CORE
Metadata, citation and similar papers at core.ac.uk
Provided by Research Papers in Economics
Public Disclosure Authorized
Public Disclosure Authorized

SP DISCUSSION PAPER NO. 9919

20848

The Pension System in Singapore

Mukul G. Asher

August 1999

FILE COPY

Social Protection
LABOR MARKETS, PENSIONS, SOCIAL ASSISTANCE
THE WORLD BANK

The pension system in Singapore

Mukul G. Asher

August 1999

pe'nsion n. 1. periodic payment made on retirement or above specified age

PENSION REFORM PRIMER

re-for'm v.t. & i. 1. make (institution, procedure etc.) better by removal or abandonment of imperfections, faults or errors

primer n. 1. elementary book to equip person with information

Abstract

Singapore's formal pension system includes several elements including a non-contributory public employees scheme and social assistance for the elderly. The main source of mandatory retirement savings however, is the Central Provident Fund or CPF which also includes a variety of other forced savings programs covering housing, medical savings and other social objectives. This paper focuses on the defined contribution scheme whose role it is to provide income during retirement. Despite a high level of service and efficiency, the CPF has historically generated low returns to individuals under a centralized and opaque investment regime. This threatens to leave many old persons in Singapore with insufficient savings when they retire. Recent initiatives to allow contracting out of the investment with unit trusts and liberalization of investment rules may eventually provide the risk-return combination required for a funded pension scheme. At the same time, a public information campaign and a strengthening of regulations will help ensure that individuals are able to take advantage of these reforms.

TABLE OF CONTENTS

I. INTRODUCTION 4

II. THE CPF: AN ASSESSMENT 8

CONTRIBUTION RATES 8
COVERAGE 11
MEMBERS' CONTRIBUTIONS AND WITHDRAWALS 12
TAX TREATMENT OF PENSION FUNDS 15
MEMBERS' BALANCES 16
INVESTMENT OF CPF BALANCES 18

III. THE REFORM OPTIONS 25

IV. ENDNOTES 29

V. APPENDIX TABLES 31

REFERENCES 35

The pension system in Singapore

by
Mukul.G.Asher[1]

I. INTRODUCTION

Singapore is an affluent city state with the 1997 per capita income of its resident population of US $ 32,940 (US $ 29,000 in PPP terms), the fourth highest in the world (The World Bank, 1998, Table 1, pp.190-191).[2] In mid-1998, its total population was 3.87 million , while its resident population, comprising citizens and permanent residents, was 3.16 million (Singapore, Department of Statistics, 1999, Table 2.1, p-3). The short-term foreign population thus accounts for 18.2 per cent of the total population, and 22.2 percent of the resident population[1].

The growth rate of the resident population has been around 2.0 percent per annum in recent years. This is the result of significant net immigration as the total fertility rate (TFR) has been below the replacement level since 1975. In 1997, the TFR was 1637 (2100 is needed for the population to replace itself), while the corresponding Gross Reproduction Rate (GRR) was 787 (Singapore , Department of Statistics, 1998, Table 1.9, P.9).

The median age of the resident population has increased from 28.3 years in 1987 to 32.6 years in 1997 ; while the dependency ratio (residents under 15 years and those 60 years and over divided by the residents aged 15-59 years) over the same period increased from 47.6 to 48.7 (Singapore, Department of Statistics, 1998, Tables 1.8 and 1.9 ,P.9). The proportion of resident population over 60 years of age increased from 8.5 percent of the total in 1987 to 10.1 percent in 1998, while the corresponding share of those under 14

---

1 Author is Associate Professor of Economics and Public Policy, National University of Singapore 10, Kent Ridge Crescent Singapore 119260

2 Note : All dollars, unless otherwise noted, are in Singapore dollars. In mid-April 1999, US $ 1= S $ 1.70.

years declined from 23.7 percent in 1987 to 22.7 per cent in 1997. (Singapore, Department of statistics, , 1998, Table 3.3 , P.24). As a result, the old age dependency (those 60 years and over divided by those 15-59 years of age) has increased from 12.6 percent in 1987 to 15.0 percent in 1997. It is estimated that by the year 2030, 29.4 percent of the resident population of Singapore will be above 60 years of age, while the elderly dependency ratio will increase to 43.9 percent (Appendix Table 1). Moreover, the average annual rate of population growth has begun to exceed average annual rate of labour force growth and this trend is expected to accelerate (Appendix Table 1).

In 1998, the number of "old-old" (i.e. those above 75 years of age) was about 86,000, little over quarter of those above 60 years of age. Life expectancy at birth in 1997 was 75.0 years for males and 79.2 years for females (Singapore, Department of Statistics, 1998, Table 1.11, P.10). Republic of Singapore, Department of Statistics, 199, p.4). It is well established that the "old-old" require long –term care which is quite labor intensive and which significantly impacts on health care costs. Since the current retirement age is 62 (which is to be gradually increased to 67 years), average retiree will require retirement financing for a considerable period of time.

It is in the above context that this paper analyses Singapore's social security arrangements. Singapore finances its social security system through a mandatory, publicly managed, defined contribution (DC) system based on individual accounts. The main vehicle embodying this is the Central Provident Fund (CPF). It is a Statutory Board under the Ministry of labor. The Board members of the CPF are drawn from the employers, unions, government representatives, and professional experts. They are appointed by the Minister of Labor. In addition, Singapore has a stringent means-tested public assistance scheme which is officially designed to provide less than minimum subsistence level of income[2].

There are two other pension systems operating in Singapore which deserve a brief mention. The first is the non-contributory pension scheme for the government employees. Until 1973, all government employees were eligible to be in the pension

scheme. However, in the 1973 and 1987 conversion exercises, pensionable employees working at that time were given a choice to shift to the CPF scheme. The response was mixed, with some employees electing to stay with the pension scheme, while some shifted to the CPF scheme. At present, only new officers in the designated pensionable services (Administrative service, Police (Senior) and intelligence service), and the political appointees are on the pension scheme. As at January 31, 1999, there were 19,000 pensioners. Their number is expected to decline over time as restrictions on who is eligible for a pension become fully effective. In 1997-98, the government expenditure on gratuities and pensions was $ 569.5 million, equivalent to 3.7 percent of operating expenditure or 17.9 percent of the expenditure on manpower. The pensionable employees may choose monthly pension until death, a lump sum payment, or a combination of the two.

Since 1995, the government has set up a separate Pension Fund. The original contribution to the fund was made from the accumulated budgetary surpluses. In addition, there is an annual contribution from the budget to the fund. As at 31 March 1998, the Pension Fund had balances of $ 11, 657 million, slightly less than the $ 11, 770 million in the previous year.

It should be stressed that in spite of the setting up of the Pension Fund, the Government Pension scheme is essentially non-contributory, unfunded scheme, with the pension benefits being paid on Pay As you Go (PAYG) basis. This philosophy is indeed in sharp contrast to the philosophy of the CPF scheme. Since the top policy makers and politicians are in the pension scheme, their pension benefits are determined on the basis of a different philosophy than that of the rest of the population.

The second pension scheme deserving a brief mention is the provident fund scheme for the certain categories of Armed forces personnel called the Savings and Employees Scheme (the "Saver Scheme"). This scheme came into existence as a result of an amendment to Singapore's constitution passed on March 20, 1998.

This Fund is to be managed by a Board of Trustees appointed by the Armed Forces Council, with inputs from professional fund managers and the Monetary Authority of Singapore, the country's de-facto Central Bank. Unlike pensions, the balances in the Fund will not be taxed; there will be no salary ceiling on contributions; and those belonging to the Fund will continue to enjoy post-retirement medical benefits as before.

