

## THE ECONOMIC IMPACT OF THE ECONOMIC TRANSFORMATION PLAN (ETP) ON MALAYSIAN ECONOMY BY THE YEAR 2020: AN INPUT-OUTPUT ANALYSIS

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### Abstract

*Since independence, Malaysia has gradually built a robust and resilient economy, which has sustained strong economic growth. We have almost eradicated hardcore poverty, and at the same time, have been able to provide the society near universal access to basic health, education, communications and other public services. As a result, the quality of life for the vast majority of Malaysians has improved. However, achieving our bold aspirations of Vision 2020, by the year 2020, will be challenging. Despite the resilient economic condition, Malaysia still belongs to the middle-income group. In order to join the high-income nations, Malaysia needs to transform economically. This government is committed in pursuing this strategy to achieve high-income status. We have embarked on an Economic Transformation Programme (ETP) to propel our economy to 2020. The ETP builds upon the policy directions, strategies and programmes of the 10th Malaysia Plan incorporated in the New Economic Policy. In this ETP strategy programmes have laid out the long-term budget in order to achieve the vision 2020 objectives. Using these figures, this study has forecasted the expected economic impact on Malaysia in the year 2020 using the input-output analysis technique. The results of the study reveal that, by year 2020 Malaysia is expected to produce a total output estimated at RM1,603 billion, increase the total household income to RM 138.365 billion, and create 9.784 million employments for the Malaysian.*

**Keyword:** *Economic transformation programme, economic impact, input-output analysis.*

## Introduction

Malaysia has long been involved in the economic spheres with the evolution of its economic transition from the agricultural-based, production-based, and services-based economy to the much talked about knowledge economy. Malaysia has reached its half-century of a life-span of 50 years and the country's economic performance thus far has seen broad-based growth despite some hitches in the economic arena with regards to the global and local platforms. Generally, the Malaysian economic development could be divided into five Development Planning Horizons. The first Development Planning Horizon was the Post Independent (1957-1970), the main focus of which was the export-oriented Laissez-faire and Rural Development. The second Development Planning Horizon was the New Economic Policy (NEP 1971-1990), which focused on Growth and Equity. The third Development Planning Horizon was the National Development Policy (NDP 1991-2000) which focused on Balancing Growth. The fourth Development Planning Horizon was the National Vision Policy (NVP 2001-2010) for building a resilient and competitive nation. Last but not least was the fifth Development Planning Horizon which was Vision 2020, (1991-2020) which introduced the New Economic Model and the Economic Transformation Plan to transform Malaysia into a high-income nation.

In the Post Independent Era, according to Poon (2008), there was a strong correlation between the success of the export-oriented industry and the achievement of the policy framework in the past four decades. The suitability of the economic policies and the industrial strategies was the key to success for Malaysia. Economic liberalization and structural adjustment were mostly associated with the supply-side oriented policies in order to respond to the fiscal and debt crisis problem in mid-1980s.

The New Development Policy (NEP) was a development plan to justify the need for national unity and nation building since 1870. Its basic philosophy was growth with equity and national unity as the overriding objectives. The government plan gave more weight to the Bumiputera to reduce the income gap with other races especially the Chinese with the intention to reduce the racial problem.

The National Economic Policy (NDP) was the continuation of the NEP to promote balanced economic growth in order to strike an optimum balance between the goals of economic growth and equity as well as reduce social and economic inequality, ultimately eliminating imbalance within ethnicity.

The New Vision Policy took place in the period of 2001-2010 when incorporated key strategies of its predecessor policies developed Malaysia into a knowledge based society. Emphasis on poverty eradication and equitable wealth distribution were given greater focus. The distributional policy was for achieving effective Bumiputra participation.

Having experienced four Development Planning Horizons, in 1991 Vision 2020 was introduced to envisage Malaysia becoming a developed nation by 2020 focusing on building a resilient and competitive nation. The implicit objectives of this policy were to strengthen national unity because it was widely known that polarization could cause economic and business uncertainty and social economic problems.

