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Work-retirement status and transitions at older ages in Singapore: A comparison with OECD countries, and change in situation over time

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Work-retirement status and transitions at older ages in Singapore: A comparison with OECD countries, and change in situation over time

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Key Findings:

- Labour force participation rate among adults aged 55 years and above in Singapore is higher than in many OECD countries and has increased over time.
- The increase in the labour force participation rate has been higher among females relative to males, leading to a narrowing of the gender gap.
- A comparison of work-retirement transitions at older ages between two birth cohorts aged 62-68 years at baseline [an earlier cohort (born 1941–1947, representing part of the Pioneer Generation) and a later cohort (born 1948–1954, drawing from early Baby Boomers)] in Singapore reveals significant cohort differences. Males in the later (vs. earlier) cohort are more likely to experience late retirement or work consistently at older ages. Females in the later (vs. earlier) cohort are more likely to experience both late retirement and early/on-time retirement and are much less likely to have never worked. These patterns largely hold within subgroups defined by socio-demographic and health characteristics for both males and females.
- Labour policy changes (particularly the introduction of re-employment age in 2012 and its extension in 2017) and evolving work-related social norms in Singapore may be contributors to the difference in extended workforce participation at older ages and late retirement, observed between the two birth cohorts.

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1. INTRODUCTION

Singapore is experiencing a profound demographic shift, evident through its rapidly ageing population. The proportion of citizens aged 65 years and above in Singapore has risen sharply from 12.4% in 2014 to 19.9% in 2024, reflecting a 60% increase in just a decade. This trend is projected to accelerate, with nearly one in four citizens expected to be aged 65 years and above by 2030 (National Population and Talent Division, 2024). This demographic shift has significant implications for the nation's workforce, health and social services, and economic growth. As larger numbers of older citizens leave the workforce and smaller cohorts of younger working-age citizens take their place, declines in workforce productivity and an increased demand for health and social services have been projected.

In response, the Singapore government has implemented proactive measures to enable older adults to remain in the workforce. These initiatives encompass raising the statutory retirement age and introducing and raising the 're-employment' age (the age until which employers must continue to re-employ eligible retired workers), whilst introducing comprehensive skills upgrading programmes for older workers (Channel News Asia, 2023). They likely have had an impact – in Singapore, the employment rate for those aged 55-64 years increased by 25.1 percentage points between 2002 and 2022, higher than the 10.2 percentage points increase observed for those aged 25-54 years during the same period (Ministry of Manpower, 2025).

Singapore is not alone in implementing workforce-related policies to encourage older adults' workforce participation. Faced with population ageing, many countries in the Organisation for Economic Co-operation and Development (OECD) have also introduced various pension reforms and labour market policies aimed at promoting extended working lives (OECD 2023). Between 2000 and 2022, the employment rate for individuals aged 55-64 years across OECD nations saw an impressive 20.5 percentage points increase, far outpacing the 5.4 percentage points growth observed among those aged 25-54 years (OECD, 2023).

The diverse pathways of work participation at older ages are intricately connected to the growing trend of late retirement. Rather than following a single, uniform trajectory, older adults have been shown to have varied patterns in their work-retirement transitions (Calvo et al., 2018; McDonough et al., 2017; Wang et al., 2013). While some individuals exit the labour market upon reaching a statutory retirement age, others extend their working lives by finding opportunities for consistent full-time or part-time employment at older ages, transitioning back to work after initial retirement, or delaying retirement (or having late retirement) altogether.

Late retirement, characterised by individuals remaining in the workforce beyond a conventional retirement age, reflects one of these diverse work-retirement transitions. This phenomenon is influenced by a combination of factors, including improved health and longevity, higher educational attainment, and evolving pension and retirement policies (OECD, 2002; OECD, 2006; OECD 2018; Bodnár, K., & Nerlich, C., 2020). Although the academic field lacks consensus on the precise definition of late retirement, most studies describe it as continued labour market participation beyond the age at which individuals become eligible to receive full retirement benefits, with some researchers employing subjective responses or specific age thresholds, such as 60 or 65 years, as criteria (McDonald, L., 2017; Axelrad, 2018).

Overall, late retirement or consistent employment at older ages is influenced by multiple factors. Higher educational attainment of newer cohorts of older workers enhances their employability (Aaron & Callan, 2011). Changes in pension systems, including elevated retirement ages and reduced benefits, incentivise extended employment (Maestas & Zissimopoulos, 2010). Less generous pension systems are also a major driver of longer working lives, with reduced penalties for post-retirement work further incentivising continued employment (Brown & Laschever, 2012; Coile & Gruber, 2007). Additional factors, including good health, strong work attachment (McNamara & Williamson, 2004), and economic necessity (Fisher et al., 2016), also influence decisions to delay retirement.

The varied patterns of work-retirement transitions and the growing prevalence of late retirement reflect both individual choices and broader societal changes in how retirement is conceptualised and experienced in response to demographic ageing. As individuals navigate these diverse pathways, it becomes increasingly evident that the traditional notion of a fixed retirement age is giving way to a more fluid and personalized approach to the work-retirement transition (Cahill, Giandrea, & Quinn, 2015). This transformation is further driven by broader societal shifts, including the gender revolution and the de-standardisation of the life-course (Sargent et al., 2013). Women's increased labour force participation, evolving family structures, and the rise of dual-earner households have reshaped retirement decisions, which are now more heavily influenced by factors such as spousal careers, caregiving responsibilities, and financial interdependence (Price & Nesteruk, 2010).

While extended labour force participation offers several benefits, such as maintaining economic productivity and reducing the financial strain on pension systems (Hick, 2012), it also presents challenges. Older workers may face health-related constraints that limit their work capacity, and certain industries may struggle to accommodate an ageing workforce effectively. Understanding these dynamics is crucial for developing policies that promote both the wellbeing of older adults and ensure economic sustainability.

This research brief has two parts. In Part I, we use published data to compare labour force participation and employment rates at older ages as well as retirement and labour policies between Singapore and OECD countries. The comparison helps contextualise the situation in Singapore. In Part II, we examine work-retirement transitions over time among Singapore citizens and permanent residents aged 62-68 years at baseline, using empirical data from two national longitudinal surveys of older adults. The empirical analysis provides a detailed profile of work-retirement transitions at older ages in Singapore, examining variation in such transitions by socio-demographic and health characteristics. The analysis of two distinct national longitudinal surveys - with the earlier cohort representing part of the Pioneer Generation (refers to individuals who were born on or before 31 December 1949, and became a Singapore citizen on or before 31 December 1986) and the later cohort drawing from early Baby Boomers – allows us to examine how work-retirement transitions at older ages have evolved over time and across different policy contexts, offering valuable insights into generational differences in such transitions. Overall, the research brief provides a comprehensive examination of work-retirement transitions at older ages in Singapore by combining macro-level patterns with detailed empirical analysis.

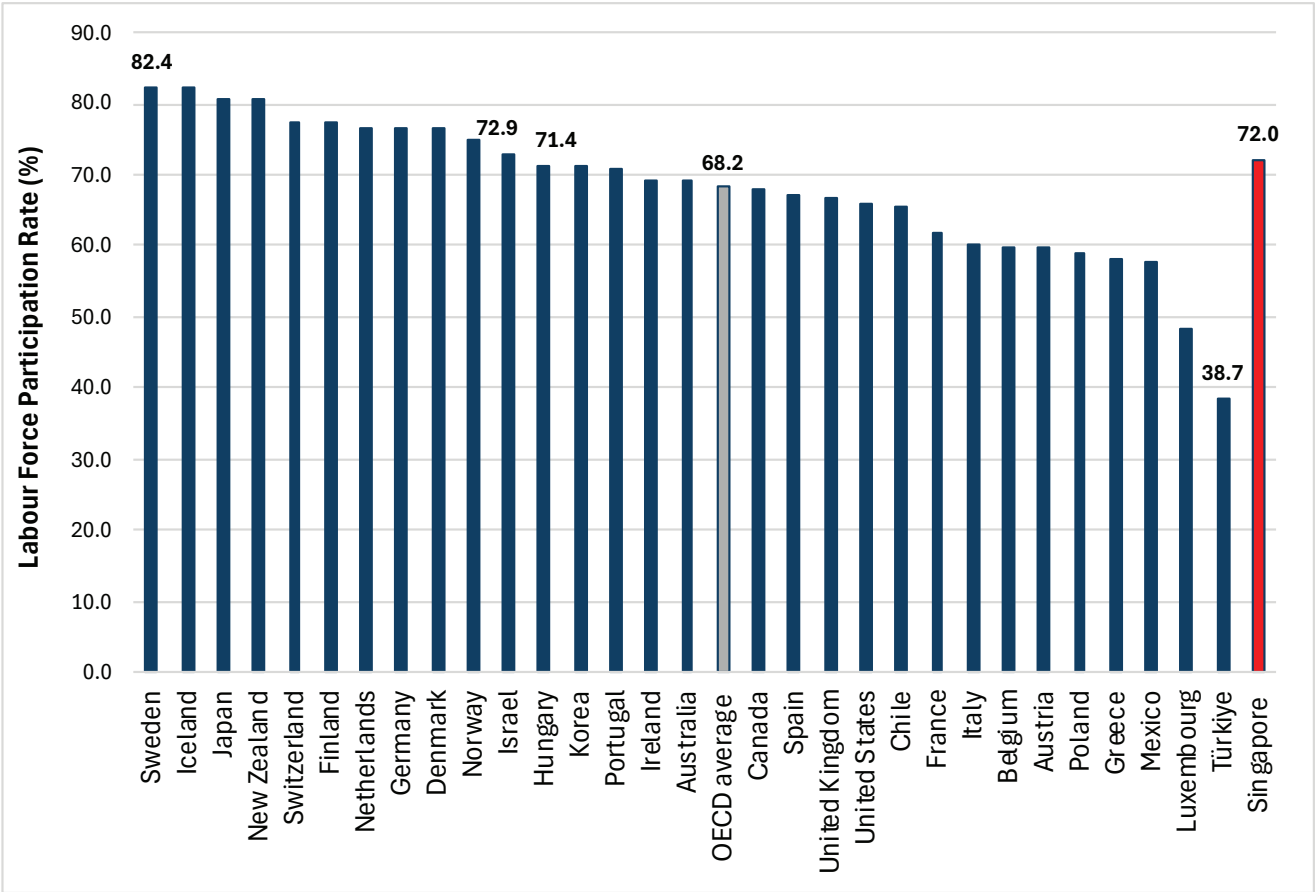
2. PART I – COMPARISON OF SINGAPORE AND OECD COUNTRIES

2.1. Labour Force Participation Rates at Older Ages in Singapore and OECD Countries

Figure 1 presents labour force participation rates (LFPRs) for individuals aged 55-64 years in the year 2023 in Singapore and OECD countries. The LFPR for any age group is a critical labour market indicator measuring the proportion of individuals in that age group who are either in employment (who worked in a job for at least one hour per week or were "not at work" due to temporary absence from a job) or actively seeking work. While interpreting cross-national comparisons in this and subsequent figures, a methodological difference between Singapore and OECD countries must be kept in mind – while Singapore's statistics pertain to citizens and permanent residents (Ministry of Manpower, 2025), those for OECD countries pertain to "all nationals present in, or temporarily absent from the country, and aliens permanently settled in the country" (OECD, n.d-a.).

Whilst the average LFPR for all 38 OECD countries stands at 68.2%, Singapore has a higher LFPR at 72.0%, exceeding the OECD average by 3.8 percentage points. Among the 30 OECD countries included in the figure, 11 countries show higher LFPRs than Singapore. Among the 30 OECD countries, Sweden (highest, at 82.4%), Iceland, Japan and New Zealand have LFPRs of 80% or more, reflecting more effective systems for integrating and supporting individuals in this age group in the labour market. Conversely, Luxembourg and Türkiye (lowest, at 38.7%) exhibit notably lower LFPRs, of less than 50%, indicating challenges in maintaining engagement of individuals aged 55-64 years in the labour market.

Figure 1. Labour Force Participation Rate among Individuals Aged 55–64 in Singapore and OECD Countries, 2023.