This scheme is more generous than the CPF scheme as it is designed to encourage military officers to stay in service for 20-25 years and retire at age 40-45 , with benefits similar to those outside the services retiring at age 55. Essentially, the scheme provides for benefits equivalent to 10-12 percent (20 percent for super scale officers) of an officer's gross monthly income to be deposited into an officer's account which can be withdrawn after serving a specified period of time. This is in addition to the normal CPF contribution by employers.

The above two pension schemes notwithstanding, analysing the social security system in Singapore therefore requires a thorough assessment of the CPF. This task is undertaken in Section II. This is followed by a discussion of reform options which could help provide adequate level of retirement protection to the population in a sustainable manner while maintaining Singapore's international competitiveness for attracting requisite investments, and professional and technical manpower.

II. THE CPF: AN ASSESSMENT

The CPF was set up by the British colonial administration under the Central Provident Fund Act which came into force on July 1, 1955. Currently, only those employees who are Singapore citizens and permanent residents are required to be contributors to the CPF. Foreign workers, including professional expatriates are not required, and pension contributions by them or their employers are not tax deductible.

The CPF, being a provident fund, is based on individual accounts which are portable, remaining with the employee through job transitions. The entire accumulated balances belong to the member's estate at death, but are not subject to estate duties. Members of the CPF get annual account statements. A telephone hotline allows members to check on their accounts' status at any time.

Since 1955 , but particularly since 1968, the Singapore government has vastly expanded the scope of the CPF to achieve a wide variety of social, political, and other objectives. These include home ownership, pre-retirement investments, life, home, and health insurance, and others such as the loan scheme for tertiary education within Singapore, compulsory medical savings account, including for the self-employed, and the minimum sum scheme designed to provide regular monthly income after age 60 (Table 1). The CPF is thus not simply a social security scheme, but one which is the primary socio-economic -political planning and engineering tool for the policymakers.

Contribution Rates

To accommodate such ambitious goals reflected in a variety of schemes, the contribution rates from the employers and employees have been increased significantly, and so has the maximum monthly contribution (Appendix Table 2). Thus the nominal contribution rate of 10 percent at the inception of the CPF was raised in a series of steps to 50 percent by July 1984 (Appendix Table 2). As a measure to combat the 1985-86 recession, the rate was reduced to 35 percent. It was only in July 1994 that the then goal

TABLE 1
Various Schemes Under The CPF System

Type	Scheme	Year Introduced
Home ownership	Approved Housing Scheme	1968
	Approved Residential PropertyScheme	1981
Investment	Singapore Bus Services (1978) Ltd Share Scheme	1978
	Approved Investment Scheme	1986[a]
	Approved Non-Residential Properties Scheme (ANRPS)	
	CPF Investment Scheme (CPFIS)	1986
	Share-Ownership Top-Up Scheme (SOTUS)	1997[b]
		1993
Insurance	Home Protection Insurance Scheme	1982
	Dependents' Protection insurance Scheme	1989
	Medishield Scheme	1990
Others	Company Welfarism through Employers' Contribution (COWEC) Scheme[c]	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

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

b From January 1, 1997, CPFIS replaced the Approved Investment Scheme, thus eliminating distinction between the Basic and Enhanced investment schemes.

c From 1'st January 1999, there will be no more new contributions to the COWEC fund. The scheme is therefore effectively discontinued.

d From 1993, self-employed persons must contribute to the Medisave scheme.

of a long term rate of 40 percent, with equal contribution rates from the employers and the employees was realised.

The East Asian economic crisis beginning with the devaluation of the Thai Baht in July 1997 has however necessitated another sharp reduction in the CPF contribution rate from 40 percent to 30 percent from January 1, 1999. Initially the cut is for a period of two years. However, any restoration to 40 percent rate would be quite gradual. This is because high CPF contribution rates are regarded by the policy makers as the main contributor to Singapore's lack of cost competitiveness, and because the recovery is likely to be more gradual and not as broad-based as the one which occurred after the short-lived 1985-86 recession.

The contribution rates are applicable to a maximum monthly wage of $ 6,000 per month, which is 2.4 times the average monthly earnings (excluding employers' contribution to the CPF) in 1998 of $ 2,549 (Republic of Singapore, Department of Statistics, 1999, p.9). In 1997, only 5.5 percent of the contributors earned above $6,000 per month as shown below in Table 3.

TABLE 3
Singapore: CPF Contribution By Monthly Wage Level, 1987 and 1997

Wage Level	1987	1997
	Number %	Number %
All contributors Below 1,000 1000 – 1999 2000 – 4999 5000 – 5999 6000 and above Unspecified	935330 100.0 574332 61.4 232486 24.8 105388 11.3 7126 0.8 12896 1.4 3112 0.3	1224195 100.0 215587 17.7 443066 36.2 455946 37.2 34539 2.8 67877 5.5 7180 0.6

Source: Republic of Singapore, Ministry of Manpower, Singapore Year Book of Manpower Statistics, 1997, Table 2.2, p.18.

Finally, Appendix Table 3 provides available data for the 1983-97 period for the following characteristics of the CPF system. Unless otherwise noted, the data in the following discussion is from Appendix Table 3.

Coverage

In analysing the coverage data, a distinction between membership and contributors must be kept in mind. Any individual who has in working life contributed even once becomes a member and is regarded as such. In contrast, contributors refers to active contributors at a given point in time. The contributors to labor force ratio, after reaching a peak in 1984 at 72.3 percent , has shown a tendency to decline to slightly less than two-thirds by 1997. While this ratio is sensitive to the rate of unemployment, during the 1983-97 period, the unemployment among Singaporeans was minimal[3]. Those excluded, about one-third of the labor force, are foreign workers, self-employed, and some low-paid contract workers. As even the foreign professionals have been fully excluded since September 1998, the coverage ratio is expected to decline slightly.

As at December 31, 1998, the number of employers paying CPF contributions was 99,589, a slight decline from 103, 194 as at 31 March 1998 (CPF-PAL website). The self-employed (defined as those who are not employees) numbered 242.4 thousand in 1997, or 12.9 percent of the total labor force (Republic of Singapore, Department of Statistics, 1998, pp. 41 and 43). While it is compulsory for the self-employed to contribute to the Medisave scheme, this is not the case for the CPF. They however can join voluntarily and avail of tax deduction on the contributions.

The proportion of the members who are contributors has been declining steadily during the 1983-97 period, from 51.5 percent in 1983 to 44.0 percent in 1997. The 1997 membership of 2.782 million was nearly 90 percent of the total resident population in 1997.

In 1997, the following industries accounted for the bulk of the 1.224 million contributors to the CPF : Commerce 297.1 thousand (24.3 percent), Manufacturing 275.1 thousand (22.5 percent), Financial and Business services 225.5 thousand (18.4 percent), Other services 218.4 thousand (17.8 percent), Construction 8.0 thousand (6.6 percent) and the rest 10.0 thousand (0.1 percent).

Members' Contributions and Withdrawals

Contributions of members as a percentage of GDP, after reaching a peak of 15.4 percent in the recession year of 1985, have shown a tendency to decline, reaching 11.1 percent in 1997. A similar pattern is observed for the contributions to Gross National Savings (GNS) ratio. After reaching a peak of 36.2 percent in 1985, it subsequently declined to 21.1 percent in 1997.

The contributions to the CPF are divided into three accounts. The ordinary account (from January 1, 1999, those under 55 years of age contribute between 22 and 24 percent of the applicable wage to this account depending on age) can be used for housing, investments, and other such schemes.

The second, the Medisave account (from January 1, 1999, those under 55 years of age contribute between 6 and 8 percent of the applicable wage depending upon age) enables the members to pay for permitted hospitalization and outpatient costs, and to pay premium for health insurance scheme for major illnesses, called Medishield. The premium for Medishield rises with age. Those above 75 years of age, who are most in need but often cannot afford the medical care, however are not covered.

