

Malaysia Projection for the Developed Nation Status

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Abstract:

Malaysia, a developing country, aspires to become a developed country originally by the year 2020, with slight delay to 2025. In this study, we will investigate the performance of Malaysia as compared to Australia, a developed country that is geographically and population-wise quite similar to Malaysia. Five indicators are considered, health, gross national income (GNI) per capita, education, population and unemployment rate. The finding suggests that three of these indicators (education, population and unemployment rate) shows promising road to become a developed country, while two indicators (health and GNI per capita) can be seen as threat for this aspiration.

Keywords: Malaysia, regression analysis, modeling.

1. Introduction

The term developed country generally portrays nation that is well-developed in political, economic, physical, education and infrastructural institutions in place, in which every citizen enjoys the liberty to live within acceptable moral norms without fear or inhibition of any kind (Islam & Ismail, 2010). The World Bank has updating the classification of its developed country status into a one-dimensional perspective by considering the gross national income per capita (GNI/capita in US\$) into four tiers in July 1, 2018 – low income (<995), lower middle income (996 – 3,895), upper middle income (3,896 – 12,055), and high income nation (>12,055).

In Malaysia context, the aspiration to become a developed nation in the year 2020 (known by local as Vision 2020) was stirred in the year 1991 by the then Prime Minister. This vision is more comprehensive beyond economic aspect, tailored specifically for Malaysian in mind. The statement is as follows (Mohammad, 1991):

“By the year 2020, Malaysia can be a united nation, with a confident Malaysian society, infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient”

Islam (2010) summarizes the nine strategic challenges to such vision as follows: (1) Establishing a united Malaysian

nation, (2) Creating a psychological liberated, secure, and developed Malaysian society, (3) Developing a mature democratic society, (4) Forming a community that has high morale, ethics, and religious strength, (5) Establishing a mature, liberal and tolerant society, (6) Establishing a scientific and progressive society, (7) Establishing a fully caring society, (8) Ensuring an economically just society, and (9) Establishing a prosperous society. Recently, the Prime Minister has delayed the target achievement of Vision 2020 to the year 2025, provided that the right policies will replace the bad ones, and the commitments are received from Malaysian to work together for the common goal (The Star, 2018). Accordingly, Yusof (2008) proposed the need to have appropriate regime of policy making and its implementation as key factor for a successful achievement of Malaysia as developed country. While Nikkei is confident that Malaysia is on track to achieve the high-income status, given that the country does not face growth stagnation (Nikkei Asian Review, 2018). Akoum (2016) suggested that the key role of research and development activity can transform Malaysia from economy dependence on agriculture and exports of raw material into a more diversified economy, in particular the high-tech electronics and knowledge-based economy.

There are many views on the characteristics of becoming a developed country. Some of the characteristics include higher contribution of industrial and service sectors to national income, large portion of labour force depends on manufacturing and service centres, the use of modern and advance techniques of production, high standard of living, high per capita income, low incident of poverty, narrow income inequality, low growth rate of population, low level of unemployment, infrastructural capabilities are present, high rate of saving and capital formation, and exports of largely industrial services and products. However, among these characteristics, the most common indicators are health, GNI, education, population and unemployment rate. In this work, we investigate the current performance of Malaysia versus the developed country, in particular Australia. Australia is selected as reference point due to its number of population and geographical factor that is quite close to Malaysia. Brief analysis will be conducted to see the projected years where Malaysia can become a developed country based upon Australia as the reference point.



2. Developed Nation Indicators

In this study, we will adopt data of five selected indicators, i.e. health, GNI, education, population and unemployment rate for Malaysia and Australia (from year 1991 to 2017) from the World Bank. The regression analysis will be employed to project the year where Malaysia performance is at par or exceed Australia's performance relative to these five indicators. Regression analysis is a set of statistical processes used to find relationships among variable. In this study, the regression analysis is applied to obtain specific

equation for each indicator under study. The parameters will then be used to make projection for future value of indicators to identify the year for Malaysia to be at par in performance with Australia. The general equation is

$$\hat{y} = c + at + bx_1 + cx_2,$$

Where c the intercept value, \hat{y} is the forecast value for each characteristic, x_1 and x_2 are dummy variables, and a , b and c are coefficients of the regression analysis. The next subsection will illustrate finding according to each indicator.

| Australia | Malaysia |
|---|--|
|  |  |
| Capital: Canberra Population: 25 150 200 Area: 7 692 024 km ² Currency: Australian dollar (AUD) | Capital: Kuala Lumpur Population: 32 049 700 Area: 330 803 km ² Currency: Ringgit (RM) |

