

Long-term changes in the overall labour force participation rate since the mid-1990s: the effects of ageing and education upgrading

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Abstract

The compositional effect of demographic changes is one of the factors contributing to long-term changes in Hong Kong's overall labour force participation rate (LFPR). This article utilises a shift-share analysis to quantify how compositional changes in the age and education of the population could affect the overall LFPR over 1995-2019. The results suggest that population ageing put considerable downward pressure on the overall LFPR over 1995-2019, which more than offset the uplift brought about by education upgrading in the population. Such downward pressure has become more noticeable as the trend of population ageing has accelerated in recent years.

自 1990 年代中期以來整體勞動人口參與率的長期變化：

人口高齡化及教育水平提升的影響

摘要

人口結構改變的成分效應是影響香港整體勞動人口參與率的長期變化的因素之一。本文利用轉移比例分析去量化 1995 至 2019 年間人口年齡及教育程度的轉變對整體勞動人口參與率的影響。分析結果顯示人口高齡化在 1995 至 2019 年間為整體勞動人口參與率帶來相當的下行壓力，並可抵銷教育水平提升帶來的提升有餘。近年人口高齡化趨勢有所加快，其帶來的下行壓力變得更為明顯。

<p>The views and analysis expressed in this article are those of the author and do not necessarily represent the views of the Office of the Government Economist.</p>

I. INTRODUCTION

1. The labour force participation rate (LFPR), which measures the proportion of the population joining the workforce, is a commonly used indicator for monitoring the overall labour market situation at the macro level, especially for the supply side. Various factors affect the underlying trend of the overall LFPR, including demographic changes, which have brought about corresponding structural changes in Hong Kong's labour force participation over time. While Hong Kong has transformed towards a knowledge-based economy with a gradually increasing share of more educated persons joining the job market, it also faces an ageing population as the post-war baby boomers reach their retirement age. In this article, a shift-share analysis is used to quantify how compositional changes in the age and education level of the Hong Kong population affected the overall LFPR over the past two and a half decades.

2. The structure of this article is as follows. Section II explains briefly the methodology and data sources for decomposing the overall LFPR of Hong Kong since 1995 with a shift-share analysis. Section III describes the data and draws some salient observations on the overall LFPR and the shares of the population by age and education level for readers to understand the basics of the labour market of Hong Kong. Section IV presents and explains the key results of the decomposition analysis. Section V discusses further on other factors besides age and education that could have a bearing on the LFPR. Section VI concludes.

II. METHODOLOGY AND DATA SOURCES

3. Decomposition of the changes in the overall LFPR using a shift-share analysis is a simple and common way to estimate the contribution of certain factors such as population ageing or the contribution of a particular population group to the change in the overall LFPR. For example, Balakrishnan, Dao, Solé and Zook (2015)¹ found that around half of the decline in the LFPR over 2007-2013 in the United States was due to population ageing, while Hotchkiss (2009)² demonstrated that the decline in the share of the working-age population dominated the decline in the overall LFPR in the United States over 1950-2018.

¹ Balakrishnan, R., M. Dao, J. Solé, J. Zook. 2015. "Recent U.S. Labor Force Dynamics: Reversible or not?" IMF Working Paper No. 15/76. <https://www.imf.org/external/pubs/ft/wp/2015/wp1576.pdf>

² Hotchkiss, J.L. 2009. "Decomposing changes in the aggregate labor force participation rate." Working Paper, No. 2009-6a, Federal Reserve Bank of Atlanta. <https://www.frbatlanta.org/research/publications/wp/2009/06>

4. As the overall LFPR can be viewed as the weighted average of the LFPRs of different groups in the population, a shift-share analysis estimates the compositional effect by keeping the LFPR of each individual group constant, while allowing the share of different groups in the population to change. The effect due to the changes in the LFPRs of individual groups is captured in the residual term. The following formula³ is adopted in this analysis to decompose the year-on-year change in the overall LFPR (from year t to year $t + 1$):

$$\text{LFPR}_{t+1} - \text{LFPR}_t =$$

$$\sum_i \left(\text{LFPR}_t^i \times (\text{Pop_share}_{t+1}^i - \text{Pop_share}_t^i) \right) + \sum_i \left(\text{Pop_share}_{t+1}^i \times (\text{LFPR}_{t+1}^i - \text{LFPR}_t^i) \right)$$

where LFPR_t refers to the overall LFPR in year t ;

LFPR_t^i refers to the LFPR of group i in year t ; and

Pop_share_t^i refers to the share of group i in the population in year t .