Deductibles, co-payment , yearly and life time limits etc. mean that between one-third to two-thirds of the hospital bill (excluding post-hospitalization care) will still need to be paid by the individual member. As at December 31, 1998, Medishield schemes severed about two million members and dependants, (CPF-PAL website), slightly less than two-thirds of the population. Thus, one-third of the population does not even have the basic catastrophic health insurance.

During the October-December 1998 period, average claim for Medishield was $ 618, while for Medishield Plus (a more expensive version), it was $ 1245 (CPF-PAL website). These relatively low amounts per claim seem to point to the limited nature of the health insurance provision under the CPF.

The third is the Special Account which is meant for retirement. Before the reduction in contribution rate from January 1, 1999, 4.0 percent of the contributions were channelled into this account. However, since the rate reduction, no contributions are being channelled to this account. If this continues, retirement provision may be adversely affected.

Because of the various schemes of pre-retirement withdrawals enumerated in Table 1, and withdrawals under section 15 of the CPF act. On reaching 55 years of age, death, incapacitation, and leaving Singapore and West Malaysia permanently[4] , the net contributions (contributions less withdrawals) are much lower, in some years, e.g. in 1993 even turning negative. The withdrawals as percentage of contributions have ranged from a low of 38.3 percent in 1983 to 105.0 in 1993. In 1998, withdrawals were 85.1 percent of the contributions. Thus, amount available to finance retirement is considerably smaller than the high contributions may suggest.

Most of the withdrawals - in most years more than half - are for housing, reflecting the importance of the CPF for financing housing from the demand side[5]. Under the CPF Approved Housing scheme (Table 1), purchasers are allowed to withdraw their CPF savings to pay the 20 percent down payment, as well as to service monthly mortgage instalments for purchasing government constructed housing. (for details see Phang and Asher, 1997, pp. 305-307). Since March 1986, the mortgage interest rate has been pegged at 0.1 percent above the CPF savings rate.

Outright subsidies for public housing have been kept to a minimum, and expenditure on housing has not comprised more than 2 percent of total government expenditure in any fiscal year. Public housing prices have been affordable, mainly because the land prices, paid by the HDB, are well below what private developers pay for their land. Under the Land acquisition Act, enacted in 1966, the government and its agencies are able to acquire land for any public, residential, commercial or industrial purposes, at pegged prices, which are generally below the market rates[6]. Since 1981, CPF balances may also be used to purchase private properties, both for use and as an investment .

By 1990, the home ownership rate had increased to 88 percent and the share of population living in government constructed flats to 87 percent ; with the corresponding proportions for 1970 being 29 percent and 36 percent respectively (Phang, 1997).

In addition to housing, health care and investment schemes are quite significant in terms of withdrawals. In recent years, withdrawals from the Medisave Account have constituted between 3 and 5 percent of total withdrawals. The pre-retirement investment schemes are discussed in the later part of the paper.

The withdrawals under Section 15 of the CPF Act (i.e. for retirement etc.) have fluctuated overtime , ranging from a low of 10.8 percent of total withdrawals in 1993 to a high of 33.8 percent in 1983. More importantly, the average cash withdrawal at withdrawal age continues to be quite low. Thus, during the October-December 1998 period, the latest period for which data are available , 15469 members reaching the withdrawal age withdrew $ 301.8 million under this provision, for a mean withdrawal of only $19,510 per person (CPF-PAL website). This is only 64 percent of the average annual earnings of workers , not counting employer's CPF contributions. Clearly this amount will not be adequate for old age.

It has been argued that the Minimum Sum scheme (Table 1), amounts invested under CPF's investment schemes, and potential for converting housing equity into retirement consumption (through reverse mortgage, or through implicit contract with children, for example) could result in more adequate retirement provision than cash balances alone may suggest.

While the above may be the case for a relatively small proportion of the CPF members, the indications are that there will be many who would still find themselves with inadequate financial resources in old age. This is indicated by the fact that the median balance for the active contributors as at end 1997 was between $ 50,000 and 60,000 (equivalent to about 2 years of average wage) even when pre-retirement withdrawals for housing, and property and other investments are included. The inactive members are likely to have even lower balances.

Tax Treatment of Pension Funds

In Singapore, CPF contributions for citizens and permanent residents are exempted from the income tax . For tax year 1997, CPF deductions by the individual income taxpayers alone amounted to $ 3,617 million or 2.5 percent of GDP in 1997. The value of the deduction to the CPF contributor depends on the marginal income tax rate for the individuals. Those outside the individual income tax net, about 75 percent of the labor force in 1997, do not get any benefits from tax deductibility of the CPF. For others, the value of the benefit from tax deductibility rises with the marginal income tax rate. The tax deductibility feature therefore has inherent regressive impact. The employer's contributions are also tax deductible.

In Singapore, not only the contributions, but also accumulated income, capital gains from pre-retirement withdrawals, including from stocks (except certain types of property transactions), and retirement withdrawals are all exempt from taxation. This is more liberal tax treatment than in other high income countries where at least one of the three flows is taxable[8].

However, gratuities, annuities, and pensions not related to the CPF or the public sector are all taxed in Singapore (Lim and Ooi, 1998). For annuities, premiums paid to insurance companies are not taxable, while the sums received from the plans are taxable. This has created a disincentive for development of alternative pension plans, and for the annuities market (Lim and Ooi, 1998).

Singapore provides extensive set of tax incentives (mainly in the form of reduced company income tax rates) 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.

Members' Balances

During the 1983-97 period, these balances have increased steadily from $19,504.7 million in 1983 to $ 79,657.4 million by 1997. In relation to GDP however, these balances, appear to have stabilised in recent years around 55 percent of GDP, a significant decline from the peak of 75.9 percent of GDP achieved in 1986.

Table 3 provides data concerning average CPF balances per member in relation to average monthly earnings for the 1987-97 period. As indicated in the table, while the average balance per member increased from $ 15,458 in 1987 to $ 28,633 in 1997, the average balances to average earnings ratio has shown a significant decline from 11.6 in 1987 to 9.6 in 1997. Even at its peak , the average balance per member was equivalent to less than one years average earnings. While it would be more appropriate to estimate the balances of the active contributors to assess the level of retirement financing, the relevant data are not published by the CPF Board. However, as noted above, average withdrawal of those reaching the withdrawal age during October-December 1998 period were equivalent to only 64 percent of the average annual earnings. Thus, in spite of rapid economic growth and rising contribution rates, average balances of the CPF member remain rather low.

Table 3
Singapore: Average Balances Per Member and Average Monthly Earnings, 1987-97

(1)	(2)	(3)	(4)	(5)= (4)/(3)
Year	Average Montly Earnings (excluding Employer's CPF Contributions)	Average Monthly Earnings (including Employer's CPF Contribution)	Average Balance Per Member	Average Balance Per Member/Average Monthly Earnings (including employer's contribution)
1987	1176	1335	15458	11.6
1988	1273	1426	15790	11.1
1989	1398	1608	16313	10.1
1990	1528	1773	18504	10.4
1991	1669	1969	20421	10.3
1992	1804	2129	22191	10.4
1993	1918	2282	21361	9.4
1994	2086	2503	23059	9.2
1995	2219	2663	24640	9.3
1996	2347	2816	29503	10.5
1997	2480	2976	28633	9.6

Notes:
Inclusive all remuneration received before deduction of the employee's CPF contributions and individual income tax. They include basic wage, overtime payments, commissions, allowances and other monetary payments, annual wage supplement, and variable bonus.

Column (3) is calculated as amount in colunm (2) + Employer's CPF contribution (Amount in column (2)). This is only approximation due to the wage ceiling for employer's contribution.
Source:
Average montly Earnigns From Republic of Singapore, Ministry of Manpower, Singapore Year Book of Manpower Statistics, 1997, Table 2.2, p. 18. Average Balance per Member from data in Tables 1 and 5 of this paper.