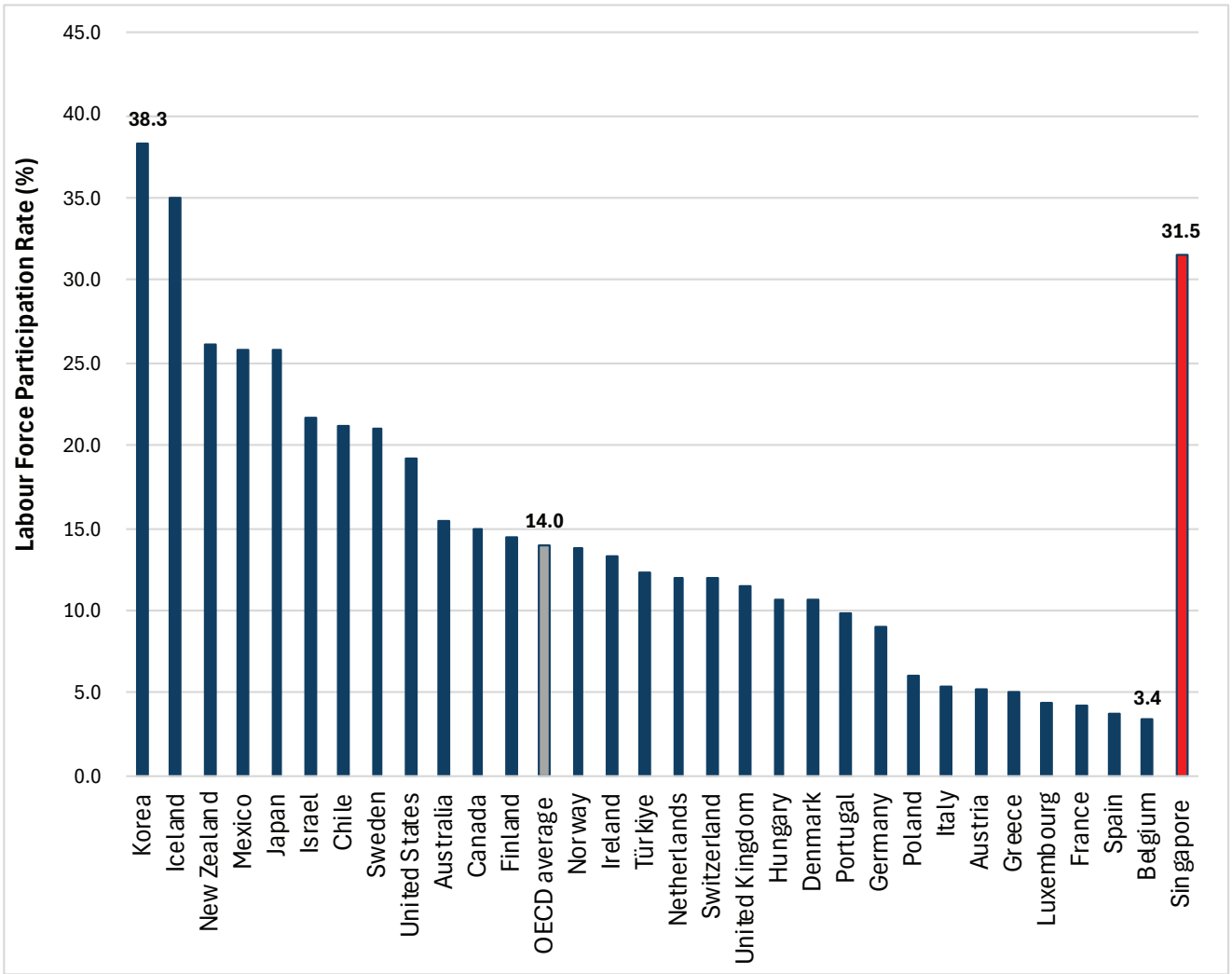


Notes: The OECD average reflects the average of all 38 OECD countries. Country-specific data is presented for 30 of the 38 OECD countries (data for Colombia, Estonia, Latvia, Costa Rica, Lithuania, Czechia, Slovak Republic, and Slovenia is not presented) due to space limitations.

Source: OECD database Labour Market Statistics by sex and age (OECD, n.d.-b) (for OECD countries) and Ministry of Manpower and Singapore Department of Statistics (2025) (for Singapore).

The relatively high engagement of older adults in the labour force in Singapore becomes even more apparent when comparing LFPRs among individuals aged 65 years and above in 2023 **(Figure 2)**. The figures include country-specific data for 30 of the 38 OECD countries. In this age group, Singapore with its LFPR of 31.5% outperforms all but two of the 30 OECD countries, namely South Korea (38.3%) and Iceland (34.9%). The average LFPR for all 38 OECD countries is much lower, at 14.0%. Furthermore, several European nations, specifically Portugal, Germany, Poland, Italy, Austria, Greece, Luxembourg, France, Spain and Belgium (lowest, at 3.4%) have LFPRs of less than 10% in this age group.

Figure 2. Labour Force Participation Rate among Individuals Aged 65 Years and above in Singapore and OECD countries, 2023.



Notes: The OECD average reflects the average of all 38 OECD countries. Country-specific data is presented for 30 of the 38 OECD countries (data for Colombia, Estonia, Latvia, Costa Rica, Lithuania, Czechia, Slovak Republic, and Slovenia is not presented) due to space limitations.

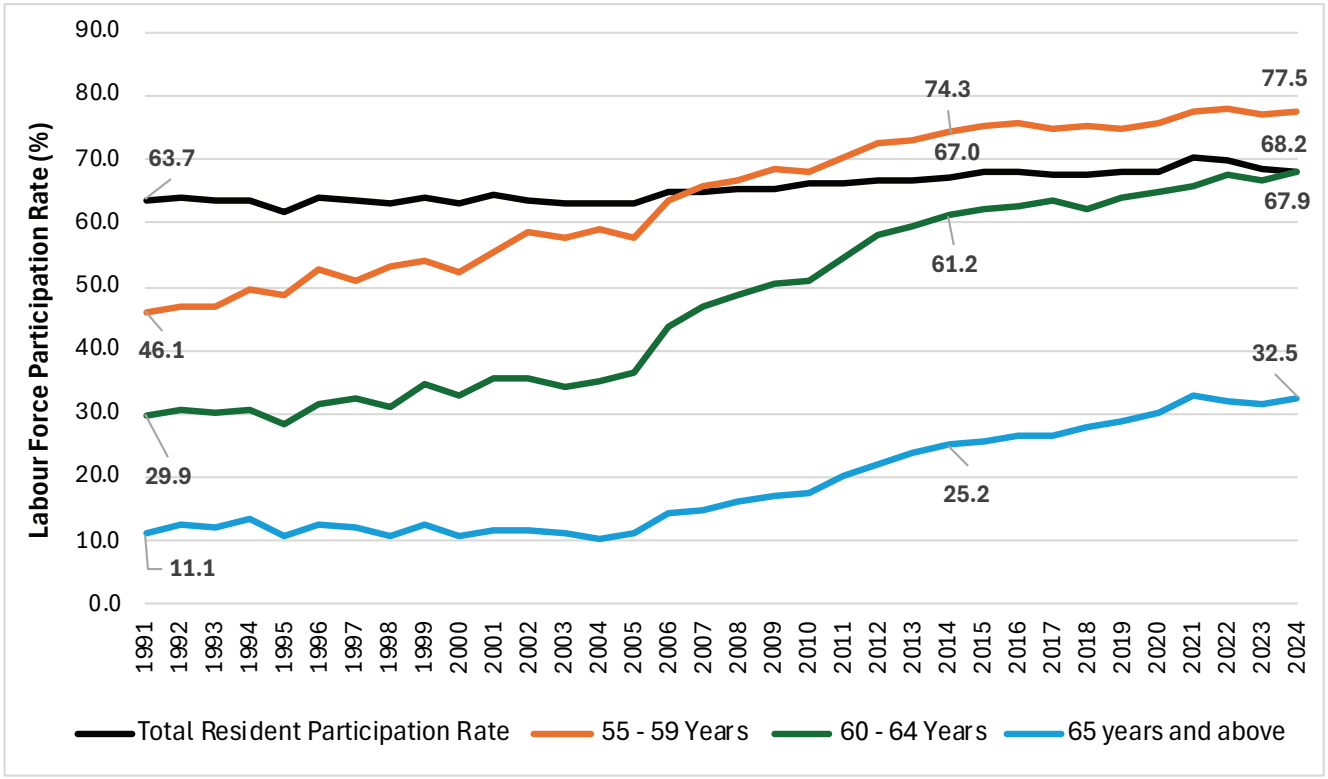
Source: OECD database Labour Market Statistics by sex and age (OECD, n.d.-b) (for OECD countries) and Ministry of Manpower and Singapore Department of Statistics (2025) (for Singapore).

Given the relatively high engagement of older adults in the labour force in Singapore, evident through Figures 1 and 2, it is worthwhile to look at the trend over time of LFPR at older ages in the country. **Figure 3** shows the LFPRs from 1991 to 2024 for Singapore residents across three older age groups (55-59 years, 60-64 years, and 65 years and above) as well as for the total resident population (aged 15 years and over) [Note: Key values for 1991 (base year), 2014 (a decade ago), and 2024 (latest year) are marked in the figure].

For Singapore residents aged 55-59 years, the LFPR increased from 46.1% in 1991 to 77.5% in 2024, representing a 68% (or 31.4 percentage points) increase. The 60-64 years age group demonstrated even more substantial growth in LFPR over this period, with the rate rising from 29.9% in 1991 to 67.9% by 2024, an increase of 127% (or 38 percentage points). The LFPR for those aged 65 years and above grew the most, rising nearly three-fold from 11.1% in 1991 to 32.5% in 2024, reflecting a 193% (or 21.4 percentage point) increase. These growth rates were faster than the increase in LFPR for the total resident population, aged 15 years and over, which rose from 63.7% in 1991 to 68.2% in 2024, reflecting an increase of just 7.1% (or 4.5 percentage points) from 1991 to 2024.

In terms of the growth in LFPR from 2014 to 2024, while the magnitude of the increase – 4.3% for 55-59 years, 10.9% for 60-64 years, 29.0% for 65 years and above, and 1.8% for the total resident population – was lower than that observed for the period from 1991 to 2024, the variation in growth by age group was similar. The increase was the highest for those aged 65 years and above followed by those aged 60-64 years.

Figure 3. Labour Force Participation Rate of Residents (Citizens and Permanent Residents) by Age Group in Singapore (1991–2024)



Source. Ministry of Manpower and Singapore Department of Statistics (2025).

Table 1 further focuses in on the change in LFPR at older ages over time from 2014 to 2024 by presenting LFPRs for Singapore residents aged 55-59 years, 60-64 years, and 65 years and above by gender. The final column for each row shows the percentage points change over this period, while the last row in the section for each age group shows the gender gap (male LFPR minus female LFPR) in terms of percentage points. Notable trends include stronger LFPR growth among those aged 65 years and above compared to younger groups and persisting gender gap (males > females) despite greater increase in female participation over time for all age groups.

For those aged 55-59 years, overall LFPR rose from 74.3% to 77.5%, by 3.2 percentage points. Female participation increased by 6.3 percentage points (61.4% to 67.7%), outpacing the male increase of 0.4 percentage points (87.5% to 87.9%). Consequently, the gender gap narrowed by 5.9 percentage points (from 26.1 to 20.2). For the 60-64 years age group, overall LFPR grew by 6.7 percentage points (61.2% to 67.9%). Female participation showed strong growth of 12.2 percentage points (45.5% to 57.7%), while male participation increased only by 1.6 percentage points (77.0% to 78.6%). As a result, the gender gap decreased by 10.6 percentage points (from 31.5 to 20.9). The smaller increases in male participation for both age groups (0.4 and 1.6 percentage points, respectively) are likely due to their already high participation rates (87.5% and 77.0%) in 2014. Among those aged 65 years and above, overall LFPR increased by 7.3 percentage points (25.2% to 32.5%). Female participation rose by 9.1 percentage points (16.3% to 25.4%) compared to an increase of 4.8 percentage points for males (36.0% to 40.8%). The gender gap narrowed by 4.3 percentage points (from 19.7 to 15.4).

Table 1. Labour Force Participation Rates of Singapore Residents (55-59 Years, 60-64 Years, and 65+ Years) by Gender, 2014-2024.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Change from 2014 to 2024, percentage points
55-59 years												
Total (%)	74.3	75.5	75.8	74.9	75.1	75.0	75.9	77.7	78.0	77.1	77.5	+3.2
Males (%)	87.5	88.2	88.7	88.0	88.0	87.3	87.1	89.5	88.6	88.2	87.9	+0.4
Females (%)	61.4	62.8	63.1	61.8	62.1	63.3	64.8	66.6	67.1	66.6	67.7	+6.3
Gender gap (males *minus* females) (% points)	26.1	25.4	25.6	26.2	25.9	24.0	22.3	22.9	21.5	21.6	20.2	-5.9
60-64 years												
Total (%)	61.2	62.4	62.8	63.6	62.2	63.9	65.0	65.9	67.5	66.6	67.9	+6.7
Males (%)	77.0	77.2	76.9	77.8	75.7	76.7	77.8	79.2	79.2	78.6	78.6	+1.6
Females (%)	45.5	47.7	48.8	49.9	49.4	50.8	52.6	53.6	56.1	55.2	57.7	+12.2
Gender gap (males *minus* females) (% points)	31.5	29.5	28.1	27.9	26.3	25.9	25.2	25.6	23.1	23.4	20.9	-10.6
65 years and above												

Total (%)	25.2	25.8	26.5	26.8	27.8	28.7	30.1	32.9	32.1	31.5	32.5	+7.3
Males (%)	36.0	36.0	37.0	37.1	38.2	38.7	40.1	42.8	41.5	41.0	40.8	+4.8
Females (%)	16.3	17.6	18.0	18.2	19.2	20.2	21.7	24.2	24.0	23.2	25.4	+9.1
Gender gap (males *minus* females) % points)	19.7	18.4	19.0	18.9	19.0	18.5	18.4	18.6	17.5	17.8	15.4	-4.3