5. The first term (in red) on the right hand side of the formula represents the contribution due to compositional change in the population (i.e. changes in the share of persons with a selected demographic / socio-economic attribute i in the overall population). The second term (in blue) represents the contribution due to changes in the LFPRs of individual groups of persons with a specific attribute i . The cumulative contributions due to compositional change in the population or due to changes in LFPRs of individual groups over specified periods are then calculated by summing up the respective contributions to the year-on-year changes.

6. Annual data from the General Household Survey conducted by the Census and Statistics Department between 1995 and 2019 are used to carry out the above shift-share analysis, where the LFPR is defined as the proportion of the labour force in the land-based non-institutional population aged 15 and above⁴. Foreign domestic helpers are excluded from the analysis. Since the compositional change of the population by age and education is the major interest of this study, the following three dimensions are chosen for the decomposition analysis⁵:

- **Age:** by 12 age groups, i.e. 15-19, 20-24, ... , 60-64, 65-69, 70+;

³ Refer to *Appendix 1* for the derivation of the formula.

⁴ Unless otherwise specified, the term “population” used in this letter article refers to the land-based non-institutional population aged 15 and above.

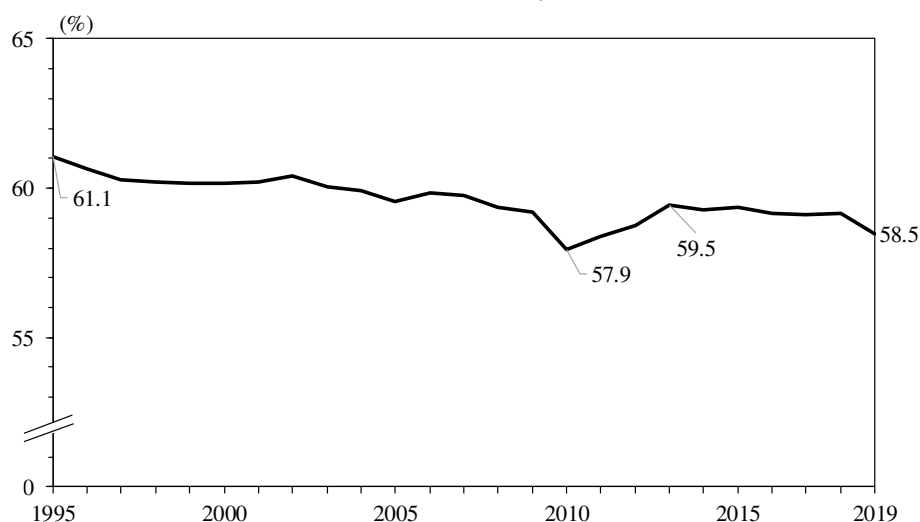
⁵ For detailed statistics of the LFPRs and the shares of population by age and education, please refer to *Appendix 2*.

- **Education:** by three broad groups of highest education level ever attended, i.e. lower secondary and below, upper secondary, post-secondary; and
- **Age and education:** using cross-classified data from the above age and education groups, i.e. $12 \times 3 = 36$ age-education groups.

III. OVERALL LFPR AND DEMOGRAPHIC SHIFTS, 1995-2019

7. Notwithstanding short-term fluctuations, the overall LFPR of Hong Kong was generally on a downward trend between 1995 and 2019. It declined moderately from 61.1% in 1995 to 57.9% in 2010. While it bounced back somewhat to 59.5% in 2013, conceivably because of other non-structural factors that affected overall labour force participation (to be further discussed in Section V), it subsequently fell again gradually to 58.5% in 2019 (*Chart 1*).

Chart 1: Overall LFPR, 1995-2019



Source: General Household Survey, Census and Statistics Department.

8. To understand more on the possible impact of population ageing on the overall LFPR, the share of population by age over the study period is further examined (*Table 1(a)*). Notably, the share of the elderly (i.e. those aged 65 and above) in the population aged 15 and above rose from 12.2% in 1995 to 14.5% in 2005. The corresponding share went up even more visibly to 20.2% in 2019, a natural reflection of the post-war baby boomers reaching age 65. Also notable is that the share of those aged 70 and above rose visibly from 7.8% in 1995 to 13.2% in 2019, which became the largest share among our selected age groups. Given that those in the older age groups generally had distinctly lower LFPRs (e.g., aged 25-29 in 2019: 88.2%, versus 60-64: 47.0%, 65-69: 25.5% and 70+: 5.4%), the growing share of these groups in the population would naturally put downward pressure on overall labour force participation.

