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PENSION REFORM IN AN AFFLUENT AND RAPIDLY AGEING SOCIETY: THE SINGAPORE CASE

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Abstract

This paper analyzes the pension system of an affluent and rapidly ageing city-state of Singapore. The decision to predominantly rely on a single mandatory savings pillar instead of constructing a multi-tier system has resulted in an inadequate, and inequitable system of financing retirement. These limitations have been exacerbated by the weaknesses in the governance structure of the Central Provident Fund (CPF). The paper suggests establishing of Pensions Authority to help develop a multi-tier pensions system; and to require the CPF Board to bring its governance practices in line with international best practices. These changes will require a shift from current mono-centric to a poly-centric power structure in Singapore, prospects for which are not encouraging.

I. *Introduction*

An important insight from the extensive literature on pension reform is that a multi-tier system of social security is better able to guard against various risks in old age, and help address issues of social adequacy, individual incentives, and financial market development [The World Bank (1994); Holzmann and Stiglitz (2001)].

The most striking characteristics of Singapore's pension system is the near exclusive reliance on mandatory, publicly managed, portable, defined contribution (DC) tier. It is only high income country to rely on such tier. The main vehicle for this tier is the Central Provident Fund (CPF). There is virtual absence of mandatory tax financed, defined benefit (DB), social risk pooling and redistributive first tier in Singapore.

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II. *The Main Features of the CPF Scheme*

The CPF is a national provident fund (NPF) established in 1955, before Singapore attained independence. It is a statutory authority under the Ministry of Manpower. The twelve-member CPF Board, appointed by the Minister, has representation from the government, employees, employers, and the professionals. The key challenge has been to get competent and independent representation on the Board in an environment of mono-centric power structure which characterizes Singapore.

The CPF is essentially an administrative entity, with little autonomy in policy or in investment of the accumulated balances. It also has little research expertise. However, its size and scope puts at its disposal vast amount of socio-economic data. It has invested heavily in information technology to access this data for administration and for social engineering purposes. However, in Singapore, information is regarded as a strategic resource to be used by the policymakers for tactical advantages, rather than as a public good. Therefore, very little of the available data is routinely provided to the general public. It should be emphasized that the strategic use of information by the authorities also makes the task of analyzing public policies and institutions in general, and of pension arrangements in particular, much more difficult.

Multiple Roles of the CPF

Since 1955, but particularly since 1968, the Singapore government has vastly expanded the scope of the CPF to achieve a wide variety of economic, social, and other objectives (Table 1). These include homeownership, pre-retirement investments, compulsory medical savings account; life, property; and healthcare insurance; and loans for financing tertiary education. From September 2002, another insurance scheme designed to pay modest amounts for long term care not requiring hospitalization will be introduced.

The homeownership goal over the years has become a dominant and unique feature of the CPF [Asher and Phang (1997)]. In effect the CPF scheme substitutes for the absence of a housing mortgage market. Members are permitted to pay down payment on public housing constructed by the government's Housing and Development Board (HDB) from their CPF balances. They may obtain mortgage on the remaining amount from the HDB at a rate which is 0.1 percentage point higher than what the CPF pays its members. The HDB obtains two types of loans from the government budget, one for contribution of public housing, and the other for mortgage financing. It then constructs the housing, and repays the loans over time.

Unless otherwise indicated, the discussion in the remaining part of this section draws on the data provided in Table 2.

Coverage: Between 1985 and 2000, the membership in the CPF increased from 1.9 million to 2.9 million, while the number of contributors increased at a much slower rate from 0.89 million to 1.3 million. Any individual, who contributes to the CPF even once, becomes a member. The contributors in a given year refer to those who have contributed at least once during a given year. The ratio of contributors to members has declined from 51.6 percent in 1983 to 44.2 percent in 2000. Contributors to labor force ratio has also declined from 70.9 percent in 1983 to 58.1 percent in 2000. This has not been a serious cause for concern till now as the foreign workers account for nearly a quarter of the work force, and the rest are