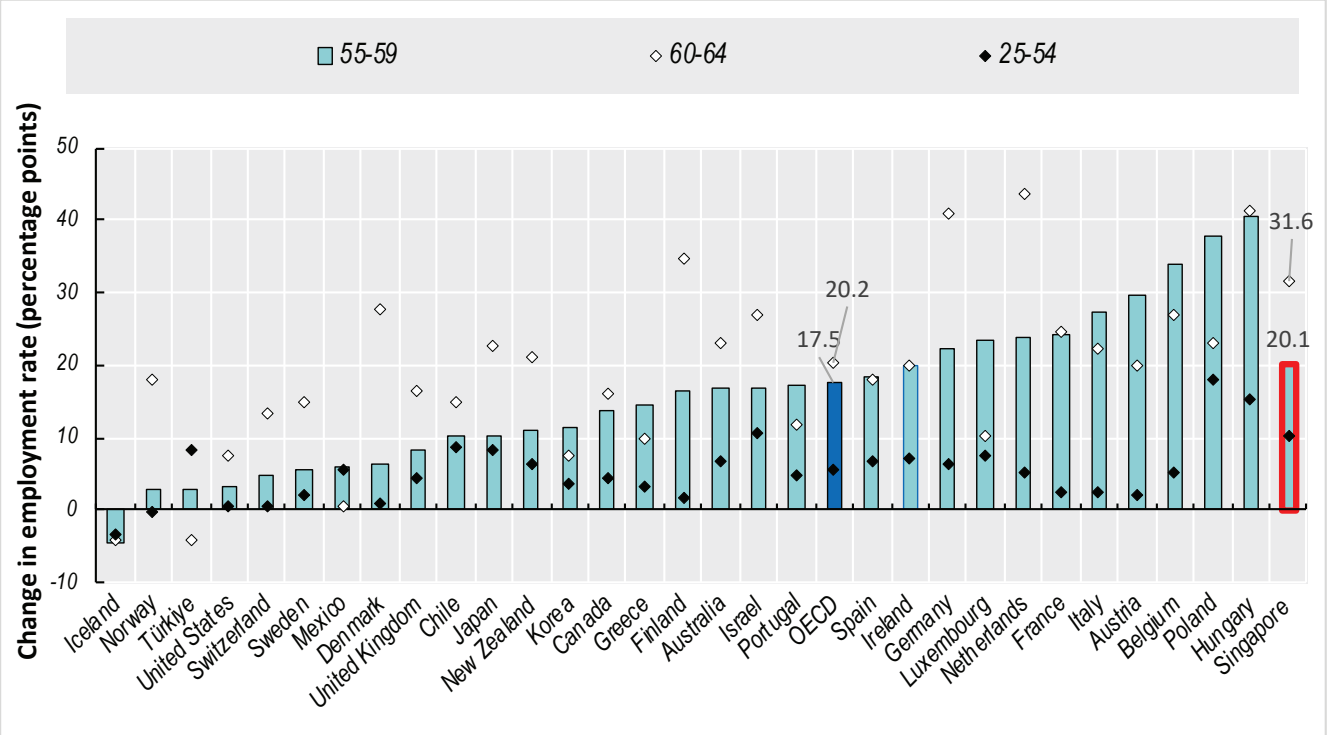
Source: Ministry of Manpower and Singapore Department of Statistics (2025)

While previous figures and tables present LFPRs, in **Figure 4** we present the change in employment rate from 2002 to 2022 for two distinct age groups – 55-59 years and 60-64 years – for Singapore and 30 of the 38 OECD countries (along with the average for all 38 OECD countries). For reference, we also provide the change in employment rate for those aged 25-54 years (considered as the 'prime working age'). Employment rate is defined as the proportion of employed persons in the working-age population. It tells us the extent to which the population is engaged in productive labour market activity. The change is measured in percentage points to illustrate the shift in employment rate in the age groups considered over the two-decade period.

The figure shows an increase in employment rates from 2002 to 2022 for individuals aged 55-59 years and 60-64 years for most of the 30 OECD countries considered, with some variations. Iceland experienced a decline in the employment rate in these age groups (-4.3 percentage points for 55-59 years and -4.2 percentage points for 60-64 years), while Norway and Türkiye had contrasting patterns. In Norway, there a modest increase of 2.7 percentage points for those aged 55-59 years, but a strong rise of 18.0 percentage points for the 60-64 years age group. In Türkiye, there a small increase of 2.8 percentage points for those aged 55-59 years, however, there was a decrease of 4.0 percentage points for the 60-64 years age group. The average change in the employment rate between 2002 and 2022 for all 38 OECD countries was an increase of 17.5 percentage points for those aged 55-59 years and 20.2 percentage points for those aged 60-64 years.

Singapore exhibited notable growth in employment rates at older ages from 2002 to 2022 – the 55-59 years age group showed a 20.1 percentage points increase, marginally exceeding the OECD average, and the 60-64 years age group demonstrated a 31.6 percentage points rise, exceeding the OECD average by 11.4 percentage points. Employment rates for the 25-54 age group (prime working age) also mostly increased over the considered period, though moderately – OECD countries averaged a 5.5 percentage points increase while Singapore experienced an increase of 10.2 percentage points. Overall, for most countries, including Singapore, employment rates for those aged 55-59 years and 60-64 years showed larger increases compared to those aged 25-54 years.

Figure 4. Change in employment rate of individuals aged 25-54 years, 55-59 years and 60-64 years in OECD countries and Singapore, 2002-2022, percentage-point difference

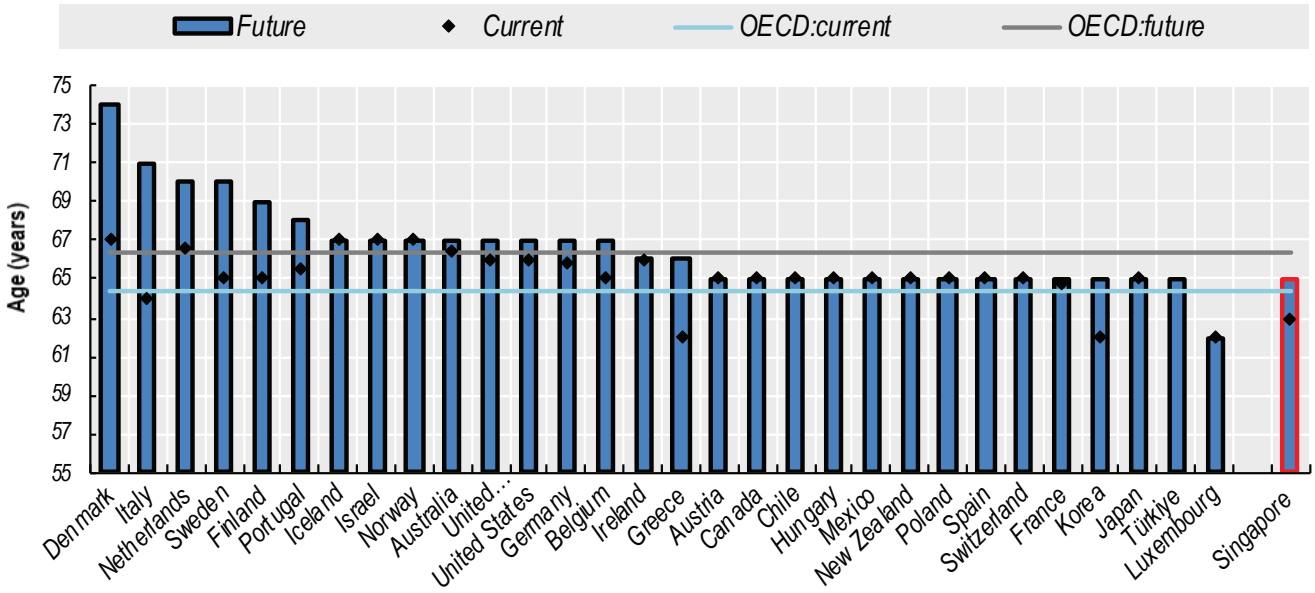


Notes: The OECD average reflects the average of all 38 OECD countries. Country-specific data is presented for 30 of the 38 OECD countries (data for Colombia, Estonia, Latvia, Costa Rica, Lithuania, Czechia, Slovak Republic, and Slovenia is not presented) due to space limitations.

Source: OECD database Labour Market Statistics by sex and age: employment-population ratio (for OECD) (OECD, n.d.-b) and Ministry of Manpower [MOM] (2025).

Figure 5 presents a comparative view of normal retirement ages across 30 of the 38 OECD countries and the statutory retirement age in Singapore, examining both current standards (retiring in 2022) and future projections (entering the labour market in 2022) for males entering the workforce at age 22 years. The normal retirement age in OCED countries typically refers to the "full pension entitlement age", i.e., the age at which individuals become eligible for full pension benefits without penalties, assuming a complete career (OECD 2023). Whereas Singapore's statutory retirement age is the minimum retirement age before which employers are not allowed to dismiss any employee based on age. The current OECD average normal retirement age across the 38 OCED countries is approximately 64.5 years, with a projected increase to about 67 years in the future. Denmark stands out with the highest future retirement age at 74 years, followed by Italy and Estonia at 71 years, and the Netherlands and Sweden at approximately 70 years. Singapore's current statutory retirement age is 63 years and will increase to 65 years by 2030.Furthermore, Singapore will raise its re-employment age – the age until which employers must continue to re-employ eligible retired workers – to 70 years by 2030 (Ministry of Manpower [MOM], n.d.).

Figure 5. Current and future normal retirement ages for a male with a full career from age 22 years



Notes: The normal retirement age is calculated for an individual with a full career, which refers to continuous employment from labour market entry (age 22) until retirement. Age 22 is used as the standard entry age in OECD simulations to enable cross-country comparisons, though actual entry ages vary across individuals and countries. "Future" refers to the age from which someone becomes eligible for full retirement benefits from all mandatory components (without any reduction), assuming a full career beginning in 2022. Educational credits are not included. For better visibility, the scale of this chart excludes the lowest observed value of 52 years for current normal retirement age in Türkiye. The OECD current and future values reflect the average of all 38 OECD countries. Country-specific data is presented for 30 of the 38 OECD countries (data for Colombia, Estonia, Latvia, Costa Rica, Lithuania, Czechia, Slovak Republic, and Slovenia is not presented) due to space limitations.

Source: OECD (2023) for OECD countries and MOM (n.d.) for Singapore.

2.2. Pension Reform and Challenges for OECD countries, and Singapore's Retirement and Re-employment Ages and Central Provident Fund

Approximately 25% of OECD countries have linked retirement ages to life expectancy to ensure the financial sustainability of pension systems (OECD, 2023). These automatic mechanisms allow for longer contribution periods and alleviate pressure on pension payouts as life expectancy increases. Countries like Denmark, Estonia, Greece, Italy, and the Slovak Republic follow a one-to-one link, raising retirement ages by the full increase in life expectancy. Meanwhile, Finland, the Netherlands, Portugal, and Sweden adopt a two-thirds link, adjusting retirement ages by eight months for every additional year of life expectancy (OECD, 2023). This approach ensures a relatively consistent proportion of adult life is spent in retirement across cohorts. Raising retirement ages promotes longer working lives, which in turn results in higher replacement rates—the proportion of pre-retirement income covered by pensions. However, while a one-to-one link offers advantages in terms of financial sustainability, its political sustainability may diminish over time (OECD, 2023) and such reforms may encounter opposition from workers who would be expected to work longer. The French government's 2023 pension reform, which proposed increasing the retirement age from 62 to 64 years, exemplifies these challenges. This policy change prompted widespread social resistance and labour demonstrations, illustrating the complexities inherent in implementing systemic pension reforms (Boulhol & Queisser, 2023).

In Singapore, the retirement and re-employment ages have been gradually raised over time as part of the country's labour market policy. The statutory retirement age has undergone several legislative changes, increasing from 60 to 62 years in 1999 (Ministry of Community Development and Sports, 2000), and subsequently to 63 years in July 2022. Current legislation mandates further incremental increases to 64 years in 2026 and 65 years in 2030 (MOM, 2024). In 2012, the 'Retirement and Re-employment' Act was passed, which introduced the concept of a re-employment age. This mandated that employers provide eligible resident employees the option of continued employment beyond the statutory retirement age of 62 years at that time until the age of 65 years (Law Revision Commission 2012; Xu et al, 2021), or else provide a one-off Employment Assistance Payment. The law allows employers to renegotiate the terms of employment, e.g., working hours, job tasks, etc., as well as offer re-employment contracts of at least one year. The re-employment age was extended to 67 years in July 2017 and further increased to 68 years in July 2022, with planned increases to 70 years by 2030 (MOM, n.d.). Workers must meet several key criteria to be eligible for re-employment: they must be Singapore Citizens or Permanent Residents who have reached the statutory retirement age, have worked continuously for the same employer for at least three years, demonstrate satisfactory job performance, and be medically fit to continue in their role (MOM, n.d.).

Singapore's approach to retirement security demonstrates fundamental differences from conventional pension systems, particularly those based on defined benefit (DB) models. Unlike traditional DB pension systems where retirees receive guaranteed payouts based on a formula that considers salary and years of service, Singapore employs a Fully Funded Defined Contribution (FDC) model through its Central Provident Fund (CPF).

The CPF derives its funding from mandatory contributions by both employers and employees, with its key distinguishing feature being financial sustainability. Retirement benefits correlate directly with individual members' accumulated savings, rather than relying on intergenerational transfers or government subsidies – a structure that stands in marked contrast to the pay-as-you-go or partially funded pension systems common in many developed economies. The CPF comprises three primary accounts: Ordinary Account (OA, for housing purchases, insurance payments, and approved investments), Special Account (SA, for retirement-related financial instruments), and MediSave Account (MA, for healthcare expenditures) (Central Provident Fund Board [CPFB], n.d.-a). Upon reaching age 55 years, members' OA and SA savings transfer to a newly created Retirement Account (RA), which funds the CPF LIFE scheme—a national annuity programme providing monthly payouts from age 65 years (CPFB, n.d.-b). To help boost retirement savings, the CPF provides risk-free interest rates on accumulated savings (CPF, n.d.-c). Additionally, Singapore has introduced initiatives such as the Workfare Income Supplement (WIS), Matched Retirement Savings Scheme (MRSS), and Silver Support Scheme (SSS), which support Singapore citizens with lower income and lower retirement savings.

In alignment with Singapore's policy adjustments to retirement and re-employment ages, the government has been increasing the CPF contributions for employees aged 55 to 70 years annually since 2022. This initiative aims to strengthen financial security and the retirement adequacy of older employees. Announced at Budget 2025,

the CPF contribution rates for older workers aged 55 to 65 years whose monthly earnings exceed SGD 750 will be further increased by 1.5 percentage points in 2026. This comprises a 0.5 percentage points increase in employer contributions and a 1 percentage point increase in employee contributions. This increase will be fully allocated to the RA, subject to the Full Retirement Sum threshold. Furthermore, the policy framework incorporates mechanisms to promote financial security through additional contributions to the RA, with specific enhancements targeted at older workers. For instance, to address the needs of Singapore citizens aged 55 years and above with lower retirement savings, the annual matching grant under the MRSS has been increased from SGD 600 to SGD 2,000 with a lifetime cap of SGD 20,000, and the age cap of 70 years has been removed (Central Provident Fund Board, n.d.-d.).