9. When analysed by education, the share of the population aged 15 and above with post-secondary education rose from 14.6% in 1995 to 23.1% in 2005 and further to 35.0% in 2019 as there were more opportunities for youngsters to pursue further studies at tertiary education level. In contrast, the share of those with lower secondary and below education declined from 52.2% in 1995 to 42.5% in 2005 and 33.6% in 2019. Intuitively, education upgrading as reflected by such compositional shifts in the population should generally be a supportive factor for the overall LFPR given the notably higher LFPR in higher education groups (post-secondary education: 74.5% in 2019, versus lower secondary and below: 38.8%) (*Table 1(b)*).

Table 1: Share of population aged 15 and above by age and education, 1995-2019

	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2019</u>	<u>LFPR*</u>
(a) By age							
15 - 19	8.6%	8.6%	7.7%	7.3%	5.9%	4.6%	[11.6%]
20 - 24	8.9%	8.3%	7.8%	7.4%	7.1%	6.4%	[58.8%]
25 - 29	10.5%	9.2%	7.8%	8.0%	7.6%	7.2%	[88.2%]
30 - 34	12.9%	10.1%	9.1%	8.2%	8.2%	7.8%	[84.8%]
35 - 39	12.8%	12.3%	9.9%	9.0%	8.1%	8.4%	[82.3%]
40 - 44	10.3%	12.0%	11.8%	9.3%	8.8%	8.1%	[80.8%]
45 - 49	8.2%	9.5%	11.3%	11.0%	8.9%	8.8%	[79.6%]
50 - 54	5.0%	7.5%	9.0%	10.5%	10.5%	9.0%	[77.3%]
55 - 59	5.4%	4.5%	6.9%	8.3%	9.9%	10.2%	[67.6%]
60 - 64	5.3%	4.8%	4.2%	6.4%	7.7%	9.1%	[47.0%]
65 - 69	4.4%	4.4%	4.4%	3.8%	5.9%	7.1%	[25.5%]
70+	7.8%	8.8%	10.2%	10.8%	11.4%	13.2%	[5.4%]
(b) By education level							
Lower secondary and below	52.2%	47.3%	42.5%	38.3%	34.8%	33.6%	[38.8%]
Upper secondary	33.2%	34.1%	34.4%	35.3%	33.5%	31.4%	[61.8%]
Post-secondary	14.6%	18.6%	23.1%	26.4%	31.8%	35.0%	[74.5%]

Notes: (*) Figures in square brackets denote the respective LFPRs in 2019.

Figures shaded in yellow denote the group with the largest share in that year.

May not add up to 100% due to rounding.

Source: General Household Survey, Census and Statistics Department.

IV. RESULTS OF THE OVERALL LFPR DECOMPOSITION, 1995-2019

IV.A. The stand-alone effect of population ageing

10. **Table 2** shows the decomposition results for the change in age structure in the population, in which the stand-alone effect of population ageing was negative for the period 1995-2019 as a whole. More specifically, the overall LFPR would be 6.48 percentage points lower cumulatively if the LFPR of individual age groups remained constant within successive two-year periods, which implies an average decrease of 0.27 percentage point in the overall LFPR per annum (p.a.). This result is within our expectations that the change in age structure alone would pose a drag on the overall labour force participation.

11. If the age effect is further divided by the three selected periods, i.e. 1995-2005, 2005-2010, and 2010-2019, it can be seen that the impact on the overall LFPR was always negative, and the magnitude increased over time, from -1.90 percentage points over 1995-2005 to -3.23 percentage points over 2010-2019. On an annual basis, the respective ageing impact increased from 0.19 percentage point p.a. to 0.27 percentage point p.a., and further to 0.36 percentage point p.a. The more notable estimated impact in recent years generally reflected the accelerated ageing trend facing Hong Kong with a notably higher proportion of the population in older age groups with distinctly lower LFPRs, even though the latter have also risen over time (*Charts 2a and 2b*).

12. The residual as represented by the contribution by changes in LFPRs of individual age groups, while not the main research focus of this article, was generally positive between 1995 and 2019 (3.90 percentage points as a whole) but this was more than offset by the ageing factor. The more notable positive effect in more recent years might conceivably be owing to other policy factors (such as the implementation of the Statutory Minimum Wage in 2011) and short-term cyclical factors, which will be further discussed in Section V.

