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Malaysia 2050: Economically Productive and Socially Inclusive

Overcoming the Challenge of Demographic Pressure

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Malaysia 2050: Economically Productive and Socially Inclusive

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Malaysia 2050: Economically Productive and Socially Inclusive

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1. Introduction and Summary

This paper was prepared for a presentation at the “Forum on Malaysia’s Population in 2050: What does This Mean Socio-economically”, organized by the Institute of Strategic and International Studies (ISIS), Kuala Lumpur, Malaysia, April 25, 2017.

Over the past few decades, Malaysia has been enjoying a relatively favorable demographic environment characterized by working age population growing at a higher rate than the overall population. Malaysia was very successful in translating this demographic window of opportunity into a sustained economic growth path, poverty reduction, and achievement in non-income dimensions. However, Malaysia is a few years away from the end of its demographic window of opportunity. Moving forward, this paper presents areas that Malaysia should focus on to sustain economic growth path to converge with high income economies by 2050.

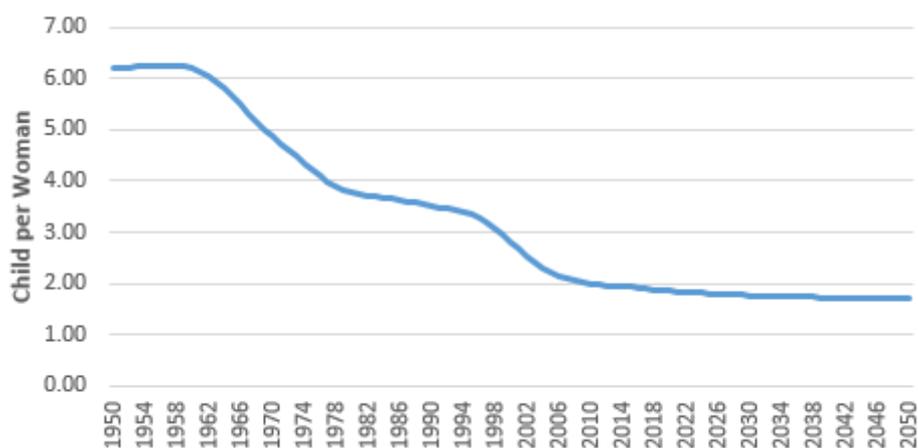
It is to be noted that the purpose of this paper was for a short presentation. Nevertheless, it illustrates with best available statistics and country comparisons important key features of Malaysia’s underlying population dynamics and the consequences and opportunities in Malaysia’s path to be an economically productive and socially inclusive model country by 2050.

2. Malaysia Demographic Developments

According to the 2015 revision of the World Population Prospects, Malaysia’s population was estimated to have reached 31.164 million in 2017. Over the last 10 years, Malaysia’s population grew at a rate averaged 1.53 percent annually, which is higher than that of South East Asia (1.178 per cent). By 2050, the growth rate will still be positive at 0.39 percent, but will switch signs as population is projected to start declining by 2070 (UN, 2016).

The pattern of declining natural population growth (excluding migration) can be explained by two underlying factors: fertility rates and mortality rates. Since independence of 1957, Total Fertility Rate (TFR) decreased by almost 70 percent, from 6.1 children per woman to 1.97 children per woman in 2017. It is expected to decline further and reach 1.73 children per woman by 2050 (UN, 2016).

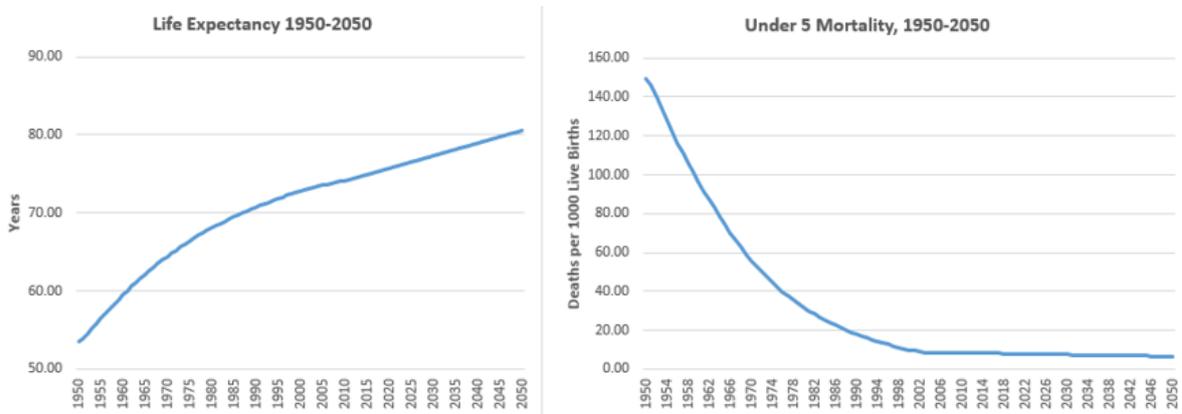
Figure 1: Total Fertility Rates, 1957 – 2050



