Institute of Policy Studies

POLICY BRIEF No. 1/2019
26 June 2019

Improving Retirement Adequacy by Restoring Older Worker CPF Rates

by Damien Huang and Christopher Gee

RECOMMENDATION

CPF Contribution Rates for older workers in Singapore, which were first decreased in 1988 and further cut in 1993 and 1999, should be increased to (i) encourage older workers to remain employed and (ii) improve the retirement adequacy of these workers.

The table below illustrates the key differences in contribution rates between current rates and proposed restoration:

Age of employee	CPF contribution by employer		CPF contribution by employee		Total CPF contribution rate	
	Current	Proposed	Current	Proposed	Current	Proposed
Up to 55 years old	17%	Unchanged	20%	Unchanged	37%	Unchanged
55 to 60 years old	13%	17% (+4%)	13%	20% (+7%)	26%	37% (+11%)
60 to 65 years old	9%	17% (+8%)	7.5%	20% (+12.5%)	16.5%	37% (+20.5%)
Above 65 years old	7.5%	Unchanged	5%	Unchanged	12.5%	Unchanged

Our simulations show that a 55-year-old in 2018 can save between $31,000 and $145,000 more if full rates were restored in the 10-year time frame from age 55 to 64, more than doubling their eventual CPF Life Payouts. A full restoration, which we recommend, translates to an additional 21,790 individuals (or 10 per cent of each 5-year cohort) reaching their full retirement sum. In terms of CPF Life payouts this would mean approximately $248 extra every month (from $166) for the 20th income percentile ($1,424) and $451 extra (from $326) for the median income worker ($2,867) respectively.

CONTEXT & ANALYSIS

The Central Provident Fund (CPF) is Singapore's defined contribution social security system for three main purposes: housing, medical, and retirement savings. This broad obligation has resulted in relatively low levels of retirement adequacy (only 53 per cent met the minimum sum required in 2016[1]) amongst current cohorts of older workers despite a high overall

[1] This was recently highlighted in Parliament on 10 July 2018 by Minister for Manpower Mrs Josephine Teo.

contribution rate of 37 per cent before the age of 55.

Singapore also lacks a basic non-employment related pension but has shored up means-tested Public Assistance by enacting the Silver Support Scheme, also means-tested, in 2015.

Contribution rates for workers above 55 years old first decreased in 1988, subsequently in 1993 and in 1999.[2] It has since been kept low in the hopes that the lower relative cost of hiring older workers makes them more attractive to employers.

In addition, the CPF has also been used as a tool to manage labour demand, with the contribution from employers reduced for all workers in 1999 and in 2003 during the Asian Financial and SARS crises, respectively. Contribution rates were only gradually restored in subsequent years, with subsidies such as the Temporary Employment Credit (TEC) to cushion the increase for employers.[3]

Current Policy Status. There have since been calls on the government to raise older worker contribution rates, most recently by the PAP Seniors Group[4] in February this year. The government is expected to announce changes to the rates following a review ending mid- to late 2019.

To inform policymaking decisions, this paper simulates the impact of different contribution rate increases on employers, workers and the government. We first discuss the pros and cons of a proposed increase in older worker contribution rates, followed by our recommendation on quantum, and the impact of these increases on retirement income.

Data, methodology and assumptions used in deriving the figures can be found in the Appendix.

PROS AND CONS OF A CONTRIBUTION RATE INCREASE

The immediate problem facing policymakers is whether to improve the retirement income of future cohorts by helping them save more during their working years or funding redistributive programmes in the future through general taxation (e.g. Goods and Services Taxes, GST).

Employees. Raising CPF contribution rates may encourage older workers to remain employed. As the labour market remains tight in recent years, employers are also forced to turn to older workers.

Nonetheless, a meaningful CPF rate increase will benefit a significant proportion of younger cohorts by helping them save more themselves through the CPF system, while they work. This is as CPF allocations which are skewed towards the OA have been largely utilised for housing, especially for lower income members. Any increase in CPF contributions, especially if allocated to the SA, will more than double retirement payouts.

Lastly, it is important to note that with longer housing loan tenures, an increase in CPF contribution rates means that homeowners still paying mortgages do not have to pay additional cash out-of-pocket post-55 should they still be servicing their mortgages.