It is by now accepted even by the policy makers that the CPF balances alone will be inadequate to finance retirement. In a recent survey, even those Singaporeans with CPF accounts, only 44 percent indicated that the CPF would be sufficient for old age support (Chan, 1998, Table 5, p.28). The survey found that the females were especially likely to find the CPF scheme as inadequate for financing retirement, with vast majority relying on their children for financial support. (Chan, 1998). Both the demographic and attitudinal changes are likely to reduce the potential for relying on children to finance old age.

Investment of CPF Balances

Three separate pools of investible funds exist under Singapore's CPF system. The first and the largest is the members' balances with the CPF Board. As at 31 December 1998, members balances amounted to $ 85,276.8 million (CPF-PAL website). According to the CPF Act, these funds must be invested in government bonds (and in advanced deposit with the Monetary Authority of Singapore, MAS, to be converted into government bonds at a later date). The bonds are floating rate bonds issued specifically to the CPF Board to meet interest and other obligations. They do not have quoted market values.

The floating rate is exactly identical to the interest rate which is paid by the CPF Board to its members. Since 1986, the interest rate paid by the CPF Board on members' balances is a simple average of the 12-month deposit and month-end savings rate of the four major local banks, subject to a minimum nominal rate of 2.5 percent as spelled out in the CPF Act. The interest is computed monthly and compounded and credited annually by the CPF Board. Interest paid on balances in the special account is 1.5 percentage points higher than the rate paid on balances in the Ordinary Account. Currently, the interest rate on fixed deposits and on savings deposits are weighted equally. However, from July 1, 1999, the fixed deposit weightage will increase to 80 percent, with corresponding decline to 20 percent for the savings deposits. This administrative change can be expected to lead to higher rates to members as fixed deposits have normally higher rates than the savings deposits.

This administrative arrangements for paying short-term interest rates for long-term funds, and further restricting the rate to what four relatively insulated local banks pay on local currency deposits is rather curious. This arrangement, however clearly shows the administered rather than the market determined nature of the interest rate paid on CPF balances. This arrangement also further obfuscates the investment perrformance arising from the ultimate deployment of the members' balances, as explained below.

It is therefore not surprising that during the 1987-1997 period, the real annual compound interest rate credited to the CPF member's accounts (defined as the difference between the nominal rate less inflation as measured by the GDP deflator) was roughly zero percent. Indeed, in 5 out of 11 years during the above period, the real interest rate was negative.

The Singapore government has been running rather large budgetary surpluses over many years. Yet, it has a large internal public debt amounting to $ 102,371.9 million as at end-1997, equivalent to 71.6 percent of GDP in 1997. Thus, large budget surpluses and large public debt co-exist in Singapore. Since much of the debt is non-marketable, there is little activity in the secondary market for government bonds.

Given the large budget surpluses of the Singapore government over considerable period (Asher, 1999), the CPF funds have not been needed to finance infrastructure or other government expenditure. The widespread belief that the CPF has financed infrastructure and actual construction of public housing (as opposed to facilitating housing mortgage for members) (see endnote 5) is thus not supported by macroeconomic analysis. How are the CPF balances then ultimately deployed? Essentially, the Singapore Government (through Singapore Government Investment Corporation, SGIF, and other government-controlled holding companies such as Temasek Holdings, and other 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. These funds, however, are believed to be predominantly invested abroad.

Such transparency and public accountability are of particular relevance as the economic and financial crisis in much of Southeast and Northeast Asia negatively impacts on growth prospects and asset values. In recent years, Singapore has consciously directed greater proportion of its resources (presumably including the CPF funds) into investments in East Asia. Yet, no information has been provided on the performance of these investments.

Investment of pension funds abroad is usually recommended as a way to attain diversification of country and other risks. However, the investment arrangements in Singapore do not permit an assessment of the extent to which such diversification has occurred, or its results.

A statement in the Parliament in March 1996 by the Finance Minister indicating that investment returns on Singapore's reserves have averaged over 5.0 percent (no precise figure was given) in Singapore dollar terms over the last 10 years could be used to estimate the implicit tax borne by the CPF members on their balances. Subtracting the nominal rate of 3.5 percent in 1997 from the 5.0 percent provides the difference of 1.5 percent. Multiplying it by the average balances of members that year (calculated as the beginning balance plus one half of the addition to the balances between the beginning and the end of 1997) of $ 69.3 billion, gives the implicit tax on members of $ 1039.5 million, equivalent to 6.5 percent of the contributions in 1997. It is important to recognise that so long as the nominal rate paid to members is less than what the government earns on members balances, the implicit tax is paid by members each year, though the amount varies. Moreover, as lower income individuals have disproportionate share of their wealth in the CPF, such implicit tax imposes relatively heavier burden on them. The above vividly illustrates how political risks and non-transparency could arise even when there are individualised accounts.

The second pool of investible funds consists of insurance funds which are relatively small, amounting to only $ 1500 million in 1997. These are invested in fixed deposits, negotiable certificates of deposit, equities, and bonds. Out-sourcing of these funds for investment is believed to be much greater. Thus the asset allocation for the insurance funds is much more diversified as compared to CPF balances. It is therefore not surprising that the rate of return on insurance funds is somewhat higher than on the CPF balances (Appendix Table 3). However, because of their negligible weight in the total investible balances, the impact on the interest credited to members is also negligible.

The third pool of investible funds consists of pre-retirement withdrawal by members under the CPF investment schemes. Investment of CPF savings by members

started in May 1996 under the Approved Investment Scheme (AIS). The primary aim was to enable CPF members , if they wished to invest part of their CPF savings in approved instruments so as to enhance assets for old age. Over the years, the investment scheme has evolved to provide CPF members with more options to invest their CPF savings. In October 1993, the AIS was liberalised into a 2-tier scheme- the Basic and Enhanced Investment Schemes (BIS and EIS). These schemes were subsequently merged in January 1997 to form the CPF Investment Scheme (CPFIS).

Since its introduction, there has been considerable liberalisation of investment rules and guidelines governing the CPFIS. The CPFIS permits individuals to invest in the stock markets either directly by purchasing CPF approved stock, or indirectly through mutual funds (called unit-trusts). Members can also invest in endowment policies, gold, Singapore government bonds, bank deposits, and fund management accounts. Apart from trustee stocks, CPF members can also invest in nine loan stocks listed on the main board. As at end-June 1997, 411,235 CPF members (56.4 percent of those eligible, but less than a sixth of total members) had withdrawn $ 10.82 billion, 44 percent of the potential amount of $ 24.6 billion eligible for investment. Thus, amount withdrawn for investment per participating member ($ 10.82 billion divided by 411,235) amounted to $ 26,311. By May 1998, the amount withdrawn had risen to $12.1 billion, of which only $400 million (3.3 percent of the total) had been invested through 22 CPF approved unit-trusts out of a total of about 120. Thus, individuals have chosen to primarily invest on their own. A substantial part of the investible fund have gone into purchase of partial divestment of state telecom monopoly, Singapore Telecom. Indeed , the government had provided discounts and outright subsidies to encourage CPF members to buy the Singapore Telecom shares in 1993 and 1996.

Net realised profits or loss (gross realised profit plus dividends and interest less bank charges and related costs and CPF accrued interest on the entire investment amount withdrawn) are computed on September 30 each year and credited. In addition to 1 percent of value of stocks charged by stock brokers on purchase and sale of shares, approved banks also have a fixed dollar charge (subject to a maximum) per transaction of different types. In addition, approved banks also levy a service or administrative charge.

The fixed nature of the fees implies a larger proportionate burden on those with relatively small amount of investments.