Source: Based on data from (UN, 2016)

The second factor, the mortality rate, has shown improvement over the same period. The Under-Five mortality rate declined significantly from a rate of 111.2 deaths per 1,000 live births in 1957 to 8.06 deaths per 1,000 live births in 2017. Life expectancy at birth, therefore, increased steadily and reached 72.9 years as of today, a 15 years increase since independence. It is expected to increase further and add 8 more years by 2050 (UN, 2016).

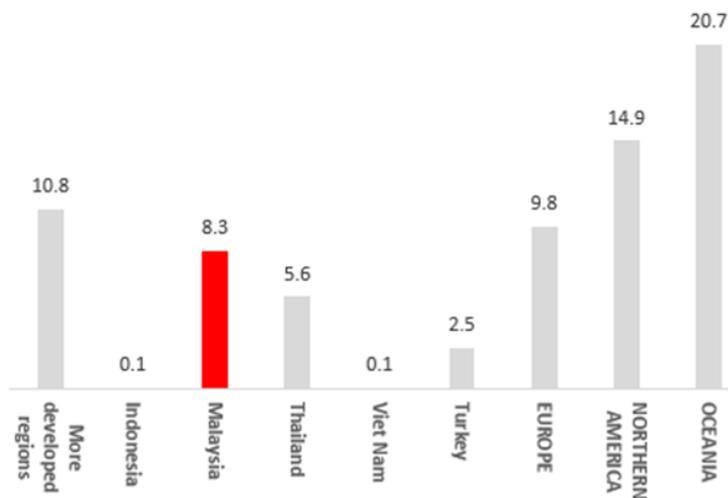
Figure 2: Life Expectancy in years (left graph) and Under 5 Mortality, Deaths per 1000 lives, 1950-2050



Source: Based on data from (UN, 2016)

In addition to the natural population change (fertility and mortality), net migration has also shaped a key feature of Malaysia’s demographic characteristics. Latest available data on international migrant stocks estimated that the international migrant stock constituted 8.3 percent of the total population as of 2013, significantly higher than regional comparators (UN, 2016).

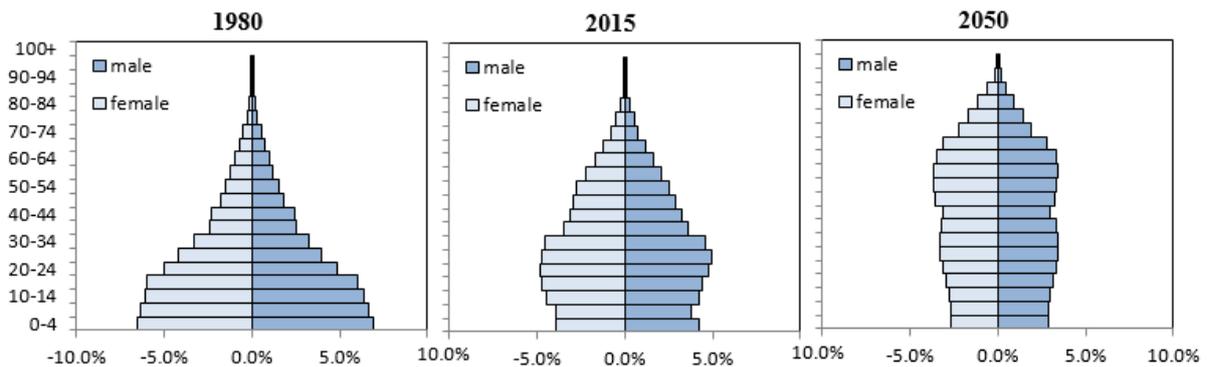
Figure 3: International Migrant Stocks as Percentage of Total Population, 2013



Source: Based on data from (UN, 2016)

Combining these factors together (fertility, mortality, and migration), Malaysia’s population is expected to grow, but at a decreasing rate, until 2070, a year will mark the beginning of declining population for the first time in Malaysia’s history. However, it has seen significant changes in its population structure. As of 2017, the mean characteristic of the Malaysia’s population is its broad middle section of its population pyramid, providing favorable demographic profile for the labor market.