TABLE 1. VARIOUS SCHEMES UNDER SINGAPORE'S CPF SYSTEM

Type	Scheme	Year Introduced
Home ownership	Approved Housing Scheme	1968
	Approved Residential Property Scheme	1981
Investment	Singapore Bus Services (1978) Ltd Share Scheme	1978
	Approved Investment Scheme (AIS)	1986[a]
	CPF Investment Scheme (CPFIS)- replacing AIS	1997[b]
	Approved Non-Residential Properties Scheme (ANRPS)	1986
	Share-Ownership Top-Up Scheme (SOTUS)	1993
Insurance	Home Protection Insurance Scheme	1982
	Dependents' Protection Insurance Scheme	1989
	Medishield Scheme	1990
	Eldershield Scheme	2002
Others	Company Welfarism through Employers' Contribution (COWEC) Scheme[c] (Discontinued 1.1.99)	1984
	Medisave Scheme	1984[d]
	Minimum Sum Scheme	1987
	Topping-up of the Minimum Sum Scheme	1987
	Financing of Tertiary Education in Singapore	1989
	CPF Top-up Scheme	1995

Note: Provisions governing most of these schemes have been revised, since their introduction, in some cases such as for the CPFIS and Medisave, substantially.

a From October, 1993, divided into the Basic and Enhanced investment schemes.

b Since January 1, 1997, CPFIS has replaced the Approved Investment Scheme, thus eliminating distinction between the Basic and Enhanced investment schemes. The scheme has been liberalized substantially since then in terms of types of investments permitted, and the proportion of balances with the CPF which can be used.

c Since January 1 1999, there have be no new contributions to the COWEC fund. The scheme has therefore been effectively discontinued.

d From 1993, self-employed persons have been required to contribute to the Medisave scheme.

Source: The CPF Annual Reports, various years.

self-employed.

Only Singapore citizens and permanent residents are currently eligible to join the CPF. The self-employed can voluntarily contribute to the CPF up to the combined employer and employee contributions. They however must contribute to the Medisave component as discussed below. Since the coverage depends on the formal employer-employee relationship, high formal employment is essential for satisfactory coverage rate. As flexibility of employment patterns, and open unemployment[1] increases due to globalization and restructuring, the declining trend in CPF coverage may be more of a concern in the future.

Contribution Rate: At the time of its introduction in 1955, the CPF contribution rates were 5.0 percent for employer and 5.0 percent for the employee, for a total of 10.0 percent,[2] with

[1] The unemployment rate for residents, while still relatively low, has nearly doubled from 2.4 percent of the labor force in 1997 to 4.4 percent in 2000 (IMF, 2001, Table 8, p.51). The unemployed are by definition residents, but about a quarter of the labor force is foreign. Thus, unemployed as a percentage of residents in 2000 would be nearly 6.0 percent.

[2] The 10 percent rate may be regarded as net of employers' CPF contribution. If this were included, the rate will be 9.5 percent (10/105).

TABLE 2. SELECTED INDICATORS OF SINGAPORE'S CENTRAL PROVIDENT FUND, 1983-2000 (ALL AMOUNTS IN MILLION $S)

	1985	1990	1995	2000
Coverage				
Members (thousands)	1891.7	2195.2	2683.0	2880
Contributors (thousands)	889.6	1021.7	1174.8	1272.9
Contributors/Labor Force (%)	69.1	65.4	67.2	58.1
Contributors/members	47.0	46.5	43.8	44.2
Excess of Contributions				
Over Withdrawals (During Period)	2633.5	3170.7	6283.4	-463.1
Member's Contributions	5393.4	7174.2	13536.1	14092.1
Gross National Savings (GNS)	16543.4	29930.0	60720.1	87352.5
Contributions as % of GNS	36.2	24.0	22.3	16.1
Withdrawals : Amount	3359.9	4003.5	7252.7	14555.9
: As % of contributions	62.3	55.8	53.6	103.3
% of total withdrawals for:				
Approved Housing Schemes[a]	76.4	56.4	64.1	59.5
Under Section 15b	20.9	25.5	20.0	11.5
Medical Schemes[c]	1.3	5.9	5.0	2.9
Others[d]	1.5	12.1	10.9	26.1
Members Balances (End Period)	26834.1	40646.4	66035.4	90298.3
As % of GDP	68.9	59.9	54.7	56.8
Public Debt	32164.4	51425.6	86507.6	134370.0
As % GDP	82.6	75.8	71.7	84.5
Rate of Return to Members on CPF Balances				
Implicit interest rate	6.2	3.7	3.4	2.7
GDP Deflator	-1.2	4.9	2.6	1.8
Real Rate of Return	7.4	-1.2	0.8	0.9
Rate of return — Insurance funds[h]				
Implicit interest rate	4.7	4.1	3.8	5.9
Real rate of return[g]	5.9	-0.8	1.2	4.1

