of the Ministry of Manpower. Its board members are appointed by the Minister and comprise representatives of the Government, employers, employees and professionals. While the CPF and its board have the responsibility for routine administrative matters, they do not hold policymaking and investment responsibilities. The CPF Act guarantees a nominal interest of 2.5 percent per annum.⁶

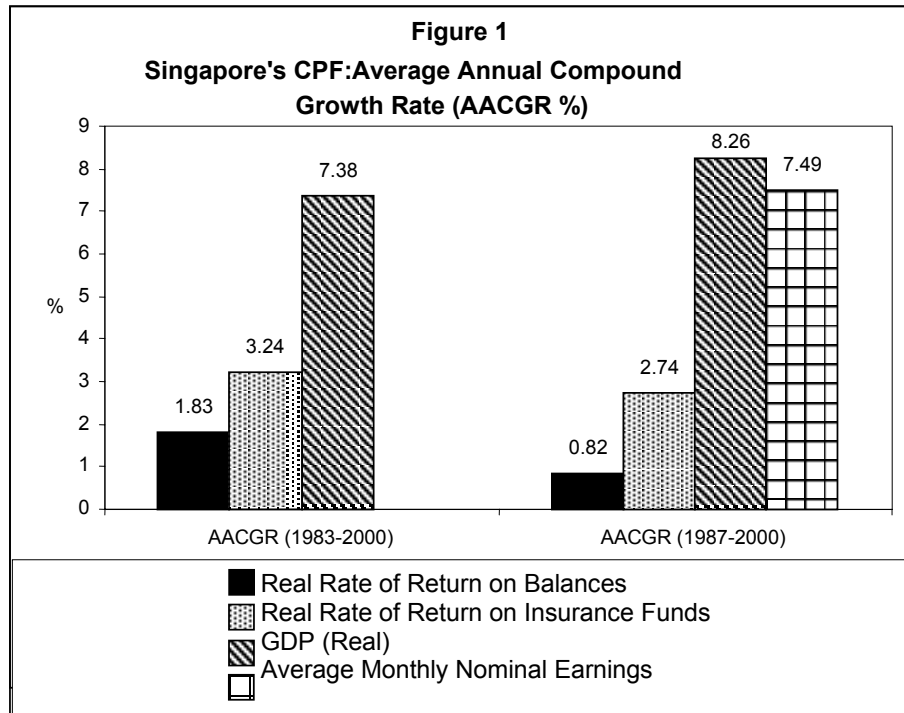
Since its inception, but particularly since 1968, the Singapore government has greatly expanded the scope of CPF to a wide variety of economic, social, and other objectives. These include home ownership, financial and physical investments such as in real estate, compulsory medical savings accounts, property and health care insurance and tertiary education (Asher, 2002). Indeed, the CPF has been a substitute for the mortgage market.⁷ The Economic Review Committee is currently examining ways to realign the objectives to provide greater weight to retirement needs. But such a shift will have high transition costs, including windfall losses and gains to different groups. So the changes are likely to be cautious and gradual.

By the end 2000, the total membership of the CPF was 2.88 million, but the active contributors were only 1.27 million, equivalent to 58.1 percent of the labor force (Asher, 2002). However, since foreign workers constitute about a quarter of the labor force, the coverage can be regarded as high. For those below 55 years, the contribution rate is 36 percent (20 percent from the employee and 16 percent from the employer). The rate is substantially lower for those above 55 years of age. The average balance per member by end 2001 was \$31,800, equivalent to 85 percent of per capita GDP.

CPF balances are invested primarily by the Singapore Government Investment Corporation (SGIC), whose legal status is that of a private limited company—removing it from parliamentary or public scrutiny (Asher and Newman, 2001). This arrangement has not provided members with high enough real returns to capture the power of compound interest (see Figure 1).

⁶ Explicit permission of the Finance Minister is needed under the CPF Act to pay interest of more than 2.5 percent.

⁷ For a summary of the CPF and housing financing, see McCarthy, et al. 2001, Table 4.



There are two pools of funds that are invested by the CPF board. The first, which is by far the largest, consists of the balances left with the CPF board that are not in the insurance pool. These balances amounted to \$90.3 billion (56.8 percent of GDP) at the end of 2000. On the CPF balance sheet, 100 percent is shown as invested in non-marketable government securities. The interest paid on these securities is identical to the interest rate paid by the CPF board on members' balances. This rate is a weighted average of the one-year fixed deposit rate (80 percent) and savings rate (20 percent) paid by four (now three as a result of a merger) domestic banks calculated quarterly. Thus, short-term interest is being paid on long-term CPF savings. This shows the administered nature of the interest rate paid on CPF balances.