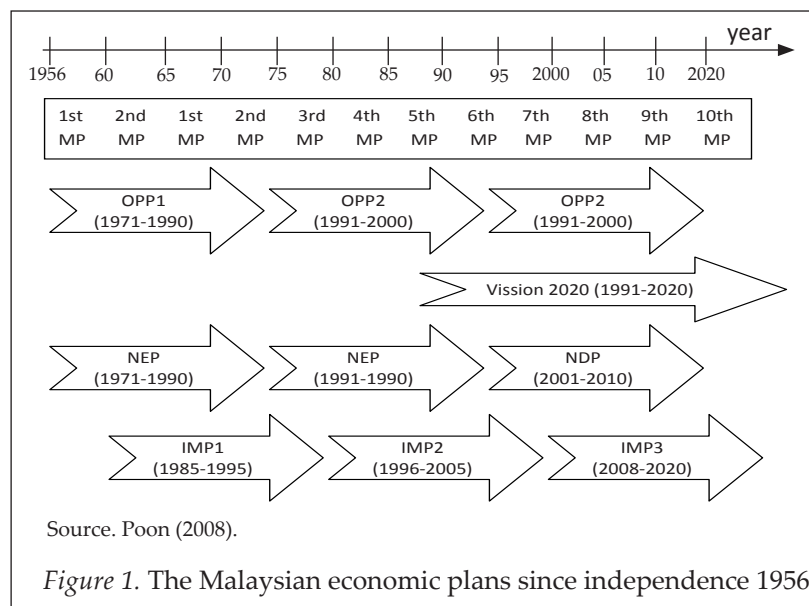


Figure 1. The Malaysian economic plans since independence 1956.

### Background

A country's past development performance is the outcome of the interaction between cyclical and structural factors, operating within the existing incentive framework. The aim of the economic policy in an open economy is thus to generate sustained growth to counteract cyclical and structural weaknesses by enhancing the resilience of the economy to large external shocks. Malaysia's development performance since independence has been impressive. Real growth

rates averaged 6 per cent in the 1960s, surging to 8 per cent in the 1970s and decelerating to around 5.5 per cent in the 1980s up to 1989 (Vijayakumari & Ismail, 1994). Nevertheless, the 1980s left an unforgettable scare with a negative growth rate recorded for the first time in the Malaysian economic history in 1985. Though recovery had been vigorous in the next four years (1987-1989) the experience of the 1980s does highlight some deep-rooted problems in the economy.

The driving force of the Malaysian economy is based on the Long-Term Planning, Medium-Term Planning and Short-Term Planning designed by the Malaysian government (Poon, 2008).

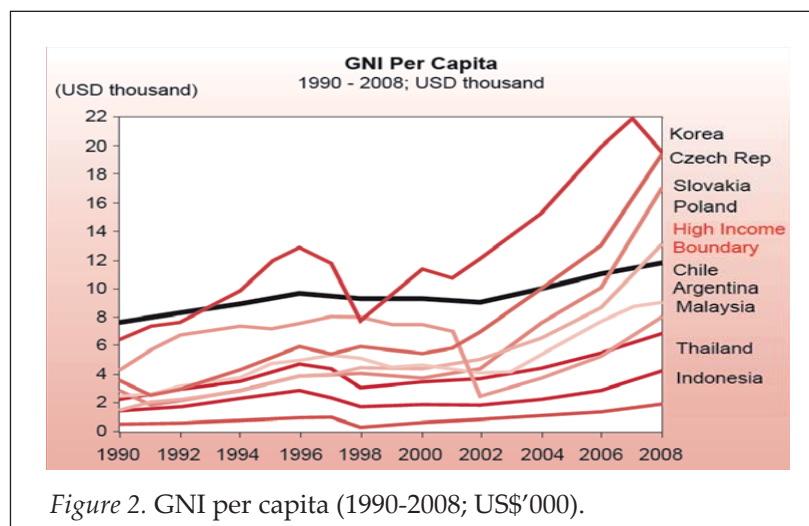
- (i) Long-Term Planning
  - First Outline Perspective Plan (OPP1), 1971–1990
  - Second Outline Perspective Plan (OPP2), 1991–2000
  - Third Outline Perspective Plan (OPP3), 2001–2010
  - Vision 2020, 1991–2020
- (ii) Medium-Term Planning
  - Five-year development plans, such as the Tenth Malaysian Plan (2011–2015)
  - Mid-Term Review (MTR) of the five-year plan.
- (iii) Short-Term Planning
  - Annual Budget

In 1991, the Malaysian Government envisaged that our country will become a developed nation by 2020, by focusing on building a resilient and competitive nation. Vision 2020 has just only 9 years left, and yet its implementation for the country is still vague and needs to be streamlined to boost the development process. Due to these problems, the government has identified all the high economic multiplier sectors to focus on in order to achieve economic growth at a faster rate (FRIM, 2010).

Achieving our bold aspiration of Vision 2020 by the year 2020, will be a great challenge to the government's implementing agencies. Malaysia needs to transform economically to join the group of high-income nations. This is where Malaysia stands today. If we do not correct our course, we will be unable to continue our improvements in education, health and quality of life. The government is committed to achieving a high-income status. We have embarked on an Economic Transformation Program (ETP) to propel our economy to 2020. The ETP builds upon the policies, directions, strategies and programmes of the 10<sup>th</sup> Malaysian Plan.

