

A Literature Review on Ageing Population in Selected Asian Countries

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Abstract

This paper aims to provide an overview on the topic and impact of the ageing population on overall economy's wellbeing in Japan, Malaysia, Singapore and South Korea. This topic undoubtedly significant to an individual, a community and a country as the ageing population shows an increasing trend but much steeper than it is forecasted decades ago. Japan is one of the pioneer countries and the first Asian country that face severe ageing population. But it has at least overcome the critical stage through various yet careful approaches in solving ageing problems. The post-effect of ageing still can be seen in Japan via significantly low economic growth. Other countries like Malaysia, Singapore and South Korea exhibits similar trends with an increase in the size of ageing population. But, most of the economists predict that Malaysia would have the hardest time facing this issue compared to Japan, Singapore and South Korea judging from its financial stability. Therefore proper and updated research is essential in keeping track with the changes in trends of ageing population as suggested by policymakers.

Keywords: *ageing population, ageing process, gross domestic product (GDP), fertility rate, healthcare expenditure*

1 Introduction

Ageing population is no longer out of the ordinary as all countries face this issue. Japan, one of the developed economies, currently well known for its ageing society. The proportion of senior citizen (above 64 years old) is approximately a quarter of its total population, 127 million (Reynolds, 2017). When Japan first got hit by this socio-economic problem, other countries were still 'young' and hence, less attention were given to these issues. As other countries began to realize how severe was the impact of ageing on Japan's economy growth, economists start forecasting the trends of ageing for their own country, comparing the trends with another economy; particularly Japan, and designing suitable macroeconomic policies in preparing their economy to the world of ageing. The main aim for such efforts was to reduce the shock on economy's performance due to ageing process. In the past, ageing issue was common in industrialized economy, not for developing economies. Judging from the

current trends on the shifting on demographic structure in developing countries such as Malaysia, Singapore and South Korea, this is not the case anymore. Japan is one of the pioneer countries and the first Asian country that faced severe ageing population, have at least overcome the critical stage through various yet careful approach in solving ageing problems.

Singapore is one of the countries that experience rapid ageing with the percentage of those aged 65 and above projected to rise more than double from 8% in 2005 to 20% by 2030 (Wong, 2013). Common causes of this rapid ageing declined rapidly in total fertility rate coupled with an increasing life expectancy. South Korea also experienced both problems that lead to population graying (Choi, 2007). 10.26 million Koreans or 20.1% of South Korea's population were aged 60 or above in 2017 and this number is projected to increase to an astounding 20.97 million Koreans or 41.6% by 2050 (United Nations World of Population Prospects, accessed on 3rd October 2018). The number of people aged 60 and above in Malaysia is expected to achieve 3.3 million by 2020 (Mafauzy, 2000). According to the World Bank's projection of future population size for Malaysia in 2020 is expected to reach approximately 32.5 million (The World Bank, 2018). In 2020, the proportion of people aged 60 and above is approximately 10.15 per cent from the total population. Another source stated that by 2035, Malaysia will attain ageing nation status where approximately 15 per cent of the population is senior citizens (Daim, New Straits Times, 2016, March 23).

2 Literature Review

Types of Ageing Population

Ageing population is referred to as a situation where there is a change in the age structure of the population within a country, a rising average age and a growing number of people living beyond the standard working ages. Population ageing happens when the median age of a country or region rises due to rising life expectancy and/or declining fertility rates. There are several types of ageing population based on its severity. According to United Nations (accessed on 12th July 2017), there are several terms used to described the severity of ageing population for a particular country. The first term is ageing population when a country's elderly is made of 7% from the total population. When the percentage increase from 7% to 14%, the country's population is 'aged'. If the percentage of country's elderly from its total population reached 21%, the country's population is 'super-ageing'. There are other terms used by other economists by replacing the word 'super' with the word 'ultra'.

Overview of Ageing Population Issues in Japan, Singapore and South Korea

In the case of South Korea, the society is rapidly ageing due to drastic changes on the rate of demographic transition from starting 1960's until today. Based on a studies by Mahmoudi (2017) and Choi (2013), it is found that implementation Family Planning Policies in the South Korea in the early 1970's has a significant contribution to rapid fall in fertility rates and the fertility rates is currently among the lowest in the world. The policies were meant to control rapid population growth at the time but unintended results are produced. In addition to it, women's empowerment has significantly reduced the fertility rates as women in South Korea become more independent and less attracted to marriage. Lower fertility rate leads to higher proportion of older people to younger people.