Figure 4: Population Pyramid, 1980 - 2050



Source: Author’s calculation based on data from UN (2016)

The population dynamics discussed earlier has three main potential consequences:

- 1- While population growth will continue to increase over the next few decades, number of children will decrease.

Table 1: Population in Million, from Independence 1957 to 2050

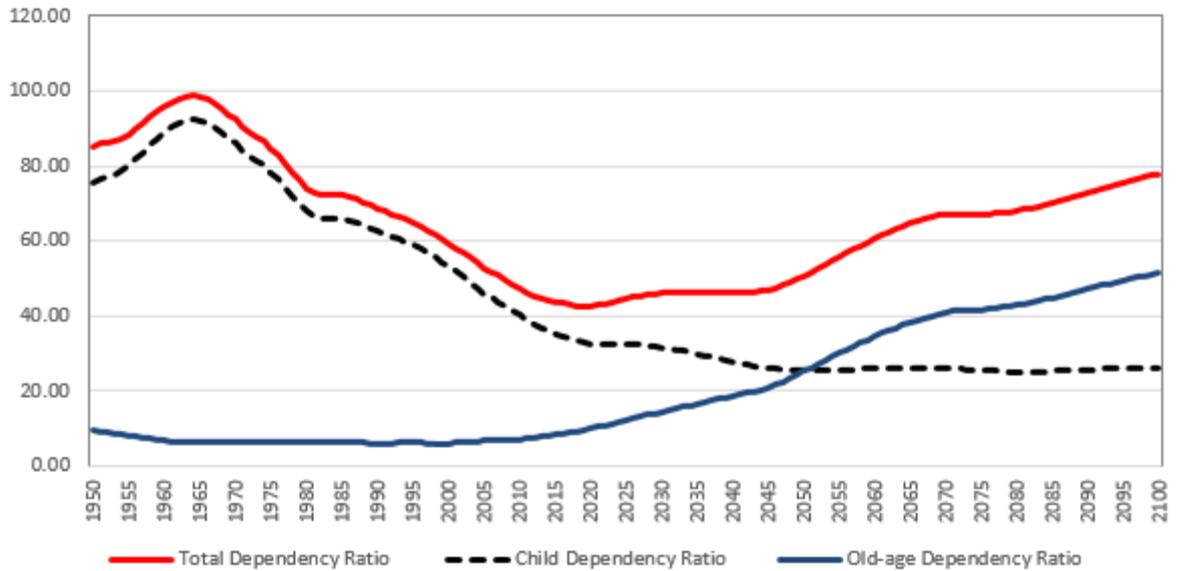
	1957	2017	2050
Population	7.443 million	31 million	40.7 million
Children (under 18)	3.68 million	9.056 million	8.344 million

Source: Based on data from (UN, 2016)

The likelihood of steady and possibly increased population growth, despite the declining fertility rate can be explained by a phenomenon called the “demographic momentum,” which occurs due to the fact that more women are in their reproductive years.

- 2- The reduction in young dependency ratio (the ratio of children under 15 years of age per working-age person) will be taken over by the rapid increase by the old-age dependency ratio (the ratio of elderly over 65 year-old per working-age person). In fact, the year 2050 will mark a point when old-age dependency ration will exceed that of young dependency ratio for the first time in Malaysia (in other words, elderly over 65 years-old will exceed pre-working age population age 15 and below).

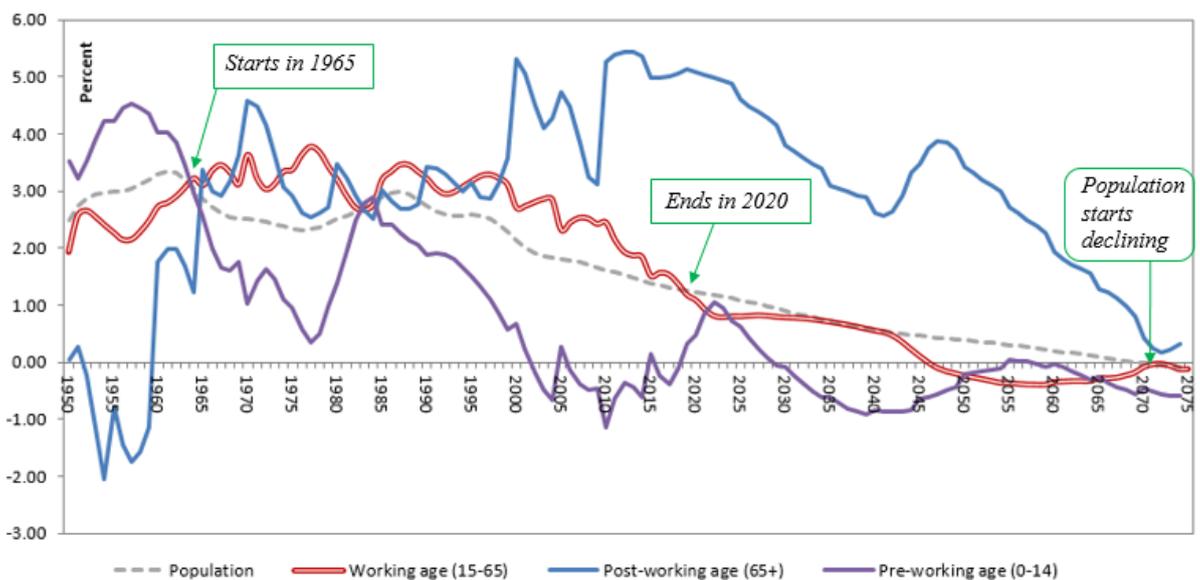
Figure 5: Number of Dependents per 100 Persons of Working Age (15-64), 1950-20100