3. PART II – WORK-RETIREMENT TRANSITIONS AT OLDER AGES IN SINGAPORE: EMPIRICAL DATA ANALYSIS

In Part II, we examine work-retirement transitions over time among Singapore citizens and permanent residents aged 62-68 years at baseline, using empirical data from two national longitudinal surveys of older adults. The empirical analysis provides a detailed profile of work-retirement transitions at older ages in Singapore, examining variation in such transitions by socio-demographic and health characteristics.

3.1. Methods

3.1.1. Datasets

Data from two national, longitudinal surveys of older adults in Singapore, both conducted by the Centre for Ageing Research and Education (CARE) at Duke-NUS Medical School, National University of Singapore, was used. The surveys were Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

A total of three waves of data collection – in 2009, 2011-2012 and 2015 – were conducted in PHASE. Wave 1 involved face-to-face interviews with 4,990 Singapore citizens and permanent residents aged 60 years and above (Visaria, Malhotra, & Chan, 2019). THE SIGNS Study similarly had three waves of data collection – in 2016-2017, 2019 and 2023-2024 – with a total of 4,549 Singapore citizens and permanent residents aged 60 years and above interviewed at wave 1 (Visaria, Malhotra, & Chan, 2019).

3.1.2. Analysis sample

We first restricted the analysis sample to individuals who were aged 62-68 years at wave 1 of either survey. This allowed us to compare two birth cohorts at the same age, to examine generational differences in retirement patterns: an earlier cohort from PHASE (born 1941–1947, representing part of the Pioneer Generation) and a later cohort from THE SIGNS Study (born 1948–1954, drawing from early Baby Boomers). The comparison enables us to understand the change in work-retirement transitions over time and their relationship with individual-level socio-demographic and health characteristics. The lower end of the considered age range was kept at 62 years as it represented the statutory retirement age for both cohorts. The extended re-employment age of 65 years was applicable exclusively to the later cohort from THE SIGNS Study following its introduction in 2012. The upper end of the age range was set at 68 years to ensure no birth year overlap between the two cohorts in our datasets. The analysis sample was further restricted to participants who completed all three waves of either survey, excluding those who dropped out or passed away during follow-up. The final analytical sample comprised 532 respondents (236 males and 296 females) from the earlier cohort and 763 respondents (366 males and 397 females) from the later cohort.

3.1.3. Work-retirement status and transitions

First, work-retirement status at each wave of the two surveys was categorized into three categories: working (either full- or part-time), retired/not working, and never worked. Then, within each cohort, we classified individuals' work-retirement status over time into distinct categories based on their work status and retirement timing across the three waves of the survey they came from. These categories were "consistently working" (working in all three waves), "transition to work" (transitioned from retired/not working status to working during the survey period), "transition to retired" (transitioned from working to retired/not working during the survey period), "retired late" (already retired at baseline and reported that they retired later than age 62 years), "retired early or on-time" (already retired at baseline and reported retirement at age 62 years or earlier), and "never worked" (no history of paid employment). Finally, we consolidated these categories into five distinct work-retirement transitions, merging the "transition to retired" and "retired late" categories as individuals in either category experienced late retirement. These five work-retirement transitions were:

1) Consistently working
2) Transition to work
3) Late retirement
4) Early or on-time retirement
5) Never worked

3.1.4. Socio-demographic and health characteristics

We examined the association of the baseline value of key socio-demographic and health variables (i.e., from wave 1 of the respective survey) with the work-retirement transitions in the two birth cohorts. These variables were assessed using the same questions or scales in the two surveys, except for self-rated health, as explained below.

The socio-demographic variables were age (62-65 years; 66-68 years), educational attainment (ranging from no formal education to above secondary school), marital status (married; divorced/widowed; never married), housing type (1-2 room Housing Development Board (HDB) flat; 3 room HDB flat; 4-5 room HDB flat or private housing), and perceived income adequacy (income surplus; income sufficiency; income insufficiency).

The health variables were the number of chronic diseases, activity of daily living (ADL) limitation status, and self-rated health. Number of chronic diseases was based on self-report of ever diagnosis by a health professional of a range of chronic diseases (such as cancer, cerebrovascular diseases, hypertension, diabetes, chronic respiratory diseases, chronic back pain, joint pain/arthritis/rheumatism, etc.). It was categorized as none, one, two, and three or more chronic diseases. ADL limitation status was dichotomized into no ADL limitation and one or more ADL limitations. Self-rated health was assessed differently in the two surveys, specifically in their five-point response options (PHASE: very healthy, healthier than average, of average health, somewhat unhealthy, very unhealthy; THE SIGNS Study: excellent, very good, good, fair, poor). For our analysis, we created a binary variable – healthy or unhealthy – in either survey. In PHASE, responses from 'very healthy' to 'of average health' were coded as healthy, and 'somewhat unhealthy' and 'very unhealthy' as unhealthy. In THE SIGNS Study, responses from 'excellent' to 'good' were coded as healthy, whilst 'fair' and 'poor' were coded as unhealthy.

3.1.5. Analysis

All analyses were conducted separately for males and females. First, we examined the distribution of the work-retirement status (working; retired/not working; never worked) in the two birth cohorts – earlier cohort (aged 62-68 years in 2009) and later cohort (aged 62-68 years in 2016/17) – in each wave of the survey (PHASE or THE SIGNS Study) that pertained to the specific cohort. Then, we investigated the distribution of work-retirement transitions (consistently working; transition to work; late retirement; early or on-time retirement; never worked), overall and by (baseline) socio-demographic and health characteristics, in the two birth cohorts. All percentage comparisons, both within and across cohorts, were descriptive and did not involve formal statistical testing. Finally, we employed multinomial logistic regression to assess the association of birth cohort (later versus earlier), adjusting for the socio-demographic and health characteristics, with work-retirement transitions (using early or on-time retirement as the reference category). Accounting for cohort differences in socio-demographic and health characteristics through the regression analysis allows for greater confidence in attributing any difference in work-retirement transitions between the two birth cohorts to differences in work-related societal norms and policies experienced by the two cohorts. Survey weights (cross-sectional wave 3 survey weights of the respective surveys) were applied for all analyses.

3.2. Results

3.2.1. Work-retirement Status of Males and Females in the Two Birth Cohorts

Figure 6 illustrates the work-retirement status by gender in the two birth cohorts, revealing generational and gender differences.

In the earlier cohort, observed from 2009 to 2015, the work-retirement status remained relatively stable over time. Among males, the proportion who were working at each survey time point ranged between 46.9% to 50.5%, with the remainder primarily classified as retired/not working. In contrast, females had substantially lower rates of working or having worked in the past – the proportion working ranged from 27.0% to 33.8% and the proportion retired/not working ranged from 32.2% to 40.9% at each survey time point. Correspondingly, the proportion of females who had never worked, ranging from 28.9% to 34.0%, was much higher than males. These patterns reflect the traditional work-related gender roles prevalent in this generation.

On the other hand, the later cohort, observed from 2016-2017 to 2023-2024, had much higher proportions of those working among both males and females and exhibited marked changes in work-retirement status over time (relative to the earlier cohort). The proportion of working men initially stood at 63.9%, much higher than the earlier cohort, before gradually declining to 44.5% by 2023-2024. Women's work status also showed substantial changes, with the initial proportion of those working at 44.9%, declining to 27.2% by 2023-2024. Notably, the proportion of women who never worked was considerably lower in the later (versus earlier) cohort, ranging from only 2.8% to 3.8% at each survey time point, highlighting a generational shift in workforce engagement.

Figure 6. Work-retirement Status Over Time by Gender in the Two Birth Cohorts

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

While Figure 6 provides in an initial understanding of the cohort and gender differences in work-retirement status over time, it does not provide insights into work-retirement transitions experienced by males and females in the two birth cohorts. This is studied in detail, next.

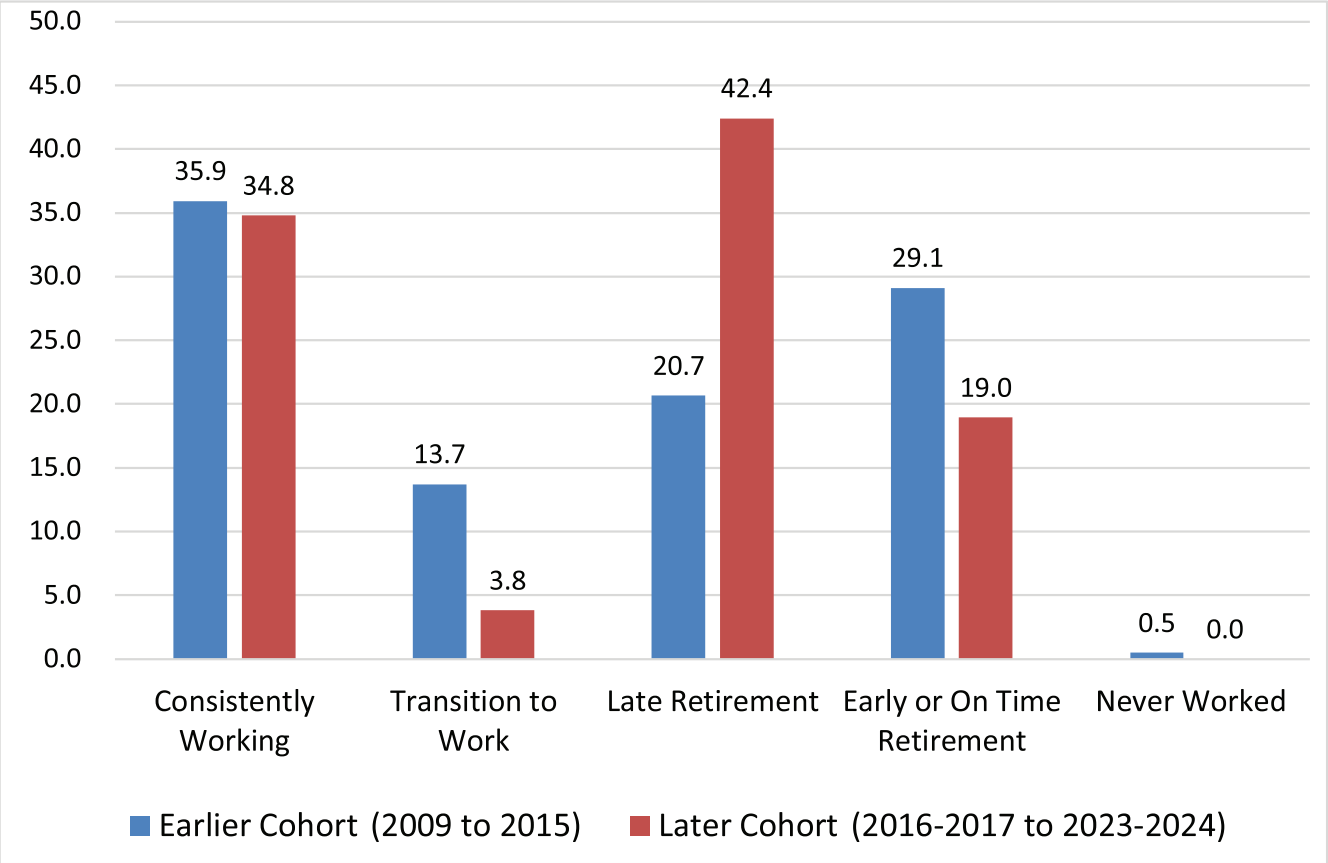
3.2.2. Work-retirement Transitions of Males and Females in the Two Birth Cohorts

Figures 7 and **8** illustrate distinct generational differences in work-retirement transitions between the two birth cohorts for males and females, respectively.

Among males **(Figure 7)**, while the proportion who consistently worked was relatively stable over time (i.e. similar between cohorts), the proportion who transited to work decreased over time. There was a two-fold increase over time in the proportion with late retirement, while the proportion with early or on-time retirement declined over time (Note: As the proportion who had never worked was negligible in either cohort, we do not consider this work-retirement transition in subsequent analyses for males).

