



A Tale of Two Islands

A Demographic Exploration on the Fertility and Ageing of the United Kingdom and Japan

4DM475 Economic Demography II
Project I

Tony Hung
hunw00@vse.cz

Spring/Summer 2020

Table of Contents

Introduction	2
Population Pyramid	2
UK	2
Figure 1: UK Population Pyramid, 1975 and 2018	2
Figure 2: Projected UK Population Pyramid, 2050	3
Japan.....	3
Figure 3: Japan Population Pyramid, 1975 and 2018	3
Figure 4: Projected Japan Population Pyramid, 2050	4
Fertility Profile	4
UK	4
Figure 5: UK Total Fertility Rate, 1975 - 2050	4
Figure 6: UK Completed Cohort Fertility Rate, 1959 - 1976	5
Figure 7: UK Mean Age at Birth, 1974 – 2016.....	5
Figure 8: Proportion of Women Remaining Childless, England and Wales, 1920 - 1973.....	6
Japan.....	6
Figure 9: Japan Total Fertility Rate, 1975 - 2017	6
Figure 10: Japan Age-specific fertility Rates, 1975 - 2017	7
Figure 11: Japan Mean Age at Birth, 1947 - 2017	7
Figure 12: Japan Completed Cohort Fertility Rate, 1932 - 1977	8
Ageing Profile - UK	8
Figure 13: UK Median Age, 1975 - 2050.....	8
Figure 14: UK Life Expectancy at Birth, 1975 - 2050.....	9
Figure 15: UK Economic Generations, 1975 - 2050.....	9
Figure 16: UK Old-Age Dependency Ratio, 1975 - 2050.....	10
Figure 17: UK Total Dependency Ratio, 1975 - 2050.....	10
Discussion and Potential Actions.....	11
General Discussions	11
UK	11
Japan.....	13
Final Remarks	14
Conclusion	14
Works Cited	15

Introduction

The United Kingdom consists of four countries: England, Wales, Scotland, and Northern Ireland. However, Great Britain only consists of England, Wales, and Scotland. These different combinations of unions are due to the long and complicated history of the United Kingdom. The modern picture of the UK is culturally diverse, eccentric, innovative, yet preserving the past. The modern UK boast a multitude of languages, cultures, and ethnicities, with people coming from all over the world to stay and live in the UK.

Japan is a highly innovative and technologically advanced nation situated in East Asia. This small country consists of 126.8 million people in 2017 and has a strong global presence. In 2020, it would have been the fourth time for Japan to host the Olympics. Through media, Japan is known for its animations, such as Pokémon as well and video games from Nintendo and Sony.

What do Japan and UK have in common? Both are island nations with an ageing population and lowering fertility rates. In this paper, we will be exploring the fertility profiles of both countries, the ageing profile of the UK, followed by a discussion on these issues and potential policy suggestions, and a conclusion on the overall theme.

Population Pyramid

UK

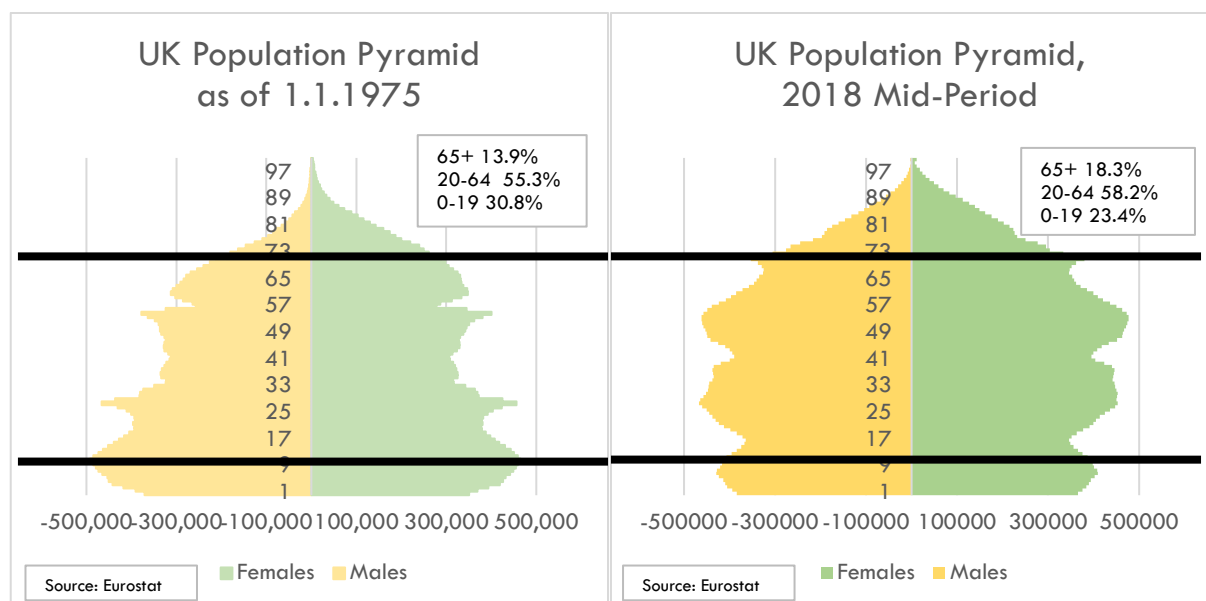


Figure 1: UK Population Pyramid, 1975 and 2018

From the two population pyramids above, we see that in the beginning of 1975, the UK had a progressive trend and in 2018 mid-period, trend has become stationary, with a slight regressive trend. This means that the population is slowing down and becoming a more stable population.

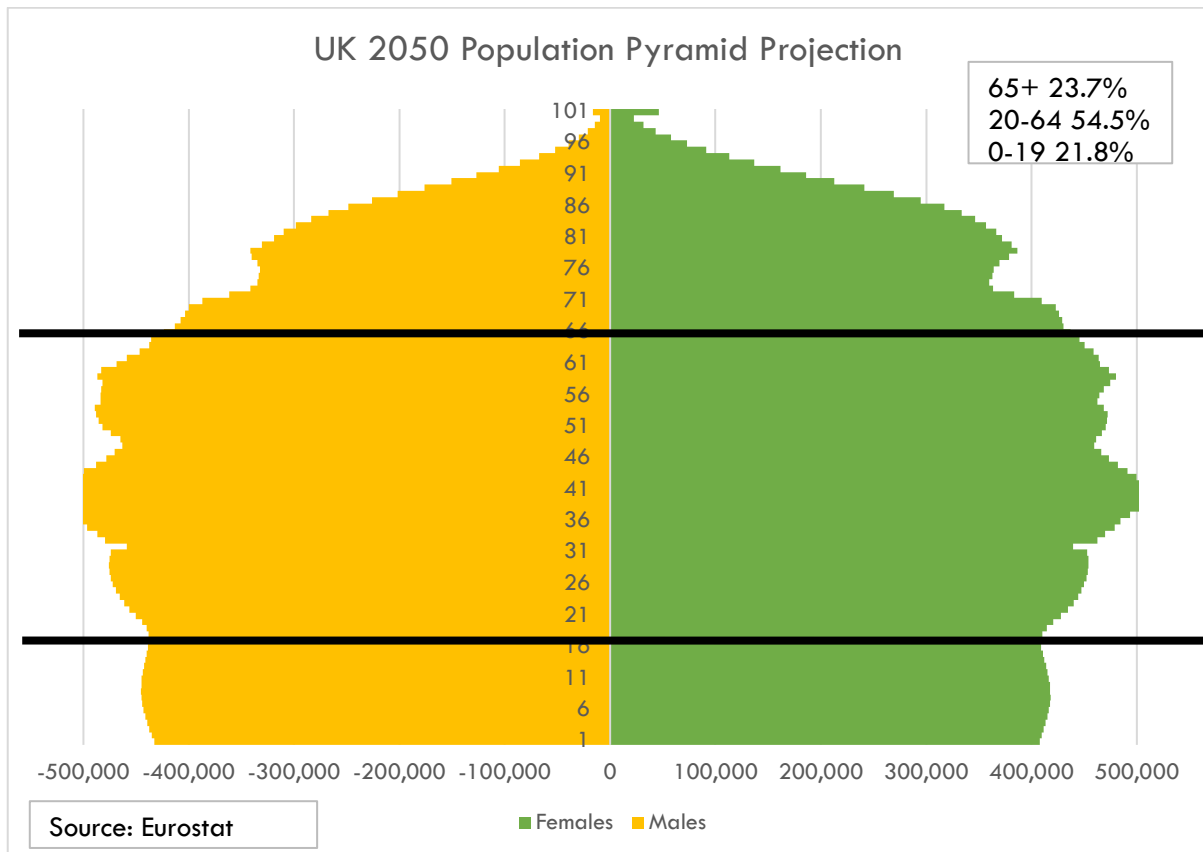


Figure 2: Projected UK Population Pyramid, 2050

From the projected population pyramid above, we can see that in 2050, it has been projected that the population in the UK will still have the stationary trend, with even clearer signs of regressive trends. It is very interesting to note a growing divergence between males and females throughout the three pyramids in the maximum age category, as this differs from the expected convergence for both sexes (Seligman, et al., 2016).