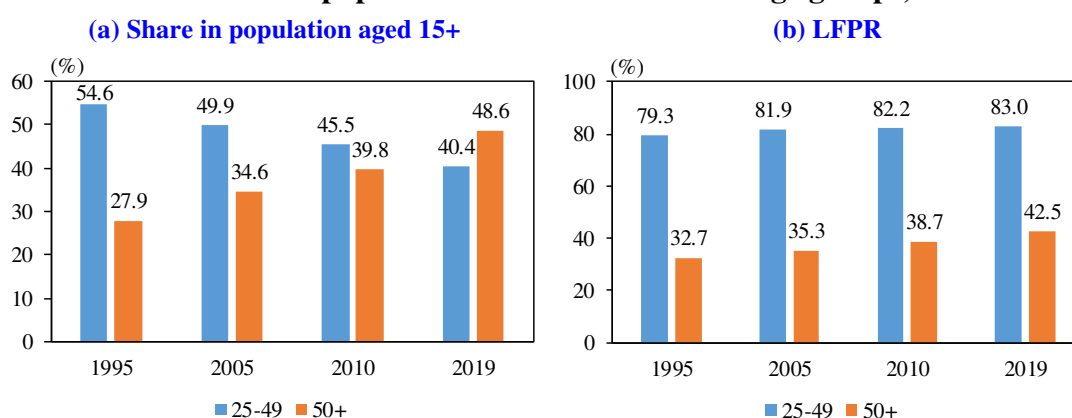
Table 2: Decomposition of the change in the overall LFPR, 1995-2019
(due to changes in age composition)

Period ⁶	Change in overall LFPR (percentage point(s))	Contribution due to changes in:	
		age composition of the population aged 15 and above (percentage point(s))	LFPRs of individual age groups (percentage point(s))
From 1995 to 2005	-1.51 [-0.15] (from 61.1% to 59.6%)	-1.90 [-0.19]	0.39 [0.04]
From 2005 to 2010	-1.62 [-0.32] (from 59.6% to 57.9%)	-1.35 [-0.27]	-0.28 [-0.06]
From 2010 to 2019	0.55 [0.06] (from 57.9% to 58.5%)	-3.23 [-0.36]	3.78 [0.42]
From 1995 to 2019	-2.58 [-0.11] (from 61.1% to 58.5%)	-6.48 [-0.27]	3.90 [0.16]

Note: Changes per annum are quoted in square brackets.

Sources: General Household Survey, Census and Statistics Department; author's calculations.

Chart 2: LFPR and population shares of two broad age groups, 1995-2019



Source: General Household Survey, Census and Statistics Department.

IV.B. The stand-alone effect of education upgrading

13. The same decomposition method is then reapplied, but this time featuring the change in the education level of the population over time instead. Overall, a general improvement in education level, which could be taken as a proxy for education upgrading, provided a rather sustained uplifting effect to the overall LFPR over time. If the LFPRs of the groups of individuals with the same education level were to remain constant over successive two-year intervals, the cumulative compositional changes alone would lift the overall LFPR by 6.10 percentage points over 1995-2019, which is equivalent to a 0.25 percentage point positive increment p.a. (*Table 3*).

⁶ The years 1995, 2005 and 2010 are chosen because they are the years when the economy was at a broadly similar phase cyclically. The year 2019 is chosen as it is the latest period with annual figures available.

14. The effects of education on the overall LFPR are as expected all positive over the three selected periods. On an annual basis, the average boost was 0.28 percentage point p.a. over 1995-2005, and slightly lowered to 0.25 percentage point p.a. over 2005-2010 and 0.22 percentage point p.a. over 2010-2019. The smaller effect in the latter period conceivably reflected the slower drop in the share of those with lower secondary and below education, noting that their LFPR was much lower than those with higher education level (*Charts 3a and 3b*). The residual, i.e. the contribution by the changes in LFPRs of individual groups with same education level, at -8.69 percentage points between 1995 and 2019, was more or less dominated by the significantly negative impact of population ageing on the overall LFPR as already discussed in Section IV.A.

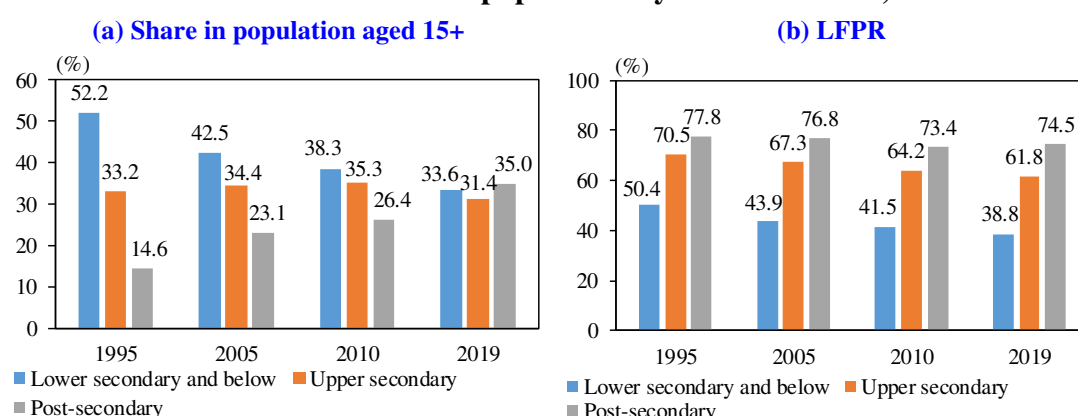
**Table 3: Decomposition of the change in the overall LFPR
(due to changes in education level)**