Note: N.A : Not Available

a The housing schemes are : Approved Housing scheme introduced in 1968, and Approved Residential Property Scheme, introduced in 1981.

b b. Under Section 15, the main withdrawals are for retirement, death, disability, and leaving Singapore and West Malaysia permanently.

c c. The Medical Schemes are : Medisave Scheme introduced in 1984, and the Medishield Scheme introduced in 1990.However, only Medisave and Medishield withdrawals are included; Medishield Premiums are in the "other" category.

d The (Others) category mainly includes various pre-retirement investment schemes, Medishield Premiums and loans for financing tertiary education in Singapore.

e The high proportion of withdrawals for this category was due to the partial divestment of Singapore Telecom, a government telephone monopoly.

f The implicit interest rate is calculated as follows : Total Interest amount credited to members as shown in the CPF Board's Annual Reports, divided by the average of the beginning and the ending balances of the CPF members during the year.

g The real rate of return is estimated as the difference between the implicit interest rate and the GDP deflator.

h Finances of Insurance Schemes listed in Table 1 are kept separately from the members' CPF Balances, and their investment performance is shown separately in the Annual Reports of the CPF Board.

Sources: Calculated from: CPF Annual reports, various years; ROS, DOS, Yearbook of Statistics, various years. Monetary Authority of Singapore, Annual Report, various issues.

maximum monthly contribution of $50[3] (All dollars, unless otherwise stated, are in Singapore dollars. The exchange rate was US$1=S$1.75 in mid-August 2002.) The rate remained unchanged till September 1968, when the CPF was permitted to be used to purchase public housing. The rate structure has become fairly complex since then. Currently the contribution rates vary according to the sector of employment; citizenship or status of a resident; age; whether officers are pensionable or non pensionable (www.CPF.gov.sg/CPF_info/online/ContriRa.asp, retrieved on August 22, 2002).

Since 1968, the CPF contribution rate for the private sector and non-pensionable public sector employees (called the reference group) increased in a series of steps to reach 50 percent (25 percent each by the employer and the employee) in July 1987, with a maximum monthly contribution of $2,500. The rate was reduced to 35 percent in April 1986 to cope with the 1985 recession; but was gradually increased to 40 percent in July 1992, with a maximum monthly contribution of $2,400. The rate was once again reduced to 30 percent in January 1999 to cope with the 1997 economic crisis, with a maximum monthly contribution of $1,800.

The CPF contribution rate since January 2001 for the above group has been 36 percent (20 percent by the employee and 16 percent from the employer), with a maximum monthly contribution of $2,160.

Since July 1988, for the reference group, there have been lower rates of contributions for those above 55 years of age. This is designed to partly de-link wages from seniority, and to reduce the cost of hiring the elderly workers. The CPF contributions of the reference group are channeled into three separate accounts.[4]

Ordinary Account: For those below 55 years, between 72.2% and 61.1% of the contributions is channeled into this account depending on age, with the proportion decreasing with age. Balances in this account can be used for housing, pre- retirement investments and other purposes.

Special Account: For those less than 55 years, between 11.1% and 16.7% of the contributions are channeled in to this account, with the proportion increasing with age. However, none of the contributions are channeled in to this account for those aged over 55 years. Although, balances in this account are for retirement purposes, recent reforms have permitted them to be used for certain low risk investments.