Another study by Kim (1999) shows urbanization rates and changing socioeconomics positively worsen ageing society's welfare. As urbanization takes place, most of younger people migrate from rural to urban areas in seeking of higher factors incomes. Leaving behind their elderly in rural areas will make them vulnerable to several of threats. One of the major problems that associated with ageing society in South Korea is 78.2% of elderly thinks that their children should support them either financially or emotionally. The reality is way opposite as most of the working children did not provide these to their parents due to big socioeconomic changes. Government itself also has limited ability in helping the elderly due to scarce resources. Kim (1999) has emphasized on the concepts of filial piety in reducing social problems associated with ageing society as well as with the helps from government, social organization, and the company where the elderly had worked for a lifetime.

Concerns related to stable income security system in retirement age and provisions of healthcare to elderly are growing in South Korea (Choi, 2007). Poorer communities in South Korea also show an immense concern about their future as a senior citizen (Choi, 2007). The study highlighted that the government of South Korea is yet to design a stable income security plan to the citizen (Choi, 2007). The concerns on richer families may not be as heavy as poorer families since richer families may possess adequate assets to cope with the retirement expenses.

For the case of Singapore, the ageing population problem was mainly drives by a fall in fertility rate in 1970s (Chan, 2001). The Total Fertility Rate (TFR) stood around 6 children per woman during the period of 1960s. Extreme interventions from Singaporean government in a form of campaign were executed in the late 1960s until early 1980s with an aim to reduce TFR. The campaign proved to be highly successful as Singapore recorded 0% population growth rate by 1986 (Chan, 2001). This has sparks Singaporean government concerns as the number of young people in the country

significantly drop while elderly increasing at higher proportion. Government reversed its population planning policy to motivate Singaporean couples to have three or more children (Chan, 2001). Few attempts made by Singaporean government in increasing birth rates includes provision of two financial incentives namely “Baby Bonus” and Children Development Account (CDA) for couples to have more children. The attempts did produce some positive impacts on the trend of having children as reported by The Strait Times on 15th August 2009.

Initiatives continue with reformulation of policies by Singaporean government in order to cope with the ageing problems. According to Teo (1996), government tried reducing financial burden of household in taking care of their elders by extending retirement age from 55 to 60 years in 1988. This is to allow them to continue earning income to support their life, savings for retirement as well as financial source of taking care of their elders. However, the Retirement and Re-employment Act revised by the government and hence, the retirement age is extended from 60 to 62 years in 2012 (Singapore’s Ministry of Manpower, 2017, accessed on 1st October 2018). Under this new amendment, employees is allowed to be re-employed by their employers upon reaching 62 years old as long as they are fulfilling all the compulsory requirements. With longer working years, Singaporeans are expected to have better retirement funds and ability in taking care of their parents. According to Teo (1996), suggestions in pushing retirement age to 65 or 67 is been made by the public as the need of income is crucially important to every Singaporeans especially reaching age of 60. Government of Singapore did accept the suggestions and revised the existing polices in 2012.

As mentioned earlier, Japan is one of the pioneer countries that experienced severe ageing population and currently holding the record for being first Asian country to achieved ultra-aged nation status. Numerous studies on ageing issues conducted to assess the challenges faced by the country due to ageing process, policy design and its implications, alternatives for ageing society and so on and so forth.

Kato *et al.* (2011) focuses on the employment of Japan’s senior citizen, specifically at a company in Gifu prefecture of Japan. The increasing number of aged people forced government to increase the public spending in dealing with the issue. This has put fiscal pressure on government’s fiscal policy that leads to a significant restriction in restructuring future policy for the country. As the size of population of senior citizen continue to increase, they should start becoming major player in the labor forces since the elderly will make up larger percentage in the general population sooner or later. From the study, instead of changing the job to better suit senior citizen, the process of the job itself should be altered to fit their health condition and physical capabilities.