Period	Change in overall LFPR (percentage point(s))	Contribution due to changes in:	
		education level of the population aged 15 and above (percentage point(s))	LFPRs of individual groups with same education level (percentage point(s))
From 1995 to 2005	-1.51 [-0.15] <i>(from 61.1% to 59.6%)</i>	2.85 [0.28]	-4.36 [-0.44]
From 2005 to 2010	-1.62 [-0.32] <i>(from 59.6% to 57.9%)</i>	1.27 [0.25]	-2.89 [-0.58]
From 2010 to 2019	0.55 [0.06] <i>(from 57.9% to 58.5%)</i>	1.99 [0.22]	-1.44 [-0.16]
From 1995 to 2019	-2.58 [-0.11] <i>(from 61.1% to 58.5%)</i>	6.10 [0.25]	-8.69 [-0.36]

Note: Changes per annum are quoted in square brackets.

Sources: General Household Survey, Census and Statistics Department; author's calculations.

Chart 3: LFPR and shares in population by education level, 1995-2019



Source: General Household Survey, Census and Statistics Department.

IV.C. The combined effect of the change in age composition and education upgrading

15. In the previous two sub-sections, the stand-alone impacts of population ageing and education upgrading are estimated separately using the change in share of population based on one-dimensional cuts. Yet, to understand further the relativity between the two factors on overall LFPR, a third decomposition based on cross-classified data of the two components is performed. The results are shown in **Table 4**.

16. The compositional effect of the two factors combined indicated that the negative effect of population ageing more than offset the positive effect of education upgrading, leading to a net effect of -3.30 percentage points (or -0.14 percentage points p.a.) over 1995-2019. The magnitude of the compositional effect increased from -0.30 percentage point (or -0.03 percentage point p.a.) over 1995-2005 to -2.20 percentage points (or -0.24 percentage point p.a.) over 2010-2019, once again mirroring the more notable drag from population ageing in recent years that outweighed the lift from education upgrading within the same age groups. Notwithstanding the fact that more educated persons would likely be more inclined to stay in the labour force even at a mature age, population ageing was still overwhelmingly a drag on the overall LFPR as the LFPRs among more mature persons were notably lower than those among younger persons.

**Table 4: Decomposition of the change in the overall LFPR
(due to changes in age-education composition)**

Period	Change in overall LFPR (percentage point(s))	Contribution due to changes in:	
		age-education composition of the population aged 15 and above (percentage point(s))	LFPRs of individual groups with the same age-education attributes (percentage point(s))
From 1995 to 2005	-1.51 [-0.15] (from 61.1% to 59.6%)	-0.30 [-0.03]	-1.21 [-0.12]
From 2005 to 2010	-1.62 [-0.32] (from 59.6% to 57.9%)	-0.81 [-0.16]	-0.81 [-0.16]
From 2010 to 2019	0.55 [0.06] (from 57.9% to 58.5%)	-2.20 [-0.24]	2.75 [0.31]
From 1995 to 2019	-2.58 [-0.11] (from 61.1% to 58.5%)	-3.30 [-0.14]	0.72 [0.03]

Note: Changes per annum are quoted in square brackets.

Source: General Household Survey, Census and Statistics Department; author's calculations.

V. FURTHER DISCUSSION

17. The residual of the third decomposition, i.e. the aggregate contribution of changes in the LFPRs of individual age-education groups, was 0.72 percentage point over 1995-2019 (**Table 4**). The residual was estimated to be negative over 1995-2005 and 2005-2010 (-1.21 and -0.81 percentage point(s) respectively), but positive over 2010-2019 (+2.75 percentage points).