Medisave Account: This account can be used to pay for hospital and selected outpatient services; for catastrophic health care insurance premium under the Medishield (and Medishield plus) Scheme and for Eldershield, a long-term care insurance scheme. Unlike for the other two accounts, the self-employed must contribute to this account. The contributions are channeled into Medisave with the proportion increasing with age. More details of this account is outlined in Asher (2002).

While the gross contribution to the CPF have been impressive, existence of a large number of pre-retirement withdrawals, particularly for housing, has meant that net contributions has been rather low. Thus, during the 1987-2000 period, about 72 percent of contributions were withdrawn during the year

Tax Treatment of Pension Funds: In Singapore, CPF contributions are exempted from the

[3] The maximum monthly contribution applies to the ordinary wages for bonuses and other additional wages; the statutory rates apply without limits. So, CPF contribution may exceed the maximum specified.

[4] This is also the case for other groups of employees, but the proportion channeled to the individual accounts, and the maximum monthly contribution may vary.

income tax. For the year of assessment 2000, CPF deductions by the individual tax payers alone (excluding employer's share) amounted to $4,382.8 million or 2.8 percent of GDP [ROS, IRAS (2001)]. The value of the deduction to the CPF contributor depends on the marginal income tax rate applicable. Those outside the individual income tax net, about 70 percent of the labor force in 2000, of course, do not get any benefits from individual income tax deductibility of the CPF contributions. For others, the value of the benefit from tax deductibility rises with the marginal income tax rate, which ranged from 2 to 28 percent with 10 brackets in 2000 [ROS, IRAS (2001)]. The tax deductibility feature therefore reduces the degree of progressivity of the individual income tax.

In Singapore, exemption from individual income tax of accumulated income (for instance interest income and dividends from approved investments), capital gains from pre-retirement withdrawals, including from stocks (except certain types of property transactions), and retirement withdrawals accentuates the inherent regressiveness of any tax advantaged retirement savings scheme. This is a more liberal tax treatment than in other high-income countries where at least one of the three flows is taxable (Whitehouse, 1999). There is however, rather large and recurrent implicit tax on CPF balances as discussed later in the paper.

However, gratuities, annuities, and pensions not related to the CPF contributions or not applicable to the public sector officers are taxed in Singapore [Lim and Ooi (1998)]. For annuities, premium paid to insurance companies are taxable. This has created a disincentive for development of alternative pension planes, and for the annuities market [Lim and Ooi (1998)]. Such treatment also makes formal wage employment more attractive, and thereby inhibits risk taking and entrepreneurial activities even though the declared policy of the government is to encourage such activities. Singapore, however, provides an extensive set of tax incentives (mainly in the form of reduced company income tax raters) for approved fund managers. The 1998-99 budget, for example, also provided for tax exemption on disposal related gains from unit trusts to the fund management companies.

Investment Policies and Performance of the CPF: The Accumulation Phase

In any defined contribution (DC) scheme, investment policies and performance of provident and pension funds are a crucial determinant of the adequacy during retirement. In addition to the potential to benefit from the power of compound interest, the nature of such savings could enhance the efficiency of savings-investment intermediation. This in turn could increase the trend rate of economic growth, which is the primary macroeconomic variable for economic security for both the old and the young under any pension arrangement.

There are three separate pools of investible funds under the Singapore's CPF system. The first and the largest pool is the accumulated balances of the members with the CPF Board. These amounted to $90.3 billion in 2000 (56.8 percent of GDP) (Table 2). Under the CPF Act, these must be invested in floating rate bonds issued specifically to the CPF Board to meet the statutory requirements. They are therefore not traded, and have no quoted values.

Since 1986, the floating rate is a simple average of 12-month deposit (with a weight of 80 percent) and month-end savings rate (with a weight of 20 percent) of the four major local banks, subject to a minimum nominal rate of 2.5 percent as spelled out in the CPF Act. The rate is revised quarterly. As a matter of administrative discretion, a small portion of the CPF balances in the Special Account for those less than 55 years of age receive interest rate 1.5

percent above the normal rate. Since October 2001, balances in Medisave Account have also received a similar differential interest rate. This underlines the administered nature of the interest rate on the CPF balances.