Source: Author’s calculation based on data from UN (2016)

- 3- While up to this point Malaysia has enjoyed a favourable demographic profile started in 1965, during which the working-age population expands at a higher rate than the general population, the country is now a few years away of the end of this favourable demographic period, widely referred to as the “demographic window of opportunity”, since the expansion of the working-age population, and the concomitant enlargement of the labour force, can present a favourable condition for sustained economic growth path if the country create sufficient jobs to absorb the rapid entry to the labor marker as Malaysia indeed did successfully.

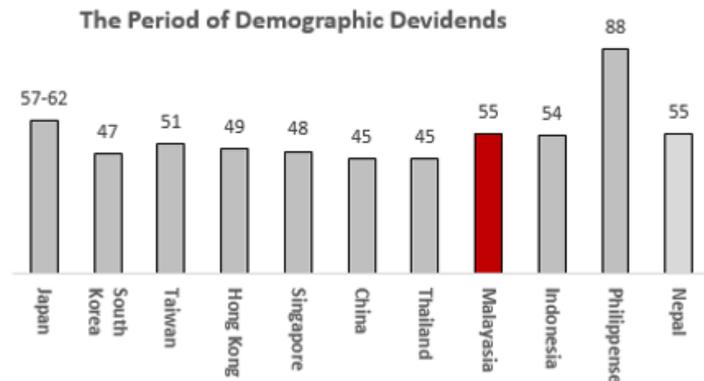
Figure 6: Population Growth Rates by Major Age Groups, per cent, and Demographic Window of Opportunity (start and end period), 2000-2100



Source: Author’s calculation based on data from UN (2016)

Table 2: Length of Demographic Dividends, Years, Selected Countries

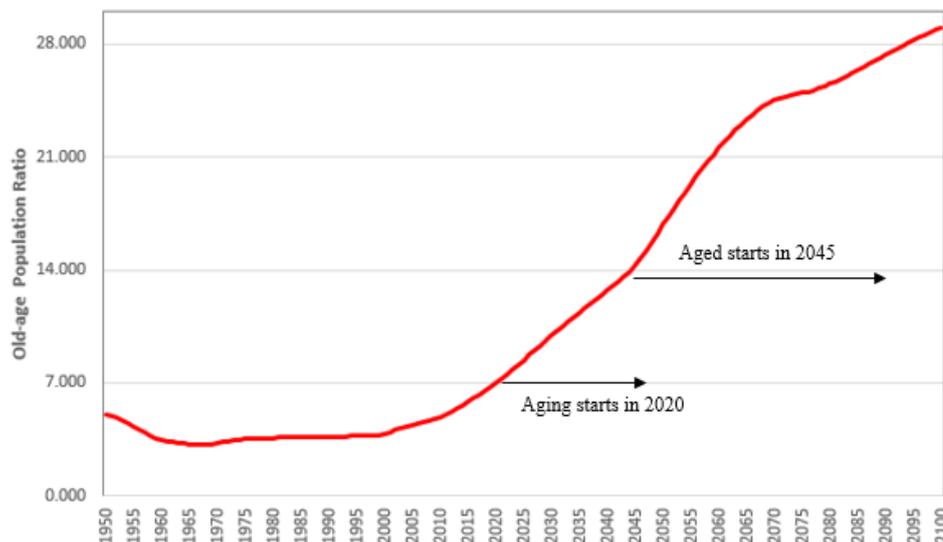
	Year		Length
	Start	End	
Japan	1930-35	1992	60
South Korea	1966	2013	47
Taiwan	1963	2014	51
Hong Kong	1961	2010	49
Singapore	1964	2012	48
China	1965	2010	45
Thailand	1968	2013	45
Malaysia	1965	2020	55
Indonesia	1971	2025	54
Philippense	1964	2052	88
Nepal	1991	2046	55



Source: For Malaysia and Nepal, own Calculation Based on data from UN (2016). For other countries, Oizumi (2013) based on Un (2013)

- 4- As a result of falling fertility rate and longer life expectancy, Malaysia's population has been aging at a very high pace than that of other countries. The author's calculation indicates that Malaysia will be considered as an 'aging nation', defined when post working population (65+) constitute 7 percent of the total population, by 2020. It will reach an 'aged nation, defined when post working population (65+) constitute 14 percent of the total population by 2045.