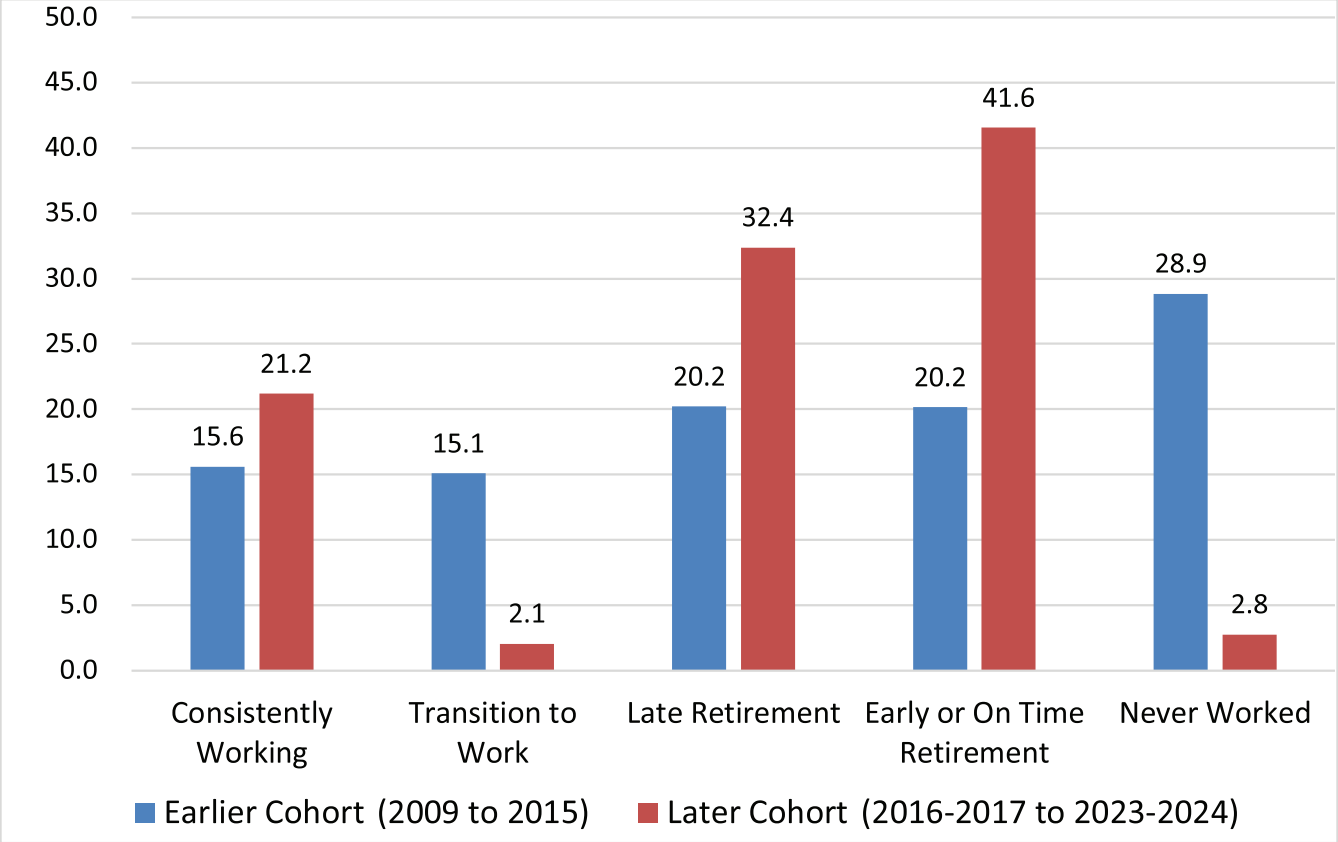
Among females **(Figure 8)**, the patterns demonstrated more pronounced generational shifts. The proportion who consistently worked increased over time, while the proportion who transited to work decreased over time. The proportion with late retirement and with early or on-time retirement increased over time, while there was a sharp decline over time in the proportion who had never worked. Overall, the change in work-retirement transitions for females between the two birth cohorts suggests a fundamental shift in women's work patterns with time.

Figure 7. Work-retirement Transitions by Birth Cohort, among Males (%)



Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

Figure 8. Work-retirement Transitions by Birth Cohort, among Females (%)



Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.3. Distribution of Work-retirement Transitions among Males and Females in the Two Birth Cohorts, by Socio-Demographic Characteristics

3.2.3.1. Age Group

Tables 2 and **3** present the work-retirement transitions by age group at baseline (62-65 years and 66-68 years) for males and females, respectively, in the two birth cohorts.

The policy landscape differed between the two cohorts. The earlier cohort (born 1941–1947, observed in 2009) faced a statutory retirement age of 62 years without a formal re-employment law. In contrast, the later cohort (born 1948–1954, observed in 2016–2017), while having the same statutory retirement age, was covered by the Retirement and Re-employment Act (2012), which required employers to offer re-employment to eligible employees up to age 65 years. Furthermore, the subsequent extension of the re-employment age to 67 years in 2017 would have primarily benefited only the younger individuals in this cohort (born 1952–1954).

Among males **(Table 2)**, in the earlier cohort, those aged 62-65 years had a higher proportion of those who consistently worked than those aged 66-68 years, while those aged 66-68 years had a higher proportion of those with late retirement or with early or on-time retirement. In the later cohort, a similar pattern between the two age groups was observed for the proportion who consistently worked and with late retirement, however, the proportion with early or on-time retirement was lower among those aged 66-68 years.

Comparing the two cohorts, while the proportion of males who consistently worked did not differ much between them, the proportion who transited to work decreased and the proportion with late retirement increased (particularly for those aged 66-68 years) over time. There was also a decrease over time in the proportion with early or on-time retirement, with the decline being larger for those aged 66-68 years.

Table 2. Work-retirement Transitions by Age Group at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	Age group, at baseline	
	62-65 years	66-68 years
Earlier cohort (Weighted Column %)		
Consistently working	39.3	27.6
Transition to work	14.3	12.4
Late retirement	18.2	27.9
Early or on-time retirement	28.2	32.1
Later cohort (Weighted Column %)		
Consistently working	39.3	25.7
Transition to work	4.6	2.3
Late retirement	35.8	55.8
Early or on-time retirement	20.3	16.3
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	0	-1.9

Transition to work	-9.7	-10.1
Late retirement	17.6	27.9
Early or on-time retirement	-7.9	-15.8

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 3)**, in the earlier cohort, those aged 62-65 years had a higher proportion of those who consistently worked, transited to work or with late retirement than those aged 66-68 years, while those aged 66-68 years had a higher proportion of those who never worked and early or on-time retirement. In the later cohort, while a similar pattern across age groups was observed for the proportion who consistently worked, transited to work, had early or in-time retirement and never worked, the proportion with late retirement was higher among those aged 66-68 years.

Comparing the two cohorts, the proportion of females who worked consistently, with late retirement or with early or on-time retirement increased over time. On the other hand, there was a decrease over time in the proportion who transited to work (particularly for age 62-65 years) and who had never worked (especially for those aged 66-68 years).

Table 3. Work-retirement Transitions by Age Group at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Age group, at baseline	
	62-65 years	66-68 years
Earlier cohort (Weighted Column %)		
Consistently working	19.9	4.9
Transition to work	17.4	9.3
Late retirement	20.9	18.7
Early or on-time retirement	18.3	24.8
Never worked	23.5	42.3
Later cohort (Weighted Column %)		
Consistently working	27.2	10.3
Transition to work	2.4	1.5
Late retirement	31.6	33.8
Early or on-time retirement	37.6	48.8
Never worked	1.2	5.6
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	7.3	5.4
Transition to work	-15.0	-7.8
Late retirement	10.7	15.1
Early or on-time retirement	19.3	24.0
Never worked	-22.3	-36.7

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.3.2. Educational Attainment

Tables 4 and **5** present the work-retirement transitions by educational attainment for males and females, respectively, in the two birth cohorts.

Among males **(Table 4)**, in the earlier cohort, the proportion who consistently worked was the highest among those with secondary education, followed by those with above-secondary education. The proportion with late retirement increased, while the proportion with early or on-time retirement decreased, with an increase in educational attainment. In the later cohort, the pattern shifted, with males with no formal education having the highest proportion of those who consistently worked, and the proportion declined with educational attainment. The proportion with late retirement was the highest among those with primary or secondary education, while the proportion with early or on-time retirement was the highest among those with above-secondary education.

Comparing the two cohorts, for all educational attainment categories, the proportion who transited to work declined and the proportion with late retirement increased (particularly among those with primary or secondary education) over time. Variation in the change over time by educational attainment was observed for the proportion who consistently worked (increase over time for those with no formal or primary education and decrease over time for those with secondary or higher education) and the proportion with early or on-time retirement (decrease over time for those with secondary or lower education, and increase over time for those with above-secondary education).

Table 4. Work-retirement Transitions by Educational Attainment: Males (%)

Birth Cohort, and Work-retirement Transitions	Educational Attainment			
	No Formal Education	Primary School	Secondary School	Above Secondary School
Earlier cohort (Weighted Column %)				
Consistently working	30.0	27.5	45.7	33.7
Transition to work	16.8	17.2	9.8	15.2
Late retirement	16.1	20.3	20.0	26.8
Early or on-time retirement	37.1	35.0	24.6	24.3
Later cohort (Weighted Column %)				
Consistently working	55.6	37.8	37.9	20.8
Transition to work	0.0	5.6	2.7	4.5
Late retirement	29.1	43.1	47.5	37.9
Early or on-time retirement	15.3	13.5	11.9	36.8
Later cohort *minus* Earlier cohort (% point difference)				
Consistently working	25.6	10.3	-7.8	-12.9
Transition to work	-16.8	-11.6	-7.1	-10.7
Late retirement	13.0	22.8	27.5	11.1
Early or on-time retirement	-21.8	-21.5	-12.7	12.5

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 5)**, in the earlier cohort, the proportion who consistently worked was the highest among those with secondary education, followed by those with primary education. The proportion with late retirement generally increased with educational attainment. However, the proportion with early or on-time retirement did not follow a strictly decreasing trend with educational attainment. The proportion of those who had never worked was highest among those with no formal education and decreased with educational attainment, though it remained substantial even among those with above-secondary education. In the later cohort, the pattern shifted, with females with primary education having the highest proportion of those who consistently worked. The proportion with late retirement was the highest among those with secondary education, and the proportion with early or on-time retirement was the highest among those with secondary or above secondary education. The proportion who had never worked was the highest among those with no formal education.

Comparing the two cohorts, across all educational attainment categories, the proportion who transited to work decline over time, and the proportion with late retirement increased (particularly among those with no formal and secondary education). Variation in the change over time was observed for consistently working (increase over time for those with no formal education, primary education, and above secondary education but decrease over time for those with secondary education) and early or on-time retirement (largest increase over time among those with secondary education). The proportion who had never worked decreased substantially over time across all educational levels, with the largest decline among those with no formal education.

Table 5. Work-retirement Transitions by Educational Attainment: Females (%)

Birth Cohort, and Work-retirement Transitions	Educational Attainment			
	No Formal Education	Primary School	Secondary School	Above Secondary School
Earlier cohort (Weighted Column %)				
Consistently working	7.9	16.0	28.3	6.7
Transition to work	14.5	17.4	13.2	13.4
Late retirement	13.7	24.1	18.8	33.5
Early or on-time retirement	21.1	18.5	17.3	29.6
Never worked	42.8	24.0	22.4	16.8
Later cohort (Weighted Column %)				
Consistently working	18.6	27.1	15.4	24.6
Transition to work	4.1	2.1	1.0	1.7
Late retirement	29.9	31.5	35.6	30.7
Early or on-time retirement	42.9	37.9	44.0	43.1
Never worked	4.6	1.5	4.1	0.0
Later cohort *minus* Earlier cohort (% point difference)				
Consistently working	10.7	11.1	-12.9	17.9
Transition to work	-10.4	-15.3	-12.2	-11.7
Late retirement	16.2	7.4	16.8	-2.8
Early or on-time retirement	21.8	19.4	26.7	13.5
Never worked	-38.2	-22.5	-18.3	-16.8

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.3.3. Marital Status

Tables 6 and **7** present the work-retirement transitions by marital status at baseline for males and females, respectively, in the two birth cohorts.

Among males **(Table 6)**, in the earlier cohort, the proportion who consistently worked was the highest among those never married, while the transition to work was the highest among those divorced/widowed. The proportion with late retirement was the lowest among those divorced/widowed and highest among those never married. The proportion with early or on-time retirement was the highest among those divorced/widowed. In the later cohort, some of the patterns shifted. Those married had the highest proportion of those who consistently worked followed by those never married. The proportion who transited to work remained the highest among those divorced/widowed, who also had the highest proportion of those with late retirement. The proportion with early or on-time retirement remained the highest among those divorced/widowed.

Comparing the two cohorts, while the proportion who consistently worked declined over time among those divorced/widowed and never married, it was relatively stable over time among those married. The proportion who transited to work decreased over time irrespective of marital status, while the proportion with late retirement increased over time (highest increase for those divorced/widowed). While the proportion with early or on-time retirement declined over time among those married and those divorced/widowed, especially the latter, it increased marginally among those never married.

Table 6. Work-retirement Transitions by Marital Status at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	Marital Status at Baseline		
	Married	Divorced /Widowed	Never married
Earlier cohort (Weighted Column %)			
Consistently working	35.7	27.2	46.8
Transition to work	14.0	17.4	9.2
Late retirement	21.3	7.0	23.7
Early or on-time retirement	29.0	48.4	20.2
Later cohort (Weighted Column %)			
Consistently working	36.7	17.5	30.9
Transition to work	3.5	11.7	1.9
Late retirement	41.8	50.3	43.7
Early or on-time retirement	17.9	20.5	23.5
Later cohort *minus* Earlier cohort (% point difference)			
Consistently working	1.0	-9.7	-15.9
Transition to work	-10.5	-5.7	-7.3
Late retirement	20.5	43.3	20.0
Early or on-time retirement	-11.1	-27.9	3.3

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 7)**, in the earlier cohort, the proportion who consistently worked and the proportion with late retirement was the highest among those never-married (they also had the lowest proportion of those who had never worked). The proportion with early or on-time retirement was the highest among those divorced/widowed and those never married, while those divorced had the highest proportion of those who had never worked. In the later cohort, the proportion who consistently worked, who transited to work and who had never worked did not vary much by marital status. The proportion with late retirement was the highest among those never married, while the proportion with early or on-time retirement was the highest among those married.

Comparing the two cohorts, while there was an increase over time in the proportion who consistently worked among those married and those divorced/widowed, there was a slight decline over time in this proportion for those never married. The proportion who transited to work and who had never worked decreased over time irrespective of marital status, while the proportion with late retirement and with early or on-time retirement increased over time. Nonetheless, the extent of decrease or increase varied by marital status. The decline in transition to work was the most for those married, the decline in never worked was the most for those divorced/widowed, the increase in late retirement was the highest for those never married (followed closely by those divorced/widowed) and the increase in early or on-time retirement was the highest for those married.