While CPF members know their account balances, they do not know the basis or performance of investment decisions and there is no correspondence between investment returns and member returns. This, in conjunction with 100 percent of the funds being invested (nominally in Singapore's case) in government securities, has transformed the nominal DC-FF (defined contribution-fully funded) nature of the CPF scheme into a notional defined benefit (NDB) scheme financed on a *pay as you go* (PAYG) basis (Asher, 2002). The PAYG basis arises because the government debt arising from investing CPF balances in government securities will eventually be serviced by future taxpayers. This is similar to the PAYG arrangement in which today's young finance today's aged in the expectation that when they become old, the future young will finance them.⁸

⁸ Another channel through which intergenerational impacts can occur is via asset values. If there is an increasing proportion of the aged in society, they may sell their assets in old age to finance retirement. This may impact on asset values. It is important to recognize that pensions may be regarded as a 75-year financial contract. In such a long contract, intergeneration transfers cannot be avoided, regardless of the method of financing (Vittas, 2002). In the case of Singapore, this second channel is also likely to occur, as the rapid pace of ageing and absence of social risk pooling may necessitate selling assets to finance retirement, thus depressing their price. It is expected that property prices in Singapore will be adversely affected when substantial number of aged begin to sell around the year 2015.

Singapore is thus in an unusual position of having a persistent budget surplus and a high level of internal debt (\$134.37 billion in 2000, or 84.5 percent of GDP). The debt to GDP ratio is considerably higher in Singapore as compared to the unweighted OECD average of 55 percent in 2000 (Dang et al., 2001, p.18).

The second pool consists of insurance funds for health care, mortgages and basic life insurance, which amounted to \$3.2 billion at the end of 2000. These funds are contracted out to investment managers and a broad asset allocation of this pool is published in the CPF Board's annual report.

For the 1983-2000 period, the annual real rate of return was 1.83 percent for the first pool of funds and 3.24 percent for insurance funds (Figure 1). The returns were substantially lower than the rate of growth in GDP and of nominal earnings. This relationship is important because if the return on balances is lower than the growth of income and wages, then the replacement rate that can be obtained from the accumulated balances of the members is likely to be low. Another indication of the inadequate replacement rate in retirement is the ratio of the average balance per member to average monthly earnings. This ratio—already low at 11.6 in 1987—has fallen further to 7.8 in 2000, even as life expectancy has risen (Asher, 2002).

A simulation study by McCarthy et al. (2001) has estimated the replacement rate based on accumulation of total wealth (including in housing) at age 55 (the current withdrawal age, except for a minimum sum which can only be withdrawn periodically from age 62) to be 23 percent; and age 62 to be 28 percent (2001, Table 6). Since there is no tax-financed first tier in Singapore, these replacement rates strongly suggest that the representative individual will not attain a replacement rate of between 66 and 75 percent considered comfortable by pension experts. It should be kept in mind that these low replacement rates are attained from a contribution rate of 36 percent, among the highest in the world, and that the housing wealth is included in the calculations. Without this inclusion, the replacement rate will be even lower. The base-line simulations of the study suggest that increasing the rate of return on the CPF balances to 5 percent will raise the replacement rate to 34 percent, a six percentage point increase, still only half of the recommended replacement rate (McCarthy et al, 2001, Table 7).

The third pool of funds for investment consists of pre-retirement withdrawals by members under the CPF Investment Scheme (CPFIS). A member may open a CPF investment account with approved agent banks, all of which are locally controlled. All investments must be in Singapore dollars and charges and fees are not regulated. Individual CPF members may invest their Ordinary Account balance as well as the Special Account balance in approved assets. Only relatively low-risk investments are permitted for the Special Account, while from the Ordinary Account, up to 35 percent can be invested in shares and corporate bonds by the members directly. There is no limit on investments in shares through approved unit trusts.

Before 1 October 2001, individuals could withdraw 100 percent of the profits realized (less accrued interest, which would have been payable by the CPF Board on all the amounts withdrawn under this scheme). This proportion was reduced to 50 percent from October 2001; from 30 September 2002 it will be zero percent. This is designed to close a loophole under which potential profits on pre-retirement savings can be made from tax-advantaged savings but these do not contribute to the objective of mandatory accumulation of savings for retirement.

As of December 2001, under the CPFIS scheme (from the Ordinary Account), \$22.0 billion (US\$12.2 billion) has been withdrawn by 650,000 members (22 percent of the total members). The average investment per member, thus, was \$33,846 (US\$18,700). The above investments were 30 percent of the potential amounts available to individuals under the current rules. The above investments were allocated as follows: stocks and loan stocks, \$8.285 billion (37.7 percent); insurance policies, \$11.571 billion (52.7 percent); unit trusts, \$1.890 billion (8.6 percent); and others, \$226 million (1.0 percent). The investment from the special Account of the CPF under the CPFIS scheme amounted to \$3.43 billion as at end December 2001, representing 22.6 percent of the potential amounts available under the current rules. The number of members utilizing this facility were 331,228 as at the end December 2001, representing 11.4 percent of the total members. The overwhelming proportion of the investments (85.3 percent) have been in insurance policies; followed by unit trusts (17.1 percent).