Figure 7: Post-Working Population as Percent of Total Population, 1950-2050

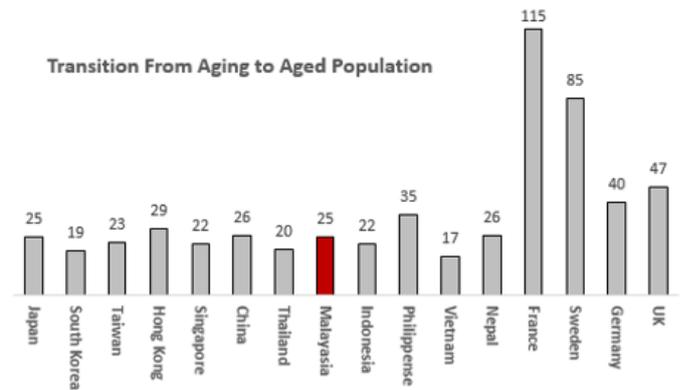


Source: Author's calculation based on data from UN (2016)

In comparison of other countries, the speed of aging is indeed alarming. While it took France, for instance, 115 years to move from aging to an aged phase, Malaysia is doing this in only 25 years. However, it seems that the fast aging society is a common feature in Asia.

Table 3: Speed of Aging, Years, Selected Countries

	Year		Length
	7%	14%	
Japan	1970	1995	25
South Korea	1999	2018	19
Taiwan	1994	2017	23
Hong Kong	1984	2013	29
Singapore	1999	2021	22
China	2001	2027	26
Thailand	2002	2022	20
Malaysia	2020	2045	25
Indonesia	2023	2045	22
Philippense	2035	2070	35
Vietnam	2016	2033	17
Nepal	2028	2054	26

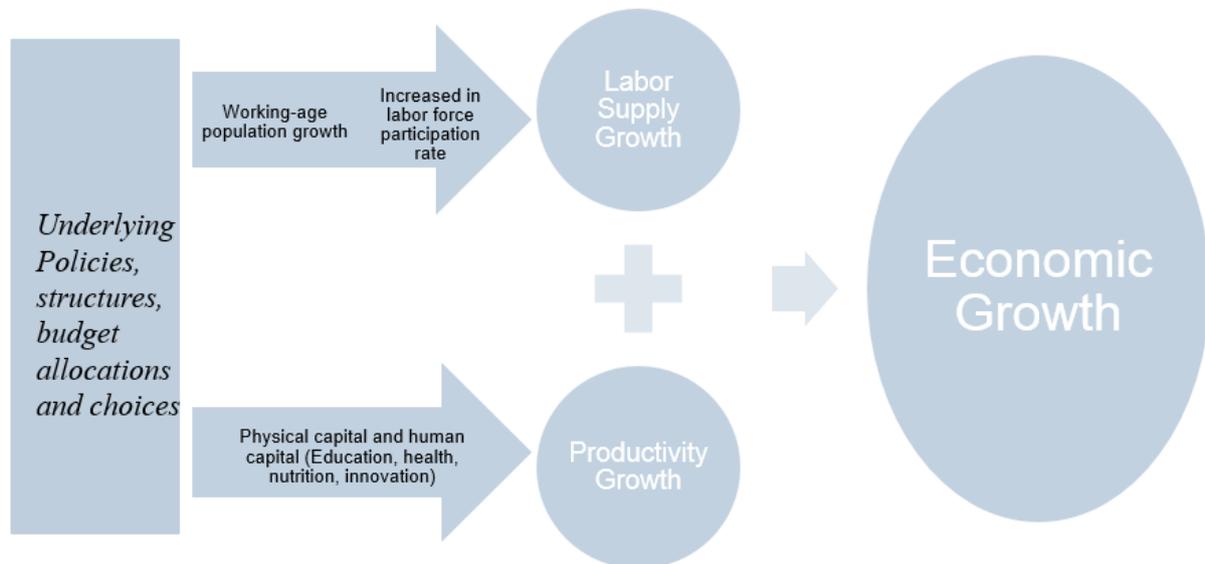


Source: For Malaysia and Nepal, own Calculation Based on data from UN (2016). For other countries, Oizumi (2013) based on UN (2013).