Table 7. Work-retirement Transitions by Marital Status at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Marital Status at Baseline		
	Married	Divorced /Widowed	Never married
Earlier cohort (Weighted Column %)			
Consistently working	14.7	14.2	21.9
Transition to work	17.6	7.3	13.7
Late retirement	18.1	19.3	31.5
Early or on-time retirement	19.1	22.5	22.0
Never worked	30.4	36.7	10.9
Later cohort (Weighted Column %)			
Consistently working	21.4	22.2	19.3
Transition to work	2.4	1.1	2.1
Late retirement	25.8	41.8	56.4
Early or on-time retirement	47.4	31.9	22.2
Never worked	3.1	3.1	0.0
Later cohort *minus* Earlier cohort (% point difference)			
Consistently working	6.7	8.0	-2.6
Transition to work	-15.2	-6.2	-11.6
Late retirement	7.7	22.5	24.9
Early or on-time retirement	28.3	9.4	0.2
Never worked	-27.3	-33.6	-10.9

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.3.4. Perceived Income Adequacy

Tables 8 and **9** present the work-retirement transitions by perceived income adequacy at baseline for males and females, respectively, in the two cohorts.

Among males **(Table 8)**, in the earlier cohort, the proportion who consistently worked was higher among those with income sufficiency compared to those with income insufficiency. The proportion who transited to work was similar between those with income insufficiency and those with income sufficiency. While the proportion with late retirement was marginally higher among those income sufficiency relative to those with income insufficiency, the proportion with early or on-time retirement was notably higher among those with income insufficiency. In the later cohort, while the proportion who consistently worked remained higher among those with income sufficiency compared to those with income insufficiency, the proportion who transited to work was considerably higher among those with income insufficiency relative to those with income sufficiency. On the other hand, the proportion with late retirement was markedly higher among those with income sufficiency compared to those with income insufficiency. The proportion with early or on-time retirement remained higher among those with income insufficiency compared to those with income sufficiency.

Comparing the two cohorts, across both perceived income adequacy groups, the proportion who transited to work declined over time, particularly among those with income sufficiency. The proportion with late retirement increased substantially over time, especially among those with income sufficiency. Notable differences in trends were observed for consistently working (no change among those with income sufficiency but decline among those with income insufficiency) and for early or on-time retirement (substantial decline among those with income sufficiency but relatively stable among those with income insufficiency).

Table 8. Work-retirement Transitions by Perceived Income Adequacy at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	**Perceived Income Adequacy at Baseline**	
	Income Sufficiency	Income Insufficiency
Earlier cohort (Weighted Column %)		
Consistently working	36.9	32.6
Transition to work	14.0	13.6
Late retirement	21.2	20.0
Early or on-time retirement	28.0	33.8
Later cohort (Weighted Column %)		
Consistently working	36.9	27.6
Transition to work	2.1	9.6
Late retirement	46.9	28.3
Early or on-time retirement	14.1	34.6
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	0.0	-5.0
Transition to work	-11.9	-4.0
Late retirement	25.7	8.3
Early or on-time retirement	-13.9	0.8

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 9)**, in the earlier cohort, the proportion who consistently worked and with late retirement was higher among those with income sufficiency compared to those with income insufficiency. Conversely, the proportion who transited to work or had early or on-time retirement was higher among those with income insufficiency relative to those with income sufficiency. In the later cohort, the proportion who consistently worked was higher, and who transited to work was slightly higher, among those with income insufficiency compared to those with income sufficiency. Conversely, the proportion with late retirement was higher, and with early or on-time retirement was slightly higher among those with income sufficiency compared to those with income insufficiency. The proportion who never worked was higher among those with income sufficiency.

Comparing the two cohorts, the proportion who consistently worked increased over time for both groups, with a more substantial increase among those with income insufficiency. The proportion who transited to work decreased, and the proportion with late retirement increased, for both groups. The proportion with early or on-time retirement increased substantially for both groups, with a notably higher increase among those with income sufficiency. The proportion who never worked declined dramatically for both groups.

Table 9. Work-retirement Transitions by Perceived Income Adequacy at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Perceived Income Adequacy at Baseline	
	Income Sufficiency	Income Insufficiency
Earlier cohort (Weighted Column %)		
Consistently working	16.9	7.7
Transition to work	14.0	25.3
Late retirement	21.1	16.3
Early or on-time retirement	19.9	24.3
Never worked	28.1	26.4
Later cohort (Weighted Column %)		
Consistently working	20.3	29.1
Transition to work	2.0	2.8
Late retirement	33.5	27.4
Early or on-time retirement	41.2	40.7
Never worked	3.0	0.0
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	3.4	21.4
Transition to work	-12.0	-22.5
Late retirement	12.4	11.1
Early or on-time retirement	31.3	16.4
Never worked	-25.1	-26.4

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.3.5. Housing Type

Tables 10 and **11** present the work-retirement transitions by housing type at baseline for males and females, respectively, in the two birth cohorts.

Among males **(Table 10)**, in the earlier cohort, the proportion who consistently worked was the highest among those living in 1-2 room HDB flats. The proportion who transited to work was notably higher among 3-room HDB flat residents. Late retirement was most common among 1-2 room HDB flat residents, while early or on-time retirement was the highest among those living in 3-room HDB flats or 4-5 room HDB flats or private housing. In the later cohort, the pattern shifted considerably, with proportion of those who consistently worked being the highest for those living in 4-5 room HDB flats or private housing and the lowest among 1-2 room HDB flat residents. While the proportion who transited to work was still the highest among 3-room HDB flat residents, the proportion with late retirement also the highest among them. The proportion with early or on-time retirement was the highest among 1-2 room HDB flat residents.

Comparing the two cohorts, the proportion who consistently worked decreased over time among 1-2 room or 3-room HDB flat residents but was stable over time for those living in 4-5 room HDB flats or private housing. The proportion who transited to work declined over time for all housing types, most notably among 3-room HDB flat residents. The proportion with late retirement increased over time for all housing types, the most increase observed among 3-room HDB flat residents. While the proportion with early or on-time retirement increased over time for 1-2 room HDB flat residents, it declined over time for the larger housing types.

Table 10. Work-retirement Transitions by Housing Type at Baseline: Male (%)

Birth Cohort, and Work-retirement Transitions	Housing Type at Baseline		
	1-2 room HDB	3 room HDB	4-5 room HDB or private housing
Earlier cohort (Weighted Column %)			
Consistently working	44.1	35.5	35.8
Transition to work	7.4	20.8	12.2
Late retirement	25.5	14.9	22.2
Early or on-time retirement	23.1	28.8	29.8
Later cohort (Weighted Column %)			
Consistently working	25.6	32.0	36.7
Transition to work	0.0	7.0	3.2
Late retirement	36.2	47.5	41.3
Early or on-time retirement	38.2	13.5	18.8
Later cohort *minus* Earlier cohort (% point difference)			
Consistently working	-18.5	-3.5	0.9
Transition to work	-7.4	-13.8	-9
Late retirement	10.7	32.6	19.1
Early or on-time retirement	15.1	-15.3	-11

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 11)**, in the earlier cohort, while the proportion who consistently worked was the highest among 1-2 room HDB flat residents (and notably higher than the larger housing types), the proportion who transited to work was slightly lower among them compared to the larger housing types. The proportion with late retirement as well as with early- or on-time retirement was also the highest among 1-2 room HDB flat residents. Interestingly, the proportion who had never worked was much lower among 1-2 room HDB residents compared to the larger housing types, and the highest among 3-room HDB flat residents. In the later cohort, there were some shifts in the patterns. While those living in 1-2 room HDB flats still had the highest proportion who consistently worked, they now had the lowest proportion of those with early or on-time retirement (with the highest proportion seen among those living in 4-5 room HDB flats or private housing). The proportion with late retirement was the highest among those living in 3-room HDB flats followed by 1-2 room HDB flat residents. The proportion who had never worked was relatively low, being less than 5% across the housing types.

Comparing the two cohorts, the proportion who consistently worked or with late retirement increased over time while the proportion who transited to work or never worked decreased over time for all housing types. Nonetheless, the extent of the change over time for these transitions varied across housing types. For instance, the increase in the proportion who consistently worked was the highest for 1-2 room HDB flat residents, the increase in the proportion with late retirement was the highest for 3-room HDB residents and the decrease in the proportion who never worked was much higher among those living in 3-room HDB flats or in 4-5 room HDB flats or private housing. While the proportion with early or on-time retirement increased over time for those living in 4-5 room HDB flats or private housing as well as in 3-room HDB flats, it declined marginally for 1-2 room HDB residents.

Table 11. Work-retirement Transitions by Housing Type at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Housing Type at Baseline		
	1-2 room HDB	3 room HDB	4-5 room HDB or private housing
Earlier cohort (Weighted Column %)			
Consistently working	25.4	13.4	15.5
Transition to work	12.9	15.4	15.2
Late retirement	29.8	20.1	19.2
Early or on-time retirement	23.9	16.7	21.2
Never worked	8.1	34.4	28.9
Later cohort (Weighted Column %)			
Consistently working	37.1	21.9	19.6
Transition to work	0.0	4.0	1.5
Late retirement	36.3	41.1	28.8
Early or on-time retirement	22.2	31.9	46.9
Never worked	4.5	1.2	3.2
Later cohort *minus* Earlier cohort (% point difference)			
Consistently working	11.7	8.5	4.1
Transition to work	-12.9	-11.4	-13.7
Late retirement	6.5	21	9.6
Early or on-time retirement	-1.7	15.2	25.7
Never worked	-3.6	-33.2	-25.7

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.4. Distribution of Work-retirement Transitions among Males and Females in the Two Birth Cohorts, by Health Characteristics

3.2.4.1. Chronic Diseases

Tables 12 and **13** present the work-retirement transitions by number of chronic diseases at baseline for males and females, respectively, in the two birth cohorts.

Among males **(Table 12)**, in the earlier cohort, with an increase in number of chronic diseases, there was a decrease in the proportion who consistently worked and an increase in the proportion with early or on-time retirement. However, the proportion who transited to work (lowest among those with two chronic diseases) or with late retirement (lowest among those with late retirement) did not show a consistent pattern with an increase in number of chronic diseases. In the later cohort, with an increase in number of chronic diseases, there was a decline in the proportion who consistently worked (as in the earlier cohort) and an increase in the proportion with late retirement. The proportion who transited to work was the lowest among those with two chronic diseases, like the earlier cohort. While the proportion with early or on-time retirement increased with an increase in number of chronic diseases from none to two chronic diseases, it was the least among those with three or more chronic diseases.

Comparing the two cohorts, there was no specific trend in the change over time for any of the work-retirement transitions with an increase in the number of chronic diseases. There was a decline over time in the proportion who transited to work (most decline among those with one chronic disease) and with early or on-time retirement (most decline among those with three or more chronic diseases). However, there was also an increase over time in the proportion with late retirement (most increase among those with one chronic disease or with three or more chronic diseases). While the proportion who consistently worked was relatively stable over time for those with no, one or two chronic diseases, it increased over time for those with three or more conditions.

Table 12. Work-retirement Transitions by Number of Chronic Diseases at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	Chronic Diseases at Baseline			
	None	One	Two	Three or more
Earlier cohort (Weighted Column %)				
Consistently working	42.4	40.6	24.8	15.9
Transition to work	13.2	17.7	9.4	12.5
Late retirement	20.0	14.6	29.2	28.5
Early or on-time retirement	24.4	27.1	36.7	43.2
Later cohort (Weighted Column %)				
Consistently working	42.5	37.6	26.3	27.9
Transition to work	3.4	5.1	1.1	5.5
Late retirement	38.9	38.0	46.5	51.9
Early or on-time retirement	15.2	19.3	26.1	14.7
Later cohort *minus* Earlier cohort (% point difference)				

Consistently working	0.1	-3.0	1.5	12.0
Transition to work	-9.8	-12.6	-8.3	-7.0
Late retirement	18.9	23.4	17.3	23.4
Early or on-time retirement	-9.2	-7.8	-10.6	-28.5

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 13)**, in the earlier as well as later cohorts, none of the work-retirement transitions had a consistent trend with an increase in number of chronic diseases, unlike males. In the earlier cohort, the proportion who consistently worked was relatively similar for those no, one or two chronic diseases, but notably lower among those with three or more chronic diseases. While the proportion who transited to work was the highest among those with two or more chronic diseases, it was also high among those with no chronic disease. The proportion with late retirement was the highest among those with one chronic disease and with early or on-time retirement among those with two chronic diseases. The proportion who had never worked was the highest among those with three or more diseases, but the lowest among those with two chronic diseases. In the later cohort, the proportion who consistently worked was again high (highest among those with one chronic disease) for those no, one or two chronic diseases, but notably lower among those with three or more chronic diseases. The proportion with late retirement was uniform across all chronic disease groups, while the proportion with early or on-time retirement was the highest among those with three or more conditions. The proportion who transited to work and who had never worked was less than 3% and 6%, respectively, across all chronic disease categories.

Comparing the two cohorts, like males, there was no specific trend in the change over time for any of the work-retirement transitions with an increase in the number of chronic diseases. There was a decline over time in the proportion who transited to work (most decline among those with two or more chronic diseases) and who had never worked (most decline among those with three or more chronic diseases). However, there was also an increase over time in the proportion with late retirement and with early or on-time retirement, with the increase in either of the transitions being the highest among those with three or more chronic diseases. While the proportion who consistently worked increased over time for those with no, one or two chronic diseases, it marginally declined for those with three or more chronic diseases.

Table 13. Work-retirement Transitions by Number of Chronic Diseases at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Chronic Diseases at Baseline			
	No chronic	One	Two	Three or more
Earlier cohort (Weighted Column %)				
Consistently working	16.7	17.7	16.3	8.7
Transition to work	15.3	9.4	20.1	20.3
Late retirement	18.5	26.0	16.9	15.1
Early or on-time retirement	21.2	17.6	23.6	19.5

Never worked	28.4	29.4	23.1	36.4
Later cohort (Weighted Column %)				
Consistently working	21.7	28.1	21.3	6.4
Transition to work	0.8	2.6	2.9	2.4
Late retirement	31.9	32.9	32.1	32.9
Early or on-time retirement	42.3	35.1	41.5	53.0
Never worked	3.4	1.4	2.2	5.3
Later cohort *minus* Earlier cohort (% point difference)				
Consistently working	5.0	10.4	5.0	-2.3
Transition to work	-14.5	-6.8	-17.2	-17.9
Late retirement	13.4	6.9	15.2	17.8
Early or on-time retirement	21.1	17.5	17.9	33.5
Never worked	-25	-28	-20.9	-31.1

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.4.2. Activities of Daily Living (ADLs)

Tables 14 and **15** present the work-retirement transitions by ADL limitations at baseline for males and females, respectively, in the two birth cohorts.