18. **Table 5** illustrates the further breakdown of the residual by age. Over 2010-2019, the lift to the overall LFPR by the change in LFPRs of individual age-education groups was mainly attributable to those approaching retirement (aged 55-64) and the elderly (aged 65 and above) of all education levels (2.65 out of 2.75 percentage points). The positive effect from these older age groups was actually even higher than the negative impact of the change in age-education composition (-2.20 percentage points) over the same period as revealed in Section IV.C. Some relevant factors that might have contributed to the changes in LFPRs of individual age-education groups in more recent periods are discussed in the following paragraphs.

Table 5: Breakdown of the contribution to the change in the overall LFPR due to changes in LFPRs of individual age-education groups

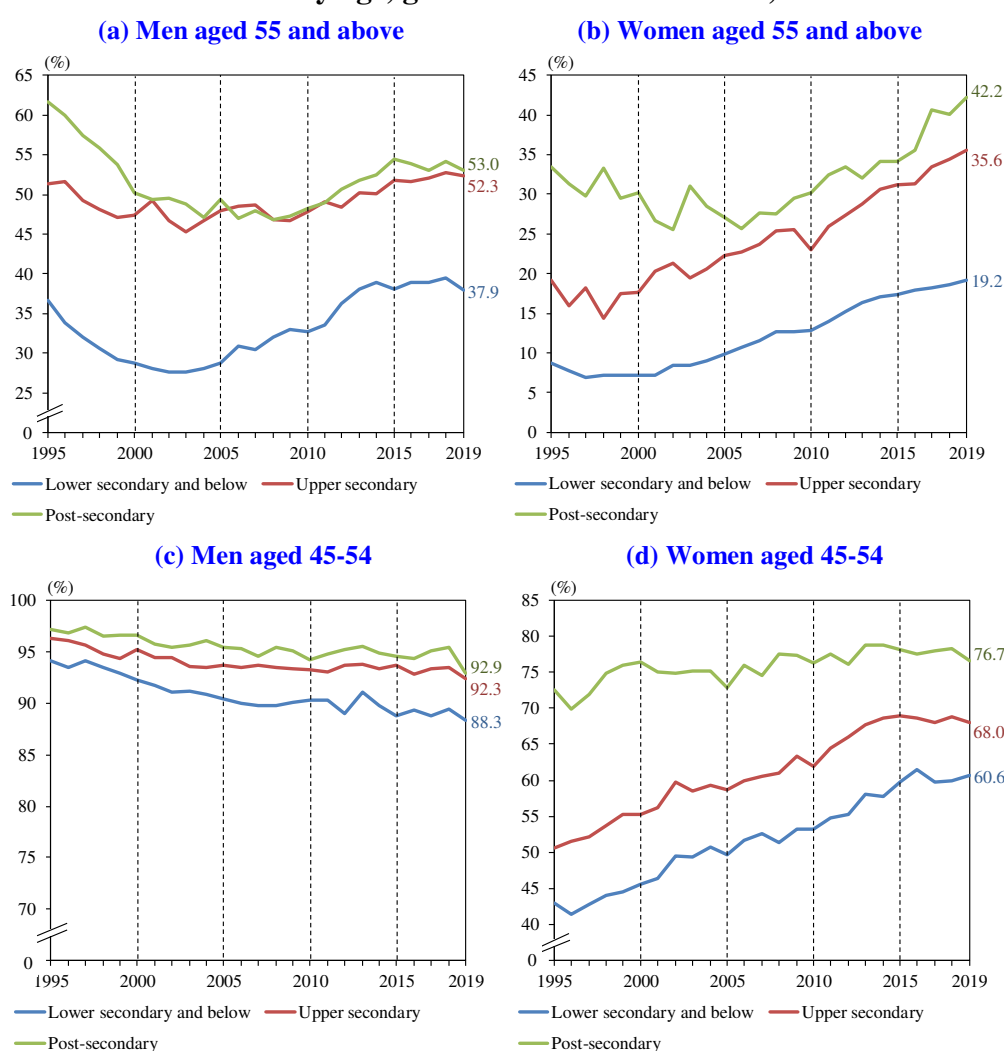
Period	Contribution to change in overall LFPR due to changes in LFPRs of individual groups with same age-education attributes (percentage point(s))	By age group (sum of the effect of those of all education levels) (percentage point(s))				
		15-24	25-44	45-54	55-64	65+
From 1995 to 2005	-1.21 [-0.12]	-0.63 [-0.06]	0.11 [0.01]	-0.09 [-0.01]	-0.21 [-0.02]	-0.39 [-0.04]
From 2005 to 2010	-0.81 [-0.16]	-0.81 [-0.16]	-0.51 [-0.10]	0.21 [0.04]	0.26 [0.05]	0.03 [0.01]
From 2010 to 2019	2.75 [0.31]	0.42 [0.05]	-0.55 [-0.06]	0.23 [0.03]	1.75 [0.19]	0.90 [0.10]
From 1995 to 2019	0.72 [0.03]	-1.02 [-0.04]	-0.96 [-0.04]	0.35 [0.01]	1.80 [0.08]	0.54 [0.02]

Note: Changes per annum are quoted in square brackets.