The compound annual real rate of return on CPF balances (nominal rate minus GDP deflator) averaged only 1.83 percent during the 1983-2000 period; and only 0.82 percent per annum for the 1987-2000 period, the period when the floating rate was introduced [Asher and Newman (2001)]. The above rates are quite low, and therefore they negate the potential advantage of mandatory saving in financing retirement.

It should be stressed that a guarantee of 2.5 percent nominal return does not even preserve the real value of contributions as the longer term annual inflation rate in Singapore has been around 3 percent. Guarantees of principal, even in real terms, are cheap. Thus, for a portfolio divided equally between equities and bonds, the costs is estimated by Smetters to be 2.0 percent of contributions ten years out, declining to 0.5 percent after 40 years [The Economist (May 11, 2002, P.72)]. Thus, the CPF's low rate of return can not be justified on the grounds of the nominal rate of return guarantee.

The requirement that the CPF Board must invest only in government bonds has contributed substantially to the large internal debt of $134.4 billion (84.5 percent of GDP) in 2000 (Table 2). The CPF Board held three-fourths of the government's medium term debt, and little over two-thirds of the total domestic debt in 2000 [IMF (2001), Table 16, p.59]. The government however has been running persistently large budget surpluses over the years [Asher and Phang (1997); IMF (2001), Table 12, p.55].

Given the large budget surpluses over considerable period, the CPF funds have not been needed to finance infrastructure or other government expenditure. The widespread belief (encouraged by the authorities) that the CPF has financed infrastructure and actual construction of public housing (as opposed to facilitating housing mortgage for members from the demand side) is thus not supported by macroeconomic analysis.

How are the balances with the CPF Board then ultimately deployed? Essentially, the Singapore Government (through Singapore Government Corporation, SGIF, and other government-investment agencies) invests these funds. There is, however, no transparency or public accountability concerning where these funds are invested, and what has been the investment criteria and performance. The SGIF and other relevant government investment agencies are protected by statutory provisions from making any disclosure, even to the Parliament. The Elected President, who is mandated to protect Singapore's reserves, also has limited access to the operations of these investment agencies.

It is widely believed that these balances are predominantly invested abroad in a wide variety of physical, financial, and strategic assets.

Singapore's method of investing the balances meant for retirement financing is contrary to best international practices concerning pension fund management, and has the potential for generating extremely high political risk. Such concentration of savings in the hands of non-transparent, non-accountable agencies also distorts savings — investment process, and could lead to inefficiencies in the structure of asset returns. The method however is consistent with Singapore's mono-centric power structure, and strong tendency towards social engineering and control.

To the extent, the government earns higher rate of return on the CPF funds than what it pays to the members, there is an implicit tax on the CPF wealth. This tax is likely to be fairly

large and regressive as low- income members are likely to have most of their non- housing wealth in the form of the CPF balances [Asher and Newman (2001)]. This vividly illustrates how political risks and non-transparency can arise in an individual account system.

The de-linking of interest paid to members on their balances from the ultimate deployment of funds, and essentially administered nature of the interest paid on CPF balances, and 100 percent investment of balances in government securities, shown on the CPF balance sheet but not in actuality, have turned the CPF into an ersatz National Provident Fund (NPF). The CPF now contains elements of notional defined benefit (NDB) system due to administered interest rates (though quarterly adjustment of its interest rate is much shorter than typical of the NDB systems such as in Sweden and Italy), and of the PAYG system as government bonds will have to be serviced by the future generations of the taxpayers. As a result, Singapore's nominal defined contribution (DC) system in practice has been transferred to a system more akin to the PAYG NDB system.