Among males **(Table 14)**, in the earlier as well as the later cohort, there was a stark contrast between those with and without ADL limitations. In both cohorts, those with no ADL limitation had representation in ongoing workforce participation (consistently working or transition to work), while those with ADL limitations had no such workforce participation. The proportion with early or on-time retirement, indicating past workforce participation, was notably higher among those with ADL limitations compared to those with no ADL limitation in either cohort. The proportion with late retirement was higher among those with ADL limitations, while it was higher among those with no ADL limitation in the later cohort.

Comparing the two cohorts, those with no ADL limitation showed notable changes over time for the proportion who transited to work (decline over time), with late retirement (increase over time) and with early or on-time retirement (decline over time). Among those with ADL limitations, the change over time was less substantial, with a small increase in the proportion with late retirement and a corresponding decrease in the proportion with early or on-time retirement.

Table 14. Work-retirement Transitions by Activities of Daily Living Status at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	ADL Limitation Status at Baseline	
	No limitation	One or more limitations
Earlier cohort (Weighted Column %)		
Consistently working	37.0	0.0
Transition to work	14.1	0.0
Late retirement	20.6	30.9
Early or on-time retirement	28.3	69.1
Later cohort (Weighted Column %)		

Consistently working	36.8	0.0
Transition to work	4.1	0.0
Late retirement	42.8	35.0
Early or on-time retirement	16.3	65.0
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	-0.2	0.0
Transition to work	-10.0	0.0
Late retirement	22.2	4.1
Early or on-time retirement	-12.0	-4.1

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 15)** in the earlier cohort, like males, there was a clear distinction between those with and without ADL limitations. Those with no ADL limitations had moderate ongoing workforce participation (consistently working or transition to work), while those with ADL limitations had no such workforce participation. The proportion who had never worked with substantially higher among those with ADL limitations. While those with ADL limitations had a higher proportion with late retirement, they had no representation in terms of early or on-time retirement. In contrast, in the later cohort, those with ADL limitations had prior or ongoing workforce participation. The proportion who consistently worked was higher among those with no ADL limitations, nonetheless it was also observed among those with ADL limitations. The proportion with late retirement was higher among those with no ADL limitations, while the proportion with early or on-time retirement was higher among those with ADL limitations. The proportion who had never worked was around 3% for either ADL limitation status group.

Comparing the two cohorts, there was an increase over time for both ADL limitation status groups in the proportion who consistently worked as well as with early or on-time retirement, with the magnitude of increase being much higher among those with ADL limitations. There was also a decline over time for both ADL limitation status groups in the proportion who had never worked, with the magnitude of decline again being much higher among those with ADL limitations. The proportion with late retirement increased over time among those with no ADL limitation, while it decreased over time among those with ADL limitations.

Table 15. Work-retirement Transitions by Activities of Daily Living Status at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	ADL Limitation Status at Baseline	
	No limitation	One or more limitations
Earlier cohort (Weighted Column %)		
Consistently working	15.8	0.0
Transition to work	15.2	0.0
Late retirement	20.1	33.4
Early or on-time retirement	20.3	0.0
Never worked	28.5	66.6
Later cohort (Weighted Column %)		
Consistently working	21.5	16.9
Transition to work	2.2	0.0
Late retirement	33.5	13.8
Early or on-time retirement	40.1	66.2
Never worked	2.8	3.1
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	5.7	16.9
Transition to work	-13	0
Late retirement	13.4	-19.6
Early or on-time retirement	19.8	66.2
Never worked	-25.7	-63.5

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.4.3. Self-Rated Health

Tables 16 and **17** presents the work-retirement transitions by self-rated health at baseline for males and females, respectively, in the two birth cohorts.

Among males **(Table 16)**, in the earlier cohort, the proportion who consistently worked or who transited to work was higher among those healthy. However, those unhealthy had a marginally higher proportion with late retirement and notably higher proportion with early or on-time retirement. In the later cohort, while the proportion who consistently worked was higher among those healthy, the proportion who transited to work was similar between the two self-rated health groups. The proportion with late retirement was marginally higher among those healthy, while the proportion with early or on-time retirement was still higher among those unhealthy.

Comparing the two cohorts, the proportion who consistently worked increased over time among those unhealthy, while remaining relatively stable over time among those healthy. Transition to work declined over time and late retirement increased over time for both self-rated health groups, with the change over time more among those healthy. While early or on-time retirement also declined over time for both self-rated health groups, the decline was higher among those unhealthy**.**

Table 16. Work-retirement Transitions by Self-Rated Health at Baseline: Males (%)

Birth Cohort, and Work-retirement Transitions	Self-Rated Health at Baseline	
	Healthy	Unhealthy
Earlier cohort (Weighted Column %)		
Consistently working	38.8	17.8
Transition to work	15.0	5.7
Late retirement	20.4	23.4
Early or on-time retirement	25.9	53.2
Later cohort (Weighted Column %)		
Consistently working	39.2	26.3
Transition to work	3.8	3.9
Late retirement	43.2	40.8
Early or on-time retirement	13.8	28.9
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	0.4	8.5
Transition to work	-11.2	-1.8
Late retirement	22.8	17.4
Early or on-time retirement	-12.1	-24.3

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The proportion who never worked was only 0.5% in the earlier cohort and 0% in the later cohort, thus were not considered for the table.

Among females **(Table 17)**, in the earlier cohort, the proportion who consistently worked was substantially higher among those healthy, while the proportion with late retirement or who had never worked was higher among those unhealthy. The proportion who transited to work or with early or on-time retirement was relatively similar between the two self-rated health groups. In the later cohort, the proportion who consistently worked was higher among those healthy, while the proportion with late retirement or with early or on-time retirement was higher among those unhealthy. The proportion who transited to work or who had never worked was low and relatively similar between the two self-rated health groups.

Comparing the two cohorts, the proportion who consistently worked increased over time for both the two self-rated health groups, though more so among those unhealthy. Transition to work declined over time, and late retirement as well as early or on-time retirement increased over time, for both self-rated health groups, with the change over time being relatively similar between the groups. The proportion who had never worked declined over time for both self-rated health groups, the decline being higher among those unhealthy.

Table 17. Work-retirement Transitions by Self-Rated Health at Baseline: Females (%)

Birth Cohort, and Work-retirement Transitions	Self-Rated Health at Baseline	
	Healthy	Unhealthy
Earlier cohort (Weighted Column %)		
Consistently working	17.0	2.9
Transition to work	15.2	14.3
Late retirement	19.6	26.0
Early or on-time retirement	20.2	20.3
Never worked	28.1	36.5

Later cohort (Weighted Column %)		
Consistently working	23.2	17.1
Transition to work	1.8	2.7
Late retirement	31.3	34.8
Early or on-time retirement	40.4	44.1
Never worked	3.3	1.3
Later cohort *minus* Earlier cohort (% point difference)		
Consistently working	6.2	14.2
Transition to work	-13.4	-11.6
Late retirement	11.7	8.8
Early or on-time retirement	20.2	23.8
Never worked	-24.8	-35.2

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).

3.2.5. Work-retirement Transitions of Males and Females in the Two Birth Cohorts: Results from Multinomial Logistic Regression Analyses

Figures 7 and 8, presented earlier, illustrated the differences in work-retirement transitions between the two birth cohorts for males and females, respectively. The descriptive analysis results presented in the figures may reflect differences in work-related societal norms or policies experienced by the two cohorts but could also be the result of cohort differences in socio-demographic and health characteristics (Appendix Tables 1 and 2). Therefore, we conducted multinomial logistic regression analyses (using early or on-time retirement as the reference category) to account for cohort differences in socio-demographic and health characteristics and estimated predicted probabilities for the various work-retirement transitions for both males and females. The Relative Risk Ratios from the multinomial logistic regression analyses are presented in Appendix Table 3.

Among males **(Table 18 and Figure 9)**, the predicted probabilities supported significant cohort differences in work-retirement transitions. The later cohort had a moderately higher probability of "Consistently working" (36.1% in later cohort vs. 31.7% in earlier cohort) and a substantially higher probability of "Late retirement" (42.7% vs. 20.2%), while having a lower probability of "Transition to work" (3.8% vs. 13.9%) and "Early or on-time retirement" (17.4% vs. 34.3%) relative to the earlier cohort. All differences were statistically significant ($p < 0.01$), indicating a clear trend toward extended workforce participation among males in the later, versus earlier, cohort.

Among females **(Table 18 and Figure 10)**, similar cohort differences were observed in work-retirement transitions. The later cohort had a higher probability of "Consistently working" (22.1% in later cohort vs. 15.1% in earlier cohort), "Late retirement" (33.0% vs. 20.5%), and "Early or on-time Retirement" (40.1% vs. 23.0%) relative to the earlier cohort. Notably, the later cohort also had a substantially lower probability of "Transition to work" (2.3% vs. 14.4%) and "Never worked" (2.5% vs. 27.0%) compared to the earlier cohort. All differences were statistically significant ($p < 0.01$), and indicated that females in the later, versus earlier, cohort had significantly enhanced workforce participation.

Table 18. Predicted Probability of Work-retirement Transitions by Gender and Cohort

Work-retirement Transition	Males		Females	
	Earlier Cohort	Later Cohort	Earlier Cohort	Later Cohort
Consistently working	0.317 (0.037)***	0.361 (0.027)***	0.151 (0.025)***	0.221 (0.022)***
Transition to work	0.139 (0.0291)***	0.038 (0.011)**	0.144 (0.024)***	0.023 (0.008)**
Late retirement	0.202 (0.033)***	0.427 (0.027)***	0.205 (0.029)***	0.330 (0.024)***
Early or on-time retirement	0.343 (0.041)***	0.174 (0.020)***	0.230 (0.030)***	0.401 (0.024)***
Never worked	-	-	0.270 (0.034)***	0.025 (0.008)**

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The multinomial logistic regression models controlled for socio-demographic (age, educational attainment, marital status, housing type, and perceived income adequacy) and health characteristics (number of chronic diseases, ADL limitation status, and self-rated health). Standard errors (SE) are presented in parentheses.
** p<0.01, *** p<0.001

Figure 9. Predicted Probabilities of Work-retirement Transitions for Males

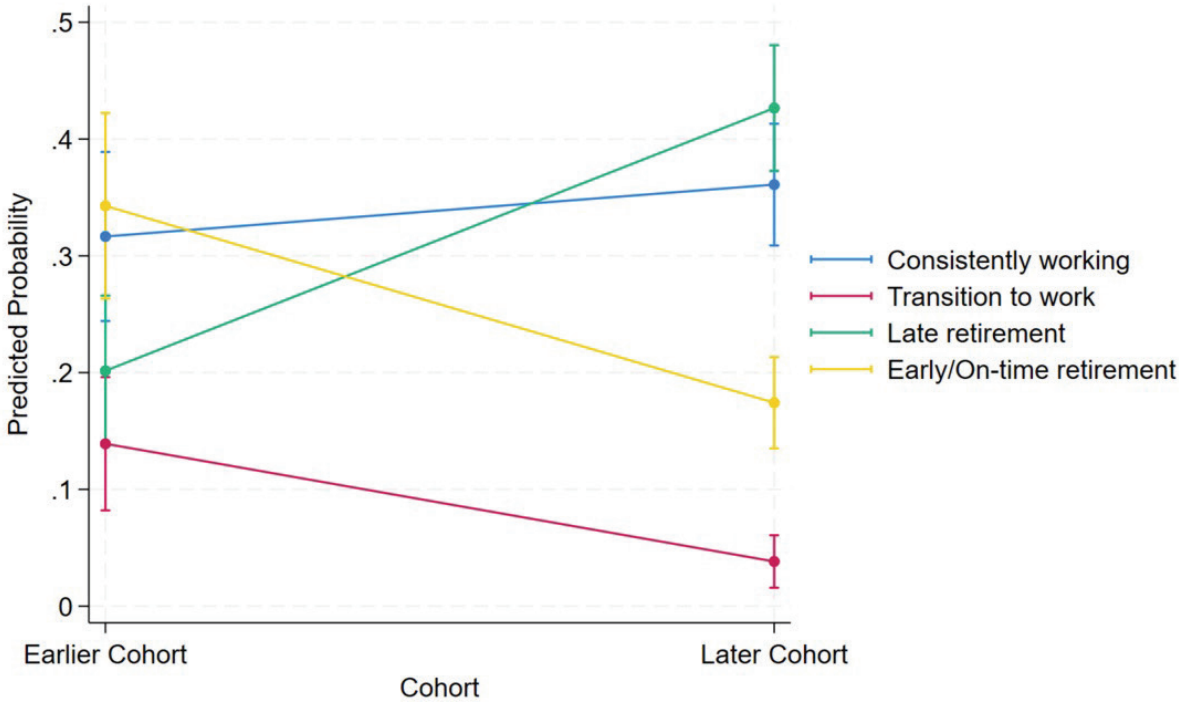
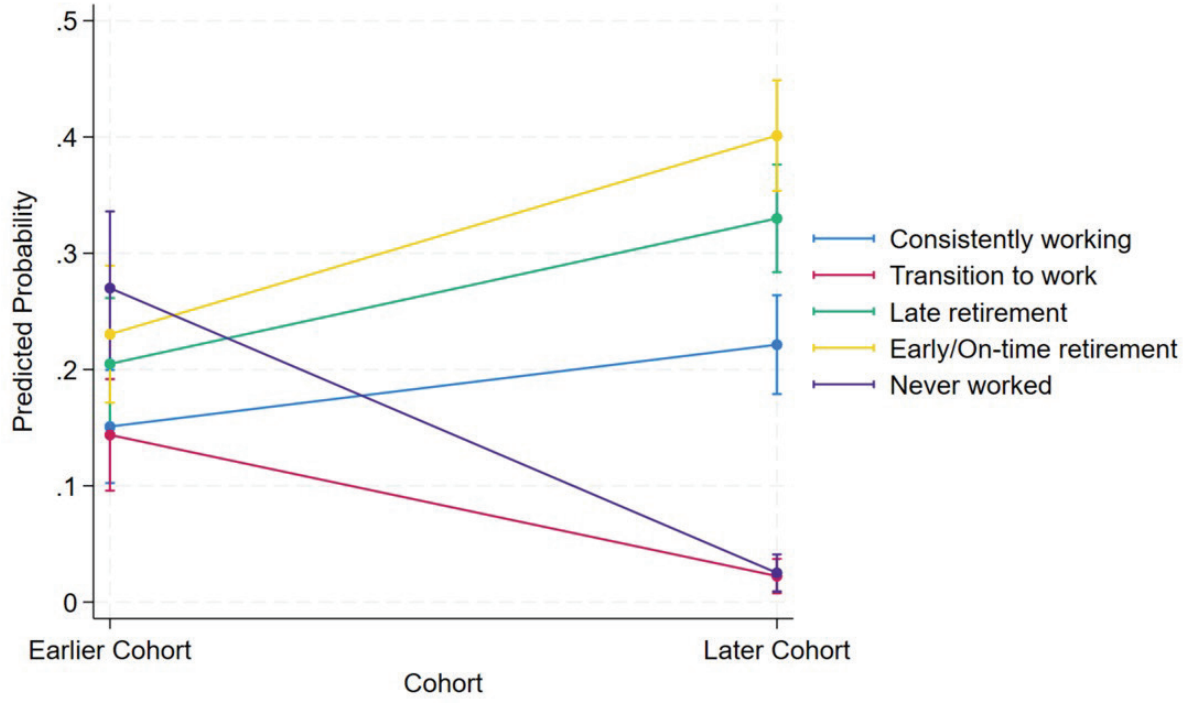