Source: General Household Survey, Census and Statistics Department; author's calculations.

19. For example, the positive contribution from age-education groups with age above 55 over 2010-2019 happened along with a general increase in the propensity to work among those aged 55 and above, which was observed across education and gender⁷ (*Charts 4a and 4b*). One possible reason for the increase was the gradual delay in the retirement age over time⁸. Also relevant is the implementation of the Statutory Minimum Wage in 2011, together with the gradual increase in job opportunities amid an economic upcycle, which played a part in encouraging mature persons, especially those with lower levels of education, to re-enter or stay in the labour force.

Chart 4: LFPR by age, gender and education level, 1995-2019



Source: General Household Survey, Census and Statistics Department.

⁷ A separate decomposition showed that the stand-alone effect of the change in gender composition on the overall LFPR was relatively small (on average -0.03 percentage point p.a. over 1995-2019) compared to the effects of population ageing and education upgrading.

⁸ According to an article released by the Office of the Government Economist (OGE) of the Government of the Hong Kong Special Administrative Region, the average age of withdrawal from the labour force in Hong Kong rose by 1.5 and 1.7 years respectively for men and women between 2006 and 2016.

OGE. 2018. "Average age of withdrawal from the labour force: international comparison." *Half-yearly Economic Report 2018*. <https://www.hkeconomy.gov.hk/en/pdf/box-18q2-5-1.pdf>

20. Although the changes in the LFPRs of middle-aged persons (those aged 45-54) of all education levels only made a small positive contribution to the change in the overall LFPR over 2010 to 2019, there was nevertheless a significant increase in the LFPR of middle-aged women with secondary and below education (*Chart 4d*). The increase in LFPR among them persisted over the past 25 years but was largely offset by the decline in LFPR of middle-aged men (*Chart 4c*). The general increase in the propensity of these middle-aged women to work was likely related to factors like the decrease in the share of currently-married women and a possible increase in the tendency to employ foreign domestic helpers to deal with household chores.

21. It should be noted that LFPRs by age and gender generally showed a more visible decline in 2019 and this trend has continued on entering 2020. Putting aside structural factors like age, education and gender as analysed above, the more notable slackening of the labour market since the second half of 2019, further exacerbated by the COVID-19 pandemic which brought severe disruptions to global and local economic activities, could further depress our labour force participation when a considerable number of people encounter difficulties in finding or securing a job and therefore withdraw themselves from the job market during such an unprecedented economic recession.

VI. CONCLUDING REMARKS

22. The overall LFPR is affected by various short-term and long-term demographic and socio-economic factors. This short article particularly focuses on estimating the impact arising from the compositional change in population structure over time by age and by education. The results from the decomposition analysis show that population ageing brought considerable downward pressure to the overall LFPR over 1995-2019, which more than offset the positive impact brought about by education upgrading in the population. This drag has become more noticeable as the trend of population ageing has accelerated in recent years.

23. While the labour force will become generally more educated with the older, less educated workers retiring and the younger, more educated cohorts joining the labour market, which will to some extent mitigate the negative effect of an older labour force on productivity, population ageing continues to pose imminent challenges to our economic growth capacity as the labour force is poised to decline in the years to come. Encouraging more people who are capable of working to participate in the labour market would be a way to counter the demographic pressure on the labour force. Moreover, further upgrading of the labour force and productivity enhancement should remain as the key directions to strengthen Hong Kong's human capital base for long-term sustainable development.

Derivation of the formula for the decomposition analysis

$$\begin{aligned}
 & \text{LFPR}_{t+1} - \text{LFPR}_t \\
 &= \sum_i (\text{Pop_share}_{t+1}^i \times \text{LFPR}_{t+1}^i) - \sum_i (\text{Pop_share}_t^i \times \text{LFPR}_t^i) \\
 &= \sum_i (\text{Pop_share}_{t+1}^i \times \text{LFPR}_{t+1}^i) - \sum_i (\text{Pop_share}_{t+1}^i \times \text{LFPR}_t^i) \\
 &\quad + \sum_i (\text{Pop_share}_{t+1}^i \times \text{LFPR}_t^i) - \sum_i (\text{Pop_share}_t^i \times \text{LFPR}_t^i) \\
 &= \sum_i \left(\text{Pop_share}_{t+1}^i \times (\text{LFPR}_{t+1}^i - \text{LFPR}_t^i) \right) \\
 &\quad + \sum_i \left(\text{LFPR}_t^i \times (\text{Pop_share}_{t+1}^i - \text{Pop_share}_t^i) \right)
 \end{aligned}$$

