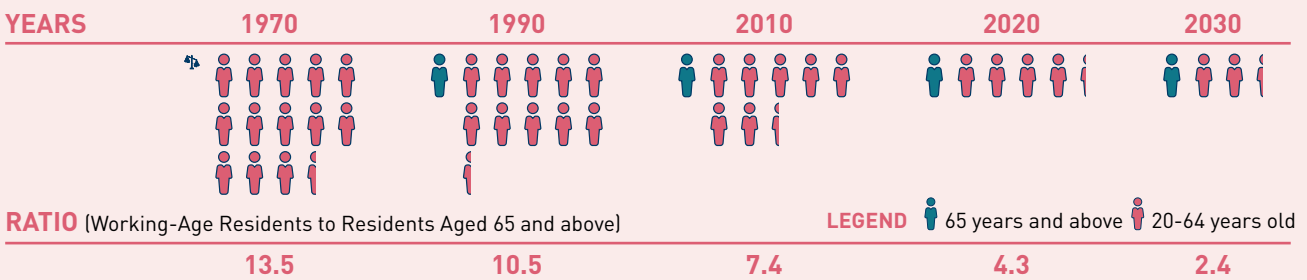
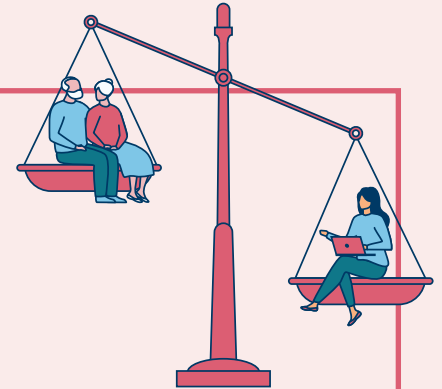


# CHANNELS AFFECTING THE LABOUR MARKET OUTCOMES OF OLDER RESIDENT WORKERS

## INTRODUCTION

Singapore's resident population is rapidly ageing, with the number of working-age residents (20-64 years old) relative to residents aged 65 & above expected to decrease from 4.3 in 2020 to 2.4 in 2030.

Using longitudinal data from the Retirement and Health Study (RHS), this study examines the effects of ageing on labour market outcomes and the channels, such as human capital accumulation, health conditions and preferences for retirement, through which these effects occur.



Source: Singapore Department of Statistics

## FINDINGS

### Four channels by which ageing affects labour market outcomes



**Human Capital**



**Health**



**Preferences for Retirement**



**Job Characteristics**

The study finds that:

- Older workers are likely to accumulate human capital as they age, which in turn enables them to command higher hourly wages, especially if they stay within the same firm.
- A deterioration in health conditions can negatively affect older workers' ability to remain in employment, as well as to maintain their wage levels, likely reflecting a reduction in productivity at work.
- Transitioning into partial retirement, the availability of flexible work arrangements, or having the option to work as own-account workers or employers, can potentially allow older workers to flexibly adjust their hours worked without a decline in hourly wages.
- There is some evidence that the re-employment age has been effective in encouraging older workers to continue working beyond the retirement age.

## POLICY TAKEAWAY

Policies that help older workers to stay in employment including training and upskilling programmes, provision of flexible work arrangements, and the use of re-employment age are likely to help support the labour market outcomes of older workers. Policymakers should continue to design inclusive and supportive policies that help older workers to continue to work if they are able and willing to.



## EXECUTIVE SUMMARY

- ▶ Singapore's population is ageing rapidly. Understanding the effects of ageing on individuals' labour market outcomes, as well as the channels through which these effects occur, can help policymakers to design more effective policies to support older workers as they age. The key channels examined in this study are human capital accumulation, health conditions and preferences for retirement. The study also examines how job characteristics can help to mediate the effects of ageing on labour market outcomes.
- ▶ The key findings of the study are as follows. First, older workers are likely to accumulate human capital as they age, which in turn enables them to command higher hourly wages, especially if they stay within the same firm. Second, a deterioration in health conditions can negatively affect older workers' ability to remain in employment, as well as to maintain their wage levels, likely reflecting a reduction in productivity at work. Third, transitioning into partial retirement, the availability of flexible work arrangements, or having the option to work as own-account workers or employers, can potentially allow older workers to flexibly adjust their hours worked without a decline in hourly wages. Finally, there is some evidence that the re-employment age has been effective in encouraging older workers to continue to work until 67.