The potential for international diversification is only available through unit-trusts. But the amount invested in this vehicle has been only \$2,390.6 million as at end December 2001. This suggests that international diversification through individual choice of CPF investments has been small.

The possible reasons for low investments in unit trusts include high transaction costs, and a marked preference for insurance products. A spread of 5 to 7 percent between offer and bid (buy and sell) for unit trusts is common in Singapore. Although there has been an effort to address this issue, the low average investment and small size of the unit trusts market are considered constraints. In addition, there is an annual investment management fee of between 1 and 2 percent of total investments of members. As a comparison, an average diversified stock fund charges 1.41 percent per year (*Asian Wall Street Journal*, 5 February 2002, M5).

Additional data are needed from the CPF Board to more rigorously assess the CPFIS scheme, in general, and the extent to which the international diversification has improved returns in particular. While such data are available to the CPF board, characteristically, they have not been made available to the public or to researchers.

The decumulation phase: The decumulation phase is important because during retirement, it is essential to provide protection against inflation, longevity risks and to ensure benefits to survivors. Since women have a lower exposure to the labor force than men, and they earn on average less than men but have longer life expectancy, protection against the above risks is particularly important for them.

At the time of retirement, four options exist in a DC scheme to convert accumulated balances into a flow of income during retirement: lump sum payment, periodic withdrawals, annuities or a combination of the three. It should be recognized that annuities are like any other financial product, so the cost of purchasing an annuity and therefore the rate of return from an annuity purchase varies with the market structure and the features of the annuity product (individual vs. joint annuity, inflation indexing, etc.).⁹ The CPF permits its members to withdraw all accumulated balances

⁹ In Singapore, expenses are estimated to be about 4 percent of the premium (which in the case of an annuity equals the principal amount that is invested to give a stream of income), including a 1 percent sales commission, plus a large management fee. The annuity products in Singapore rank favorably in "money's worth" calculations, thus, neither commission nor adverse selection costs have been unduly high (James and Vittas, 1999). The lack of popularity of annuities in Singapore therefore is difficult to explain.

over and above the required minimum sum at age 55. Although a significant proportion of CPF members have accumulated balances that fall below the minimum sum, in these cases, they do not have to make up the difference from other sources. Children are, however, allowed to top up parents' CPF accounts.

As of July 2002, the required minimum sum is \$75,000, of which \$35,000 must be in cash and \$40,000 can be pledged in property. The minimum sum will rise to \$80,000 in July 2003, with the amount equally divided between cash and property. There are no plans for further increases.

The CPF Board permits three options for the cash component of the minimum sum: buy a life annuity from an approved insurance company, keep it with an approved bank, or leave it with the CPF Board. In 2000, about one sixth of the 22,829 individuals who were covered under the Minimum Sum Scheme purchased annuities. Thus, the annuities option is not popular.¹⁰ Under all three options, the first payment is not available until age 62, seven years after the withdrawal age.

These arrangements effectively increase the politically sensitive withdrawal age for this component. However, the main weaknesses of the mandatory savings scheme center on inadequate balances for many individuals, and the need for protection against inflation and longevity, while the provision of survivors' benefits is not addressed by the Minimum Sum Scheme. There is also an absence of social risk pooling in Singapore's CPF scheme.

There has been considerable discussion in Singapore of using housing equity for financing retirement. One such method concerns reverse mortgage which permits a homeowner to obtain a lump sum or periodic cash from the property without selling it. However, since 1997, only 160 reverse mortgage transactions—none involving public housing in which 85 percent of the population lives—totaling \$ 42 million have taken place (The Business Times, Singapore, May 14, 2002).

The Economic Review Committee (ERC) is examining the possibility of permitting owner-occupied public housing flats to be refinanced with banks, and use the proceeds for business purposes. A similar proposal for the use of CPF balances for business is also being considered (The Business Times, Singapore, May 14, 2002). These proposals, if implemented, will not directly or necessarily increase income flows during retirement, however.

The CPF investments and international practices: The above discussion suggests that Singapore's method of investing the balances meant for retirement financing is contrary to best international practices concerning pension fund management, and have the potential to generate high political risk. Such concentration of savings in the hands of non-transparent, non-accountable agencies also distorts the savings investment process and could lead to inefficiencies in the structure of asset returns. The development of the financial and capital markets may also be adversely affected due to such concentration of savings, and due to the use of CPF as a substitute for mortgage financing. The method, however, is consistent with Singapore's mono-centric power structure, and strong tendency towards social engineering and control.

¹⁰ In 2000, there were 22,864 annuity policies, and four million life insurance policies in force in Singapore (Asher and Newman, 2001). As a result, there may be an over-consumption of survivor benefits at the expense of an annuitized stream of income in one's later life.

To the extent the Government earns a higher rate of return on the CPF funds than what it pays to members; there is an implicit tax on CPF wealth. This tax is likely to be fairly large¹¹ and regressive, as low-income members are likely to have most of their non-housing wealth in the form of CPF balances. This vividly illustrates how political risks and non-transparency can arise in an individual account system.