Japan

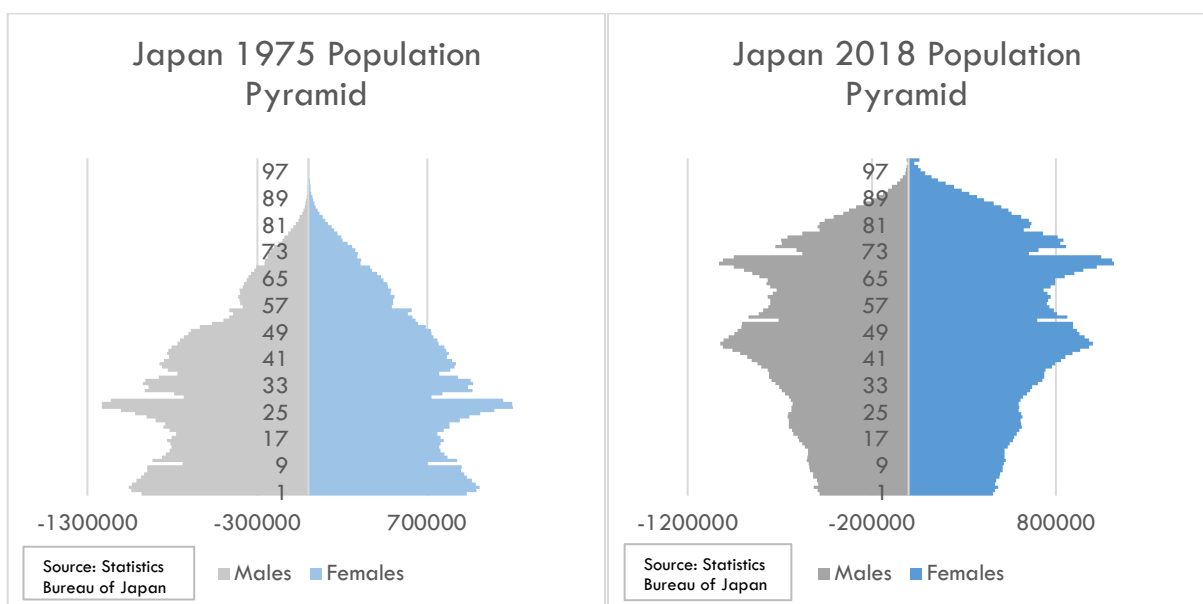


Figure 3: Japan Population Pyramid, 1975 and 2018

In 1975, the population trend in Japan is progressive, and in 2018, the population trend in Japan is regressive. This means that the population was once increasing, and in 2018 the population is decreasing.

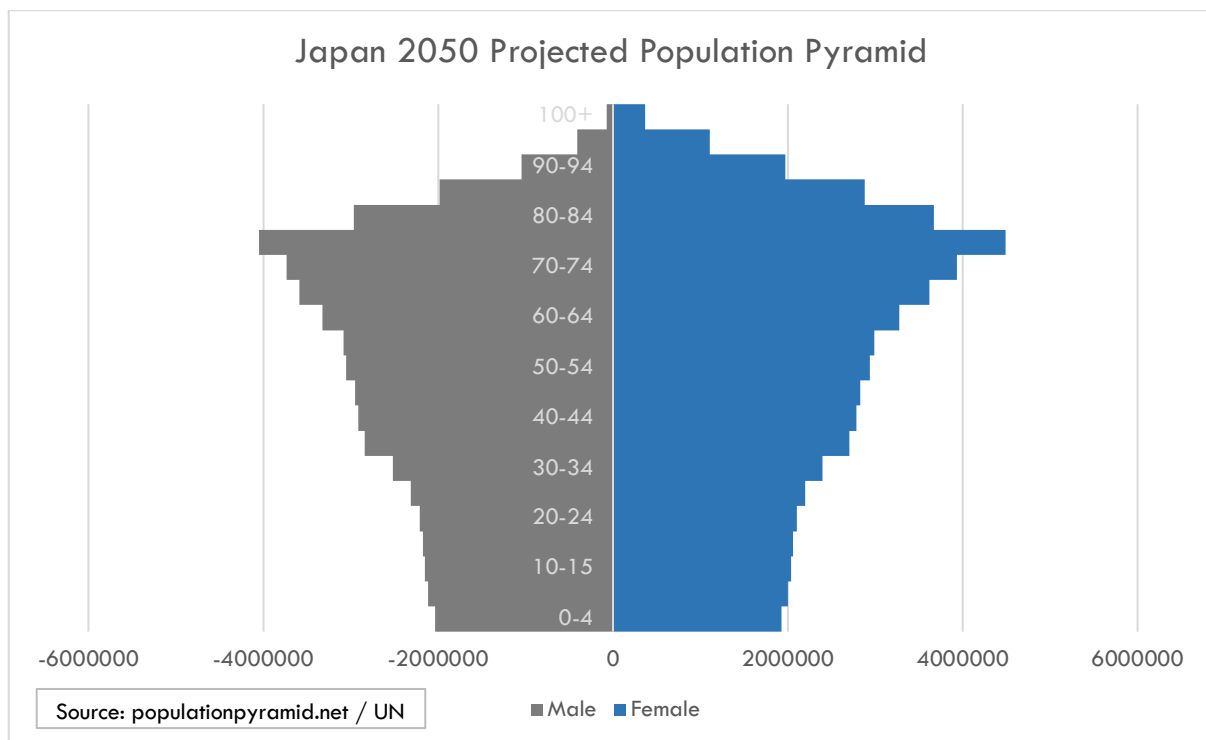


Figure 4: Projected Japan Population Pyramid, 2050

The projected population in 2050 seems even more regressive than in 2018. This means that the population is decreasing even further in comparison to 2018.

Fertility Profile

UK

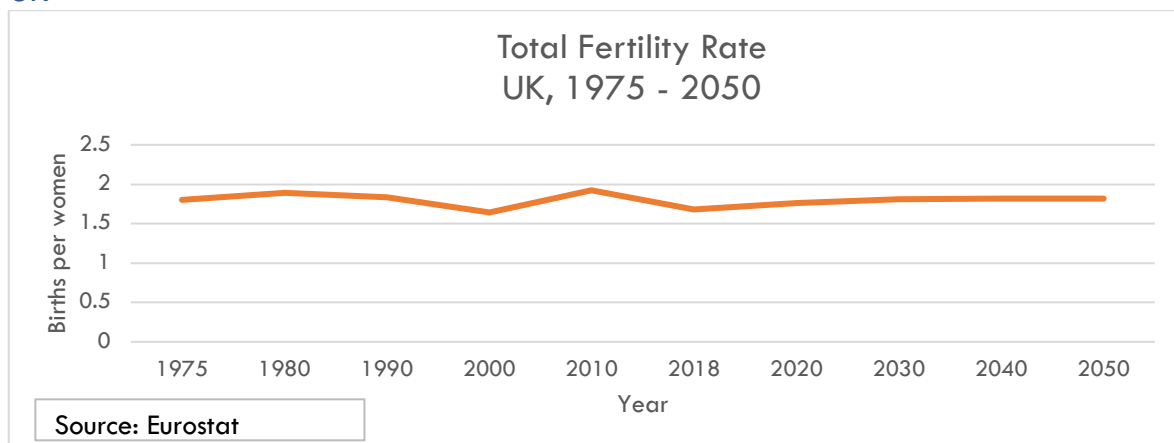


Figure 5: UK Total Fertility Rate, 1975 - 2050

From the graph above, we see that from 1975 to 2018, the total fertility rate in the UK averages below 2 between the years of 1975 to 2018. This means that during this time period, there are less than 2 births per women, which is lower than ideal replacement rate of 2.1. The highest fertility rate in this graph happened in 2010, with 1.923 births per women, and the lowest fertility rate happened in 2000, with 1.642 births per women. It has been

projected that in the next 30 years, the total fertility rate will continue to stay below 2 births per women.