*The views expressed in this paper are solely those of the author and do not necessarily reflect those of the Ministry of Trade and Industry (MTI) or the Government of Singapore.<sup>1</sup>*

## INTRODUCTION

Singapore's population is rapidly ageing. By 2030, one in four Singaporeans will be aged 65 and older, from one in six in 2020 and one in eight in 2015 (Department of Statistics, 2022). This could result in a heavier economic burden on a smaller base of working-age residents (MTI, 2007). Improving the labour market outcomes (e.g., employment rates, wages) of older Singaporeans and extending their working lives have therefore become increasingly important. A deeper understanding of the effects of ageing on labour market outcomes, and the channels through which these effects occur, can contribute to the design of effective policies aimed at supporting older workers as they age.

This paper is organised as follows. The first section presents a brief literature review on the channels through which ageing may affect labour market outcomes. The second section examines the data and presents summary statistics. The third section describes the empirical strategy used to estimate the effects of ageing through the various channels identified. The fourth section presents the empirical results, while the last section concludes.

## LITERATURE REVIEW

From the literature, there are four main channels through which ageing can influence individuals' labour market outcomes.

First, ageing can be accompanied by **human capital** accumulation through training or experience gained from work, with those who remain with the same employer also developing firm-specific human capital. Such human capital accumulation will help to raise older workers' productivity (Becker, 1962). However, there may also be countervailing forces that weigh on human capital accumulation as individuals age. For instance, as individuals age, they may face greater risks of skills obsolescence (de Grip & van Loo, 2002). Older individuals may also choose to reduce their investment in human capital development since there is a shorter runway to benefit from these investments. Models that ascribe to these forces (e.g., Ben-Porath, 1967) generally predict a decline in employment rates and wages due to human capital depreciation as individuals age. While the theoretical effect of ageing on human capital is ambiguous, more recent empirical studies<sup>2</sup> utilising longitudinal microdata suggest that individuals do not experience wage declines as they age. Some studies (e.g., Casanova, 2013) found increases in hourly earnings instead.

<sup>1</sup> I would like to thank Ms Yong Yik Wei, Mr Lee Zen Wea and Ms Marsha Teo for their useful suggestions and comments. I would also like to thank the Central Provident Fund Board (CPF Board) for sharing RHS data for use. All remaining errors are my own.

<sup>2</sup> See Myck (2007) for a longitudinal study in Germany and the UK. See Luong & Hebert (2009) and Casanova (2013) for studies in Canada and the US, respectively.

Second, ageing may coincide with a deterioration in **health** through increased risks of illnesses, as well as lower levels of strength, energy, psychomotor abilities and dexterity (Skirbekk, 2008). These could in turn lead to a decline in productivity, and hence, the employment rates and wages of older workers.

Third, older workers may exhibit increased **preferences for retirement**. Their retirement decision could be influenced by the statutory retirement or re-employment age, which set a social norm around when individuals should retire (Lee, Huang & Guo, 2017). On the other hand, instead of completely stopping work, older workers may choose to reduce their work intensity. This can be manifested through partial retirement, where workers take on roles with reduced responsibilities and hours worked (Siegenthaler & Brenner, 2001).

Lastly, the effect of ageing on labour market outcomes can be mediated by **job characteristics** such as the types of employment that an individual is in (e.g., employee, employer, own-account worker). Job characteristics can also interact with the first three channels above. For example, access to flexible work arrangements<sup>3</sup> (FWAs) may help to meet older workers' preferences to work at a reduced intensity while supporting their continued participation in the labour force (Vanajan, Bültmann & Henkens, 2020).