The International Monetary Fund (IMF) has, however, suggested that the implicit tax argument needs to be qualified for the risk-free nature of the CPF returns; and for the possibility of using CPF funds to repay housing mortgages at a fixed, low rate (0.1 percent above the CPF interest) (IMF, 2000, p.57).

How valuable is the guarantee of 2.5 percent nominal return? As the long-term annual inflation rate in Singapore is about 3.0 percent, the guarantee does not even preserve the principal in real terms. Guarantees of principal, even in real terms, are cheap for a portfolio which is divided equally between equities and bonds. This cost is estimated by Smetters to be 2 percent of contributions ten years out, declining to 0.5 percent of lifetime contributions after 40 years (The Economist, May 11, 2002, p.72). This cost is low and declining because the share of the principal in the total declines due to cumulative interests and capital gains. The same study finds that the costs of guarantees of income floor, such as those by Chile, are higher, 8 percent of contributions over ten years, climbing to 16 percent over 40 years.

The implicit tax on CPF wealth estimated in footnote 11 is certainly substantially larger than above estimates. The arguments that SGIF returns and the CPF returns are separate and should not be linked may have merits in a purely technical-legal sense, but has no merit in an analytical sense. This is because persistent fiscal surpluses mean that in a macro-economic sense, the bonds issued to the CPF Board do not finance government expenditure, but are passively turned over to the SGIF (and perhaps other government holding companies). So ultimate deployment of CPF funds is by the holding companies. The impact of the mortgage rate arrangement is more difficult to analyse. But there is a perception that this arrangement has contributed to public housing prices being less flexible to market forces, and may have indeed enabled over-investment in housing. The political need to maintain high (and rising) property and land values in turn are acting as a severe constraint on restructuring of the CPF scheme (Asher, 2002).

The SRS Scheme: The supplementary retirement scheme (SRS) is a tax-advantaged voluntary scheme effective from April 2001. It permits Singapore citizens and permanent residents to save in a special individual account 15 percent of their total labor compensation, subject to a ceiling. Expatriate employees are permitted to contribute at a rate of 35 percent, in recognition of the fact that they do not take part in the CPF scheme. Employers are not permitted to contribute to the SRS, but the self-employed may join.

The contributions and investment income (except dividend income) can be accumulated in a tax-advantaged manner until the statutory retirement age prevalent at the time first contribution is made to the scheme. At the time of statutory withdrawal,

¹¹ IMF has estimated the returns of the SGIC for the 1990s to be 10 percent (2000, p.57, fn. 7), substantially higher than the average return of 3.4 percent paid by the CPF. Multiplying the difference (10.0-3.4=6.6) to the member balances as at end-2000 of \$90.3 billion would lead to an implicit tax of \$5.96 billion, equivalent to 42 percent of contributions or 3.75 percent of GDP. It should be emphasized that this is a recurrent tax whose burden is felt yearly.

50 percent of the amount is taxed at the prevailing marginal income tax rate. The tax benefit, thus, varies positively with the marginal income tax rate. The benefit is reduced when income tax rates are lowered. As only about a third of the labor force is liable for individual income tax, the SRS scheme is of relevance only to the top third. Pre-mature withdrawals not only attract full tax, but also a 5 percent penalty. Foreigners must maintain an SRS account for at least 10 years, even if they leave Singapore earlier.

The contributions to the SRS may be invested in a wide variety of assets, permitting substantial international diversification. However, property and real estate investments and certain types of insurance products are not permitted. Withdrawals from the SRS, however, must be made in cash, although they may be staggered to minimize tax and avoid adverse market conditions.

Four locally (now three after a merger) owned and controlled banks have been designated as SRS providers. They are free to set their own charges for services and to determine interest paid on SRS savings. This limits competition and could substantially reduce the benefits from the scheme.

In addition to the small proportion of the labor force that is likely to find the SRS of relevance, there are other reasons why it is likely to have only limited impact. First, the high target for the mandatory CPF contribution rate at 40 percent limits potential participants to the SRS scheme. Second, the source-based income taxation in Singapore, under which income earned abroad but not remitted to Singapore is not subject to income tax, also limits the benefits to be derived from the SRS, particularly for foreigners. Third, the transaction costs of the scheme are likely to be high given limited competition, absence of regulation on fees and charges, and small size of the unit trust industry. In addition, taxation at the withdrawal stage will reduce returns.

Fourth, the income tax payable at the time of withdrawal is on both original investment and capital gains. Since Singapore has no tax on capital gains, under some circumstances, such as when a person joins the SRS at a young age and has a low marginal rate of tax, and when net returns on SRS investments are high, an individual may actually get a lower rate of after-tax return under the SRS as compared to not enjoying the tax benefit. Usually, it is the taxation of capital gains that makes the SRS type schemes tax advantaged. In Singapore, capital gains, with the exception of some property transactions, are exempt from income tax. Investment income from the investment of SRS funds is taxable at the life insurance company level, thus discriminating against the use of life insurance products by SRS participants.