From January 1, 1998, CPF-approved unit-trusts were allowed to invest as much as 50 percent of their funds in the following overseas markets: Malaysia, Thailand, Hong Kong, Taiwan, and South Korea, U.S., U.K., and Japan.

In May 1998, the Singapore authorities announced significant relaxation of rules governing CPF approved unit-trusts. The changes cover a more transparent way to select CPF-approved fund managers and the unit-trusts they offer; substantial liberalisation of permitted investment by the unit-trusts; and greatly enhanced disclosure requirements. Criteria for approving the unit trusts have also been substantially liberalised.

For the approved unit-trusts, the 40 percent limit on investment in non-trustee stocks, 50 percent limit on foreign-currency denominated investment, and specification of countries in which investments can be made, have all been removed. Only certain prudential norms remain. The unit trust management are to be encouraged to publicly declare the benchmark against which their performance is to be measured. The CPF Board has classified various approved unit trust in terms of their asset diversification and risk levels. Their performance will be regularly published; and extensive educational campaign to enable CPF members to invest prudently has been launched.

The authorities hope that the removal of the previous curbs on asset allocation would improve investment performance, and encourage CPF members to primarily invest through the unit trusts. The above measures are also designed to encourage fund management industry, an area in which Singapore aims to develop a competitive advantage.

Requiring Singapore companies to move towards internationally compatible corporate disclosure rules and modes of governance could assist in making better asset allocation decisions. Some steps have been taken in this direction by the Singapore authorities, but there is still considerable room for improvement.

It is strongly suggested that there is considerable merit in considering the proposal for harmonising disclosure requirements for ultimate investment (not just the purchase of government securities as currently reported) of the members' balances with the CPF with those recently announced for the CPF approved unit-trusts.

The changes announced for the unit- trusts do not provide for performance standard, or for regulation of the commission, administrative, and other charges, the spread between bid and offer prices and the like. As the average investment per member is likely to be relatively small, transaction costs of operating through unit-trusts are likely to be of some significance. This area deserves much more attention of the researchers and the policymakers than has been the case so far.

It is however interesting to observe that in sharp contrast to the CPF, the "Saver scheme" for the Armed forces has opted for the centralisation of the investment function with professional fund managers selected directly by the Board. In contrast , the CPF has entrusted the choice of selecting unit-trusts and asset allocation decisions to the individuals. This potentially sets up two contrasting mechanisms or pension fund investments which overtime may provide information on their effectiveness in minimising transaction costs , and maximising returns credited to the members. It would be useful to consider harmonising the disclosure requirements of the SAVER Fund with those recently announced for the CPF approved unit-trusts.

The expectation that permitting individual CPF members to make their own investments would permit higher returns was not fully realised even before the current currency and stock market crisis in Southeast Asia. Thus, during each year during the 1994-1997 period, less than 20 percent of participating members realised returns above what they would have made had they left the money with the CPF, while in 1998, the corresponding proportion was only 10.0 percent. In the aggregate, losses of those investing exceeded gains. Thus, for the October 1, 1995 to September 30, 1996 period, 20.7 percent of those investing made an aggregate profit of $179.7 million, while 79.3 percent of the members made losses totaling $198.7 million (The Straits Times,

Singapore, April 9, 1997). During the period October 1996 to September 1997, 11.7 percent of 434,802 members investing made a profit of S$111.4 million, while 88.3 percent made losses of $338 million (Business Times, Singapore, January 20, 1998).

The effects of the May 1998 liberalisation, measures, including removal of specification of countries where investments can be made by the unit trusts (but not CPF members on their own), are yet to be reflected in the data.

As the data on the composition of investments, and on unrealised capital gains is not been made available by the CPF Board, it is difficult to make a fuller analysis of this issue at this time. It is to be hoped that along with the liberalisation of the CPFIS sketched earlier, there will also be greater recognition on the part of the CPF Board to regard such information as a public good, and thereby facilitate fuller analysis of the issue and enhance transparency.

III. THE REFORM OPTIONS

The main characteristics of Singapore's Pension system emerging from the analysis in the previous sections may be summarised as follows :

1) **Single Dominant Pillar** : Singapore has almost solely relied on the State mandated, and managed savings pillar for its formal pension system. It has also attempted to encourage informal family and community arrangements for financing old age. This strategy has recently been reaffirmed by the government in its terms of reference for the Inter Ministerial Committee on Ageing Population which is to examine all aspects relating to the issues arising from the rapid ageing of Singapore's population, including financing issues. The Committee is to present a report for discussion by September 1999.

2) **Multiple Objectives** :The CPF is more than a pension scheme. It also incorporates housing, health care financing, and tertiary education. To accommodate these schemes, which have evolved gradually over time, the contribution rates have had to be increased significantly, reaching 50 percent of the wages at one point. In addition, various investment and other scheme has enabled the government to direct a significant proportion of the disposable income of nearly two-thirds of the labor force towards government determined socio-political and economic objectives. The operations of the CPF in conjunction with the excellent information technology infrastructure and skills have provided the policy makers with perhaps unparallel databank concerning the socio-economic profile of the population.

3) **Low Replacement Rate and Limited Coverage of Risks** :
High contribution rates and rapid economic and wage growth notwithstanding, the average balances of the CPF members remain relatively low. The CPF Board does not publish the replacement rates or the actuarial status of the CPF . In its 1987 Annual report, the CPF Board had indicated that the replacement rate for the CPF members would be between 20 and 40 percent. The report, however did not indicate how these

figures could be obtained, and there has been no further discussion of the replacement rates in the subsequent annual reports.

Simulation studies by the actuarial firm Watson Wyatt Worldwide in 1996 have shown that assuming the typical use of the CPF, low, middle and high earner single individuals would need to contribute additional 18.7 percent, 32.6 percent and 46.6 percent of their monthly income to meet the benchmark replacement rate equal to two-thirds of final income. Given the high CPF contribution rates, additional contributions of this magnitude are not realistic.

A recent unpublished simulation study by Leong and Das-Gupta does conclude that '... the CPF , by and large , does not adequately provide for old -age security' (1998,p.10).

The reasons for low CPF balances and the replacement rate lie primarily on extensive pre-retirement withdrawals , particularly for housing, and on extremely low real rates of return credited to members' accounts. As noted in the previous section, the implicit tax on the CPF balances is recurrent and quite high. It does appear that the routine housekeeping functions such as collecting contributions, administering various schemes, record keeping, administering retirement benefits, etc. are being undertaken by the CPF Board at fairly low costs. Thus, in 1997, the administrative costs of the CPF Board to total contribution ratio was 0.62; while the administrative costs to total balances ratio was 0.12. Moreover, the administrative costs have fluctuated within a fairly narrow range. Thus, the normal housekeeping costs of the CPF Board have not contributed to either the low balances or the low rates of return credited to members.

The above costs, however relate only to those of the CPF Board itself, and do not cover the costs borne by the individuals under the CPFIS. While no data are available on the transactions costs (including the administrative costs) relating to the CPFIS, these are likely to be substantial, given low average amount invested under the CPFIS, the fixed nature of many of the fees levied by the banks and unit trusts, and the lack of competition

in the funds management industry. As noted, it would be desirable to require the fund managers to publish rates of return net of fees and charges on their portfolio.

The CPF does not cover inflation and longevity risks[9], and does not provide survivor's benefits. Also, because it is a defined contribution (DC) scheme, it does not have any formal mechanism for sharing in nations' economic growth. Thus, the retirees may find their relative position in the income distribution burgeoning over time, thereby accentuating pre-retirement inequalities.

The above characteristics of the pension system in Singapore suggest that while the system has many strengths, particularly the emphasis on defined contributions (DC) and fully funded (FF) nature, it also has severe shortcomings. The reform options thus need to address the limitations while maintaining the strengths of the present system.