## DATA AND SUMMARY STATISTICS

This study uses data from the Retirement and Health Study (RHS), a biennial longitudinal survey on the retirement and healthcare needs of Singapore residents aged 45 and above. In order to examine the changes in labour market outcomes as individuals age, the RHS sample used for the study focuses on main survey respondents who had participated in at least two survey waves and were working in their first participated wave.

Across the three waves between 2014 and 2018, the RHS surveyed 16,400 unique individuals, with 13,700 respondents participating in at least two survey waves. Of the repeat respondents, 9,400 were working in their first participated wave. Most of the respondents in the study's sample are male, non-PMET<sup>4</sup>, and work as employees (Exhibit 1).

**Exhibit 1: Means (Standard Deviations in Parentheses) of Key Characteristics of RHS Respondents**

		Full RHS sample	Sample used: Repeat respondents who were working in their first participated wave		
			All	Working in subsequent wave(s)	Not working in subsequent wave(s)
Age		62.2 (10.2)	58.1 (8.2)	57.5 (7.8)	64.5 (9.0)
Female		0.52 (0.50)	0.41 (0.49)	0.41 (0.49)	0.44 (0.50)
PMET		0.19 (0.40)	0.33 (0.47)	0.36 (0.48)	n.a
Education	Secondary or Below	0.43 (0.50)	0.34 (0.47)	0.32 (0.47)	0.49 (0.50)
	Post Secondary	0.38 (0.48)	0.41 (0.49)	0.41 (0.49)	0.34 (0.47)
	Diploma or Degree	0.19 (0.39)	0.25 (0.44)	0.26 (0.44)	0.17 (0.38)
Employee Status	Employee	0.82 (0.38)	0.82 (0.38)	0.82 (0.38)	n.a
	Own Account Worker	0.13 (0.33)	0.13 (0.33)	0.13 (0.33)	
	Employer	0.04 (0.19)	0.04 (0.20)	0.04 (0.20)	
	Contributing Family Worker	0.01 (0.10)	0.01 (0.10)	0.01 (0.10)	
Count (unique individuals)		16,428	9,419	9,419	1,579

Source: Author's calculations, based on data from the RHS.

Note: Proportions of factor variables may not sum to 1 due to rounding. In the RHS, employers are defined as persons who employ at least one paid worker in their business or trade, while own account workers are engaged in a trade without employing any paid workers (e.g., piano teachers or platform workers). Characteristics in the table are reported for each unique individual. For characteristics which differ across waves, mode is taken (earlier wave is taken in the event of a tie).

<sup>3</sup> FWAs encompass a range of working arrangements offered by employers that differ from traditional arrangements of fixed daily work hours at the workplace. In Singapore, the more common types of FWAs are tele-working, staggered hours, and home working (MOM, 2022b).

<sup>4</sup> PMET refers to professional, managerial, executive and technical occupations.

Using data from the RHS sample, four labour market outcomes are constructed:

- Probability of employment (or extensive margin) – this is reported by the respondent in each survey wave.
- Monthly real wages<sup>5</sup> – this is reported by respondents who were still working. Commensurate with the broad definition of employment, wages include salary and all other forms of income from work.<sup>6</sup>
- Monthly hours worked – this is derived from working respondents' responses on how many hours they usually worked per week. Specifically, the reported data is scaled to the number of hours worked per month and converted to actual hours worked by accounting for sick leave, public holidays and annual leave.
- Hourly real wages – this is obtained by dividing monthly real wages by monthly hours worked.