3. Demography Transition and Economic Growth Path

The neoclassical long-run path of economic growth model decomposes economic growth into two components: the growth rate of the employed population and growth of labor productivity.

Figure 8: Economic Growth Decomposed

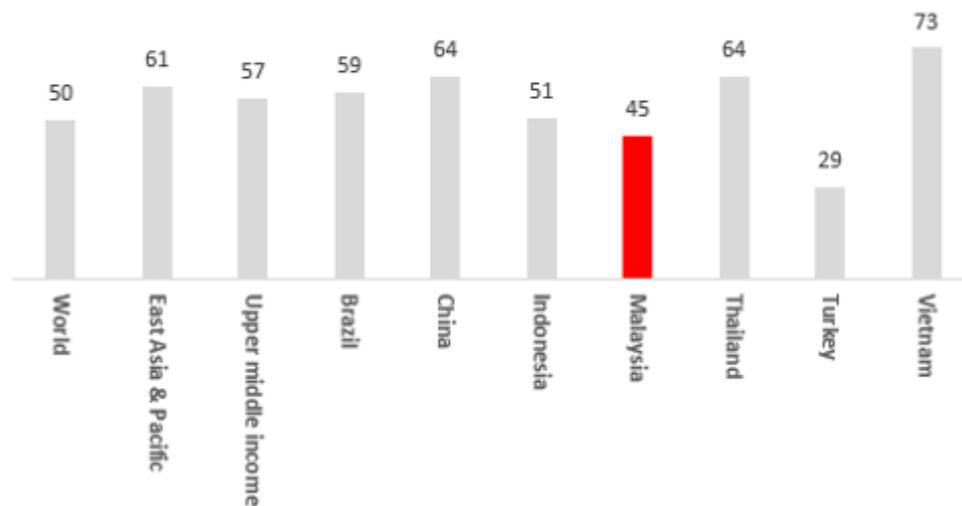


While Malaysia was successful in translating the demographic window of opportunity into sustained economic growth path, and along the way providing opportunities for Malaysians to access rights (education, health, etc) and move out of poverty, the demographic transition discussed earlier will limit this option moving forward. The second ‘big push’ in development to reach and sustain a developed nation status will depend on Malaysia’s success in two areas: inclusive labor market and labor productivity.

2.1. Inclusive labor market for all

The projected reduction in the share of the working-age population requires Malaysia to insure inclusive labor market. For instance, Malaysia can counter the reduction of the labor supply due to demographic changes by insuring female labor force participation increase to its potential. Malaysia is currently one of the lowest in terms of its female labor force participation in the region and in comparisons with countries at the same level of economic development.

Figure 9: Female Labor Force Participation Rate, Percentage of Female age 15+, Country Comparison, 2015



Source: Based on Data from (WB, 2017)

Another area can be inclusive labor market environment for persons with disability.

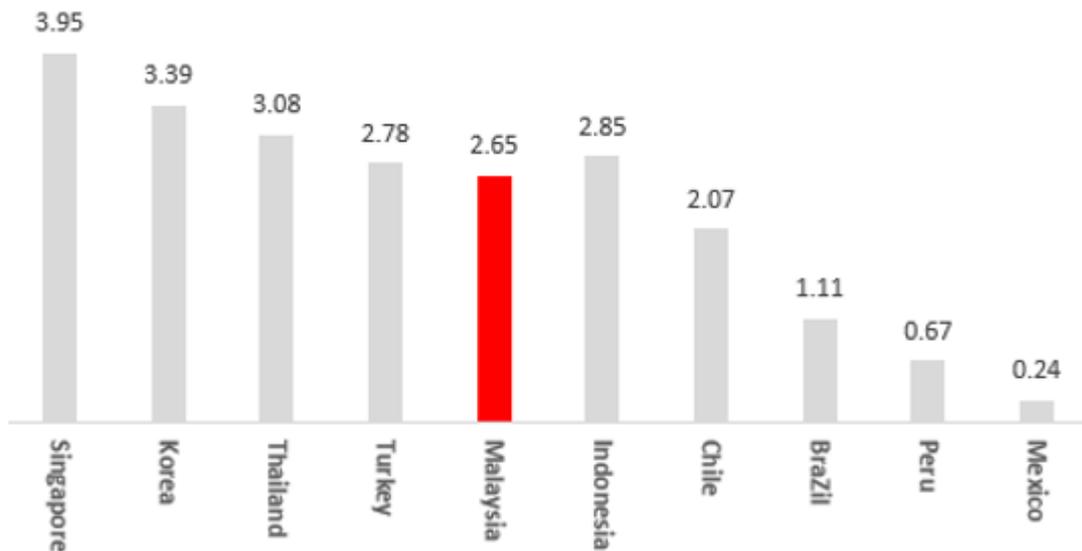
2.2. Labor Productivity:

The demographic dynamics in Malaysia highlights productivity as the main driver for long-term growth path towards the convergence with high-income economies. To unleash productivity potential, investments in both infrastructure and labor skills set are key. While many middle income countries efforts are focused on closing the infrastructure gap, Malaysia's logistics services are especially strong. Further, Malaysia has plans to improve its infrastructure (creating 3,000 km of new paved roads in rural areas, expanding port capacity, just to name a few). In terms of digital infrastructure, Malaysia targets a 95 percent broadband penetration by 2020, from already high level of 80 percent.

It is essential to highlight that investment in infrastructure must be matched with continuous upgrading of the skill sets of labor force participants to maintain high level of labor productivity to compensate for the negative demographic changes as well as to sustain economic growth path that enables convergence with high income economies. In fact, rising labor productivity accounted for at least half of GDP per capita growth in most OECD countries from 1990 to 2000 (OECD, 2017). For Malaysia, over the period of 1990-2014, labor productivity grew at an average annual rate of 2.65 percent, which

is below regional comparators, but compares well with peer countries in Latin America (World Bank, 2016).

Figure 10: Labor Productivity Growth, Percent, 1990-2014



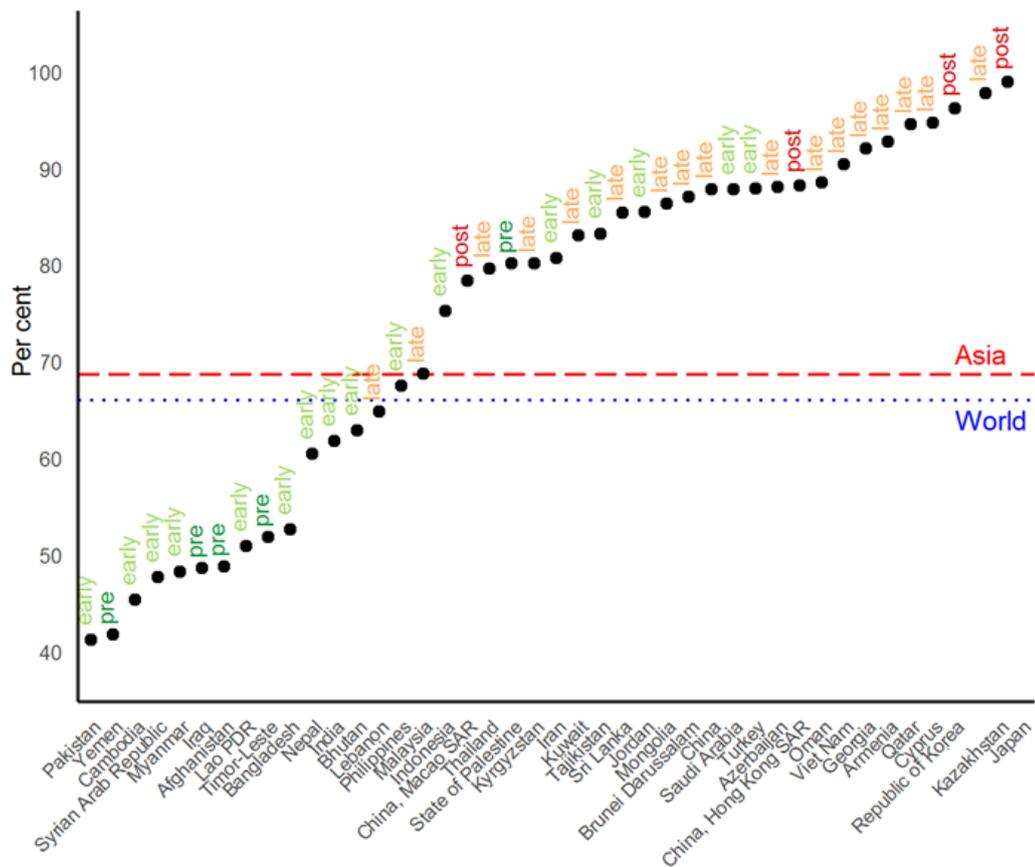
Source: Based on Data from (World Bank, 2016)

To unlock labor productivity, and therefore economic growth, education is instrumental. There are three possible justifications:

- 1- Causal chain flowing from schooling, to skills, to greater worker productivity, to increased growth of national income.
- 2- The role of education in enhancing innovation in the economy as a whole (endogenous theories of growth).
- 3- The innovation dimension but more from the diffusion than creation perspective, seeing an educated population as crucial for the spread of new processes, products and technologies.