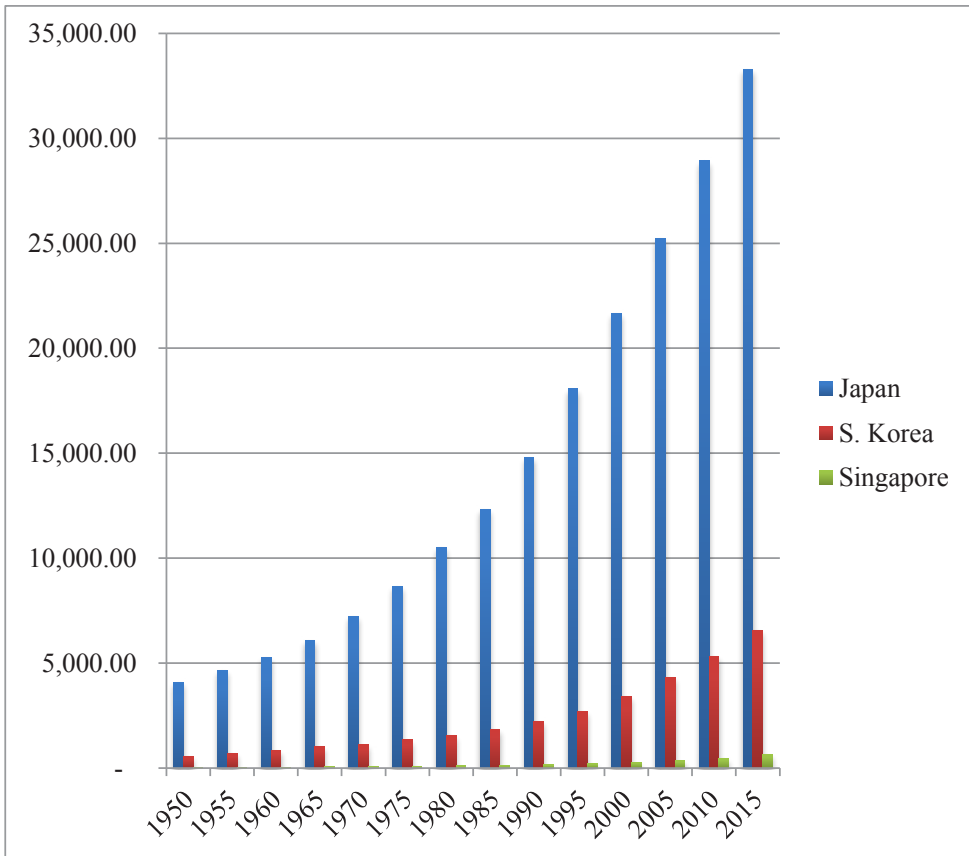


Figure 1 Number of Individual Aged 65 and above (in thousand) for Japan, South Korea and Singapore from 1960-2015

(Sources: Own computation in Microsoft Excel 2010 – Data retrieved from World Bank)

There are significant similarities shown in Japan, South Korea and Singapore regarding the growth of ageing population and factors driving the growth. Figure 1 shows the summary of number of individual aged 65 and above for Japan, South Korea and Singapore from 1950 until 2015. Japan, South Korea and Singapore show a similar increasing trend in the number of person aged 65 and above. These complement the view on rapid growth of ageing population for Japan, South Korea and Singapore. As point out by other economists on the severe case of ageing population in Japan, it is indeed critical from the above graph. Japan's ageing population size is a few times larger than South Korea and Singapore combine. However, due to Japan's continuous battle with growing ageing issue, the rate of increase in size of ageing population getting slower in the recent decade.

Ageing Population Issues in Malaysia

Numerous research on issues associated with ageing population in Malaysia has been conducted. From general to narrowed perspective on issues, methods, solutions and policies of ageing are being actively discussed in news, journals and other medium of readings. Rapid ageing is being predicted in the past studies by numerous researcher however the rate of ageing seems to be slightly higher than the forecast which is one of the top reasons further and continuous study on ageing should be conducted. Malaysia, one of the Southeast Asian countries with a prominent achievement in terms of stable economic growth notably the period of 1988 – 1996 during Tun Dr. Mahathir bin Mohamad’s administration. Below is the graph showing trend of GDP growth for Malaysia:

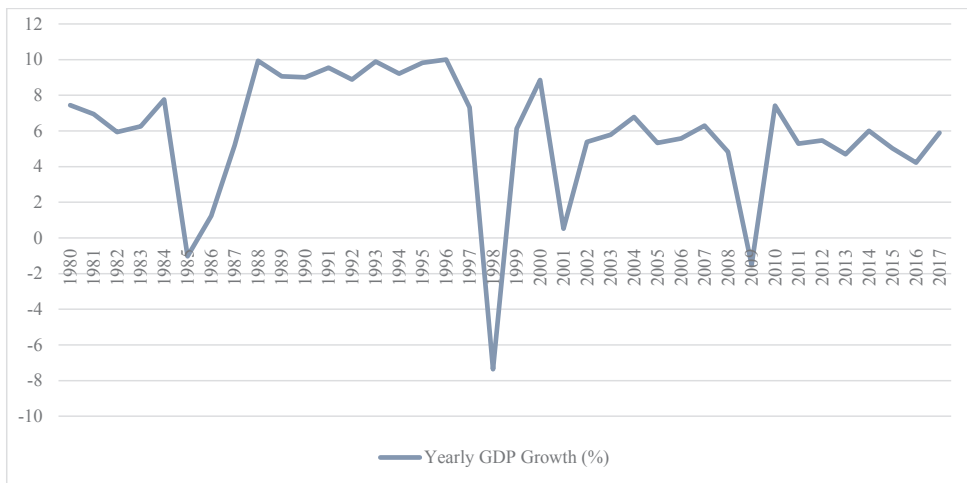


Figure 2 Percentage of Gross Domestic Product Growth for Malaysia from 1980-2017 (Source: Own computation in Microsoft Excel 2010 – Data accessed from The World Bank)

Malaysia’s economy growth is heavily relies on the quality of workforce (Jajri & Ismail, 2010). Quality of workforce can be influenced by number of factors and it is subjective. Age is one of the factors that can influence worker’s performance. As ageing process take place, an individual may experience a decline in certain physical functions (Chuah, 2009). From Figure 2, it is noted that Malaysia’s GDP growth failed to achieve 8 per cent after year of 2000. One of the possible reasons would be decline in quality of labor and this may influenced by ageing process.

This shows that Malaysia also displays an increasing trend of the older population as with the rest of the world. Population ageing can be seen in Malaysia via change in population age structures as shown in Figure 3 and Figure 4.