It should also be noted that in 2018, the crude birth rate is 11.03 per mille. This means that there are 11.03 births per 1000 people. The age-specific fertility rates reach a peak at the age of 31, with 113.6 births per 1000 women in 2018.

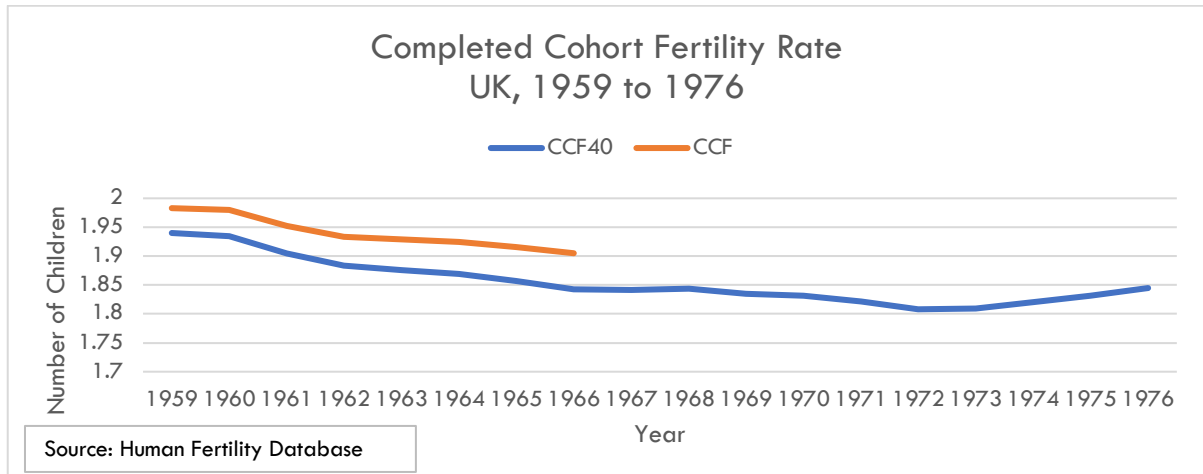


Figure 6: UK Completed Cohort Fertility Rate, 1959 - 1976

The completed cohort fertility rate in 1966 is 1.91. This means that women who were born in 1966 have around 1.91 children in her lifetime. The completed cohort fertility rate (40) in 1976 is 1.85. This means that women who were born in 1976, have a parity of around 1.85 children at age 40. We can also see that the CCF40 decreased between 1959 to 1972, and then increased from 1973 to 1976.

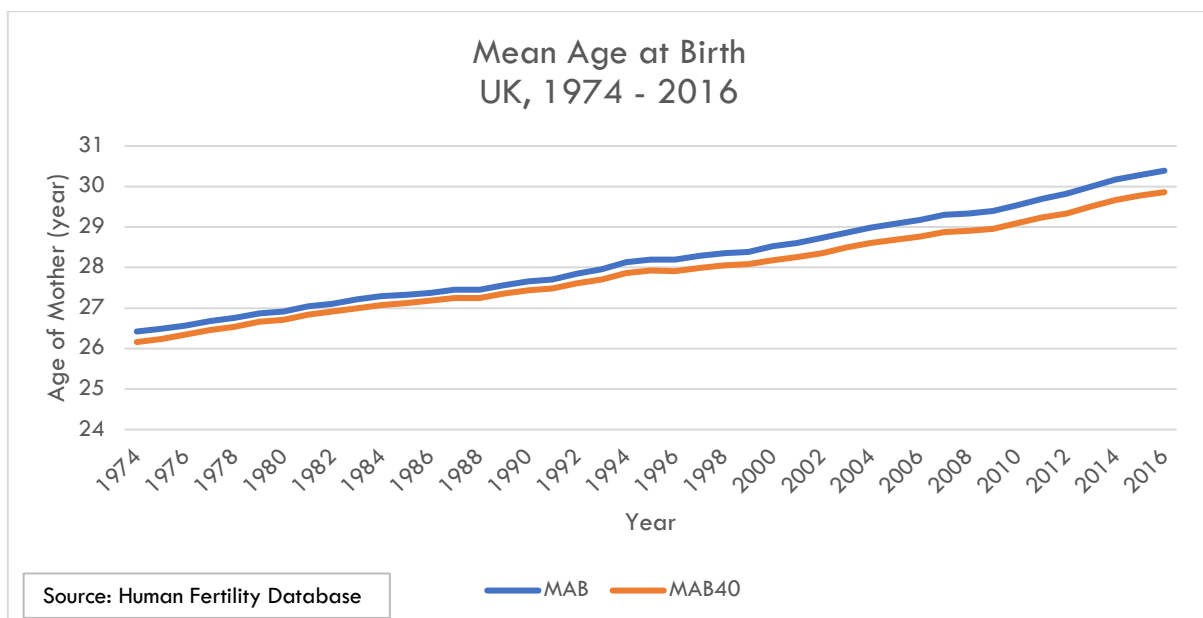


Figure 7: UK Mean Age at Birth, 1974 - 2016

From figure 7, the graph shows that the average age of women when she has her first child has increased from 1974 to 2016. This means that women are taking longer each year to have her first child.

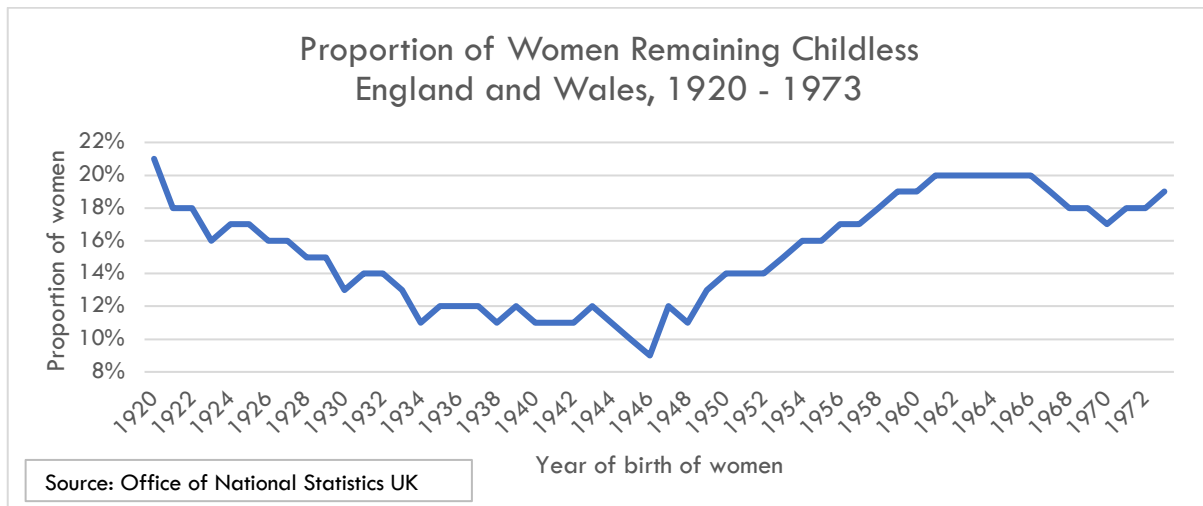


Figure 8: Proportion of Women Remaining Childless, England and Wales, 1920 - 1973

Figure 8 shows the proportion of women who did not have children according to the year they were born. This means that the cohort of women who was born in 1920 had children between the years of 1934 and 1970, and 21% of the women from this cohort have remained childless. Thus, the cohort of women who was born in 1973 will have children between the years of 1986 and 2022, and 19% of the women from this cohort will remain childless. The proportion decreased between the years of 1920 to 1946 and generally increased from 1946 to 1972. The lowest point on the graph occurred at the year 1946, and this is the cohort of women who produced the second baby boom in the UK in the 1960s.