Summary statistics on the constructed employment, wage and hours worked outcome variables are presented on a pooled-cross sectional basis in Exhibit 2. Older RHS respondents had a lower probability of being employed, with most non-employed respondents being out of the labour force rather than being unemployed (Exhibit 2, Panel A). Older respondents were also more likely to be in partial retirement. Finally, older respondents tended to have lower monthly wages due to the joint effects of reduced hours worked and reduced hourly wages (Exhibit 2, Panel B).<sup>7</sup>

## Exhibit 2: Key Employment and Wage Variables of RHS Respondents in the Sample

### Panel A: Employment Statuses Among All RHS Respondents in the Sample

Age category	Observations	Working	Unemployed	Out of the Labour Force	Partial Retirement
45 - 54	8,987	0.96 (0.20)	0.02 (0.13)	0.02 (0.15)	0.04 (0.20)
55 - 64	8,930	0.93 (0.26)	0.02 (0.13)	0.06 (0.23)	0.13 (0.34)
65 - 74	3,940	0.82 (0.39)	0.02 (0.15)	0.16 (0.37)	0.29 (0.45)
75 - 90	963	0.69 (0.46)	0.02 (0.14)	0.30 (0.46)	0.28 (0.45)
<b>Total</b>	<b>22,820</b>	<b>0.91</b> <b>(0.28)</b>	<b>0.02</b> <b>(0.13)</b>	<b>0.07</b> <b>(0.26)</b>	<b>0.13</b> <b>(0.34)</b>

Note: Cells capture the means (standard deviations in parentheses) on a pooled-cross sectional basis. Respondents are classified as working, unemployed, or out of the labour force; those in partial retirement are a subset of those who are working. Numbers across the working, unemployed and out of the labour force categories may not sum to 1 due to rounding. The unemployed column represents the percentage of RHS respondents in the sample who are unemployed, which is different from the unemployment rate, where the denominator is the size of the labour force.

### Panel B: Monthly Real Wages, Hours Worked, and Hourly Real Wages Among Working RHS Respondents

Age category	Observations	Monthly Real Wages	Monthly Hours Worked	Hourly Real Wages
45 - 54	8,630	5,131 (3,315)	178.2 (170.4)	31.20 (34.90)
55 - 64	8,277	3,925 (4,718)	172.4 (169.8)	24.90 (31.40)
65 - 74	3,221	2,565 (3,761)	157.8 (165.5)	18.80 (28.50)
75 - 90	660	1,174 (2,390)	143.2 (157.8)	16.70 (26.20)
<b>Total</b>	<b>20,788</b>	<b>4,147</b> <b>(4,937)</b>	<b>171.7</b> <b>(65.3)</b>	<b>26.30</b> <b>(32.70)</b>

Note: Cells capture the means (standard deviations in parentheses) on a pooled-cross sectional basis. Monthly and hourly wages are in constant (2019) prices.

5 This variable was adjusted to 2019 dollars using the Consumer Price Index (CPI) for All Items, winsorised at the 1st and 99th percentiles, and computed at an annual (latest 12 months) basis before being converted to a monthly basis.

6 Specifically, these include overtime pay, commissions, tips, bonuses, allowances, CPF contributions, royalties, honorariums and director fees, all of which are collected in the RHS. For non-employees, business profits (i.e., net earnings) are reported.

7 This is similar to findings from MOM's Labour Force Survey which showed a hump-shaped wage-age curve with median wages peaking at ages 40-44 (MOM, 2022a).

## EMPIRICAL STRATEGY

The main regression specification used to identify the effect of ageing on individuals' labour market outcomes is the individual fixed-effects model. This model estimates the effect of ageing by examining changes in each individual's labour market outcomes as he/she ages (i.e., within each individual).

Doing so helps to remove birth cohort effects that would confound analyses using pooled-cross sectional data.<sup>8</sup> For example, if later birth cohorts had experienced improvements in the quality of schooling and hence earned higher wages, comparing older cohorts to younger cohorts would lead to a downward bias in the effect of ageing on wages. Furthermore, the fixed-effects model is able to account for not just individual characteristics that are observed (e.g., highest education received, gender) but also those that are unobserved and time-invariant (e.g., innate ability).