The government has studied the strengths and weaknesses of all the 120 sectors in the Malaysian economy and has identified the potential sectors which have high economic multipliers as key growth engines. 12 National Key Economic Areas (NKEAs) have been announced in the 10<sup>th</sup> Malaysian Plan by the government. This also means changing our approach to economic growth from a high economic multiplier and as a facilitator of private sector led-growth. The 12 NKEAs selected are: oil, gas and energy; palm oil; financial services; tourism; business services; electronics and electrical; wholesale and retail; education; healthcare; communication content and infrastructure; agriculture; and greater Kuala Lumpur/others. The ETP Roadmap contains concrete targets, which were developed through labs and a series of forums where the best minds in the government and the private sector were brought together to develop ideas into action that would grow each of the NKEAs (Pemandu, 2010).

Malaysia is in the upper-middle-income group above Thailand and Indonesia and below Chile and Argentina while Poland, Slovakia, the Czech Republic and Korea are in the high group (Figure 2). Currently, Malaysia is about US\$6,700 Gross National Income per capita (GNI) however the high-income boundary is about US\$15,000 GNI per capita (Pemandu, 2010). Therefore Malaysia requires about 124% of the current GNI per capita. The government has produced the Economic Transformation Programme (ETP) in order to achieve the targeted GNI per capita. The main challenge for this ETP is that Malaysia is a multiethnic country which makes it very difficult to reduce the income disparity problem between the ethnic groups as well as the urban and rural areas.



## **Objective of the Study**

The general objective of this study is to examine the economic impact on the Malaysian Economy for 12 National Key Economic Areas by the year 2020. The specific objectives of the study are as follows:

1. To estimate the total output economic impact on the Malaysian economy by the year 2020.
2. To estimate the household economic impacts generated for the society in Malaysia by 2020.
3. To estimate the total employment created in Malaysia as a result of total investment in the year 2020.

The findings of this study should be able to provide valuable information for the central agencies for planning purposes. The findings from this study too, should be able to assist policy-makers in formulating new policies for Malaysia.

## **Methodology**

It is assumed that the economy can be divided into industries or sectors that produce goods and services. It is assumed that all the multi-product natures of the individual sectors are homogenous and no substitutions exist among the sectors. Apart from the sectors of the economic system producing goods and services, there are a household sector which supplies factor services and demands private consumer goods, a government sector which demands public consumer goods, and a foreign trade sector which demands exports and supplies imports. The demands of all these additional sectors may be added together to form the final demand. The output from any industry may be used by that industry itself or sold to other industries to be used as input in the production process or sold to the final demand (O'Connor & Henry, 1975).

In the 2005 Input-output Table, there are 120 sectors in the Malaysian economy. Generally, the input-output model is concerned with the interdependence or interindustry relationships (input structure) between the producing and consuming sectors in the economy. The output from any industry may be used by that sector itself or sold to other sectors to be used as input to the production process or sold to meet the final demand (Table 1).

Table 1

*Inter-industry Matrix of an Input-output Model*

Item	Purchasing Sector			Total Demand	Final Demand	Total Output
Producing Sector	1	$X_{11}$	$X_{12} \dots X_{1n}$	$W_1$	$Y_1$	$X_1$
	2	$X_{21}$	$X_{22} \dots X_{2n}$	$W_2$	$Y_2$	$X_2$
	3	$X_{31}$	$X_{32} \dots X_{3n}$	$W_3$	$Y_3$	$X_3$
	...	...	...	...	...	...
	N	$X_{n1}$	$X_{n2} \dots X_{nn}$	$W_n$	$Y_n$	$X_n$
Total Inputs	$U_1$	$U_2$	$U_3 \dots U_n$			
Primary Inputs	$V_1$	$V_2$	$V_3 \dots V_n$	$V$	$V$	
Total Production	$X_1$	$X_2$	$X_3 \dots X_n \dots$	$Y$	$X$	

The basic relationship in the input-output model can be further simplified as follows. The following notation is used:

$$X = (I - A)^{-1} Y$$

$X_i$  = Total output of sector  $j$

$X_{ij}$  = Output in sector  $i$  used in sector  $j$

$X_i$  = Total final demand for sector  $i$ 's product

The above equation holds on the condition that matrix  $(I-A)^{-1}$  is an inverse matrix or output multiplier. This condition will be met if the  $Y$  vector has at least one non-zero element (Richardson, 1972; & O'Corner & Henry, 1975). The matrix  $(I-A)^{-1}$  is also known as the Leontief matrix. The concept in this equation will be used to calculate the impact analysis for this study. Knowing that  $X$  is the total output that is equal to the inverse matrix multiplied by the final demand  $Y$ . The inverse matrix for income and employment has also been computed by multiplying the inverse matrix by the income and employment coefficient. Any change in the final demand, when multiplied by the inverse matrix will change the total output, income and employment as described by Khamuruddin (1998). In this study the inverse matrix will be computed from the Input-output Malaysia 2005 produced by the Department of Statistics, Malaysia. The Input-output Tables for Japan, Poland and Korea are also used for this study. The same procedure will be adopted for all these Input-output tables.