Fifth, the 10-year minimum period for which an expatriate must maintain balances in the SRS account could act as a hindrance for short-term expatriates. Sixth, expatriates must take into account exchange rate risks, as their liabilities are likely to be in non-Singapore currency; and the risk that income tax rates (and relevant transaction costs) are not known.

The impact of the SRS on overall social security arrangements in Singapore will be marginal as it is not designed to address the fundamental limitations of the current social security arrangements, such as lack of protection against inflation and longevity, and absence of a tax-financed redistributive tier.

4. Singapore's Pension System and the Global Economy

This section focuses on how Singapore's pension system has utilized the global economy and is organized around the two broad avenues indicated in Section 1.

Impact on the Trend Rate of Growth: As a highly internationalized economy, Singapore has been dependent on external demand, human resources, capital and technology for domestic economic growth, while also acting as a net lender abroad to generate national income. In recent years, it has had a large positive current account balance (\$32.0 billion in 2001), and a large negative capital and financial account balance (\$33.9 billion in 2001), suggesting significant net lending abroad; while by end-2001, Singapore's official reserves were \$139.9 billion (ROS MTI, 2002, p.1).

In 1999 and in 2000, about four fifths of the growth in total demand was external, while only one fifth was from final domestic demand (ROS MTI, 2002, Table 2.3, p.17). During the past quarter of a century, about three quarters to four fifths of investment commitments in manufacturing have been foreign (ROS MTI, 2002, Table A9.6, p.186).

A recent study by the Singapore Ministry of Trade and Industry (MTI) estimated the contribution of foreign labor to Singapore's economic growth using growth accounting methodology based on a solow-type growth model (Tan et al., 2001). The study found that in 1991-2000, 36.9 percent of the growth was accounted for by foreign workers in the professional and technical category, and an additional 3.8 percent was contributed by other foreign workers (Tan et al., 2001). In contrast, capital input contributed 26.5 percent, local labor 14.1 percent and total factor productivity (TFP) 18.8 percent to total growth. All types of labor combined contributed 54.8 percent to the growth of output in 1991-2000.

Table 2

CPF Withdrawals by Members Migrating Abroad, 1990-2000 (Note a)											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total CPF Payments (Million \$)	156.2	157.1	160.6	178.0	202.1	240.9	309.8	350.3	395.1	347.4	303.5
Average Payment (Thousand \$)	32.5	31.8	34.9	34.9	34.2	30.9	35.2	42.7	45.2	45.1	37.9
As % of Total Withdrawals	3.9	3.4	3	1.6	2.8	3.3	2.9	3.1	2.9	2.7	2.1
As % of Total Contributions	2.2	1.9	1.7	1.7	1.8	1.8	2.1	2.2	2.5	2.7	2.2
Payment to Those:											
Leaving Singapore and West Malaysia Permanently											
Total Amount (Million \$)	134.8	135.2	140.2	151.0	172.6	210.8	269.4	299.5	328.7	284.9	228.7
Average (Thousand \$)	42.1	42.2	46.7	44.4	43.2	35.7	46.9	55.5	65.7	67.8	57.2
Malaysians Leaving for:											
East Malaysia											
Total Amount (Million \$)	21.5	22.0	20.4	27.0	29.5	30.1	40.5	50.8	66.5	62.6	74.7
Average (Thousand \$)	13.4	12.9	13.6	15.9	15.5	15.8	18.4	17.5	17.9	18.4	18.7

Note a: Currently, those CPF members who are from West Malaysia are not permitted to withdraw unless they leave West Malaysia permanently.

Thus, if a West Malaysian member of the CPF returns to West Malaysia, they must leave the balances with the CPF until the withdrawal age.

Source: Calculated from various Annual Reports of the CPF Board.

The study did not distinguish between local capital and foreign capital. If it had, the contribution of the global economy to economic growth would have been even higher.

Studies by university economists have, however, found that the contribution of labor was substantially lower during this period. Thus, Owyong (2001) estimated the share of all types of labor to be 21.0 percent, capital to be 44.1 percent, and TFP to be 35.1 percent. Meanwhile, Thangavelu (2002) estimated the share of labor, capital and TFP to be 56.6 percent, 19.9 percent and 23.4 percent, respectively. Neither study disaggregated total labor into foreign and domestic components.

There are at least four serious limitations to the MTI study.¹ First, there is a possibility that the estimation of capital stock may be biased upwards, resulting in lower contribution of capital to growth.

Second, the MTI study defines technology variable as a function of the existing capital-labor ratio and the share of professional and technical foreign workers. This assumes that technology is embodied in capital and foreign labor, an unusual assumption that the study does not justify adequately. Such a formulation also increases the multicollinearity problem and results in the coefficients having a higher value.