Overall, the fertility rates in the UK have been declining. The projection for the next thirty years for total fertility rate will be stabilized, but under 2 births per women. This means that the overall population will decrease over time.

Japan

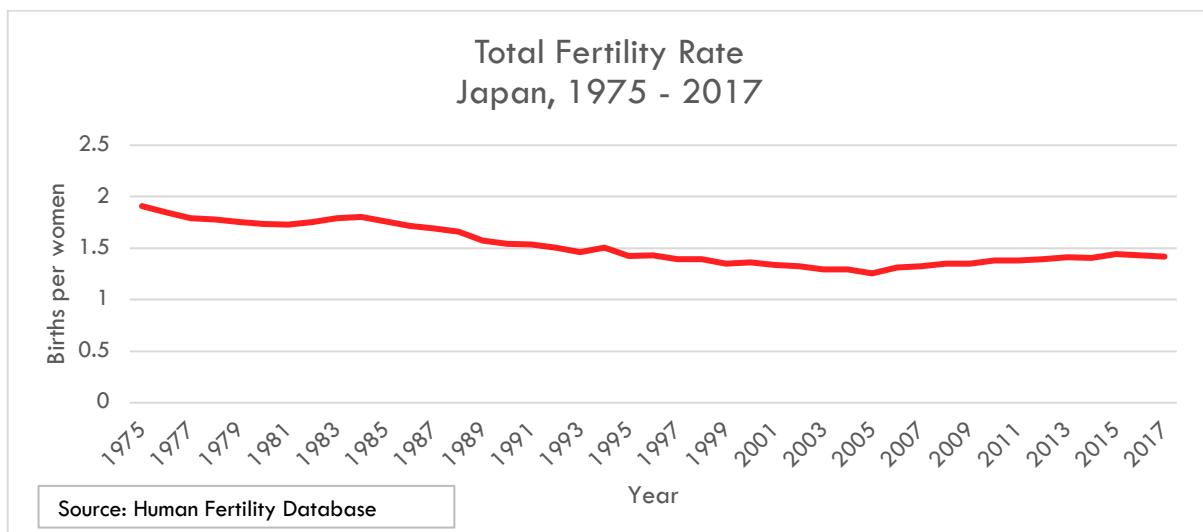


Figure 9: Japan Total Fertility Rate, 1975 - 2017

The total fertility rate in Japan has been generally decreasing since 1975. The total fertility rate was the highest in 1975, with 1.91 births per women, and the lowest in 2005 with 1.26 births per women. The lowest point coincided with the end of the banking crisis in Japan which lasted between 1991 and 2005.

It is also worth noting that the crude birth rate in 2017 is 7.59 per mille. This means that there are 7.59 births per 1000 people.

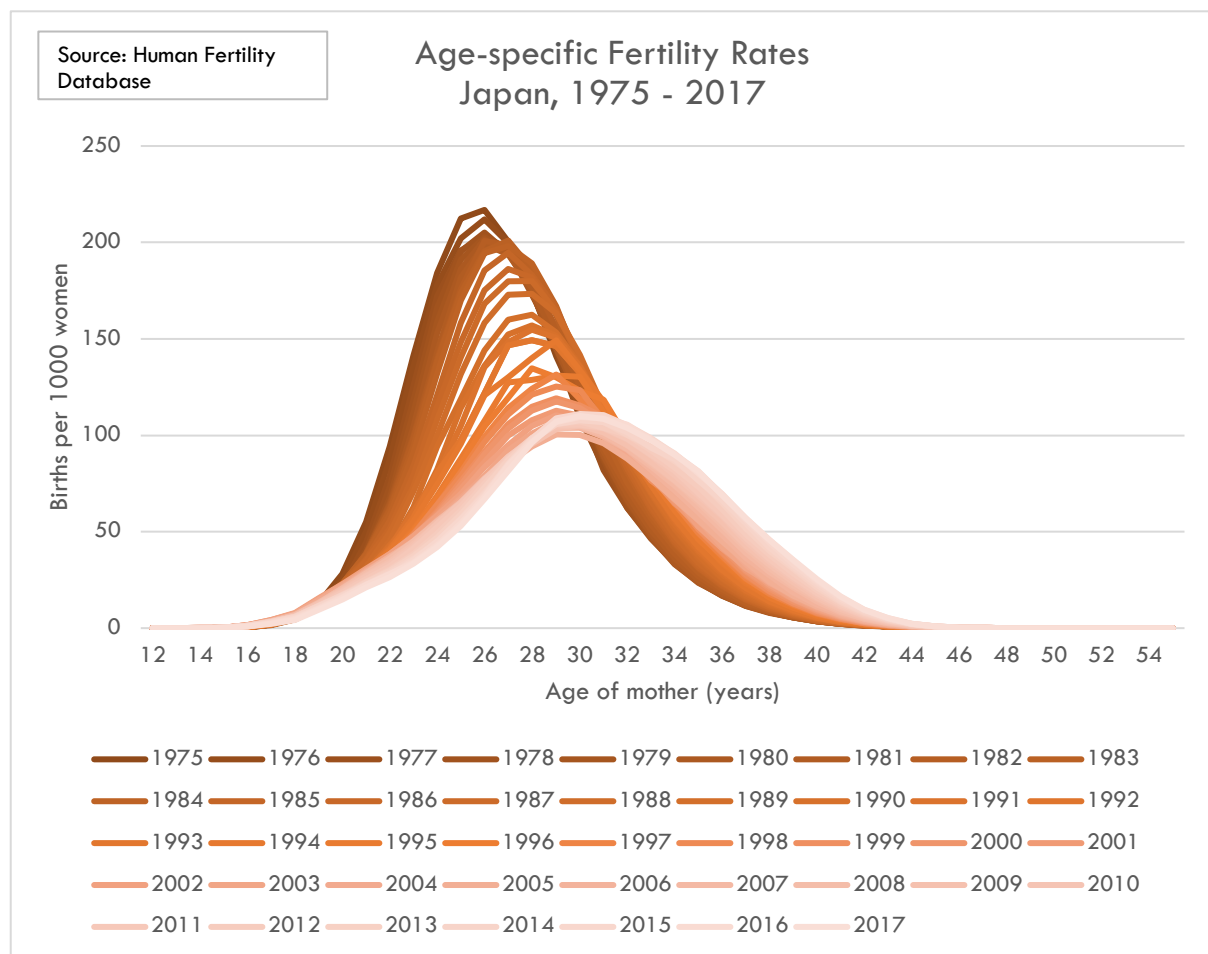


Figure 10: Japan Age-specific fertility Rates, 1975 - 2017

Figure 10 shows the age-specific fertility rates of Japan through the years of 1975 to 2017. The curves have flattened over time and shifted to the right, with a slight increase in the later years. This means that overall births have decreased, and the peak age of women who gave birth have increased. In 1975, the peak was at the age of 26, with 216.9 births per 1000 women and in 2017, the peak was at the age of 32 with 103.8 births per 1000 women.