Source: Wikipedia.com

Health Indicator

Health indicator is referring to the average of life expectancy since birth. This indicator is among the critical factor to differentiate between the developed and the less developed country. Though in general, global health marker for developing countries has improved, in most of sub-Saharan Africa and some part of South Asia, the reemerging of such diseases such as tuberculosis, the emergence of new infectious diseases, and increase in violence, to name only a few, has dampened the health status globally (Larson & Mercer, 2004). Figure 1 illustrates data for health indicator in both countries under study for the year 1991 – 2017, retrieved from the World Bank. The equation of regression analysis for health indicator is

$$\begin{aligned} \text{forecast value of health} \\ = 70.996 + 0.16369t + 0.00622x_1 \\ + 0.01730x_2 \end{aligned}$$

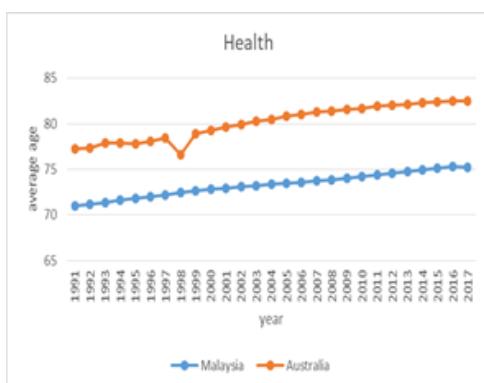


Fig. 1. Health data of Malaysia and Australia

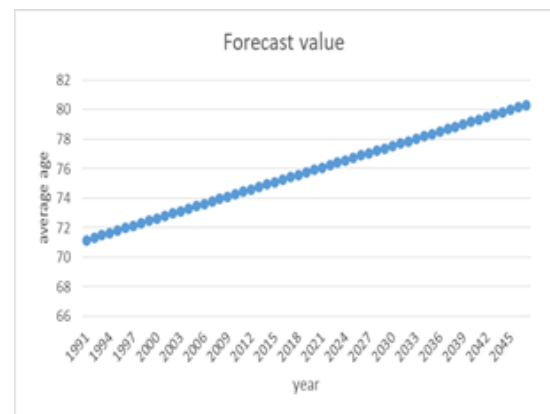


Fig. 2. Forecast value of health for Malaysia

Figure 2 shows the forecast value of Malaysia's health indicator to be at par with Australia. Finding indicates that in the year 2046, Malaysia will match Australia performance of 80.18, given that minimal external variables are introduced to the current system. Do note that currently, Australia's life expectancy is at 80.13. Though Malaysia's current health achievement is commendable for socioeconomic status, more comprehensive approach, that includes curative and rehabilitative component as well as preventive measures, should be in place to enable health indicator at par with the developed country (Jaafar et al., 2010). Jaafar et al. (2007) also proposes more emphasis on the improvement of rural health services to target rural area high in poverty rate, substantially can reduce infant mortality rate, leading to higher life expectancy and overall performance of health indicator for Malaysia.

Gross Net Income (GNI) Per Capita Indicator

The GNI per capita is the main criterion used by the World Bank to measure the performance of countries mainly for operational and analytical purposes (World Bank Group, 2014). GNI can capture country’s size and economic performance in monetary income valuation (Capelli&Vaggi, 2013). Its component of calculation generally consists of total domestic and foreign output claimed by residents of a country. Next the result of regression analysis for GNI shows an equation as;

$$\begin{aligned} \text{forecastvalueofGNI} &= 1371.67 + 334.11t + 117.11x_1 \\ &\quad - 2.55556x_2 \end{aligned}$$