It is widely accepted even by the policy makers that the CPF by itself will be inadequate to finance old age. Even as policy makers acknowledge this, they are reluctant to consider a shift towards a multi-pillar social security system. This would require the strengthening of the tax financed first pillar. This could be accomplished through several measures. These include liberalisation of public assistance rules, and substantial increases in the benefits provided.

Another option would be to make up the difference between the annuity available from members own balances and the annuity (inflation indexed and one which covers longevity risks) needed for appropriately defined replacement rate from the government budget. Appropriate criteria and prudential rules may be set to minimise abuse.

It would also be useful to reconsider the predominance of housing finance in the CPF scheme. This would require reconsideration of the predominant role of the HDB and other governmental agencies in the housing and real estate market in Singapore. Greater use of market forces in the housing market intended by the government would also require changes in the CPFs' housing schemes.

There is a strong case for giving retirement objective greater prominence in the CPF scheme. If the importance of housing finance cannot be reduced, then it would be difficult to bring about the requisite shift as health care needs, the other major user of CPF balances , are expected to increase significantly.

The recent reforms of the CPFIS have generally been in the right direction in terms of diversification of investment portfolio and asset allocation rules. The investment choices under the CPFIS are made by the individuals according to their risk preferences and investor sophistication. As noted, the transactions costs involved in such choice are likely to be high. The CPF Board, therefore may consider the approach used by the "Saver Scheme" of the Armed Forces under which investment allocation among different funds managers and asset classes is undertaken at the central level, thereby minimising transactions costs and ensuring capability of availing of expert advice and monitoring of funds managers. This would also permit the CPF Board to move away from investing only in government bonds at administratively determined interest rates.

The CPFIS could be continued, while providing a choice to members of investment portfolios encompassing different risk –return profiles selected in a centralised manner. Another important measure to enhance the rate of return credited to members would be to eliminate the implicit tax being levied at the present time. This would require that the CPF Board follow the same disclosure rules that are required by the unit trusts under the CPFIS and that the Board credit all the returns earned on the investments of CPF balances. In addition to improving efficiency and equity, this would also substantially increase the transparency of the pension system, and reduce the political risks associated with it.

The Singapore experience demonstrates both the strengths and the limitations of the State mandated and managed DC/FF system of financing old age. Singapore's financial and human resources and capabilities, as well as its proven record in responding to material needs of its population, suggests that the reform options discussed above are well within its capacity to implement.

IV. ENDNOTES

1. This has two significant implications for social security arrangements in Singapore. First, the presence of Foreign workers in such a large number has enhanced the economic and tax base available to finance social security needs of the resident workers. Second, it reflects very open nature of Singapore's economy. This, however severely constrains social security options available to Singapore . This is because a highly open economy is very much dependent on capital and professional manpower, both of which exhibit considerable factor elasticity, requiring tax burden on them to be kept low. Individual therefore is required to bear a major part of financing his social security needs.
2. Under the public assistance scheme, families are provided monthly assistance ranging from $ 200 for 1 adult person household to a maximum of $ 570 for a 4 person household consisting of 1 adult and 3 children (Republic of Singapore, Ministry of Community Development, 1998, p.5). The amount for one person household is equivalent to only 6.1 percent of the 1997 per capita GDP of $ 39, 310 (Singapore, Department of Statistics, 1998, P.2). The stringency of the eligibility for even the above meager public assistance is indicated by the small number receiving it. Thus, in January 1999, only 2,086 individuals were receiving such assistance, of which, 1,701 were aged destitutes (Singapore, Department of Statistics, February 1999, p.91).
3. Except for 1987, when the unemployment rate was 4.0 percent, it has hovered around 2.0 percent of the labor force (Republic of Singapore, Department of Statistics, 1998, p.41).
4. Under the CPF rule, those Malaysians who have contributed to the CPF and are returning to West Malaysia are not permitted to withdraw their CPF balances until age 55, same as for other members. However, Malaysians from East Malaysian states of Sabah and Sarawak can withdraw when they leave Singapore. This, plus the crisis-induced need for the funds by the Malaysian government, and the refusal of the CPF authorities to release even any data on the Malaysian workers and their CPF balances, has resulted an irritant in the bilateral diplomatic relations between the two countries.
5. It should be emphasized that the CPF balances are not used to finance actual construction of public housing. To enable the government's Housing and Development Board (HDB) to construct public housing and to provide mortgage loans, the government from its budgetary sources has been providing loans at subsidised rates. As at March 1, 1998, according to Singapore's budget documents , total outstanding loans to the HDB from the government budget amounted to $ 55,070 million. As the HDB has been repaying loans over the years, gross budgetary support to the HDB is even higher.

6. From 1974, the pegged price was the market values from the 30 November, 1973 until 12 January, 1988, when it was changed to the market value on 1 January , 1986. If the market value , at the date of acquisition , is lower than the pegged price , then the market value is used , for the purposes of compensation, instead (Phang, 1997). The government currently owns more than 85 percent of total land in Singapore. It has recently announced its intention to move closer to paying market prices for any additional land acquired.
7. It should be noted that public housing ownership rights in Singapore are incomplete or truncated as the land on which the flats are constructed is leased from the state rather than owned. The lease period is usually 99 years. As the public housing program is only three decades old, it is expected that as the remaining lease period becomes shorter, loans to purchase such older housing and value of such housing would decline. The government nevertheless embarked in 1989 on a multi-billion dollar program to upgrade the public housing estates, with the households paying between 10 and 35 percent of the upgrading costs (Phang, 1997). Given the truncated ownership rights, the reverse mortgage method of using housing equity to finance retirement consumption would be even less effective than is normally the case. Indeed, the reverse mortgage transactions so far have been fairly small (less than 200), and have not involved public housing.
8. For international comparison of tax treatment of funded pension schemes, see Whitehouse (1999).
9. Under the Minimum sum scheme, there is an option to purchase an annuity from an approved insurance company which will guarantee a regular monthly nominal income for life in return for a lump sum premium , but this option is not popular with the retirees as the cash component of the minimum sum scheme is quite small (in 1998, the cash component was only $16,000) and many retirees do not even have this amount. In any case, there are no inflation indexed annuities on the market.

V. Appendix Tables

1. SOUTHEAST ASIA: SELECTED DEMOGRAPHIC AND LABOUR FORCE INDICATORS

Country	Average Annual Rate of Population Growth			Average Annual Rate of Labour Force Growth			Total Fertility Rate (TFR)		Proportion of Population above 60[a]		Elderly Dependency Ratio (EDR)[b]	
	1990-2000	2000-30	2030-50	1990-2000	2000-30	2030-50	1990-95	2025-30	1990	2030	1990	2025
Indonesia	1.5	1.0	0.5	2.4	1.1	0.2	2.93	2.16	6.4	14.1	11.3	19.3
Malaysia	2.1	1.3	0.7	2.6	1.6	0.5	3.50	2.08	5.7	14.5	10.3	20.8
Philippines	2.3	1.5	0.8	2.7	2.0	0.7	4.05	2.11	5.3	13.5	8.9	16.2
Singapore	1.6	0.8	0.0	1.5	0.3	-0.1	1.80	2.05	8.5	29.4	12.6	43.9
Thailand	1.4	0.8	0.4	1.4	0.8	0.1	2.21	211	6.0	18.0	10.0	23.1

Sources: Heller, P.S., 1997. "Ageing Asian 'Tigers': Challenges for Fiscal Policy" Processed, Table 1. Heller's estimating are based on unspecified World Bank Statistical Source. World Bank, Averting Old Age Crisis, New York: Oxford University Press, 1994 Tables A1 and A2, pp. 343-353; and Bos, et al., World Population Projection '1994-95, Baltimore: The Johns Hopkins University Press, Table 10, pp. 30-33.