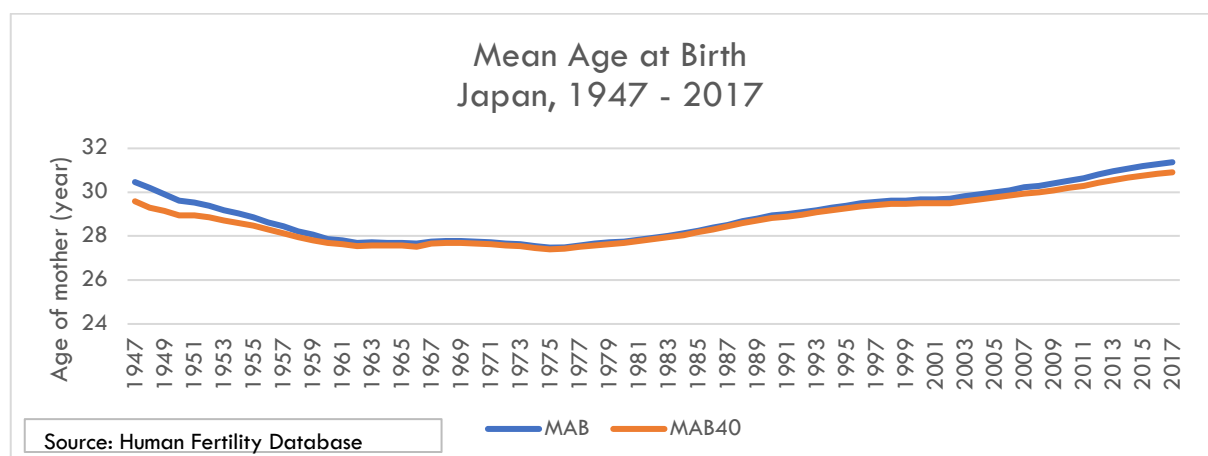


Figure 11: Japan Mean Age at Birth, 1947 - 2017

The mean age at birth in Japan decreased between the years of 1947 and 1975, and then increased between the years of 1975 and 2017. There are some years where the MAB and MAB40 seems to be very similar.

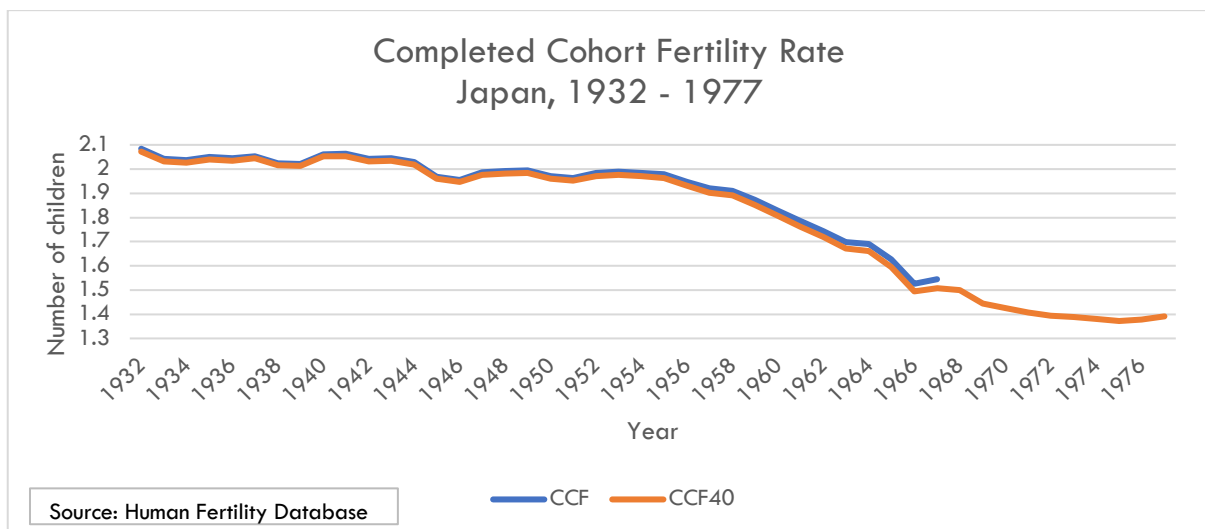


Figure 12: Japan Completed Cohort Fertility Rate, 1932 - 1977

The completed cohort fertility rate in Japan has been decreasing ever since 1932. The completed cohort fertility rate is 1.54 in 1967. This means that women who were born in 1967 have around 1.54 children in her lifetime.

Overall, the fertility rates in Japan are low and it seems that it will continue to decrease in the long run. This includes an increase in the average age of mother having her first child, an increase on the age of most women having their children, and a decrease on the number of children produced.

Ageing Profile - UK

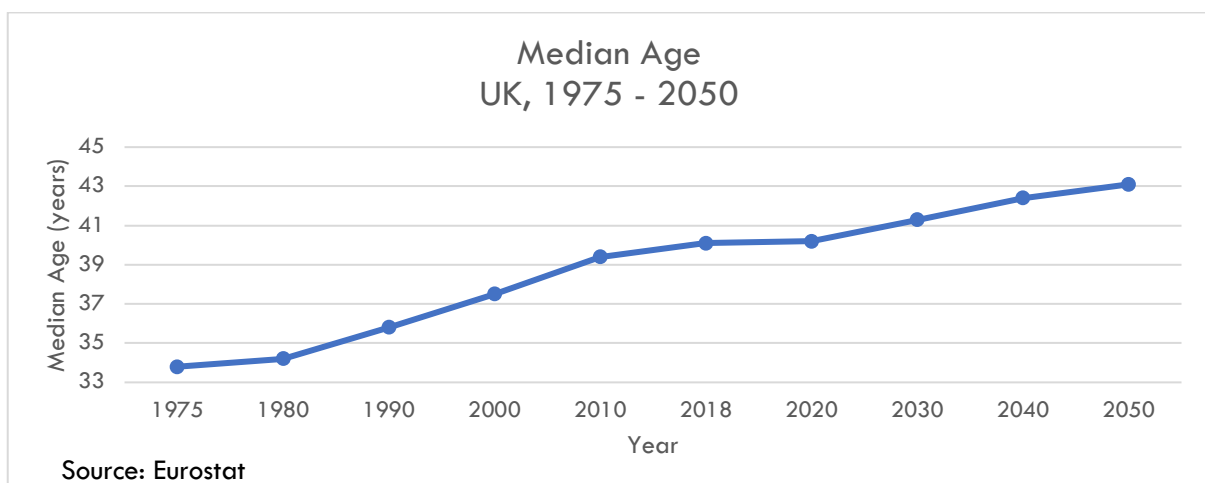


Figure 13: UK Median Age, 1975 - 2050

Median age is the midpoint of the population. The median age for the UK has been increasing since 1975. It has been projected that beyond 2020, the median age will continue to increase. In 2050, the median age is projected to be at 43.1 years of age. This means that the overall population is ageing and will continue to age in the coming 30 years.

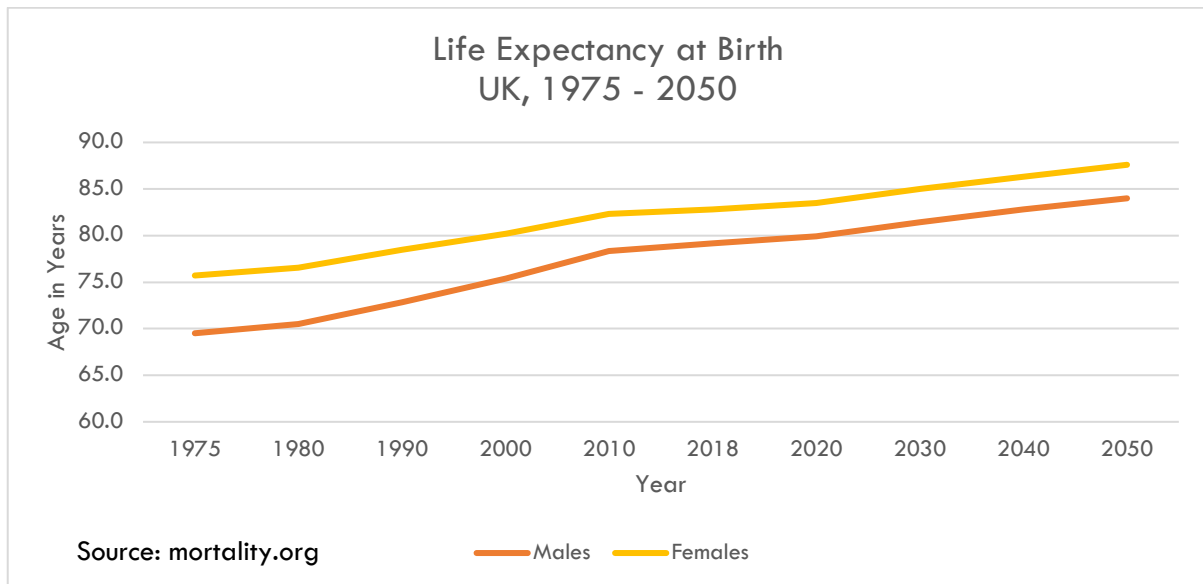


Figure 14: UK Life Expectancy at Birth, 1975 - 2050

The life expectancy for both males and females have been increasing since 1975. This means that people are expected to live longer. A female born in 2050 in the UK is expected to live until the age of 87.6 years old. A male born in 2050 is expected to live until the age of 84 years old.