Third, the study has not addressed the problems of simultaneity. If capital and labor, particularly immigrant labor, are major contributors to output growth, then this in turn will lead to greater flows of foreign labor and capital into Singapore. Last, there is little justification for using the fourth lagged specification for the capital-labor ratio and the share of professional and technical foreign workers.

While there are significant differences among the studies concerning contribution of various factors to growth, there is little doubt that Singapore has participated in the global economy quite effectively to enhance its trend rate of growth and expand its economic space.

The policies designed to attract foreign labor at both the high and low end of the human capital spectrum have been an important element in this participation. However, even as policymakers continue to pursue policies to attract foreign labor to Singapore, they will need to ensure that emigration from Singapore, particularly of professionals, does not accelerate.

There are no official data published (though they must be available to policymakers) on emigration from Singapore. Table 2 provides data for 1990-2000 for those who emigrated from Singapore (and West Malaysia) and have withdrawn their CPF balances.

The following observations may be made from the data in Table 2. The number of CPF members who have emigrated (and withdrawn their balances) has fluctuated during the 1990s, ranging from 3,096 in 1992 to 6,640 in 1996. The average amount withdrawn was higher than average balances of members as a whole. Thus, in 2000, the average amount withdrawn of those emigrating at \$57,200 was 1.8 times the average balance for all members. The payments to emigrants have, however, been relatively small when measured against the CPF's total withdrawals and contributions.

The above figures are somewhat understated as some CPF members may emigrate but not withdraw their balances. Provisions of adequate financial security in old age,

¹ I am indebted to Shandre Thangavelu for generously sharing his insights into the technical aspects of growth accounting in general; and for discussing implications of the key assumption of the MTI study.

and greater personal and political space are likely to be necessary if the requisite human resources are to be available to sustain Singapore's growth. This will require substantive changes in the political and social environment in Singapore and will, therefore, be a major challenge.

Singapore's inward manufacturing investments have traditionally been in the manufacturing and financial business services. By end-1998, the stock of direct foreign equity investment in Singapore was \$125.6 billion, while the stock of portfolio investment was \$32.2 billion (ROS DOS, 2001, Table 5.11, p.70). The combined stock of foreign investment amounted to nearly 100 percent of Singapore's 2001 GDP, and to \$50,000 on a per capita basis—among the highest in the world.

There are, however, concerns that one of the key areas of manufacturing investments—electronics—may not attract significant investment in the future due to declining competitiveness (ROS MTI, 2002, p.121-128). Singapore has embarked on a drive to attract investments in life sciences and the bio-technology and pharmaceuticals sectors to sustain the momentum of inflow of investments. But these areas require large resources and the payoff is considerably more uncertain.

Singapore is also a significant investor abroad. By end-2000, Singapore-based (not necessarily owned) companies had set up 7,929 companies abroad, with a stock of direct equity of \$63.9 billion (ROS MTI, 2002, p.19).² In 2000, the external economy contributed 15 percent of GNP, nearly double the share in the early 1980s (ROS MTI, 2002, Chart 2.5, p.19).

The above discussion suggests that Singapore will need to find new growth niches to continue to participate effectively in the global economy. Identifying and then devising strategies and tactics to find these niches is central task of the ERC, whose deliberations are still incomplete (as of May 2002).

The indications however are that low personal and company income tax rates (counterbalanced by higher consumption taxes) are an important part of the ERC's strategy to make Singapore more competitive. The budget proposes to cut both personal and company income tax rates to 20 percent (from 26 and 24.5 percent respectively). The activist industrial and fiscal incentive policies are to continue and the role of government and state owned or controlled firms will remain substantial. Thus, the managed nature of the Singapore economy is unlikely to be substantially altered. At the margin, however, domestic entrepreneurs are likely to be provided some incentives and encouragement.

It remains to be seen whether the above strategy, which has worked well for the past three decades, will be effective in future. Singapore is now an affluent and rapidly ageing society; and globalization and associated forces and greater competitiveness of China, India and its neighbors have altered the context within which it was able to grow rapidly in the past.

Singapore may need to rely more on being an effective net lender abroad to help generate income to finance consumption of its population. This may require a

² It should be stressed that the basis of valuation of the above stock of equity has not been explained by the authorities. The importance of foreign companies based in Singapore in what the authorities curiously include as Singapore investments is also high. Thus, as at end-1999, foreign companies accounted for 44.4 percent of the reported total Singapore equity investments in India of \$349.5 million (ROS MTI, 2001, p.64). The details of the Special Provident Fund for the armed forces are also not publicly available. The published data on Singapore investments abroad should, therefore, be treated with caution.

reconsideration of the non-transparent and non-accountable processes of decision-making in this area.

Investment of Pension Assets Abroad: The second broad avenue through which the global economy can contribute to financing pensions is through the higher returns potentially made possible by international diversification. Provident and pension fund investments do permit such diversification. Therefore, in principle, this avenue is also feasible in Singapore.