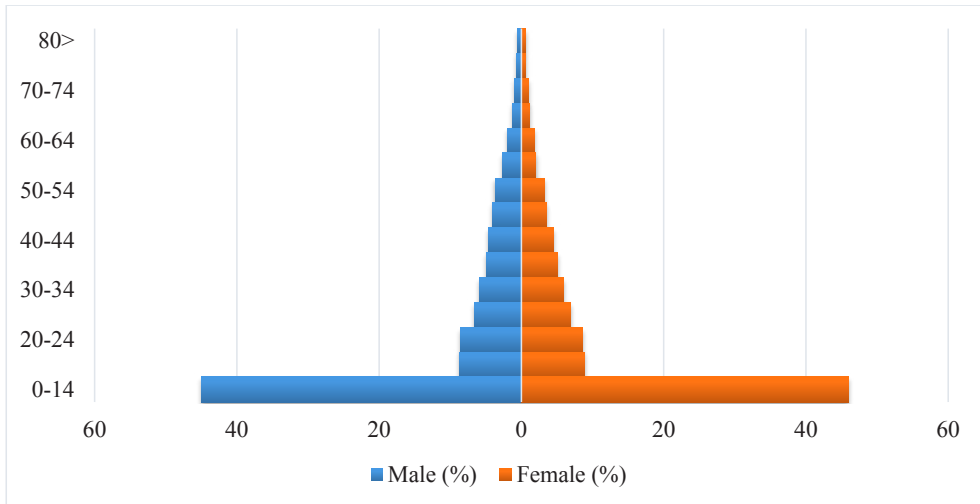


Figure 3 Population Pyramid for Malaysia in 1960

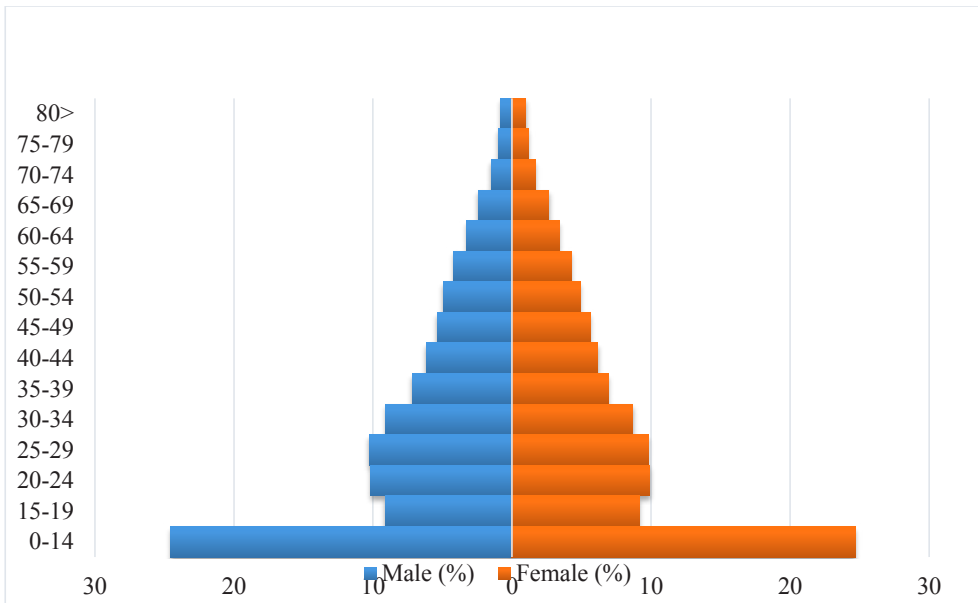


Figure 4 Population Pyramid for Malaysia in 2016

(Sources: Own computation in Microsoft Excel 2016 – Data retrieved from the World Bank)

The population age structure in Malaysia has undergone a significant but not drastic change over the past half century. Back in 1960, the population pyramid as shown in graph 2.2 revealed a triangle shape, with a large base of younger population at the bottom and a tapering older population on top. The shape of the pyramid is a typical

classical pattern observed in historical agriculture contexts, as well as in the developing world today (Bengtsson & Scott, 2011; Berzins & Zvidrins, 2011). However, the shape of the pyramid shall change again in shorter time frame as economists predicted that the speed of transitioning is much faster than few decades ago. By 2035, the percentage of individual age 60 years and above shall double the percentage in 2016 (Daim, 23rd March 2016, New Straits Times, accessed on 10th November 2016).

Studies show Malaysia is facing problems in regards to healthcare services for older people in Malaysia, especially in manpower supply (Poi, 2004; Arokiasamy, 1999). Poi (2004) suggested clinical leaders to band together with experts to create an integrated approach in dealing with the issue. Malaysia will need to learn from other healthcare system as we are trying to develop a better system that we can use in this country. Further suggestion includes the study of healthcare system in the UK and Australia for the training of future healthcare workers in Malaysia and development of a system that can provide answers to various challenges in the country's health service. It is highlighted by Poi (2004) that incorporation of best aspects of many healthcare systems around the world into a strategic system may not always produce favorable outcomes in Malaysia due to differences in various aspects include demographic and economic conditions. Arokiasamy (1999) identified that declining fertility affects the availability of caregivers and financial support for older people. Other findings include declining fertility leads to ageing of the labor forces and migration of younger people to the cities leads to an increase in population of older people in rural areas. Both studies identified almost similar problems associated with ageing but different emphasis of the study.

Another issue associated with ageing society in Malaysia is lack of money to live a graceful life after retirement. A study by Tan *et al.* (2016) did point out that 90% of the contributors to Employees Provident Fund (EPF) will not be able to maintain a simple lifestyle on their 5th year of retirement onwards. An improvement on the existing pension system is required to secure one's living standard after their retirement. Besides, promoting awareness on social responsibilities for ageing society is essential to facilitate graceful ageing process.

There is study that focus on more narrowed issue such as the impact of ageing on specific race. A study by Chai *et al.* (2015) shows that the rate of ageing is varies among Malays, Chinese and Indian. Variables like lower fertility, longer life expectancy and emigration have increased the rate of ageing among the Chinese, of whom one out of eight is an aged person. This proportion is significantly higher than those of the Malays and Indians. Another finding in the study shows that more males compared to females aged and the ratio is much higher than Malays or Indian.

Fertility Rate and Ageing Population

Fertility rate has been associated with the study on ageing society. Numerous study involved fertility rate in assessing the process of ageing and its rate of ageing. A study by Lee *et al.* (2009) did analyses the relationship between fertility rate and the transition of demographic via overlapping generations (OLG) model. As fertility rate drop, the population growth becomes slower or negative. A phenomenon called first demographic dividend is noticed as working age population increases.