Specifically, the baseline fixed-effects regression model used for the study is as follows:

$$\log Y_{it} = \beta_1 \text{age}_{it} + \beta_2 X_{it} + \theta_i + \varepsilon_{it} \quad (1)$$

Where:

- $Y_{it}$  represents labour market outcomes (e.g., probability of employment, monthly real wages, monthly hours worked and hourly real wages) for individual  $i$  in year  $t$ . For employment, a binary outcome indicator was used;
- $\text{age}_{it}$  is the age of individual  $i$  at the point of the RHS interview in year  $t$ ;
- $X_{it}$  is a vector of variables that include tenure within the same firm, self-reported health and partial retirement (whether voluntary and involuntary);
- $\theta_i$  represents individual fixed-effects;
- $\beta_1$  measures the average<sup>9</sup> impact of an increase in one year of age on individual-level labour market outcomes.<sup>10</sup> Since the probability of employment is a binary variable, the coefficient for that regression should be interpreted as a percentage-point impact;
- $\varepsilon_{it}$  is the error term.

$\beta_1$  is the key coefficient of interest as it measures the effect of ageing on labour market outcomes. As health and partial retirement statuses are included as regressors,  $\beta_1$  would reflect the effect of general human capital accumulation with age. Tenure, which is a regressor in  $X_{it}$ , would capture the firm-specific component of human capital accumulation. The coefficients for the health and partial retirement variables are also examined for their separate effects on individuals' labour market outcomes.

To explore how job characteristics interact with the channels identified (i.e., human capital, health and preferences for retirement), interaction terms are added to the age term in regression model (1). The regression model with the interaction terms is as follows:

$$\log Y_{it} = \sum_j \beta_j \text{age}_{it} \times Z_j + \beta_2 X_{it} + \theta_i + \varepsilon_{it} \quad (2)$$

Where:

- $Z_j$  is a vector of the four employment types (i.e., employee, employer, own account worker, contributing family worker), as identified in the first wave of survey participation;
- $\beta_j$  is a vector of coefficients measuring the age effect of each type of employment; and
- All other variables are as defined in model (1)

Other regressors, such as a binary variable on the availability of FWAs<sup>11</sup> and dummy variables for age cutoffs at the statutory retirement age (62) and re-employment age (67), are subsequently added to regression model (1) to examine how such policies affect individuals' labour market outcomes.

8 It should be noted that while the age effect can be separated from the cohort effect, there remains a period effect that cannot be separated from the age effect. For example, a macroeconomic downturn which coincides with the period of study can overstate the negative effect of ageing. Nevertheless, this is less of a concern for this study as the period of study (i.e., 2014 to 2018) represented a relatively stable economic period for Singapore. See Bell and Jones (2013) for a more detailed discussion on identification challenges.

9 Since the outcome variables for wages are in logarithms, the coefficient of interest  $\beta_1$  is approximately equal to the percentage change in the outcome variable (i.e.,  $100 * [e^{\beta_1} - 1]$ ) for small values of  $\beta_1$ .

10 The effect of age on wages may be non-linear in nature. For instance, Murphy & Welch (1990) showed that expanding the Mincer regression specification to contain the third or fourth order polynomials for experience (age) leads to improvements in fit. After testing for non-linearity with non-parametric and polynomial (of up to the fourth-power) terms for age, the linear fixed-effects model was found to be a good fit for the earnings profile in the RHS sample used.

11 The FWA variable is a binary variable capturing whether an individual agreed or strongly agreed to the proposition that his/her workplace offered "flexible work arrangements, reduced work hours or flexible hours of work".

## RESULTS

Exhibit 3 below presents the results from the baseline specification, i.e., regression model (1). The key findings are as follows. First, each year of ageing is associated with a 4.7 percentage-point (pp) decline in the probability of employment.

Second, on the intensive margin (i.e., conditional on employment), individuals experienced an increase in monthly real wages (0.8 per cent) as they aged by a year due to a rise in hourly real wages (1.7 per cent), which more than offset a decline in hours worked (-0.9 per cent). The slight reduction in work intensity (i.e., hours worked) could be due to individuals' preferences as some of them approach retirement age. As the wage outcomes are conditional on employment, these findings suggest that older workers accumulate human capital as they work, which then translates to real wage growth. Apart from general human capital accumulation, the results also show that each additional year of tenure within the same firm is associated with increased monthly real wages (0.7 per cent) and hourly real wages (0.5 per cent), potentially reflecting firm-specific human capital accumulation.