This should serve as a forceful reminder that in pension economics, the formal nature of the system could in practice turn out to be quite different once the details of the design and implementation are examined. It is therefore essential to be extremely careful in drawing lessons from the experiences of other countries. The actual impact of the CPF system also makes it all the more inexplicable strong antagonism of the Singapore policymakers towards a system employing PAYG principles.

The second pool of investible funds consists of insurance funds. These amounted to 3.2 billion as at end 2000 [ROS, CPF (2001), p.54].[5] These are invested in fixed deposits, negotiable certificates of deposit, equities, and bonds.

A significant proportion of the insurance funds are out-sourced to investment management companies. As at end 2000, about two-thirds of the insurance funds were invested, while nearly one third were in bank deposits. The investments are listed in the Annual Report [ROS, CPF (2001), p.55] at cost, and the data provided on the investments in bonds and equity are quite aggregative. The real rate of return on insurance funds was 3.24 percent per annum for the 1985-2000 period, and 2.74 percent for the 1987-2000 period [Asher and Newman (2001)]. While this is higher than the rates of 1.83 percent and 0.82 percent respectively for the CPF balances; it is still substantially lower than the real GDP growth rate (8.26 percent per annum for the 1987-2000 period) or the growth of average earnings (7.49 percent). To the extent, the return on CPF balances is less than wage (or GDP) increase, as has been the case in Singapore, the replacement rate is adversely affected.

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 whom are locally controlled banks. Moreover, all investments must be in Singapore dollars. Their 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 less risky investments are permitted from the Special Account. From the Ordinary Account up to 35 percent of the balances can be invested in shares and corporate bonds by the members directly. There is no limit on investments in shares through the

[5] Continuous and large increases in insurance fund suggest that the premiums (plus investment income) are too high in relation to benefits provided. As an example, in 1999, net insurance premiums (gross premiums less surrenders) plus investment income from Home Protection Insurance was $408.8 million, while claims at $48.2 million were only about one-eighth of the receipts (ROS, CPF, 2001, p.54).

approved unit trusts. Any realized profits are required to be redeposited in the CPF account.

As of March 2002, total amount withdrawn from the Ordinary Account was $22.5 billion (US$12.5 billion); while the average amount per member was $33,506 (US$18,615). Over half the amount (54 percent) was used for purchasing insurance policies; about 36 percent for stocks and loan stocks; and only 9 percent or $2.1 billion (US$1.2 billion) was invested in unit trusts (i.e. mutual funds). Thus, the CPF members have shown an overwhelming preference for insurance policies and investing directly in stocks. The government has been fine-tuning the rules governing the CPFIS to increase the amounts invested through unit trusts. As another $52.2 billion (US$29.0 billion) is still potentially available for investments from the Ordinary Account, there is considerable room for the individual members to exercise investment choice. Only 23 percent of the members currently participate in this scheme.

The amounts withdrawn from the Special Account were $3.1 billion (US$1.7 billion) as of end March 2002, while the average amount per member withdrawn was $8,779 (US$4,877). Only 12 percent of the members have chosen to participate in this scheme. Insurance policies again attracted the bulk of the investments (84 percent), while the unit trusts attracted $570.5 million (US$317 million) or 15 percent of the total. There is still additional $12.0 billion (US $6.7 billion) available for investment under this scheme.

The CPF Board appointed William M. Mercer Company in 1998 as a consultant for the CPFIS scheme for a three year period. The mandate included tracking the performance of CPF approved unit trusts.[6] For a three year period ending in December 2001, 32 approved unit trusts out performed the returns on Ordinary Account in the CPF, while 24 unit trusts under performed [Cua (2001a)]. The corresponding numbers of unit trusts over a 5 year period were 4 and 25 respectively [Cua, (2001a)]. Data on the volatility of the returns of the unit trusts have not been provided. These returns for the unit trusts do not include transaction costs which are high, because spread of 5 to 7 percent between the offer and bid (buy and sell) prices being not uncommon. Moreover banks operating CPFIS scheme also levy a variety of charges, which are non-trivial.

It is the return after the transaction costs have deducted which are relevant. Such data however are not available as the mandate of the CPF Board did not require it. The authorities are conscious of this issue, and efforts are being made to address it. However, small size of the unit trusts market and low level of investments per member are considered as major constraints in addressing it.