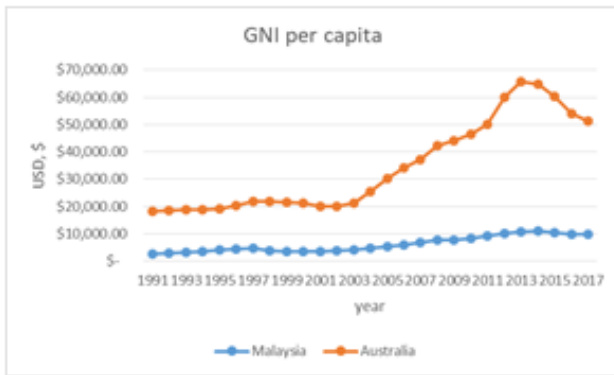


Fig. 3. GNI per capita of Malaysia and Australia

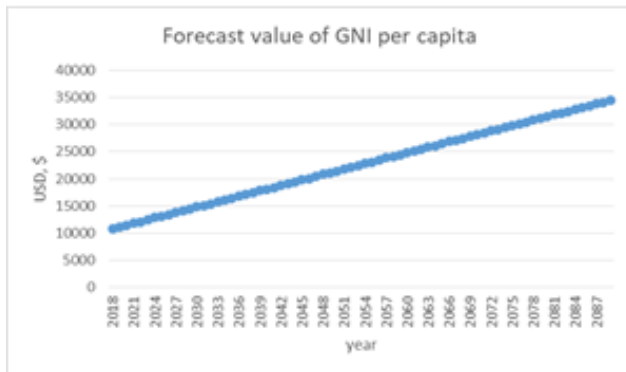


Fig. 4. Forecast value of GNI per capita of Malaysia

Figure 3 illustrates GNI per capita for Malaysia and Australia from 1991-2017, retrieved from World Bank. Figure 4 forecasts Malaysia’s GNI per capita to be at par with current Australia’s standing. Finding suggests that in the year 2089, Malaysia will achieve GNI per capita of \$34,448.67 (Australia’s average of GNI per capita is 34,380.74, achieved in year 2006). From the GNI per capita perspective, more efforts and improved policies should be made, if Malaysia inspire to be at par with the developed country such as Australia. Though immediate efforts have been made, such as economic transformation programme

introduced in 2010 to transform Malaysia into a high-income economy by the year 2020.

Level of Education Indicator

Education indicator is referring to the enrollment of pupils into primary school. Education can be seen as influencer to heightening of socioeconomic position, in which exposure to education helps to determine a person’s adult occupation and income (Galobardes et al., 2006).

Malaysia is dedicated to improve the level of education for its people. Initiatives such as introducing Malaysia Education Blueprint provides comprehensive plan for rapid and sustainable transformation of education system in Malaysia through to 2025, focusing more on the increase in quality, equity and access in education (Blueprint, 2016). Based on the regression analysis, the equation for level of education is

$$\begin{aligned} \text{forecastvalueofeducation} &= 94.6804 + 0.32108t + 0.14627x_1 \\ &\quad + 0.28064x_2 \end{aligned}$$

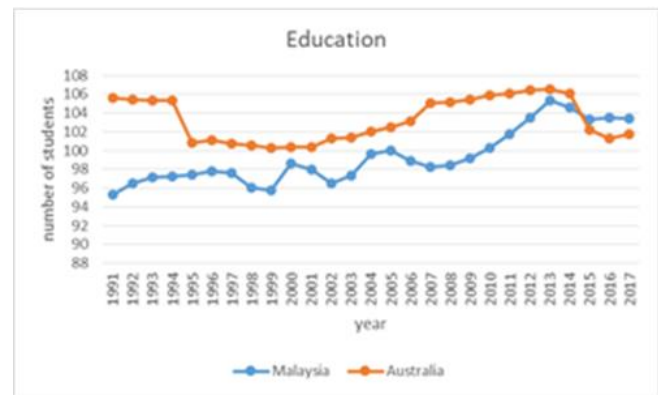


Fig. 5. Education of Malaysia and Australia

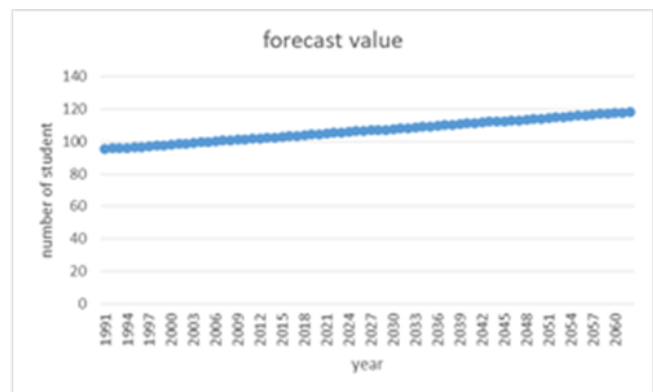


Fig. 6. Forecast value on education of Malaysia

Figure 5 and Figure 6 shows the data of educations indicator for Malaysia/Australia and the forecasts year for Malaysia to be at par with Australia, respectively. Finding suggests

that Malaysia already achieved the average of education level for developed country earlier than expected on the year 2016 (103.3092%). This finding indicates that the system in place is sufficient, and more effort should be done to focus on the quality of the education in the country.