Notes:
[a] TFR is the average number of births per woman in the population. A TFR of 2.1 maintains a stable population, assuming no net migration takes place. TFR of slightly above 2 is needed to account for women who may die before reaching the fertility age.
[b] EDR is defined as persons 60 years and above/persons 15-59.

TABLE 2
CPF Contribution Rates

Effective Date	Nominal Contribution Rates (%)[a]			Effective Contribution Rates (%)[b]	Maximum monthly Contribution [c] (S$)
	Employer	Employee	Total	Total	
July 1955	5.0	5.0	10.0	9.5	50
September 1968	6.5	6.5	13.0	12.2	300
January 1970	8.0	8.0	16.0	14.8	300
January 1971	10.0	10.0	20.0	18.2	300
January 1972	14.0	10.0	24.0	21.1	360
January 1973	15.0	11.0	26.0	22.6	390
January 1974	15.0	15.0	30.0	26.1	450
January 1975	15.0	15.0	30.0	26.1	600
January 1977	15.5	15.5	31.0	26.8	620
January 1978	16.5	16.5	33.0	28.2	990
January 1979	20.5	16.5	37.0	31.0	1,110
January 1980	20.5	18.0	38.5	32.0	1,155
January 1981	20.5	22.0	42.5	35.3	1,275
January 1982	22.0	23.0	45.0	36.9	1,350
January 1983	23.0	23.0	46.0	37.4	1,380
November 1983	23.0	23.0	46.0	37.4	1,840
July 1984	25.0	25.0	50.0	40.0	2,500
July 1985	25.0	25.0	50.0	40.0	3,000
April 1986	10.0	25.0	35.0	31.8	2,100
July 1988	12.0	24.0	36.0	32.1	2,160
July 1989	15.0	23.0	38.0	33.0	2,280
July 1990	16.5	23.0	39.5	33.9	2,535
July 1991	17.5	22.5	40.0	34.0	2,400
July 1992	18.0	22.0	40.0	33.9	2,400
July 1993	18.5	21.5	40.0	33.8	2,400
July 1994	20.0	20.0	40.0	33.3	2,400
January 1999 [d]	**10.0**	**20.0**	**30.0**	**27.3**	**N.A**

N.A : Not Available

NOTES:

a : The contribution rates apply to monthly wages exceeding $363 per month. For those earning below this level, the rates are lower. Since July 1988, the rates have also been lower for those above 55 years of age. The pensionable employees in the public sector also contribute at a lower rate.

b : Contributions as a share of total gross wage including employers CPF contribution (i.e.:

$$r_{effective} = \frac{r_i + r_e}{1 + r_e}$$

where r_i = nominal employee rate
r_e = nominal employer rate

c : The maximum amount in this column applies to those below 55 years of age. The maximum contribution is lower for those above 55 years of age. Moreover, the maximum applies only to ordinary wages. For additional wages, such as bonuses, statutory contribution rates apply without limits. Thus actual CPF contribution may exceed the maximum specified in the column.

d. : The cut is initially planned for two years. For those between ages 55 and 60 , the contribution rate is 16.5 percent (4 percent by the employer and 12.5 percent by the employee) ; For those between 60 and 65 years of age, the contribution rate is 9.5 percent (2 percent by the employer and 7.5 percent by the employee) ; For those above 65 years of age, the contribution rate is 7 percent (2 percent by employer and 5 percent by the employee).

Source: Central Provident Fund, *Annual Report*, various years; The Straits Times (Singapore), November, 25, 1998.

TABLE 3

SELECTED INDICATORS OF SINGAPORE'S CENTRAL PROVIDENT FUND, 1983-1997 (All amounts in million $S)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Coverage															
Members (thousands)	1778.9	1852.5	1891.7	1933.8	1988.5	2063.4	2126.9	2195.2	2255.7	2322.8	2456.4	2521.8	2683.0	2741.8	2782.0
Contributors (thousands)	917.9	943.0	889.6	912.0	935.3	963.8	988.6	1021.7	1052.4	1074.0	1107.1	1138.9	1174.8	1193.9	1224.2
Contributors/Labour Force (%)	70.9	72.3	69.1	70.2	70.4	69.9	69.4	65.4	67.7	66.3	67.7	67.3	67.2	66.3	65.3
Contributors/Members (%)	51.5	50.9	47.0	47.2	47.0	46.7	46.5	46.5	46.7	46.2	45.1	45.2	43.8	43.5	44.0
Excess of Contributions Over Withdrawals (During Period)	2772.6	1874.5	2633.5	935.5	149.3	974.6	2444.0	3170.7	3436.5	3609.9	(522.2)	3987.0	6283.4	4093.4	4398.3
Member's Contributions	4491.0	5385.2	5393.4	4777.8	4446.8	4985.1	6107.5	7174.2	8101.4	9208.2	10427.0	11279.0	13536.1	14623.0	15873.8
Gross National Savings (GNS)	16306.1	18596.4	16543.4	15588.5	16304.8	20224.0	25381.1	29930.0	34497.5	39370.4	42363.2	52625.5	60720.1	66455.5	75144.7
Contributions as % of GNS	27.5	29.0	36.2	30.6	27.3	24.6	24.1	24.0	23.5	23.4	24.6	21.4	22.3	22.0	21.1
Contributions as % GDP	12.2	13.4	15.4	12.4	10.4	10.0	10.9	10.6	10.8	11.4	11.1	10.4	11.2	11.0	11.1
Withdrawals : Amount	1718.4	3510.7	3359.9	2824.3	4297.5	4010.5	3663.5	4003.5	4664.9	5418.3	10949.2	7292.0	7252.7	10,529.6	11475.5
: As % of contributions	38.3	65.2	62.3	59.1	96.6	80.4	59.9	55.8	57.6	58.8	105.0	64.6	53.6	72.0	72.3
% of total withdrawals for:															
Approved Housing Schemes[a]	65.3	76.7	76.4	69.2	61.6	69.2	65.9	56.4	64.3	66.7	32.1	48.0	64.1	48.0	50.1
Under Section 15[b]	33.8	21.2	20.9	22.9	17.4	19.6	22.9	25.5	20.5	18.7	10.8	18.7	20.0	15.5	13.5
Medical Schemes[c]	n.a	0.5	1.3	2.7	3.3	4.2	4.9	5.9	5.7	5.1	2.7	3.8	5.0	3.7	3.7
Others[d]	0.9	1.6	1.5	5.1	17.7	7.0	6.3	12.1	9.4	9.5	54.4[e]	30.0	10.9	32.8[e]	32.4[e]
Members Balances (End Period)	19504.7	22670.4	26834.1	29341.4	30607.8	32529.3	36051.6	40646.4	46049.0	51526.9	52334.3	57649.0	66035.4	72566.6	79657.4
As % of GDP	53.1	56.6	68.9	75.9	71.7	65.5	64.1	59.9	61.1	63.6	55.5	53.3	54.7	54.7	55.7
Public Debt	25031.5	28077.3	32164.4	33793.1	38274.3	41830.7	46209.7	51425.6	59041.1	67252.5	698822.0	75344.4	86507.6	94474.8	102371.9
As % GDP	68.1	70.1	82.6	87.4	89.7	84.2	82.2	75.8	78.4	83.0	74.1	69.6	71.7	71.2	71.6
Rate of Return to Members															
Implicit interest rate[f]	6.1	6.1	6.2	5.5	3.7	3.0	3.1	3.7	4.5	3.8	2.6	2.4	3.4	3.5	3.5
Inflation Rate (% change)															
Consumer Price Index	1.2	2.6	0.5	(1.4)	0.5	1.5	2.4	3.4	3.4	2.3	2.4	3.1	1.7	1.4	2.0
GDP Deflator	3.9	0.7	(1.2)	(1.4)	1.2	6.2	4.8	4.9	3.7	1.0	5.5	3.8	2.6	1.4	1.4
Real Rate of Return[g]	2.2	5.4	7.4	6.9	2.5	(3.2)	(1.7)	(1.2)	0.8	2.8	(2.9)	(1.4)	0.8	2.1	2.1
Rate of return – Insurance funds															
Implicit interest rate	N.A	N.A	4.7	6.4	5.1	6.2	7.6	4.1	6.6	5.1	9.4	3.6	3.8	4.3	1.3
Real rate of return	N.A	N.A	5.9	7.8	3.9	0.0	2.8	(0.8)	2.9	4.1	3.9	(0.2)	1.2	2.9	(0.1)

Note: N.A : Not Available

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

REFERENCES

Asher, M.G (1999). "Tax Reform in Singapore", Asia Research Centre, Murdoch University, Working paper no. 91.