In a recent study by Lee *et al.* (2015), there are empirical evidences that longer lives and low fertility rate are strongly contributing to rapid population ageing in many countries. Low fertility rate will reduce average living standards for a society and it will pose challenge to government's initiative in reducing rate of ageing (Lee *et al.* 2015). In a publication by United Nation on world population ageing from 1950 to 2050 (United Nations, accessed on 31st May 2018), the fertility rate decrease in developing countries started later and has progressed faster than other developed countries.

In Malaysia, total fertility rate has shown declining trend over time which similar with other countries. This is aligned and supported with empirical evidence from various studies. Malaysia's overall fertility rate is illustrated in Figure 5.

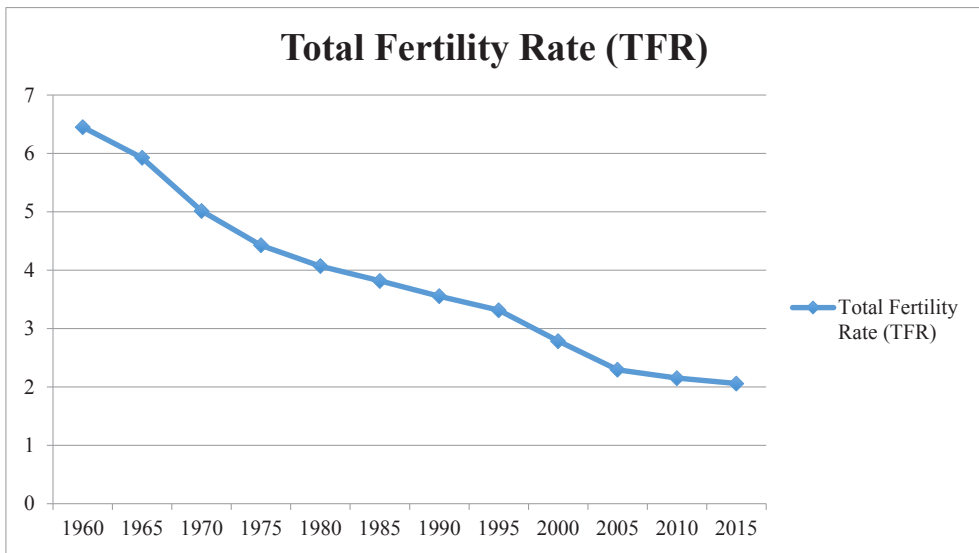


Figure 5 Total Fertility Rate in Malaysia from 1960-2015
(Sources: Own computation in Microsoft Excel 2010 – Data retrieved from World Bank)

From the graph in Figure 5, total fertility rate shows declining trend from 1960 to 2015. It is noted that the highest total fertility rate recorded was on 1960 that is 6.45. Ever since 1960, total fertility rate has never achieves that feat. Instead, in 2015, the total fertility rate hit the lowest rate, 2.056. The trend anticipated by economists due to discouraging policies designed by Malaysian government itself. Although one-child policy (implemented in China) or two-child policy (implemented in Singapore) are not implemented by government in Malaysia, but introduction of new tax like good and service tax (introduced in 2015 by previous prime minister, Datuk Najib Razak) and sales and service tax (introduced in 2018 by current Tun Dr. Mahathir bin Mohamad) has significantly push living cost to a new height and caused people to reconsider their marriage and having more children. With less children per household definitely increase the proportion of senior citizen to overall population.

Fall in total fertility rate is highly associated with high female participation in labor market. Most studies explained the inverse relationship between female participation in labor force and fertility rate (Ma, 2017). With better access to labor market and opportunity to land in higher position in corporate business, women may delay their intention in having a family. Significant number of female nowadays is having more courage to stands for what they believe and what they actually want. They usually fights off pressure of getting marry from their parents. Fall in fertility rate indicates fall in number of births per 1000 women. Fall in birth rates may results in higher proportion of senior citizens in overall population. There is an inverse relationship between the size of ageing population and total fertility rate in the context of Malaysia.

Slowdown in fertility rate decline may not necessarily achieve by government via policy measures (Grant *et al.*, 2004). Individuals' behaviour is complex and varying across gender, age, region, race, background and so on and so forth. A country may achieve its goal in slowing the rate of decline of fertility rate via specific policy but it may not be the case for other countries (Grant *et al.* 2004). Different country may have different set of population with different behaviour and therefore different response towards a particular policy.