Employers. However, a contribution rate increase is not without its downsides, chiefly an increase in wage costs to employers and a decrease in disposable income to workers. These can be mitigated through phased-in increases or phase-out subsidies similar to the design of TEC. Downsides should also be weighed against the future cost of providing for inadequate pensions as well as the fact that they are

[2] For an overview of CPF rates over the years, see https://www.straitstimes.com/multimedia/graphics/changing-cpf-rates-over-the-years

[3] Other tools include the Monthly Variable Component (MVC): https://www.smeportal.sg/content/smeportal/en/bizguides/human-resources/2015/flexible-wage-system_g.html

[4] See story here: https://www.straitstimes.com/business/economy/cpf-contribution-rate-for-workers-above-55-should-be-raised-pap-seniors-group

only being restored to previous rates, not raised.

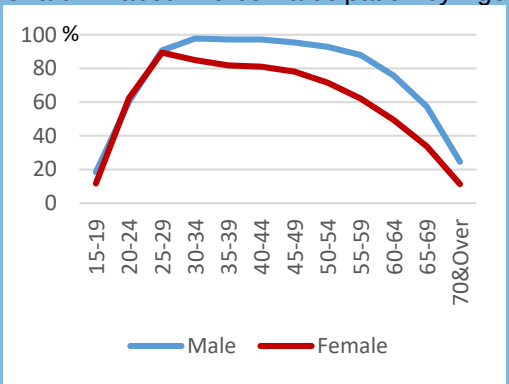
With the aged baby boomer and aging Gen-X populations in Singapore, we can expect a corresponding shift in the age-profile of the labour force in the next decade. This should also shift attitudes. Discrimination towards older workers will be alleviated given a significant shortage of younger workers in the labour force. We nonetheless recommend that employers do not wait until then to look at re-training and redesigning jobs for older workers.

Labour Force Participation in Singapore

Labour force participation (LFPR) in Singapore continues to follow a hump shaped curve (see Chart 1 below) decreasing after age 55.

There is thus scope for increasing the LFPR post age-55 by raising the CPF contribution rates of older workers.

Chart 1: Labour Force Participation by Age



Source: Labour Force Survey 2018, Ministry of Manpower.

We recognise, too, that determined employers can already shed older workers, regardless of whether contribution rates increase. There are provisions under the Tripartite Alliance for Fair Employment Practices (TAFEP) addressing these concerns which are not in the scope of this policy brief.

RECOMMENDATION

In this section, we present the simulations from two scenarios on the additional retirement savings from an increase in older work CPF contributions.

The scenarios are:

1. Baseline: No change in contribution rates for those aged 55–64.
2. Full increase: Increase in contribution rates to match the 50–54 age group with the 55–59 and 60–64 age groups.

We also present a third scenario of a one percentage point increase in the Ordinary Account (OA) and Special Account (SA), respectively in the Appendix.

The difference in CPF savings accumulation between the baseline and a full restoration of rates (Scenario 2) is presented in Table 1 (Appendix). For illustration, the 20th percentile ($1,424) will get about $40,900 more in their CPF accounts, which translates to an additional CPF Life payout of $248. This more than doubles existing payouts at a relatively small cost (See Table 10). Our estimates show that up to 10 per cent more workers will be able to reach the Full Retirement sum with a contribution rate increase from age 55 to 64.

It is important to note that all members will benefit under this proposal (see increases in Table 1 below), and that other mechanisms are required to increase the progressivity of the CPF system.

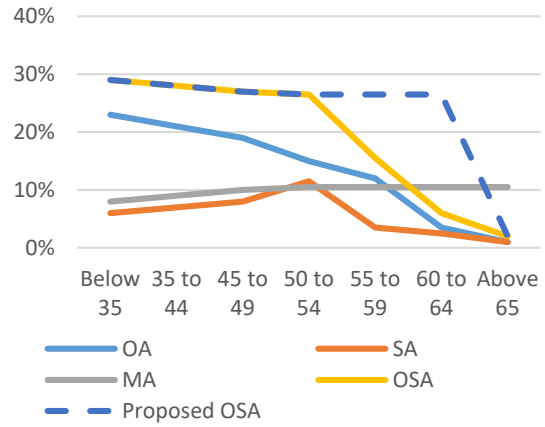
Table 1: Percentile differences in OSA savings with full restoration of CPF rates

	Baseline ($)	Full Increase ($)	Difference ($)
10th	19,440	50,496	31,056
20th	25,610	66,524	40,914
30th	32,793	85,183	52,389
40th	40,627	105,532	64,905
50th	51,557	133,923	82,365
60th	60,544	157,266	96,722
70th	86,467	224,032	137,564
80th	98,651	246,101	147,450
90th	100,984	246,101	145,117

In sizing the impact of these increases (Table 3), we estimate as many as 21,790 more individuals would reach cohort required retirement sum. This is around 10 per cent of the cohort of active CPF members aged 50-54 years.