The Decumulation Phase of the CPF

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

At the time of retirement, the following options exist in a DC scheme to convert accumulated balances into a flow of income during retirement. These include lump sum, and periodic withdrawals and annuities, or a combination of the three. It should be recognized that

[6] The CPF Board has renewed the mandate, but without the fund tracking feature.

as the annuities are like any other financial product, the cost of purchasing annuity and therefore rate of return from annuity purchase varies with the market structure and the features (individual vs. joint annuity, inflation indexing etc.) of the annuity product.

The CPF permits its members to withdraw all accumulated balances over and above the required minimum sum at age 55. Although the significant proportion of the CPF members' have accumulated balances which fall below the minimum sum, if a member's balances are below the required minimum sum, it does not have to make it up from other sources. Children are however allowed to top-up parents CPF accounts. The minimum sum will reach its maximum in July 2003 when $80,000, equally divided between cash and property, will be required.[7]

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 [ROS, CPFB (2001), p.18]. Thus, the annuities option is not popular.[8]

This is surprising as the CPF approved annuities have relatively low loadings (around 7 percent for 55 year old male) and therefore rank well in money's worth calculations [Doyle, et al (2001)]. This suggests that financial literacy levels of the CPF members need to be enhanced.

The above arrangements effectively increased the politically sensitive withdrawal age for this component. However, the main weaknesses of the mandatory savings scheme centering on inadequate balances for many individuals, and the need for protection against inflation and longevity, and the provision of survivors' benefits are not addressed by the minimum sum scheme.

Administration and Compliance Aspects

Administrative costs of the CPF system as a whole may be divided into various components. The first concerns the administrative costs reflected in the Annual Reports of the CPF Board. These costs were $125.2 million in 2000, equivalent to 0.95 percent of contributions; or 0.13 percent of the total assets [ROS, CPF (2000)]. These costs are borne by the CPF members.

The second component concerns various insurance funds. It is the members who pay the premiums and receive the coverage, both of which are formulated by the CPF Board. In 2000, the insurance premiums paid by the members amounted to $504.7 million, while claims were $116.9 million [ROS, CPF (2000), p.48]. It is not clear as to who will be the ultimate beneficiaries of the accumulated surplus of the insurance funds of $3.2 billion as at end of 2000.

The third component concerns the administrative and management costs associated with

[7] During the January-March 2002 period, the average cash minimum sum set aside by those reaching 55 years of age was $14,715, suggesting that a significant proportion did not even have the minimum cash balance (www.cpf.gov.sg, retrieved on June 10, 2002).

[8] In 2000, there were 22,864 annuity policies, and 4 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 annualized stream of income in one's later life.

the CPFIS scheme. These costs are both of fixed and variable nature. The share of these costs as a percentage of total investment is likely to vary inversely with the size of investment. The fourth component concerns the cost of converting accumulated balances into an income stream during the decumulation phase.

The total administration costs comprise all three components. These costs need to be analyzed for a given year as well as over a time period to assess the efficiency with which the CPF scheme is administered in Singapore.

From the point of view of economic resource use, costs of compliance with the CPF system are also relevant. These costs arise both for the individuals and companies. For the individuals, the costs of complying with the Medisave, CPFIS, housing and education schemes are likely to be particularly important.

The compliance cost for 88,576 active employers as at 30 September 2001 (www.CPF.gov.sg) arise due to the charges needed in their accounting systems to confirm with the requirements of the CPF Board.

There has been remarkably little systematic research done in Singapore on the administration and compliance costs of the CPF system. Further elaboration of these aspects is therefore not feasible.