Figure 10. Predicted Probabilities of Work-retirement Transitions for Females



Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The multinomial logistic regression models controlled for socio-demographic (age, educational attainment, marital status, housing type, and perceived income adequacy) and health characteristics (number of chronic diseases, ADL limitation status, and self-rated health).

4. CONCLUSION AND DISCUSSION

4.1. Work-retirement status and transitions

In this brief, we first presented published data on labour force participation and employment rates among individuals aged 55 years and above and discussed some key policies in the context of work at older ages, from OECD countries and Singapore. We found that, in 2023, Singapore's LFPR exceeded the OECD average LFPR, both for those aged 55-64 years and 65 years and above. Within Singapore, there has been a substantial increase in labour force participation among those aged 55 years and above from 1991 to 2024, primarily driven by increased female participation. The gender gap in LFPR at older ages has decreased over time, however, females continue to have lower labour force participation.

Second, we conducted a comparative analysis using panel data from Singapore to investigate how two distinct birth cohorts (both aged 62-68 years at baseline) – an earlier cohort (born 1941–1947) and a later cohort (born 1948–1954) – transition within or exit the labour market beyond the statutory retirement age (62 years for either cohort). We compared work-retirement transitions between the two birth cohorts, overall and by socio-demographic and health characteristics. Overall, we observed an increase over time (i.e., higher in the later cohort) in the proportion with late retirement among both males and females, an increase over time in the proportion with early or on-time retirement among females but a decrease over time in this proportion among males, and a dramatic decrease over time in the proportion of females who have never worked. The direction of these changes, though the extent of change varied, largely held in sub-groups defined by various socio-demographic and health characteristics[1].

For both males and females, while the proportion with late retirement was higher in the later (versus earlier) cohort for both baseline age groups, 62-65 years and 66-68 years, the increase in the proportion over time was more for those aged 66-68 years at baseline. This was surprising, as we had expected the increase over time to be more among those aged 62-65 years at baseline as they would have benefited from the extension of the re-employment age to 67 years in 2017. There was a concurrent increase over time in the proportion consistently working, more so among those aged 62-65 years at baseline in the later cohort, however only among females. With the planned increases in retirement and re-employment ages, it will be of interest to monitor variation in these work-retirement transitions by age group in future waves of THE SIGNS Study.

Better health status at baseline (fewer chronic conditions, no ADL limitations, and higher self-rated health) was generally associated with higher likelihood of workforce participation in both the earlier and later cohorts. Nevertheless, it was encouraging to see an increase over time (i.e. higher in the later cohort) in workforce participation, in terms of consistently working or late retirement, at older ages among those with poorer health status at baseline. This possibly reflects improvements in healthcare services as well as workplace facilities and regulations that enabled those in poorer health to extend their working lives.

[1] There were, however, a few exceptions. Among males, the proportion with early or on-time retirement increased over time (rather than the decrease seen overall and in most-subgroups) among those with above-secondary education (increase), who are never married (slight increase) or with income insufficiency (slight increase). And, among females, the proportion with late retirement decreased over time (rather than the increase seen overall and in most-subgroups) among those with above-secondary education (slight decrease) or with ADL limitations (decrease), and the proportion with early or on-time retirement decreased over time (rather than the increase seen overall and in most-subgroups) among those living in 1-2 room HDB flats (slight decrease).

The multinomial regression analyses revealed persistent differences in work-retirement transitions between the two birth cohorts, even after controlling cohort differences in socio-demographic and health characteristics. Males in the later cohort showed significantly extended workforce participation beyond statutory retirement age (reflected by the increase in the probability of consistently working and late retirement and decrease in the probability of early or on-time retirement). Correspondingly, females in the later cohort also demonstrated enhanced workforce participation (reflected by the increase in the probability of consistently working and late retirement, coupled with a dramatic decline in the probability of having never worked), though they also had an increased probability of early or on-time retirement. These substantial changes in work-retirement transitions between cohorts are likely attributable to changes over time in work-related societal norms, such as evolving gender-based expectations about work and retirement timing, as well as in work-related government policies, such as the introduction and increase in re-employment age.

4.2. Extending Working Lives in Singapore: Challenges, Opportunities and Supportive Policy Direction

The OECD projects that by 2050, around 40% of the population in most developed countries will be over 50 years old. To maintain the labour force ratio at the 2015 level, most OECD countries would need to extend the average working life by 6.2 years. For example, South Korea faces an even greater challenge, requiring an additional 13 years—the longest extension among OECD countries (OECD, 2020). This highlights the urgent need for substantial policy adjustments to address its rapidly ageing population. Singapore is experiencing similar demographic pressures, with its workforce rapidly ageing. The proportion of workers aged 55 years and older in Singapore's labour force has grown substantially, from 19% in 2012 to 27% in 2022 (Ministry of Manpower [MOM], 2023), contributing to a shrinking workforce across various economic sectors.

As populations age, retaining experienced and skilled older adults in the workforce as well as upskilling workers can help mitigate the economic challenges posed by a shrinking working-age population. These measures aim to leverage the potential of older workers, offsetting the adverse economic impacts of demographic shifts. The policy direction in Singapore to raise the retirement age from 60 to 65 years and the re-employment age to 70 years by 2030 is a positive step forward. Given the country's rapidly ageing population and low fertility rate, these measures are increasingly vital to address the anticipated labour force shortages.

Delayed retirement can promote productive ageing. Research indicates that late retirement and voluntary participation in activities even after retirement can reduce the risk of health complications and enhance physical and cognitive functioning in older adults (Wu et al., 2016). This positive impact is further supported by Ahn and Lee (2015), who found that Korean individuals aged 65 years and above who returned to work after a period of not working experienced improvements in both depressive symptoms and self-rated health compared to those who remained not working. Wolfson (2011) reported that paid work was ranked as the third-highest activity in terms of enjoyment overall and was rated the highest among individuals over age 65 years in Canada. Together, these findings suggest that (continued) employment at older ages provides social and health benefits, including meaningful social interaction, improved cognitive function, enhanced mental health, and better self-rated health.

At the same time, it is crucial to acknowledge that expectations for extended working lives should not be uniformly applied to all older adults. Health considerations may present substantial barriers to late retirement for certain older adults, resulting in more heterogeneous work-retirement transitions. When occupational demands become the source of burden and stress, continued employment may exert detrimental effects on health status. In such instances, delayed retirement could potentially exacerbate existing health conditions. Occupations characterised by physical demands or elevated stress levels may necessitate earlier withdrawal from the workforce. Furthermore, the nature of employment warrants careful consideration in the development of public policies concerning labour market participation and retirement security.

It is also essential that policymakers do not overlook the need for targeted support for low-income, vulnerable workers and those compelled to retire early due to health or family caregiving issues. It is important to note that the positive impacts of late retirement observed in OECD countries are often supported by generous unemployment benefits and disability pensions for early retirees (OECD, 2023). Singapore has already introduced various initiatives, such as the WIS, MRSS, and SSS, which support Singapore citizens with lower income and lower retirement savings. Robust data collection and analysis are essential to assess the effectiveness of these measures in improving financial security and promoting sustained labour force participation among older workers. Such insights can guide potential enhancements to these programmes, including increasing qualifying income thresholds or raising matching contribution limits under the MRSS, to better address the needs of these vulnerable groups.

Retirement can be a stressful life event in and of itself (Cheng & Chan, 2018). Some studies have concluded that retirement may be associated with a decline in cognitive function, difficulties in daily activities, and an increase in depressive symptoms (Bozio, Garrouste, & Perdrix, 2021). To ensure that retirement becomes a smooth and natural life transition, it is essential to implement supportive policies and programmes that promote active engagement through opportunities such as volunteering, community-based activities, or government-funded part-time opportunities that foster social connection and a sense of purpose. It is encouraging to see that Singapore's revised Action Plan for Successful Ageing encompasses such initiatives (https://www.moh.gov.sg/others/resources-and-statistics/action-plan-for-successful-ageing).

Healthcare policies also play a crucial role in supporting a productive ageing workforce. Singapore's Healthier SG initiative, which emphasizes preventive care and healthy lifestyles, aligns with the current late retirement policy and potentially serves as a complementary measure. This holistic approach acknowledges the importance of physical and mental well-being in sustaining an engaged and productive older workforce (Singapore University of Social Sciences, National Trades Union Congress, & Tsao Foundation, 2024).

Building on this study, future research can explore the causal relationships between labour market policy changes and extended workforce participation, as well as the relationship between work-retirement transitions and health and wellbeing outcomes. Such investigations would offer a more holistic understanding of the complex factors influencing work-retirement transitions in Singapore.

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6. APPENDIX

Appendix Table 1. Demographic and Socio-economic Characteristics by Cohort and Gender

	Males		Females	
	Earlier Cohort (N=250)	Later Cohort (N=366)	Earlier Cohort (N=368)	Later Cohort (N=397)
Age				
62-65	72.0	66.9	70.5	64.2
66-68	28.1	33.1	29.6	35.8
Education Attainment				
No Formal Education	6.8	7.4	31.6	20.2
Primary School	38.0	29.6	34.9	34.7
Secondary School	41.3	37.7	25.0	33.1
Above Secondary School	13.9	25.4	8.5	12.0
Marital Status				
Married	87.0	85.6	66.7	68.0
Divorced, widows, and separated	5.1	5.7	19.6	22.5
Never married	7.9	8.7	13.7	9.5
Perceived Income Adequacy				
Income Sufficiency	79.5	77.0	87.5	86.7
Income Insufficiency	20.5	23.0	12.5	13.3
Housing Type				
1-2 room HDB	4.8	7.1	7.7	6.0
3 room HDB	21.8	23.5	27.7	25.5
4 room HDB or private housing	73.4	69.4	64.7	68.5

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: Males who never worked (0.5% in the earlier cohort) were excluded from this analysis.

Appendix Table 2. Health Characteristics by Cohort and Gender (%)

	Males		Females	
	Earlier Cohort	Later Cohort	Earlier Cohort	Later Cohort
Chronic Diseases				
None	37.8	26.0	26.6	31.0
One	31.8	33.1	34.7	30.6
Two	22.6	24.1	22.3	23.1
Three and more	7.8	16.8	16.5	15.4
ADL Limitation				
No limitation	97.3	94.5	98.5	94.4
One or more limitations	2.7	5.5	1.5	5.6
Self-rated Health				
Healthy	87.3	65.9	90.5	67.1
Unhealthy	12.7	34.1	9.5	32.9

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: Males who never worked (0.5% in the earlier cohort) were excluded from this analysis.

Appendix Table 3. Cohort Difference in Work-retirement Transitions, Adjusting for Socio-demographic and Health Characteristics, by Gender: Results from Multinominal Logistic Regression

	Work-retirement Transitions *(Reference: Early or on-time retirement)*			
	Consistently working	Transition to work	Late retirement	Never worked
	Relative Risk Ratio (Robust Standard Error)			
Males: Later (versus earlier) cohort (N=593)	2.9 (0.9) **	0.6 (0.3)	4. 9 (1.6) **	-
Females: Later (versus earlier) cohort (N=674)	1.04 (0.31)	0.10 (0.04) **	1.08 (0.28)	0.04 (0.02) **

Data Source: Panel on Health and Ageing of Singaporean Elderly (PHASE) and Transitions in Health, Employment, Social Engagement, and Inter-Generational Transfers in Singapore Study (THE SIGNS Study).
Notes: The regression models controlled for socio-demographic (age, educational attainment, marital status, housing type, and perceived income adequacy) and health characteristics (number of chronic diseases, ADL limitation status, and self-rated health).
** $p<0.01$

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