Analysis of the investment policies and practices of the CPF system in the previous section suggests that the potential benefits of international diversification are not being fully realized by members.

The accumulated balances of the members with the CPF Board (\$92.2 billion by end-2001) are, as noted, ultimately invested in a non-transparent and non-accountable manner.³ To the extent that the SGIC's return on investments has been higher than the return actually credited to CPF members, a recurrent, highly regressive, large implicit tax on the CPF wealth has been borne by CPF members (see footnote 11).

In Singapore's mono-centric power structure, the need for provident and pension fund trustees who are simultaneously independent and competent has posed severe challenges. Absence of any provident and pension regulatory agency has made it difficult to take a system-wide perspective from the viewpoints of fiduciary responsibility to the members and international benchmarking in governance.

Thus, the main concern in Singapore is not that the provident fund balances controlled by the CPF board do not benefit from the international diversification. The main concern is that members are not benefiting from such diversification. They also do not have information about the ultimate investment of their balances. Moreover, the government investment management companies make losses; it is the CPF member in their capacity as taxpayers who will need to bear the financial burden of potential losses. Thus, the contingent liability is borne by them, but without the benefit of transparency or accountability.

International Investments by Individuals: The current CPF and SRS rules permit individuals to invest through unit trusts. As noted earlier, the investment in unit trusts from the CPFIS scheme is quite small. The data for the SRS are not available, but again the international investments are unlikely to be significant. This suggests that international diversification through individual choice of pension fund investments is under-utilized in Singapore. As noted, an important reason is the high transaction costs of unit-trusts, the marked preferences for insurance policies, by the CPF members.

The reform proposals therefore should take into account the current impediments to fully realizing the benefits of international diversification in pension investments.

³ Similar non-transparency and non-accountability prevails for the pension fund designed to pay DB pensions of selected officials and politicians. Since the 1999-2000 budget (when the assets of this fund amounted to \$10.5 billion), even the total assets have not been revealed in the Government budgets, let alone investment policies and performance.

5. Suggestions for Reform

Before examining reforms needed to take more effective advantage of the global economy to finance old age, it may be useful to restate the limitations of the current pension arrangements in Singapore.

The CPF scheme has come to occupy a predominant position in Singapore's pension arrangements. The recent parametric reforms of the CPF scheme and the introduction of the SRS do not, however, address the main limitations of the arrangements. These include inadequate balances at retirement due to extensive pre-retirement withdrawals, particularly for housing and property, and due to low returns credited to members; lack of inflation and longevity protection; lack of survivors' benefits; lack of transparency and accountability, particularly in investment management; inadequate weight given to fiduciary responsibility as compared to socio-economic engineering objectives; inadequate social risk pooling in health care financing (only about a quarter of the total national health budget comes from the Government—the rest is from individuals and businesses, while the opposite can be seen in high income countries of the OECD); and the virtual absence of a tax-financed redistributive tier. The limited nature of health insurance and the issue of long-term care of the aged also pose challenges to policymakers.

The above list of limitations suggests that fundamental reforms are needed to provide economic security to the elderly in Singapore. Such reforms will require a change in the mindset, a paradigm shift in the philosophy of social security and substantive participation of all stakeholders in society. It should be stressed that the reforms will also require an increase in the Government's budgetary allocations as well as total national expenditure devoted to social security and health care.

As of mid-May 2002, only recommendations concerning the tax system have been announced by the ERC. The May 2002 budget has proposed significant reductions in individual and company tax rates to 20.0 percent over the next three years; and cuts in the income tax base, particularly for capital income. The expected revenue loss is to be partly made up by increasing the Goods and Services Tax (GST) by 2 percentage points, to 5 percent.

These proposals are likely to further accentuate the already high income inequalities.⁴ They are also likely to reduce the real value of CPF wealth if, consistent with international experience, the 2 percentage point increase in the GST leads to a one-time increase in the cost of living by the same percentage. There is a strong case for offsetting this reduction through the fiscal system, particularly for those nearing the CPF withdrawal age of 55.

As far as pensions are concerned, the press reports suggest that the ERC is considering permitting employers of foreign workers to deduct as business expenses pension contributions made on behalf of foreign workers. As currently such contributions are not tax deductible, this move is designed to retain and attract foreign professionals to Singapore.

⁴ The Gini coefficient of personal income was around 0.47 during the 1980s and 1990s, which is on the high side (Mukhopadhyaya, 2002).

The government has reiterated its commitment to raise the CPF contribution rate to 40 percent (from the present 36 percent); and continue CPF's role in housing, health care, and retirement (The Business Times, Singapore, May 15, 2002). The government has given strong indication that the CPF contribution for older workers will be reduced further to reduce hiring costs to the employers. The ERC recommendations on CPF will therefore be relatively minor and these will be of parametric nature.

It is evident that the government does not accept the argument made in this paper for fundamental restructuring of the CPF. Nevertheless, it is important to examine several reforms designed to enable provident (and pension) fund members to more fully benefit from international investment diversification.⁵ This is undertaken with a view to advance informed public debate on these issues, and in the firm belief that views of current decision-makers should not act as a bar to a discussion of reform options.