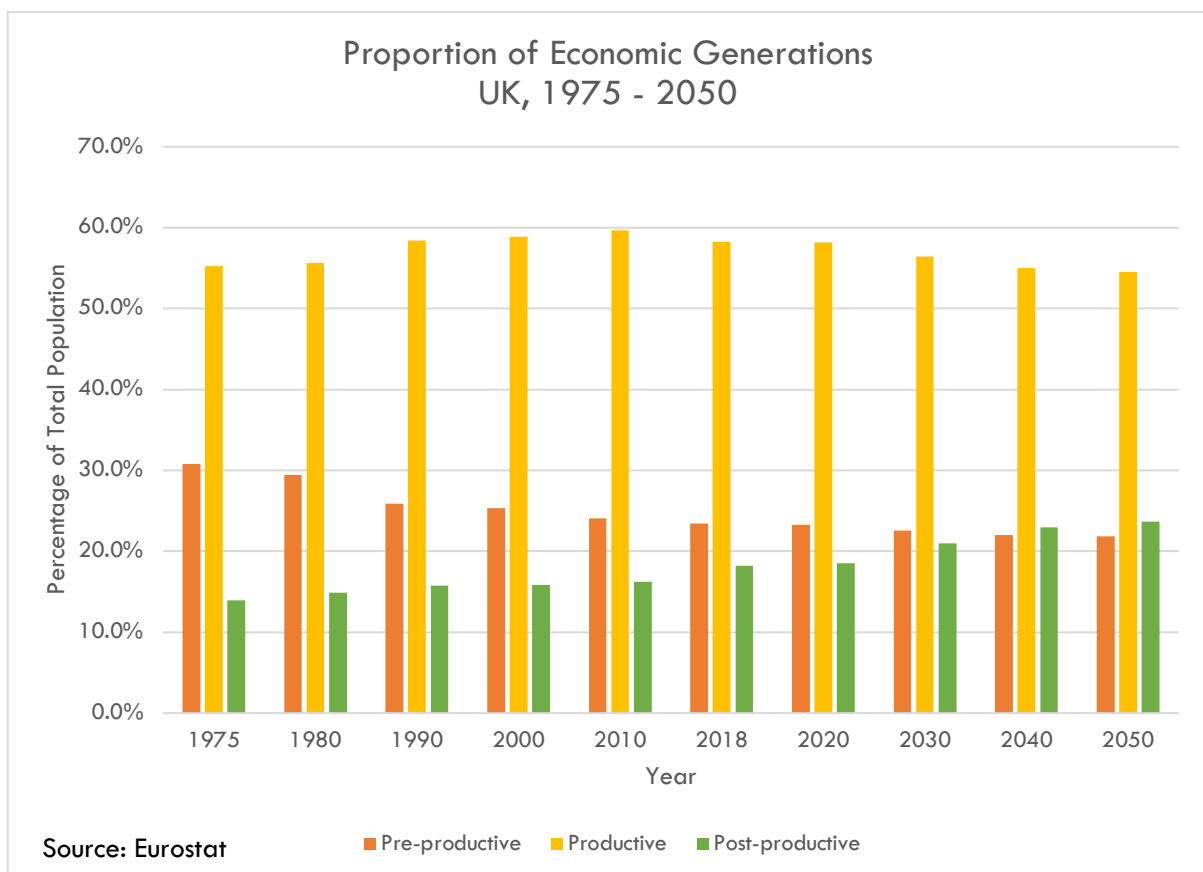


Figure 15: UK Economic Generations, 1975 - 2050

The pre-productive generation (ages 0 – 19) has been decreasing since 1975, and it has been projected that in the next 30 years, the pre-productive generation will continue to decrease. This trend in the pre-productive generation corresponds to the below replacement

fertility rates in the UK. The post-productive generation (ages 65 and above) has been increasing since 1975. It has been projected that in the next 30 years, the post-productive generation will continue to increase. Between the years of 1975 to 2020, the productive generation has been above 50%. The productive generation has been projected to decrease beyond 2020.

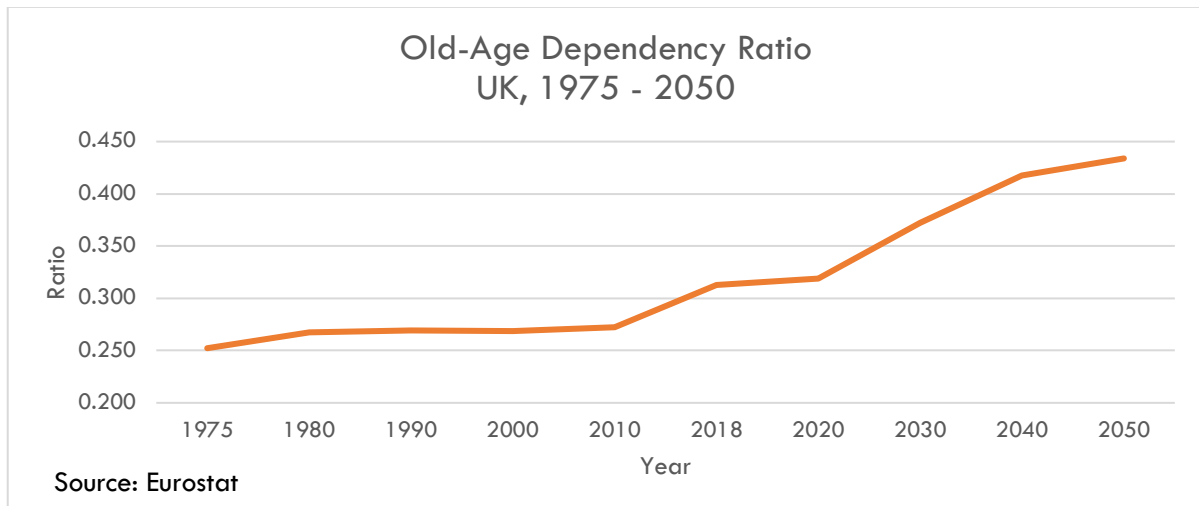


Figure 16: UK Old-Age Dependency Ratio, 1975 - 2050

From the graph above, the old-age dependency ratio has been increasing since 1975. It has been projected that it will continue to increase beyond 2020. In 2050, the ratio is 0.434. This means that one working person is responsible for an additional 0.434 person of post-productive age.

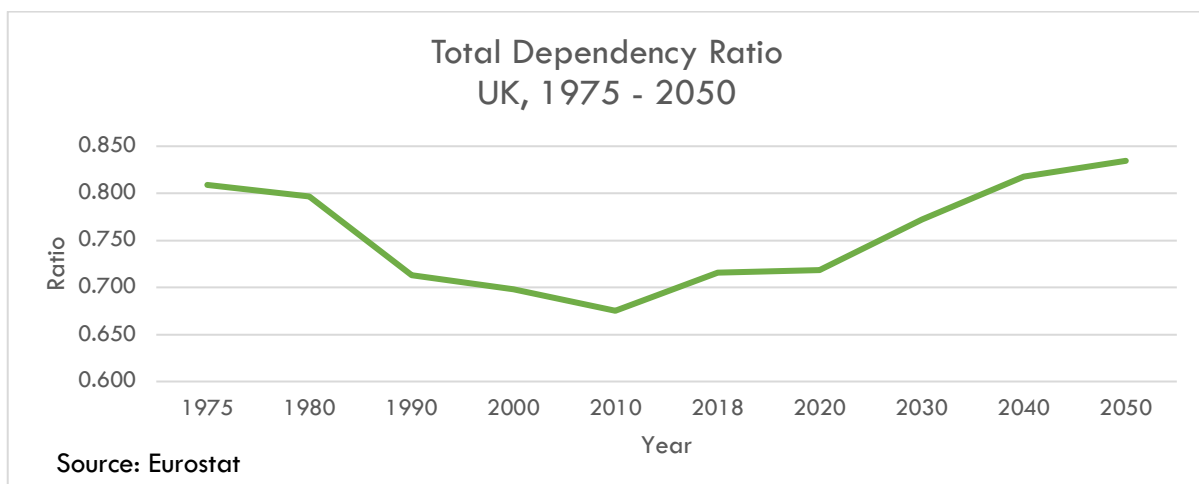


Figure 17: UK Total Dependency Ratio, 1975 - 2050

The total dependency ratio in the UK decreased from 1975 to 2010, and then increased from 2010. Beyond 2020, it has been projected that the total dependency ratio will continue to increase. The lowest ratio occurred in 2010, with 0.675. This means that in 2010, one person of productive age is responsible for an additional 0.675 person of non-productive age. This decrease of total dependency ratio in 2010 is most likely due to an increase in people of productive age (possibly migrants).