Healthcare Expenditure and Ageing Population

Health care expenditure is referring to spending on healthcare services. Spending on health care is empirically proved to have positive linkage to expansion of ageing population or vice versa. A research by Poi (2004) discusses the issues and challenges faced by older people in Malaysia. The demand for healthcare is heavily influenced by an increase in number of older patients. A need for a new specialty in medicine i.e. Geriatric Medicine is being considered. With more and better medical equipment, the

longevity of population extends which causing the proportion of older people from the total population increasing. Same evidence shows in older study by Arokiasamy (1999) that ageing population growth increases the health care costs for the elderly as the demand for public utilities as well as health care treatments increases.

Another study by Chai *et al.* (2015) shows that there are less Chinese elderly that uses the available healthcare facilities and services. Among those that actually do, there are significantly less Chinese that uses the public facilities and more reliant to private health care facilities and services. This translates to the increase of spending on health care. Possible reason for Chinese elderly to consume private health care services rather than public health care services is because of the quality of health care services provided by private health care provider is higher than public health care provider. Better access to better health care treatments will leads to extension in lifespan.

Another similar study by Ha, Hendrie & Moorin (2014) also shows that there is an increase in Cardiovascular Disease (CVD) hospitalization cost in 1993/94 and 2003/04 due to the increase of ageing population via decomposition method. From here, it is clear that as the number of elderly increase, the total spending on health care sector would increase as well. With higher spending on health care treatments may leads to graceful ageing process. This supported with a study by Furuoka *et al.* (2011) in investigating the determinants of health care expenditures, specifically in Asian countries using an econometric model have empirically proved that when the percentage of the ageing population is higher, the cost of health care will also be higher. A study by Kato *et al.* (2010) also stressed that increasing number of ageing population in Japan will force the government to increase its public spending in dealing with the issue and may subsequently leading to a significant impediment in restructuring future policy for the country. Increasing public spending allows improvement on public facilities and affordable to lower income group. This may lead to ageing population expansion as more elders able to obtain necessary treatments.

From the past to recent studies on ageing population, health care expenditure proved to be one of the main variables that positively associated with the ageing population progress. Hence, health care expenditure is employed as one of the independent variables to illustrate the relationship between health care expenditure and ageing population growth.

3 Conclusions

Population graying may not be the major concerns in the past decades but it is now. The effects of ageing population can be felt and seen everywhere. Let takes Japan as an example. What happened to their economy performance? Is it one of their best performances throughout the 50 years? The answer is no. According to the World Bank reports, Japan's real GDP fell short in 2017 compared to 2016 by \$77 billion. This shows a negative economic growth that is not good to overall wellbeing of an economy. Government may have to increase healthcare expenditure to provide adequate supply of healthcare treatments to senior citizens and this may increase the trade-offs where other welfare projects are being forgone. Such provision may not benefits the younger population and they may find it unfair if they have to pay higher tax for something that is not for them. Bear in mind that government is definitely going to introduce new taxes and raise income tax rate to raise funds to support the welfare benefits. This may again imposed burden to all citizen and creating deadweight loss. Government's altruism in helping senior citizen may not gain any benefits but possibility to lose their votes in the next election. Malaysia, Singapore and South Korea sharing almost similar ageing problems. Major concerns identified throughout the literature review include: (1) adequate healthcare provision to senior citizen, (2) Stable income security during retirement age, (3) policies reform to support ageing population, (4) decline in fertility rate and (5) excessive healthcare expenditure. Most of the policies designed in the past may create unintentional effects in the current time. This can be seen in the case of Singapore and South Korea. Both countries are trying to control population size via family planning controls. Due to this, but both countries now suffer from fall in fertility rate and rapid ageing. This is same applied for the case of Malaysia. Steady fall in fertility rate is a major concern but it is anticipated. Although Malaysia is not implementing any extreme interventions in controlling the size of family but due to rising costs of living and modern lifestyle, the number of children per family falls. Malaysia government may unintentionally create undesirable effects on fertility rate from introduction of new taxes (GST in 2015 and SST in 2018). Among the four Asian countries, Japan considered successful in adapting to the world of ageing despite challenges. Instead of treating senior citizen as a burden, Japanese government creating job opportunities to retirees so that they can continue supporting their living expenses without fully relying on government. As of 2018, Japan has achieved a new world record with one in three people aged over 65 (Lee, News Straits Times, 2018, October 17). Japan may provide the best healthcare and social safety net for its senior citizens, but this has put an immense strain on its financial system and retail industry (Lee, News Straits Times, 2018, October 17).

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