Third, poorer self-reported health is correlated with a decline in employment probability (-2.2 pp) as well as hourly real wages (-2.5 per cent). These findings are robust to using other health indicators from the RHS survey,<sup>12</sup> and suggest that health is an important factor that determines whether individuals are productive at work.

Fourth, transitioning into partial retirement is associated with a decline in monthly real wages, driven by a fall in the number of hours worked. These estimates are similar regardless of whether individuals entered partial retirement voluntarily or non-voluntarily.

**Exhibit 3: Regression Results for the Effect of Ageing on Labour Market Outcomes, with Controls for Tenure, Health, and Partial Retirement**

	Employment	Log (Monthly Real Wages)	Log (Hours Worked)	Log (Hourly Real Wages)
<b>Age</b>	-0.047 ***	0.008 ***	-0.009 ***	0.017 ***
<b>Tenure</b>	n.a	0.007 ***	0.003 ***	0.005 ***
<b>Individual Fixed-effects [Model 1]</b>				
<b>Poor Health</b>	-0.022 ***	-0.015	0.011	-0.025 *
<b>Voluntary Partial Retirement</b>	n.a	-0.155 ***	-0.168 ***	0.013
<b>Non-voluntary Partial Retirement</b>	n.a	-0.198 ***	-0.161 ***	-0.037

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \*p<0.10.

Delving deeper into the age effects by employment types, the results show that the hourly real wages of older workers in all employment types rose with age, although the coefficients for contributing family workers and employers were statistically insignificant (Exhibit 4, Panel A). At the same time, employers and own account workers were most able to reduce their working hours. Likewise, the availability of FWAs allowed older workers to reduce their work hours (-3.7 per cent) without a fall in hourly real wages (Exhibit 4, Panel B). This suggests that FWAs could play an important role in supporting the continued employment of older workers by accommodating their preferences for reduced work hours.

Finally, in terms of how the retirement age and the re-employment age can influence individuals' labour market outcomes (Exhibit 4, Panel C), the estimates show that reaching the retirement age of 62 is associated with a discontinuous fall in monthly (-4.0 per cent) and hourly (-3.4 per cent) real wages, without any statistically significant impact on the probability of employment. This could reflect a step-down in job responsibilities taken on by individuals upon reaching retirement age. By contrast, reaching the re-employment age of 67 is associated with a decline in employment probability (-11.0 pp). These results suggest that the re-employment age has been effective in encouraging older workers to work until 67, possibly by setting a social norm around when individuals should retire (Lee, Huang & Guo, 2017).

<sup>12</sup> Directionally similar estimates, though of larger magnitudes, were found using the incidence of cancer (excluding skin cancer) as opposed to self-reported health.

**Exhibit 4: Regression Results for Employment Types, Flexible Work Arrangements, and Reaching the Retirement Age and the Re-employment Age**

		Employment	Log (Monthly Real Wages)	Log (Hours Worked)	Log (Hourly Real Wages)
<b>Panel A</b>					
<b>Individual Fixed-effects [Model 2]</b>	<b>Age × Employee</b>	-0.045 ***	0.010 ***	-0.005 **	0.015 ***
	<b>Age × Own Account Worker</b>	-0.033 ***	0.004	-0.029 ***	0.033 ***
	<b>Age × Employer</b>	-0.062 ***	-0.022 **	-0.037 ***	0.015
	<b>Age × Contributing Family Worker</b>	-0.081 ***	0.037 *	0.005	0.032
<b>Panel B</b>					
<b>Fixed-effects</b>	<b>Age</b>	-0.047 ***	0.008 ***	-0.009 ***	0.017 ***
	<b>Flexible Work Arrangements</b>	n.a.	-0.035 ***	-0.037 ***	0.003
<b>Panel C</b>					
<b>Fixed-effects</b>	<b>Age</b>	-0.044 ***	0.011 ***	-0.008 ***	0.019 ***
	<b>I(Age ≥ 62)</b>	-0.013	-0.040 **	-0.005	-0.034 *
	<b>I(Age ≥ 67)</b>	-0.110 ***	-0.034	-0.005	-0.029

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \*p<0.10.