Discussion and Potential Actions

General Discussions

Fertility and ageing are both issues relevant in our society today. These two issues are often inter-related and can produce compound effects. In most developed countries, fertility rates are declining, and the overall population is ageing, but at different rates. In order to tackle these pressing issues of low fertility and an ageing population, most countries have employed different policy to alleviate these problems. However, these policies are also heavily dependent on the cultural norms and societal ideals, specific to each country.

Some of the known social consequences of ageing includes increase in difficulty to find work, increase in medical costs, increase in the expectation of retirement age, and increase in social costs (Creighton, 2014). As life expectancy increases, people are living longer, and more medical costs are associated. There will also be increase in the pension expenditure, which would then have to be funded by pushing back the retirement age. As people retain their positions longer and older people do not want to leave their jobs, it will be harder to find work. There will be an increase in social care for old people and an increase in long term social care for old people due to longer life expectancy (Creighton, 2014). As fertility rates decline, the overall population will decline over time. When this is compounded with an ageing population, there will be an increase on the strain for the working population to support those who are not working.

In the following sections, we will be closely examining impacts of ageing and fertility in UK and Japan, its current policies, and potential suggestions.

UK

The United Kingdom government does not pursue a population policy in the sense of actively trying to influence the overall size of the population, its age-structure, or the components of change except in the field of immigration. Nor has it expressed a view about the size of population, or the age-structure, that would be desirable for the United Kingdom. Its primary concern is for the well-being of the population, although it continually monitors demographic trends and developments. The current level of births has not been the cause of general anxiety. The prevailing view is that decisions about fertility and childbearing are for people themselves to make, but that it is proper for government to provide individuals with the information and the means necessary to make their decisions effective. To this end, the government provides assistance with family planning as part of the National Health Service. The 'ageing' of the population does raise social and economic issues. However, it is believed that these will prove manageable; and also, to a degree, that society will adapt.

The Government takes population matters into account in formulating economic and social policy. Many aspects of economic and social policy will, of course, influence population change. (Dunnell, 2001)

The current pension system in the UK is divided into two parts: personal and public pension (OECD, 2017). The personal pension is automatically enrolled, but an employee can opt-out at any time. The public pension was set up originally to avoid poverty in old age. The public pension is mandatory, and it is deducted from the monthly salary. The current age of retirement is at 68 years of age and it has been predicted that the retirement age will continue to increase (Cumbo, 2020).

The National Health Service in the UK is funded through taxation and national insurance contributions. In 2018/19 the NHS spends about 7% of the GDP, but it is projected to grow to 7.9% of GDP. Social care, such as care for the elderly, are generally funded through local council taxes, and it is also administered by local governments (Grosios, et al., 2010). A possible prediction in terms of an ageing population will be an increase in taxes and local council charges. This is due to the length of care for the elderly that will become longer and an increase in the implications of healthcare costs due to longevity.

An interesting way to deal with the ageing society is to increase immigration in the UK. By selectively recruiting workers from other countries, the UK will be able to increase its working population, decrease its old-age dependency ratio, and contribute towards the welfare of the UK. However, with the current conservative political climate in the UK, an increase in immigration seems unlikely.

According to the United Nations Population Division report on fertility trends (2015), UK has a relatively high fertility and female employment in comparison with other European countries, without work-family policy interventions. This is mainly due to the laissez-faire approach to population and a liberal market approach to the economy by the UK government. This means that the UK government does not regulate as much in comparison to a coordinated market economy with social intervention policies, such as France.

The report from UNPD also pointed out that fertility decisions from women are mainly due to the tradeoff between employment or motherhood (United Nations Population Division, 2015) and these tradeoffs are different for women with different educational attainment or economic setting. The report showed that women who have a high level of education are more likely to delay having children due to the financial penalty of leaving the workforce (UNPD, 2015). Although there are some parental leave policies provided by the government or companies, the nurturing of children is often seen as a women's job. Government aid in daycare only starts when the child is 3 years old, thus women with higher education often have to resort to having children later or not having children at all.

It has also been found that women who were earning low wages are more likely to have more than one child (Sigle, 2016). This is because the income-support benefits in the UK is almost a perfect substitution for low-wages when these women are out of work. Because these women were already earning low wages, the long-term prospects on employment or career progression does not penalize as much in comparison with women with higher educational levels.

However, these evidence on educational attainment and income further highlights the class system and conservative nature of British culture and society. Sigle mentioned that the government's stance on motherhood and career women as, "... mothers are secondary workers and should be solely responsible for care" (2016). Sigle has also highlighted the hetero orientation of family policies in the UK. A recent study by the BBC and Professor Mike Savage from the London School of Economics has found that there are 7 distinct social classes in the UK. Savage suggests that social classes greatly influence career outcomes and further

generations (Savage, 2015) (Robson, 2016). Coupled with low social mobility, it seems as if fertility trends for women of different backgrounds will partly remain the same in the future.

The curious case of fertility in the UK is certainly different. To quote former French president Charles de Gaulle on his opinion of the UK joining the EEC in 1961, “She has, in all her work, very special, very original habits and traditions”. President de Gaulle was certainly right in the sense that the UK is unique. By taking all information into account, I believe that a systematic review on the UK government’s policies and ideals regarding fertility and family planning should be carried out as well as an institutional change in the perception of motherhood, childrearing, and childbearing. However, due to the conservative climate in the current British politics, this kind of proposal seems unlikely.

Japan

The public pension plan and the public health care charges constitutes the social insurance in Japan (Tokyo International Communication Committee, 2016). These social insurances are paid monthly and costs 16 340 JPY (around 139 euros) (Kanert, 2019). There is also a private pension in which the employee contributes 9.15% of their total salary and their company matches with another 9.15% of total salary. This brings the private pension to a total of 18.3% of the total salary. The private pension is voluntary, and companies matches the contribution as a way to attract employees but has since become standard practice.

As the fertility rate is dwindling and the overall population in Japan is ageing, some economic strains on the social system are expected. To combat for the increasing healthcare costs due to the ageing population, people aged 40 to 64 have to pay an additional 1.5% of their salary. There is also a special health care plan with different rates for people over the age of 75 or people with a disability between the ages of 65 to 74 (Blincoe, 2018) (Shinjuku City Office, 2018). Currently, the age of retirement is between 55 to 60 years of age in Japan¹ (Puckett, 2019). As the personal pension is partly paid by businesses, it is a part of business spending on employees, so less staff could be hired. I believe that in the future, the retirement age would raise even further. In February this year, the Japanese cabinet just passed bills for businesses to push the retirement age up to 70 (The Japan Times, 2020). Due to the increasing social costs of ageing, I believe that the social insurance charges will also increase.

To quote the UNPD report on low fertility in Japan (2015), “A ‘marriage package’ that is particularly unattractive for young women.”, is a concise statement on the current fertility situation in Japan. Bundled with ineffective governmental policies and a heavy traditional culture, having children seems unattractive for many young people. As more women are receiving higher education levels and entering the work force, marriage and childbearing is often postponed as a result (Zaugg & Kobayashi, 2019). Child support from the Japanese government is minimal in comparison to countries of similar economic development. Each child gets 10 000 JPY (84.70 Euros) per month (Ministry of Health, Labour and Welfare, 2007). In Japanese culture, it is often seen as unfavourable to have a child before marriage (Zaugg & Kobayashi, 2019). In Japanese society, women are automatically placed with household maintenance and childcare responsibilities (United Nations Population Division, 2015). Furthermore, women are discriminated against when they are expecting or try to re-enter the workforce after childbirth (Rich, 2019). In 1992, the government introduced 12 months of parental leave with 50% salary pay, but unfortunately, this policy is not legally binding (Tsuya, 2015).