By rearranging the terms, we get

$$\sum_i \left(\text{LFPR}_t^i \times (\text{Pop_share}_{t+1}^i - \text{Pop_share}_t^i) \right) + \sum_i \left(\text{Pop_share}_{t+1}^i \times (\text{LFPR}_{t+1}^i - \text{LFPR}_t^i) \right)$$

Appendix 2

LFPR by age and education of selected years (%)

Age	<i>Education Level and Year</i>											
	Lower secondary and below				Upper secondary				Post-secondary			
	1995	2005	2010	2019	1995	2005	2010	2019	1995	2005	2010	2019
15 - 19	31.8	14.1	11.3	7.5	16.6	13.9	8.8	7.7	19.7	17.1	12.0	20.9
20 - 24	90.1	83.4	82.3	80.3	89.8	87.3	82.0	81.0	52.2	53.1	46.3	53.2
25 - 29	78.6	75.0	67.9	72.6	91.6	90.2	89.6	85.7	91.9	92.9	90.9	90.2
30 - 34	70.4	68.8	64.6	60.7	84.2	86.0	83.9	79.2	91.7	94.2	92.3	90.8
35 - 39	66.7	67.5	66.2	64.0	82.1	81.3	81.5	78.5	91.9	92.1	89.9	89.7
40 - 44	69.7	71.3	70.7	68.9	80.2	81.2	80.8	79.6	92.5	90.1	88.6	87.5
45 - 49	70.6	70.7	72.0	71.6	80.2	79.2	79.0	79.7	92.0	89.7	88.4	86.3
50 - 54	65.8	65.7	68.1	72.2	75.8	73.3	74.7	77.3	82.4	82.9	83.9	83.2
55 - 59	50.9	52.3	54.5	63.8	61.6	60.0	59.7	67.3	71.7	70.5	70.0	75.5
60 - 64	30.0	26.6	31.9	46.9	41.9	35.6	34.5	45.7	52.1	41.7	41.5	50.2
65 - 69	14.4	9.6	11.4	23.8	24.2	16.4	17.8	27.1	36.7	22.2	23.9	31.8
70+	3.6	2.0	1.9	3.9	11.4	6.8	5.1	9.3	15.7	12.5	11.1	11.5

Source: General Household Survey, Census and Statistics Department.

Share of population aged 15 and above by age and education of selected years (%)

Age	<i>Education Level and Year</i>											
	Lower secondary and below				Upper secondary				Post-secondary			
	1995	2005	2010	2019	1995	2005	2010	2019	1995	2005	2010	2019
15 - 19	2.1	1.4	1.0	0.5	5.9	5.2	5.0	2.7	0.6	1.1	1.3	1.3
20 - 24	1.8	0.6	0.4	0.2	4.2	3.0	2.3	1.1	2.9	4.1	4.7	5.1
25 - 29	2.6	1.1	0.7	0.3	5.1	3.1	3.1	1.8	2.8	3.6	4.2	5.1
30 - 34	4.5	1.9	1.3	0.6	5.8	3.7	3.3	2.5	2.7	3.5	3.5	4.7
35 - 39	6.4	2.5	2.0	1.2	4.4	4.3	3.6	2.9	1.9	3.2	3.3	4.3
40 - 44	6.2	4.2	2.5	1.6	2.8	4.9	4.1	3.0	1.2	2.7	2.7	3.5
45 - 49	5.2	5.6	4.0	2.5	2.1	3.9	4.7	3.3	0.8	1.8	2.4	3.0
50 - 54	3.4	5.5	5.3	2.9	1.1	2.4	3.5	3.7	0.5	1.2	1.7	2.4
55 - 59	4.0	4.5	5.0	4.1	0.8	1.7	2.3	3.9	0.5	0.7	1.0	2.2
60 - 64	4.6	2.9	4.2	5.0	0.4	0.8	1.5	2.7	0.3	0.4	0.6	1.4
65 - 69	4.0	3.3	2.7	4.6	0.3	0.7	0.7	1.6	0.1	0.4	0.4	0.8
70+	7.3	9.1	9.1	10.0	0.4	0.7	1.0	1.9	0.2	0.4	0.7	1.3

Source: General Household Survey, Census and Statistics Department.