The recommended increase is presented below (dotted line), with the proposed OSA seemingly creating a cliff effect at age 65. This is the current CPF payout eligibility age and CPF members can choose to start their payouts from 65 to 70 years of age. (Adjustments to the payout eligibility age and the allocation rates into the different accounts are beyond the scope of this policy brief.)

Chart 2: Illustration of CPF Contribution Rate Changes



IMPACT ON RETIREMENT ADEQUACY, EMPLOYERS AND GOVERNMENT

A key question on the analysis of the impact is how the increase in contribution rates would affect disposable income. The impact on wages is presented in Tables 4a and 4b in the Appendix. A full restoration of rates is expected to reduce disposable income by 7 percentage points or $100 for those aged 55 to 59, and $203 for those 60 to 64, at the 20th percentile. This goes up to $420 and $750 for the 80th percentile for the two age groups, respectively.

For employers, the impact is smaller than for workers, at $57 and $130 for groups aged 55–59 and 60–64, respectively, at the 20th percentile. This smaller impact is due to the smaller initial decrease contribution rates for employers in transiting workers from 54 to 55.

The aggregate impact on employer wage bills is expected to be about $800 million in the first year for both age groups. The government can consider offering transitional subsidies, or phasing in the contribution rate restoration to offset the impact on employers.

In addition, we estimate $54 million and $9 million in additional CPF interest rate payments annually under Scenarios 2 and 3, respectively.

We also note that these interest rate changes would come too late for older cohorts. This likely necessitates increasing the payout of the Silver Support scheme, currently designed as in old-age income supplement — and essentially redesigning it as basic income pension for the bottom decile(s) who, in our analysis, may not reach the Full Retirement Sum even with the full contribution rate increase we are recommending.

The restoration of these rates reflect fair hiring costs to employers and are a one-time increase that can be mitigated by a phase-out subsidy. This solution should also be preferable to paying higher general taxes for basic pension payouts to the portion of the population (not just to 47% of active members[5]) who are unable to meet the CPF savings thresholds.

[5] An Active Member is: "a person who has at least 1 CPF employment contribution paid for him for the current or for any of the preceding 3 months. Excludes self-employed who are not employees concurrently." (https://data.gov.sg/dataset/number-of-all-active-cpf-members-active-employers-as-at-end-of-quarter?resource_id=cb16f7b4-9e6b-42b2-8b52-12186b59f571)

ADDITIONAL REMARKS ON CPF ALLOCATION AND (PROGRESSIVITY OF) INTEREST RATES

Analysis presented in this paper does not include the impact of allocation or interest rate changes in the CPF which we hope to cover in future work.

For example, should CPF contribution rate increases be fully allocated towards the SA, more interest would accumulate. Conversely, the improvements in retirement adequacy would be smaller if the increases were all to be channeled towards the OA.

There is also scope to increase the progressivity of interest payments to lower-income / balance members, for example, through a quantum floor similar to the National Wage Council wage increases or Workfare payments.

Another issue is to reexamine the payment of interest payments to members whose balances are above the Full / Enhanced Retirement Sums. This includes the CPF Extra and Additional Extra Interest payments.

CONCLUSION

The analysis presented in the limited scope of this policy brief tries to quantify the impact of potential CPF contribution rate increases for older workers above the age of 55. While current cohorts above 55 may see a limited benefit from this change, our recommendation of restoring contribution rates should improve the retirement adequacy for workers aged 55 -64 years in the years to come.

Any increase in rates will likely be done through a lengthy tripartite negotiation process, although we would like to emphasise that CPF contribution rates should not be used as a labour demand management tool. These should be left to temporary subsidies like the TEC or the Monthly Variable Component in Wages.

. . . . .

Damien Huang is Research Associate and Christopher Gee is Senior Research Fellow at the Institute of Policy Studies.

For further information, contact IPS at:
1C Cluny Road, House 5
Singapore 259599
Tel: (65) 6516-8388 | Fax: (65) 6777-0700
Email: ips@nus.edu.sg

APPENDIX: Additional Tables and Results

Table 1: Percentile differences in OSA savings with full restoration of CPF rates (Scenario 2)

	Baseline ($)	Full Increase ($)	Difference ($)
10th	19,440	50,496	31,056
20th	25,610	66,524	40,914
30th	32,793	85,183	52,389
40th	40,627	105,532	64,905
50th	51,557	133,923	82,365
60th	60,544	157,266	96,722
70th	86,467	224,032	137,564
80th	98,651	246,101	147,450
90th	100,984	246,101	145,117

Table 2: Percentile differences in OSA savings with a one percentage point increase allocated to both OA and SA (Scenario 3).