¹ There is no official ruling on this. Public employees retire at the age of 58. A supreme court ruling in 2018 stated that employees must retire at 55, and male employees must retire at the age of 60 (Puckett, 2019).

The Japanese media has also commented on other factors regarding fertility decisions in Japan. One of these factors is that young people are no longer interested in sex (Kobayashi, 2017). Kobayashi (2017), found that asexual behaviour from Japanese men may have influenced the decreasing marriage and birth rates in Japan. Further studies have shown that souring economic prospects for young people in Japan, such as low income, unemployment, or temporary employment are connected with asexual behaviour (Ghaznavi, et al., 2019).

Nagi, a small town in East Japan, has offered increasing once off rewards per child born and a generous child benefit system to encourage childbirth (Jozuka, 2019). For the first child, the local government awards 100 000 JPY (847 Euros). The amount awarded increases for each additional child born. Up to the fifth child, the amount of payment increases up to 400 000 JPY (3388 Euros). Other childcare benefits provided by the Nagi local government include lower day care rates, subsidized housing, school allowance, and free vaccinations. The fertility rate for this region increased from 1.4 in 2005 to 2.8 in 2014 (Jozuka, 2019) (The Economist, 2018) (Timsit, 2019). This local fertility policy shows a demand for better fertility policies and childcare benefits.

As a policy suggestion, the local policy in Nagi is a prime example in what the Japanese government should move towards. These include better childcare benefits, such as lower day care rates, higher child benefits, and better facilities and services. However, the conservative and traditional cultural and societal norms in Japan should also be addressed.

Final Remarks

From the two countries examined in this paper, there seems to be an underlying theme of conservatism in culture and society in both UK and Japan. The British government's stance on mothers being secondary workers and the Japanese expectation for women to become full time housewives should be a thing of the past. Treating the symptoms of fertility will only alleviate the signs, but a part of the cause still remains. It will be difficult to change these societal norms in an instant but addressing it can be a long-term goal for these countries. A starting point could be recognizing the problems and issue policies that are more inclusive for all genders.

Conclusion

In this paper, we have examined the overall population structure through population pyramids, focused on the fertility trends of the United Kingdom and Japan, explored the ageing trends of the UK, and discussed the current policies in the UK and Japan. The overall fertility in the UK is below replacement rate and is projected to remain the same in the future. The population of the UK is ageing and will continue to age. The overall fertility rates in Japan are dwindling. For the UK, immigration does seem to be a potential solution, but it is also highly unlikely due to the current political climate. Japan, in contrast, has shown that better benefits could lead to an increase in fertility.

Works Cited

- Creighton, H., 2014. *Europe's ageing demography*, London, UK: International Longevity Centre.
- Dunnell, K., 2001. Policy responses to population ageing and population decline in the United Kingdom. *Life*, Volume 2032, p. 33.
- United Nations Population Division, 2015. *Institutional and policy context for fertility trends in the United Kingdom*. New York, United Nations / East-West Center.
- Sigle, W., 2016. Fertility and Population Change in the United Kingdom. *Low Fertility, Institutions, and their Policies*, 17 June .pp. 77 - 98.
- Savage, M., 2015. *Social Class in the 21st Century*. London, UK: Penguin.
- The Japan Times, 2020. *Japan to amend laws to help elderly work until 70*. [Online]
Available at: <https://www.japantimes.co.jp/news/2020/02/04/national/japan-amend-laws-elderly-work-until-70/#.XsVBvRMzZNO>
[Accessed 20 May 2020].
- Puckett, B., 2019. *Japan: Supreme Court rules on Mandatory Retirement*. [Online]
Available at: <https://ogletree.com/international-employment-update/articles/june-2019/japan/2019-06-04/japan-supreme-court-rules-on-mandatory-retirement/>
[Accessed 20 May 2020].
- Blincoe, A., 2018. *Understanding the Japanese Health Insurance System Part 1/2: How Much Does it Cost?*. [Online]
Available at: <https://blog.gaijinpot.com/understanding-the-japanese-health-insurance-system-part-1-2-how-much-does-it-cost/>
[Accessed 20 May 2020].
- Shinjuku City Office, 2018. *The National Pension Plan Supports Everyone's Daily Lives*. [Online]
Available at: http://www.foreign.city.shinjuku.lg.jp/en/kenko/kenko_20/
[Accessed 20 May 2020].
- Robson, D., 2016. *How important is social class in Britain today?*. [Online]
Available at: <https://www.bbc.com/future/article/20160406-how-much-does-social-class-matter-in-britain-today>
[Accessed 20 May 2020].
- Kanert, M., 2019. *All About Pensions in Japan*. [Online]
Available at: <https://allabout-japan.com/en/article/7663/>
[Accessed 20 May 2020].
- Tokyo International Communication Committee, 2016. *Pension and medical insurance*. [Online]
Available at: https://www.tokyo-icc.jp/guide_eng/life/01.html
[Accessed 20 May 2020].
- United Nations Population Division, 2015. *Government response to low fertility in Japan*. New York, UNPD / East-West Center.
- Tsuya, N. O., 2015. Below-replacement fertility in Japan: Patterns, factors, and policy implications.. In: *Low and Lower Fertility*. s.l.:Springer, Cham, pp. 87 - 106.
- Zaugg, J. & Kobayashi, C., 2019. *Japan's fertility crisis even worse than before as births fall sharply*. [Online]
Available at: <https://edition.cnn.com/2019/10/08/asia/japan-fertility-intl-hnk-scli/index.html>
[Accessed 20 May 2020].

Ministry of Health, Labour and Welfare, 2007. *Effective April 1, 2007 Scope of coverage for the Child Allowance System will expand*. [Online]
Available at: <https://www.mhlw.go.jp/english/topics/child-support/index.html>
[Accessed 20 May 2020].

Rich, M., 2019. *Japan Desperately Needs More Day Care Workers. New Mothers Need Not Apply..* [Online]
Available at: <https://www.nytimes.com/2019/06/09/world/asia/japan-day-care.html>
[Accessed 20 May 2020].

Kobayashi, J., 2017. Have Japanese People Become Asexual? Love in Japan. *International Journal of Japanese Sociology*, 26(1), pp. 13 - 22.

Jozuka, E., 2019. *Inside the Japanese town that pays cash for kids*. [Online]
Available at: <https://edition.cnn.com/2018/12/27/health/japan-fertility-birth-rate-children-intl/index.html>
[Accessed 20 May 2020].

The Economist, 2018. *A small town in Japan doubles its fertility rate*. [Online]
Available at: <https://www.economist.com/asia/2018/01/09/a-small-town-in-japan-doubles-its-fertility-rate>
[Accessed 20 May 2020].

Timsit, A., 2019. *Japan is trying really hard to persuade women to start having babies again*. [Online]
Available at: <https://qz.com/1646740/japan-wants-to-raise-its-fertility-rate-with-new-perks/>
[Accessed 20 May 2020].

Seligman, B., Greenberg, G. & Tuljapurkar, S., 2016. Convergence in male and female life expectancy: Direction, age pattern, and causes. *Demographic Research*, 34(38), pp. 1063 - 1074.

OECD, 2017. *Pensions at a Glance 2017: Country Profiles - United Kingdom*, Paris: OECD.

Cumbo, J., 2020. *Tories urged to rethink state pension age increases*. [Online]
Available at: <https://www.ft.com/content/2baec74c-57dd-11ea-a528-dd0f971febbc>
[Accessed 20 May 2020].

Grosios, K., Gahan, P. B. & Burbidge, J., 2010. Overview of healthcare in the UK. *EPMA Journal*, 1(4), pp. 529 - 534.

Ghaznavi, C. et al., 2019. Trends in heterosexual inexperience among young adults in Japan: analysis of national surveys, 1987–2015. *BMC Public Health*, 19(1), p. 355.