There are three areas where reforms are needed to enhance the role of global economy in financing pension in Singapore. First, urgent consideration should be given to eliminating the implicit tax on CPF wealth. This can be accomplished by crediting the weighted average of returns of government investment companies, which are actually making decisions on the deployment of the CPF funds. Similarly, full returns must be credited to the Government Pension Fund, and other provident and pension funds.

In the medium term (two to three years), more secure arrangements should be instituted. Responsibility for the retirement balances (including balances currently managed by the Government investment companies) could be transferred to a newly constituted Provident and Pension Funds Authority (PPFA). In its mandate, fiduciary responsibility, transparency and accountability should have the highest priority. The trustees of the PPFA should be selected accordingly, while its governance and practices should be internationally benchmarked.

The international experience suggests that a contribution rate of 10 to 15 percent should be sufficient for providing a replacement rate of between 35 and 40 percent plus survivors insurance benefits. The transition from the current 4 to 6 percent contribution to the CPF dedicated to retirement could be undertaken over several years to minimize disruptions to the housing market and to existing mortgage commitments.

It is however essential that these contributions should be managed by the PPFA under internationally benchmarked governance structures for pension funds. The current CPF Board can continue to administer housing and health-care schemes. Any balances with the CPF Board should be, however, managed in a manner consistent with the proposed PPFA.

The current guarantee of nominal rate of return of 2.5 percent could continue. As noted, its costs are low, but its psychological value make it a worthwhile measure.

Another option would be to move to a Chilean type income floor guarantee. This type of guarantee is usually structured to make up the difference between annuity amount from the accumulated balances from the mandatory savings schemes and a policy determined proportion of the monthly wage from the general government budget. Such a guarantee is preferable only in the absence of a tax-financed universal first tier

⁵ IMF has stressed the importance of limiting pre-retirement withdrawals to help increase the replacement rate. The reform proposals made in this paper are, however, consistent with the proposals of the IMF (2000, p.57-65).

which provides minimum income during retirements (The Economist, May 11, 2002). As noted, the first tier is absent in Singapore and its introduction is not envisaged, even in the medium term.

The second set of measures would be designed to minimize transaction costs, including investment management costs. This could be accomplished by the PPFA providing more limited options (including a default option when no choices have been indicated) to provident and pension fund members. Under such an arrangement, a member may divide his or her balance among the limited number of options chosen by the PPFA on a periodic basis. This could help minimize transaction costs, as such pooling will provide countervailing power to the PPFA; as well as permit individuals to adopt the investment portfolio to differing risk return profiles.

Third, the PPFA could encourage the development of annuity markets to provide a greater degree of protection against the longevity risk. If necessary, purchasing of an annuity could be made mandatory, at least for a certain minimum sum. Issuance of a limited quantity of indexed bonds by the Singapore Government could make it possible for the insurers to offer annuities without members or providers bearing the inflation risk (IMF, 2000, p.65).⁶ The PPFA could also help ensure that the tax treatment of the annuity (and pension benefits) does not distort choices among pension products and pension providers.⁷

Above three areas of reform are feasible from the technical point of view. But they will require a considerable change in the mind-set of policymakers. They will need to address the entrenched institutionalized non-transparency of investments of CPF balances, while eschewing or at least severely restricting socio-economic engineering.

It should, however, be stressed that even if the reforms suggested above are undertaken, the mandatory savings second tier by itself will not provide adequate retirement benefits. The other two tiers, particularly the tax-financed redistributive first tier (or more realistically income floor guarantee) will still need to be developed.

Singapore policymakers face a stark choice. Either they can continue to use the CPF for socio-political control and engineering, or they can bring its objectives and governance in line with international best practices, to improve the return accruing to members, and to make a greater proportion of CPF contributions available for retirement needs. The choice is politically difficult, but it is unavoidable given the objective realities.

In conclusion, using the global economy to finance pensions for Singapore's rapidly ageing population presents quite a challenge and will require concomitant reforms in many areas, including in the basic philosophy of pensions and pension management. Singapore will also have to find a new growth strategy to remain competitive in the 21st century (DSG Asia, 2002). Political economy factors will play a crucial role in the decisions concerning timing and the nature of reforms.

⁶ It should be noted that there are no social gains from issuing inflation-indexed bonds. Their impact therefore is primarily redistributive.

⁷ Currently, employers in Singapore can set up voluntary private pension plans under Section 5 (6) of the Income Tax Act, but only about 30 to 40 companies have set up "approved plans" (*The Business Times*, Singapore, 13-14 April 2002, p.2). The employees receiving pensions under the company plans are taxed in full at the individual level. If an employee switches from a job and transfers the money to the CPF account, full tax is applicable, adversely impacting job mobility. The Act also does not permit variation in pension treatment for different employees.

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