Asher, M.G. (1998). " Financing Old age in Singapore : Are there lessons for the Welfare states?", in T.R Marmor and P.R De Jong (ed.), Ageing, Social security and Affordability , Aldershot : Ashgate publishing co. pp. 152-177.

Asher M.G and S.Y., Phang (1997). "Singapore's Central Provident Fund system: Implications for Saving, Public Housing and Social Protection", in A.E Andersson, B. Harsman and J.M Quigley (ed.) ,Government for the future- Unification, Fragmentation and Regionalism, Amsterdam : Elsevier Science B.V, pp. 287-315.

Beckerling, L.(1996). "Too small a Nest Egg ?" Singapore business, 20, 3, pp.18-20.

Carling R. and Oestreicher, G. (1995). Singapore's Central Provident Fund, Washington, D.C. : IMF.

Central Provident Fund Board (Singapore), Annual Report, various issues.

Chan, A. (1998). "The interrelationship between formal and Familian support of the Elderly in Asia : What can we Learn from the Singapore case ?", Unpublished.

Leong,L.Y. and Das-Gupta A., (1998). "Returns to Social Security in Singapore : A Life Cycle Evaluation", Unpublished.

Lim, J. and Ooi, B.J (1998). "Improved Tax breaks on Nest eggs would assist the elderly", The Straits Times (Singapore), February 22.

Phang, S.Y.(1997). "Government Intervention and Performance of the Housing Sector in Singapore ", Paper presented at the International Seminar on Housing Policy, Organised by the Korean Association for Housing Policy Studies, Seoul, 21 November.

Ribe, F. (1994). "Funded Social Security systems : A review of Issues in Four East Asian countries", Revista de Analisis Economico, 9, 1, pp. 169-182.

Republic of Singapore (1999), Monthly Digest of Statistics, February.

Republic of Singapore (1998), Department of Statistics, Yearbook of Statistics, 1997 and 1998.

Republic of Singapore (1998), Ministry of Community Development, Annual Report, 1997-98 ; Singapore.

Republic of Singapore (1998), Ministry of Manpower, Singapore Yearbook of Manpower Statistics 1997, Singapore.

Republic of Singapore (1983), Department of Statistics, Economic and Social Statistics, Singapore, 1960-82, Singapore.

Turner, D.(1996). "Make that Extra", Singapore Business, 20, 3, pp., 24-25.

Whitehouse, E. (1998). Tax treatment of funded pensions, World Bank Pension Reform Primer paper series, Social Protection Department, Human Development Network, World Bank, 1998.

World Bank (1998). The World Development Report 1998, New York ; Oxford University Press.

Social Protection Discussion Paper Series

No.	Title
9918	Labor Markets and Poverty in Bulgaria
9917	Taking Stock of Pension Reforms Around the World
9916	Child Labor and Schooling in Africa: A Comparative Study
9915	Evaluating the Impact of Active Labor Programs: Results of Cross Country Studies in Europe and Central Asia
9914	Safety Nets in Transition Economies: Toward a Reform Strategy
9913	Public Service Employment: A Review of Programs in Selected OECD Countries and Transition Economies
9912	The Role of NPOs in Policies to Combat Social Exclusion
9911	Unemployment and Unemployment Protection in Three Groups of Countries
9910	The Tax Treatment of Funded Pensions
9909	Russia's Social Protection Malaise: Key Reform Priorities as a Response to the Present Crisis
9908	Causalities Between Social Capital and Social Funds
9907	Collecting and Transferring Pension Contributions
9906	Optimal Unemployment Insurance: A Guide to the Literature
9905	The Effects of Legislative Change on Female Labour Supply: Marriage and Divorce, Child and Spousal Support, Property Division and Pension Splitting
9904	Social Protection as Social Risk Management: Conceptual Underpinnings for the Social Protection Sector Strategy Paper
9903	A Bundle of Joy or an Expensive Luxury: A Comparative Analysis of the Economic Environment for Family Formation in Western Europe
9902	World Bank Lending for Labor Markets: 1991 to 1998
9901	Active Labor Market Programs: A Review of the Evidence from Evaluations
9818	Child Labor and School Enrollment in Thailand in the 1990s

Social Protection Discussion Paper Series continued

No.	Title
9817	Supervising Mandatory Funded Pension Systems: Issues and Challenges
9816	Getting an Earful: A Review of Beneficiary Assessments of Social Funds
9815	The Quest for Pension Reform: Poland's Security through Diversity
9814	Family Allowances
9813	Unemployment Benefits
9812	The Role of Choice in the Transition to a Funded Pension System
9811	An Alternative Technical Education System: A Case Study of Mexico
9810	Pension Reform in Britain
9809	Financing the Transition to Multipillar
9808	Women and Labor Market Changes in the Global Economy: Growth Helps, Inequalities Hurt and Public Policy Matters
9807	A World Bank Perspective on Pension Reform
9806	Government Guarantees on Pension Fund Returns
9805	The Hungarian Pension System in Transition
9804	Risks in Pensions and Annuities: Efficient Designs
9803	Building an Environment for Pension Reform in Developing Countries
9802	Export Processing Zones: A Review in Need of Update
9801	World Bank Lending for Labor Markets: 1991 to 1996

Summary Findings

Singapore's formal pension system includes several elements including a non-contributory public employees scheme and social assistance for the elderly. The main source of mandatory retirement savings however, is the Central Provident Fund or CPF which also includes a variety of other forced savings programs covering housing, medical savings and other social objectives. This paper focuses on the defined contribution scheme whose role it is to provide income during retirement. Despite a high level of service and efficiency, the CPF has historically generated low returns to individuals under a centralized and opaque investment regime. This threatens to leave many old persons in Singapore with insufficient savings when they retire. Recent initiatives to allow contracting out of the investment with unit trusts and liberalization of investment rules may eventually provide the risk-return combination required for a funded pension scheme. At the same time, a public information campaign and a strengthening of regulations will help ensure that individuals are able to take advantage of these reforms.

HUMAN DEVELOPMENT NETWORK

About this series...

The World Bank pension reform primer aims to provide a comprehensive, up-to-date resource for people designing and implementing pension reforms around the world. Policymakers and those who advise them will find useful information on the current thinking of pension specialists and a vast array of cross-country evidence. A flexible and dynamic format ensures that key developments are reflected as they occur.

The World Bank set out a conceptual framework for fundamental pension reform in Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth. This study, published in 1994, helped shape the global debate about the impact of population aging on pension systems. The pension reform primer builds on this pioneering work and on the experience of the World Bank and other international institutions in the last five years. It focuses on practical questions.

For free copies of this paper, please contact the Social Protection Advisory Service, The World Bank, 1818 H Street, N.W., Room G8-138, Washington, D.C. 20433-0011. Telephone: (202) 458-5267, Fax: (202) 614-0471, E-mail: socialprotection@worldbank.org or visit the pensions website at www.worldbank.org/pensions.