	Baseline ($)	1 p.p. increase to both OA & SA ($)	Difference ($)
10th	19,440	23,269	3,830
20th	25,610	30,655	5,045
30th	32,793	39,254	6,460
40th	40,627	48,631	8,004
50th	51,557	61,714	10,157
60th	60,544	72,471	11,927
70th	86,467	103,458	16,991
80th	98,651	116,672	18,021
90th	100,984	116,672	15,689

Table 3: CPF balances in 2017 for 50-54 age group

CPF Balance ($)	No.	Cumulative
Below 10,000	1,090	1,090
From 10,000 to below 20,000	1,580	2,670
From 20,000 to below 30,000	2,090	4,760
From 30,000 to below 40,000	2,440	7,200
From 40,000 to below 50,000	2,860	10,060
From 50,000 to below 60,000	3,190	13,250
From 60,000 to below 70,000	3,430	16,680
From 70,000 to below 80,000	3,560	20,240
From 80,000 to below 90,000	3,640	23,880
From 90,000 to below 100,000	3,690	27,570
From 100,000 to below 150,000	18,100	45,670
From 150,000 & above	163,270	208,940
Sum	208,940	

Summary of Scenario 3:
We find that a per percentage point increase in the contribution rates to the OA and SA, respectively (see table on page 9 for illustration), could see the two accounts (Ordinary and Special, henceforth OSA) grow by about $5,000 for the 20th percentile income worker by age 65. (Table 2). This will yield about $33 extra a month in payouts under CPF Life.

Table 4a: Wage impact on workers aged 55–59 on CPF rate increases in dollar terms

55–59		Additional Contribution from Employees ($)			Additional Contribution from Employers ($)		
Wage Percen -tile	Reference wage ($)	Current % (13%)	Full increase (+7%= 20%)	Per p.p. change (+1%= 14%)	Baseline % (13%)	Full increase (+4%= 17%)	Per p.p. change (+1%= 14%)
10	1,081	141	76	11	141	43	11
20	1,424	185	100	14	185	57	14
30	1,824	237	128	18	237	73	18
40	2,259	294	158	23	294	90	23
50	2,867	373	201	29	373	115	29
60	3,367	438	236	34	438	135	34
70	4,956	644	347	50	644	198	50
80	6,000	780	420	60	780	240	60
90	6,000	780	420	60	780	240	60

Table 4b: Wage impact on workers aged 60–64 on CPF rate increases in dollar terms

60-64		Additional Contribution from Employees ($)			Additional Contribution from Employers ($)		
Wage Percen -tile	Reference wage ($)	Current % (7.5%)	Full increase (+12.5% = 20%)	Per p.p. change (+1%= 10%)	Baseline % (9%)	Full increase (+8%= 17%)	Per p.p. change (+1%= 8.5%)
10	1235	926	154	12	111	99	12
20	1627	1220	203	16	146	130	16
30	2083	1562	260	21	187	167	21
40	2581	1936	323	26	232	206	26
50	3275	2456	409	33	295	262	33
60	3846	2885	481	38	346	308	38
70	5513	4135	689	55	496	441	55
80	6000	4500	750	60	540	480	60
90	6000	4500	750	60	540	480	60

DATA, METHODOLOGY AND ASSUMPTIONS

In the absence of individual level micro-data, we relied almost exclusively on aggregate data on work income and CPF balances, retrieved from the Ministry of Manpower's website and www.data.gov.sg respectively. Incomes and CPF account balances for example, use a cohort's (those aged 55–59) average figure as the starting point for projecting a 55-year-old's balances in 2018 (likely an overestimate).