Note: For the employment outcome variable, health was added as a control in the regressions, while for wages and hours worked, health, partial retirement and tenure were added as controls.

## CONCLUSION

This study examines the labour market outcomes of older workers as they age, and finds that while the probability of employment declined with age, hourly real wages continued to increase if they remained in employment, especially within the same firm. These findings suggest that policies that help workers to stay in employment, such as training and upskilling programmes, can allow both firms and workers to benefit from accumulated human capital.

As older workers may prefer to reduce their work intensity as they age, work arrangements that allow them to flexibly adjust their hours worked, such as FWAs, would also help to support their continued participation in the labour market. At the same time, the re-employment age has been found to be effective in encouraging older individuals to continue working beyond the retirement age. More broadly, to mitigate the impact of an ageing population, policymakers should continue to design inclusive and supportive policies that help older workers to continue to work if they are able and willing to.

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## REFERENCES

- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5, Part 2), 9-49.
- Bell, A., & Jones, K. (2013). The Impossibility of Separating Age, Period and Cohort Effects. *Social Science & Medicine*, 93, 163-165.
- Ben-Porath, Y. (1967). The Production of Human Capital and the Life Cycle of Earnings. *Journal of Political Economy*, 75(4, Part 1), 352-365.
- Casanova, M. (2013). Revisiting the Hump-shaped Wage Profile. *Unpublished mimeo*. UCLA
- de Grip, A., & van Loo, J. (2002). *The Economics of Skills Obsolescence: A Review*. Bingley: Emerald Group Publishing Limited.
- Department of Statistics (DOS). (2022). *Population Trends 2022*. Singapore: DOS.
- Lee, Z. W., Huang, J., & Guo, J. (2017). Impact of the Implementation of Retirement and Re-Employment Act on Older Workers' Employment Outcomes. In *Economic Survey of Singapore First Quarter 2017* (pp. 44-54). Singapore: Ministry of Trade and Industry.
- Luong, M., & Hebert, B. (2009). Age and Earnings. *Perspectives on Labour and Income*, 10(1), 5-11.
- Mincer, J. (1974). Schooling, Experience, and Earnings. *Human Behaviour & Social Institutions No. 2*.
- Ministry of Manpower (MOM). (2022a) *Labour Force in Singapore 2021*. Singapore: MOM.
- Ministry of Manpower (MOM). (2022b) *Work-Life Harmony Report: A Focus on Attracting and Retaining Caregivers and Elderly Workers*. Singapore: MOM.
- Ministry of Trade and Industry (MTI). (2012) *MTI Occasional Paper on Population and Economy*. Singapore: MTI.
- Murphy, K. M., & Welch, F. (1990). Empirical Age-Earnings Profiles. *Journal of Labor Economics*, 8(2), 202-229.
- Myck, M. (2010). Wages and Ageing: Is There Evidence for the 'Inverse-U' Profile?. *Oxford Bulletin of Economic and Statistics*, 72(3), 282-306.
- Siegenthaler, J. K., & Brenner, A. M. (2001). Flexible Work Schedules, Older Workers, and Retirement. *Journal of Aging & Social Policy*, 12(1), 19-34.
- Skirbekk, V. (2008). Age and Productivity Capacity: Descriptions, Causes and Policy Options. *Ageing Horizons*, 8, 4-12.
- Vanajan, A., Bültmann, U., & Henkens, K. (2020). Health-related Work Limitations Among Older Workers the Role of Flexible Work Arrangements and Organizational Climate. *The Gerontologist*, 60(3), 450-459.