III. *Supplementary Retirement Scheme (SRS) and Civil Service Pension Arrangements*

Due to limitation of space, I do not explain the details of these pension schemes. I just note that regarding SRS, effective April 2001, Singapore citizens and permanent residents are permitted to save 15 percent of their total labor compensation, subject to a ceiling, in a voluntary tax advantaged account under the SRS (http://www.mof.gov.sg/taxation/home_user/srs/tax_hme_srs.html). This forms the tax advantaged but regulated voluntary saving third tier of the social security system. As for civil service pension arrangements, Singapore has succeeded in shifting most of its civil servants to the CPF scheme, and there by reduce the number of those eligible to receive pensions. For interested readers, I refer to the companion version of this paper [Asher (2002)].

IV. *Directions and Prospects for Reform*

The CPF scheme has come to occupy a pre-dominant position in the pension arrangements in Singapore. The recent parametric reforms of the CPF scheme and the introduction of the SRS do not however address the main limitations of the current arrangements. These limitations include inadequate balances at retirement leading the low replacement rate [McCarthy et al (2001)]; lack of inflation and longevity protection, lack of survivors' benefits, lack of transparency and accountability, particularly in investment management; inadequate weight to fiduciary responsibility as compared to socio-economic engineering objectives; and virtual absence of tax-financed redistributive tier. The limited nature of health insurance, and the issue of long-term care of the aged also pose major challenges to the policymakers.

It is clear from the discussion in this paper that more fundamental reforms are needed to provide economic security to the elderly in Singapore. Such reforms will require a change in

the mind-set, and a paradigm shift in the philosophy of social security. It will also require substantive participation of all stakeholders in the society.

To achieve the above objectives, pension reforms incorporating a redistributive first tier; substantive reforms in the health financing and health insurance systems to systematically introduce social risk pooling and to increase the share of financing through the government budget (currently estimated to be around a quarter of the total) [Lim (2001)]; and making the CPF system a genuine DC fully funded scheme will be needed.

An illustrative set of measures for reforming the CPF scheme may include the following. An initial step would be to eliminate the implicit tax on CPF balances. In the short term, 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.

In the medium term (two to three years), more secure arrangements will be needed. These include the following. First, an establishment of a Pensions Authority (PA) with an independent Board of Directors, whose fiduciary responsibilities will be in line with best international practices in pension governance.

If de-linking the CPF scheme from housing finance is considered too risky, then the CPF scheme could be formally divided into three components, housing, health care, and retirement. The independent PA can be given the responsibility for retirement funds; with a similar authority set up for health care financing. The existing CPF Board may continue to be in charge of housing finance.

Second, the investment policies and performance of the PA should be completely transparent, and de-linked from government investment companies. The investments should be mark-to-market and publicly available. Third, all investment returns must be made known and fully credited to the account of the members.

Fourth, individuals may be given limited options, (including default options when no choices have been indicated) by the proposed PA's investment management committee. A member may divide the balances among the options on a periodic basis. This will minimize transaction costs and permit individuals to adept the investment portfolio for differing risk return profile.

Fifth, the PA should encourage the development of the annuity markets; if necessary, through making such purchases mandatory. There is also a strong case for ensuring that tax treatment of benefits does not distort choices among pension products and pension providers.

It should be stressed that even if the reforms suggested above are undertaken, the mandatory savings second tiers by itself will not provide adequate retirement. The other two tiers will still need to be developed.

It does appear however that the prospects for pension reforms designed to bring about a multi-tier system in Singapore along the lines sketched above are not promising, primarily because the CPF Scheme has become an integral part of the social-economic-political management in Singapore. There is therefore considerable resistance to any substantive changes in the CPF Scheme. Given the above, and due to its size, the transition to any new arrangements which are substantively different will also not be smooth or without generating winners and losers.

The policymakers however recognize that their legitimacy and authority depends to an important extent on fulfilling the material needs of the population, and that it is by now apparent that the current pension arrangements are inadequate for providing financial security

in old age. Consequently, accelerated parametric reforms, such as refining allocation of CPF contributions to different accounts, raising administered interest rates credited to members accounts, liberalizing various investment and other schemes, and expanding the practice of transferring general budgetary resources to the individual members CPF accounts', may well occur. Fundamental reforms which address the main weaknesses of the current arrangements will however have to await substantive reforms in the political economy of Singapore.

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