We then applied the aggregate income growth rate of income from 2008 to 2018 of 2.7 per cent, the average of 1.9 per cent per annum from 2008–2013 and 3.5 per cent per annum from 2013–18.[6]

For illustration, the estimated population for the cohort aged 55–59 (grouped by income percentiles) in 2018, 2023 and 2028 are:

(Table 5)

	Year		
Percentile	**2018**	**2023**	**2028**
10th	1,081	1,235	1,411
20th	1,424	1,627	1,858
30th	1,824	2,083	2,380
40th	2,259	2,581	2,948
50th	2,867	3,275	3,742
60th	3,367	3,846	4,394
70th	4,412	5,513	6,299
80th	6,269	7,470	8,535
90th	10,242	11,978	13,685

We then projected the impact of a change in CPF contribution rates on Ordinary (OA) and Special Accounts (SA), assuming Medisave (MA) rates remain the same for the 50–54, 55–59 and 60–64 age groups, through three scenarios:

1. Baseline: No change in contribution rates for those aged 55-64.

(Table 6)

	Allocation Rates		
Employee's age (years)	**OA**	**SA**	**MA**
50–54	15	11.5	10.5
55–59	12	3.5	10.5
60–64	3.5	2.5	10.5

2. Full increase: Full increase in contribution rates to match the 50–54 age group with the 55–59 and 60–64 age groups (increases highlighted).

(Table 7)

	Allocation Rates (%)		
Employee's age (years)	**OA**	**SA**	**MA**
50–54	15	11.5	10.5
55–59	15 (+3)	11.5 (+8)	10.5
60–64	15 (+11.5)	11.5 (+9)	10.5

[6] Data derived from MOM, *Report on Labour Force*, p. 32, https://stats.mom.gov.sg/Pages/Labour-Force-In-Singapore-2018.aspx

3. Single percentage point increase in the OA and SA, respectively (increases highlighted):

(Table 8)

	Allocation Rates		
Employee's Age (years)	**OA**	**SA**	**MA**
50–54	15	11.5	10.5
55–59	13 (+1)	4.5 (+1)	10.5
60–64	4.5 (+1)	3.5 (+1)	10.5

In terms of changes to contribution rates, our suggested changes above are (increases highlighted):

(Table 9)

Age of employee	**CPF contribution by employer**		**CPF contribution by employee**		**Total CPF contribution rate**	
	Current	**Proposed**	**Current**	**Proposed**	**Current**	**Proposed**
Up to 55 years old	17%	Unchanged	20%	Unchanged	37%	Unchanged
55 to 60 years old	13%	17% (+4%)	13%	20% (+7%)	26%	37% (+11%)
60 to 65 years old	9%	17% (+8%)	7.5%	20% (+12.5%)	16.5%	37% (+20.5%)
Above 65 years old	7.5%	Unchanged	5%	Unchanged	12.5%	Unchanged

We also make the following assumptions in our analysis in illustrating the changes on CPF contribution rates:

- CPF ceiling of $6,000 remains unchanged
- Payouts for Workfare for low-wage workers remain the same
- Exclusion of the impact of Extra Interest (EI) and Additional Extra interest (AEI) paid to members with lower balances as we do not have individual balance data, and cannot properly project the impact of EI and AEI, but we assume differences to be negligible
- Members at the 20th income percentile are also at the 20th percentile in CPF balances.

In calculating monthly CPF Life payouts for future retirees, we used the following assumptions on CPF Board's CPF Life Payout Estimator (found here: https://www.cpf.gov.sg/eSvc/Web/Schemes/LifeEstimator/LifeEstimator):

- Male born on 1st January 1953 (turns 65 in 2018)
- Payout calculator is used for individual turning 65 today but differences may occur for payouts in 2028
- Payouts stated are the minimum payouts for Standard plans
- Difference in payouts are calculated from the difference between OSA savings balances under current and our proposed full restoration.

(Table 10)
Sample comparison of payout differences at 20th percentile and median:

($)	**Current Balances**	**Payout**	**Proposed Balances**	**Payout**	**Difference**
20th Percentile	25,610	166	66,524	414	248
Median	51,557	326	133,923	777	451

Other factors that may have an impact on CPF contribution rates are assumed to have the same impact in Scenario 1 (baseline, no change) as they would in Scenarios 2 and 3, e.g., workfare payouts to lower-income workers (*ceteris paribus*)

Interpolating Income Data

We interpolated income data to get relevant percentile for the age 55 to 59 group using the formula:

$$P=B+(Popratio*R)$$

where *P* is the Income percentile
B is the bottom of the income range
Popratio divides the nth person of the decile in the range by the total number of persons in the range, e.g., the 20th percentile person is calculated by the formula [(43,460 - 16,600) / 31,600]
R is the income range the nth person of the decile is in.

Note: Figures retrieved from Table 31, Gross Monthly Income from Work 2018, Ministry of Manpower website, retrieved from https://stats.mom.gov.sg/Pages/Gross-Monthly-Income-Tables2018.aspx

<End of Paper>