Malaysia being at a late stage of its demographic window of opportunity, ends in 2020 as discussed earlier, highlights that its ability to transition to high-income status is directly linked with the quality of its labor force and not quantity. In comparison with other countries, Malaysia's high school enrolment is around the average for Asia. However, it is significantly behind countries at late stage of their demographic window of opportunity or similar level of economic development.

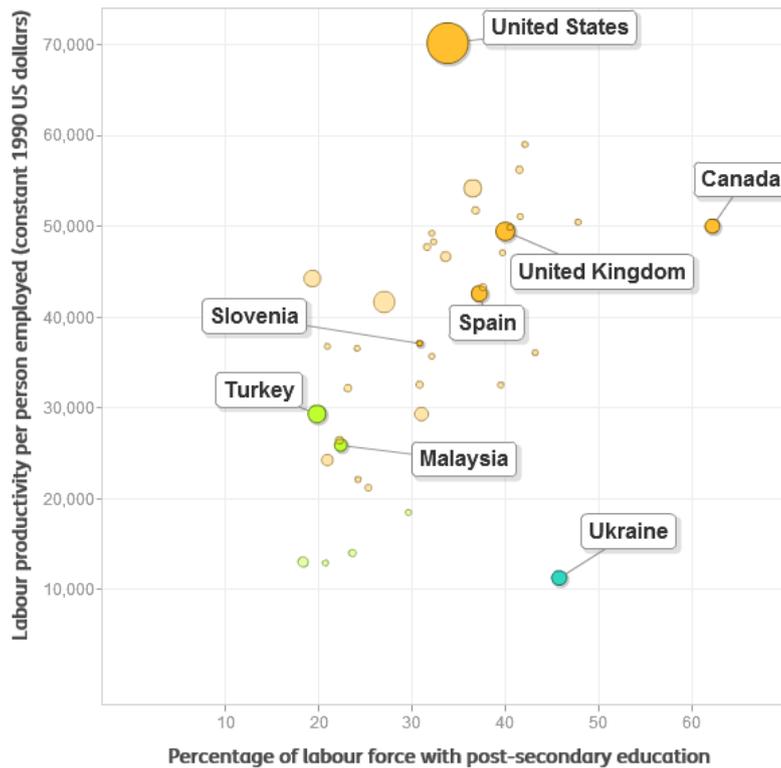
Figure 11: Net Secondary School Enrolment in Asian Countries, 2010-14, and Phase of Demographic Dividend, 2015



Source: cited from: Jan Beise, Lucia Hug, Yoonie Choi, Danzhen You and David Anthony based on data from 2016 UNESCO Institute of Statistics. World Bank Group. 2016. Global Monitoring Report 2015/2016,

Further, Malaysia should be more ambitious and go beyond comparison on the bases of secondary education. Malaysia’s labor force with post-secondary education needs to be improved as moving away from labour-intensive manufacturing in order to sustain increases in productivity and per-capita income requires skills set to be equipped with education, higher order thinking, and use of modern technologies.

Figure 12: Percentage of Labor Force Participants with Post-Secondary Education and Labor Productivity, Selected Countries, 2013-17



Source: (ILO, 2017)

This particular issue (small percentage of labor force with post-secondary education) has an inequity dimension: with significant investment in modern technology, as the case in Malaysia, those with skills tend to benefit more, and the less skilled are left behind. Faced with scarcity, competing employers will continuously increase wages to those with skills, widening the income gap in the labor market.

There is also an urgent need to raise quality of education to create the match between the skills sets and the modern labor market requirement. Creating avenues for everyone to improve their skills, creating vocational pathways, placing an emphasis on technical skills and providing opportunities to meet Malaysia's growth needs by developing skills for the right jobs.

References

- ILO. (2017). *Key Indicators of the Labour Market 2015* . Retrieved 2011, from <http://www.ilo.org/>
- OECD. (2017, April). *Education at a Glance 2009*. Retrieved from <http://www.oecd.org/edu/skills-beyond-school/educationataglance2006-home.htm>
- UN. (2016). Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2010 Revision, CD-ROM Edition.
- WB. (2017). *World Development Indicators (WDI)*. Retrieved from <http://data.worldbank.org/data-catalog/world-development-indicators>
- World Bank. (2016). *Malaysia Economic Monitor: The Quest for Productivity Growth*. Kuala Lumpur: The World Bank.