Population Indicator

Figure 7 shows the increasing trend in population data for Malaysia and Australia from year 1991 to 2017. The population of Malaysian is consistently higher than Australia. Regression equation for population indicator in order to get the forecast value is

$$\begin{aligned} \text{forecast value of population} &= 18025116 + 506705t \\ &+ 9766.1296x_1 + 6213.5093x_2 \end{aligned}$$

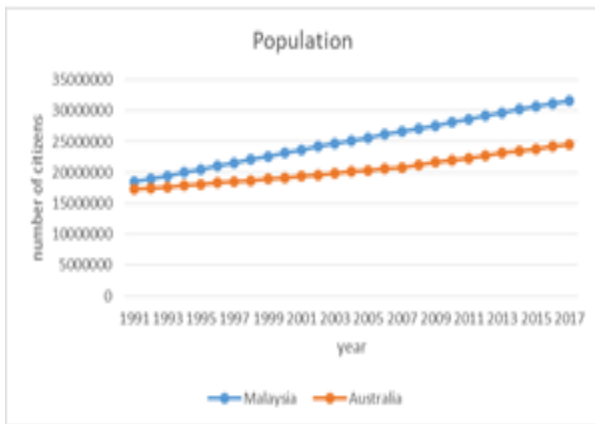


Fig. 7. Population between Malaysia



Fig. 8. Forecast value on population of Malaysia

Given the set of data, Malaysia population is similar to Australia in the year 1995, which is 20,495,597 (Australia with 20,457,934). The forecasted value for year 2020 shows steady increment to 33,226,296 of people

Unemployment Rate Indicator

High unemployment rates in the country indicates serious inefficiencies in its resource allocation, thus the importance

of this indicator to measure country's performance. Higher unemployment rate risks huge social and economic challenges (Bell & Blanchflower, 2015), such as in the increase of crime rate trend (Cohen & Felson, 2016) and act of terrorism activity (Caruso & Schneider, 2011). Figure 9 illustrates unemployment rate for Malaysia and Australia. We can see that based from this indicator, Malaysia's performance has surpassed Australia (unemployment rate of 3.2028 vs 6.67 in year 2017, respectively), though we can see slight increment of unemployment rate in the recent years. This is consistent with the global slowdown of economy in 2017 - 2018. Based on the regression analysis for unemployment rate indicator, the equation that being used to forecast this indicator is

$$\begin{aligned} \text{forecast value of unemployment} &= 3.1627 + 0.00149t + 0.03297x_1 \\ &+ 0.16649x_2 \end{aligned}$$



Fig. 9. Unemployment Rate between Malaysia

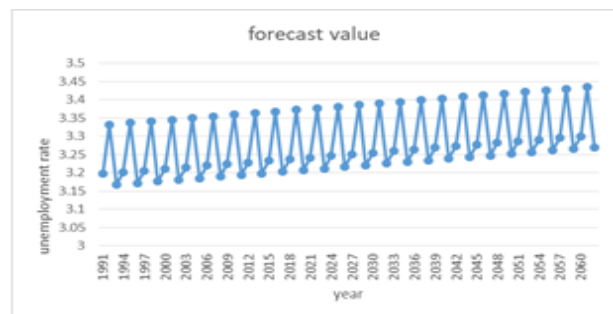


Fig. 10. Forecast value on Unemployment rate of Malaysia
 Figure Graph 10 forecasts slight increase in Malaysia's unemployment rate under the range of 3.25 within the next six years. This indicator has made sufficient for Malaysia to be at par (and above) Australia as developed country.

We illustrate the summary of the performance of Malaysia versus Australia in Table 1 (current value) and Table 2 (forecasted value)

Table 1: Current data of 2017

| CHARACTERISTICS | MALAYSIA | AUSTRALIA |
|-----------------------------|------------|------------|
| 1) Health | 75.2215 | 82.45 |
| 2) GNI per Capita (in US\$) | 9, 650.00 | 51,360.00 |
| 3) Education | 101.968 | 101.782 |
| 4) Population | 31,624,264 | 24,598,933 |
| 5) Unemployment rate | 3.415 | 5.594 |

Table 2: Forecast value of Malaysia

| CHARACTERISTICS | VALUE | YEAR |
|-----------------------------|------------------|------|
| 1) Health | 80.18009 | 2046 |
| 2) GNI per Capita (in US\$) | 34 448.67 | 2089 |
| 3) Education | 103.3092 | 2016 |
| 4) Population | 20 564 860.19 | 1995 |
| 5) Unemployment Rate | 3.2028 | 2017 |

3. Conclusion

In this study, regression analysis is used as tool to project Malaysia performance in five indicators of a developed nation, with Australia as reference point. Findings suggest that Malaysia's performance to date is commendable, with three of the indicators had achieved or at par with Australia. These indicators include unemployment rate, population, and education. This is consistent with the classification by World Bank which placed Malaysia in the upper-middle income nation, with only a shy of \$2,405 away in GNI per capita from becoming the high-income nation. However, the achievement in GNI per capita is far from Australia's current performance, thus the need for Malaysia to realign its policy, strategy and improve current practice. Similarly, health indicator also showed huge gaps, where Malaysia is projected to need 27 years to be at par with the current health performance in Australia. More focus work should be conducted in rural areas, where the poverty issues are still relevant and need attention. The reduction in poverty can affect infant mortality and can improve the overall performance of other indicators for the developed nation.

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