## Results

As mentioned earlier, the ETP is a comprehensive effort that will transform Malaysia into a high-income nation by 2020. 12 national Key Economic Areas (NKEAs) have been identified to focus on for development to make a substantial contribution to Malaysia's economic performance. The 12 NKEAs are include, the oil, gas & energy sector; the finance services sector; the wholesale & retail sector; the electric and electronics sector; the healthcare sector; the palm oil sector, the communication sector; the agriculture sector; the business services sector; the finance service sector and the Greater Kuala Lumpur/Klang Valley sector (Table 2).

Table 2

*Cumulative NEM Expenditure Plan 2011-2020*

Bil.	NKEAs	RM Billion
1	Greater KL/Klang Valley	172.0
2	Oil, Gas & Energy	217.6
3	Financial Services	211.1
4	Wholesale & Retail	67.1
5	Palm Oil	59.7
6	Tourism	203.9
7	Electrical & Electronics	78.1
8	Business Services	33.0
9	Communication Content & Infrastructure	51.5
10	Education	19.9
11	Agriculture	18.9
12	Healthcare	23.2
	Total	1,156.0

*Source.* Pemandu (2010).

Within these 12 NKEAs, 131 projects have been proposed to be implemented in order to increase the gross national income as targeted in the year 2020. As stated in the ETP, the government is aiming to solve both inclusiveness and sustainability by 2020 besides becoming a high-income nation. The private sectors have been given



a major role to implement the development projects for Malaysia, which is about 92% of the total cost of the ETP Expenditure plan. The government has estimated about RM1,156 billion. Based on this information, the economic impact can be estimated using the input-output analysis.

### Output Generated

The study found out that the NEM expenditure is expected to generate an additional output of RM1,603 billion in the year 2020. The Greater Kuala Lumpur and other sectors is expected to generate RM593.97 billion (37.03%), which is the highest economic impact. The electric and electronics sector with RM313.78 billion (19.56%) is the second highest economic impact. It is followed by the wholesale & retail trade sector with RM189.53 billion (11.82%), the oil, gas and energy sector with RM187.36 billion (11.68%), the tourism sector with RM86.78 billion (5.41%), The palm oil sector with M65.35 billion (4.07%), the finance sector with RM54.18 billion (3.38%), and the other five sectors with less than 2% (Table 3).

Table 3

*Output Generated by the NEM Expenditure Plan by 2020 (RM'000)*

Bil.	NKEA Sectors	Total Output	%
1	Greater KL/Klang Valley	593,973,013	37.03
2	Electrical & Electronics	313,786,170	19.56
3	Wholesale & Retail Trade	189,536,184	11.82
4	Oil, Gas and Energy	187,367,781	11.68
5	Tourism	86,785,850	5.41
6	Palm Oil	65,351,629	4.07
7	Financial Services	54,189,461	3.38
8	Communication	27,978,571	1.74
9	Agriculture	26,606,962	1.66
10	Business Services	23,470,826	1.46
11	Education	21,556,366	1.34
12	Healthcare	13,303,906	0.83
	Total	1,603,906,680	100.00

Source. Computed.

It implies that the NEM Expenditure plan is expected to generate an additional total output to the Malaysian economy of about RM160 billion a year. It is very clear that the Greater Kuala Lumpur/other sector, the electric and electronics sector, the wholesale & retail trade sector and the oil, gas and energy sector are expected to boost the Malaysian economy. The Healthcare sector and the Education sector have less impact to generate Malaysian additional total output. However these sectors are also very important the long run to support.

### Household Income Generated

The same amount of the NEM Expenditure plan could also generate additional household income for the Malaysian society. Based on the analysis, the study found out that the Malaysian society is expected to increase their additional total household income by RM138.36 billion or RM13.836 billion a year. The healthcare sector is expected to increase by RM54.56 billion (39%), which is the highest household income under the NEM Expenditure Plan proposed. The wholesale and retail trade sector is expected to be the second highest to benefit from this expenditure plan. It is followed by the tourism sector with RM14.0 billion (10.61%), the education sector with RM11.67 billion (8.44%), the electrics and electronic sector with RM9.51 billion (6.88%) and the financial services sector with RM8.04 billion (5.82%). The rest of the sectors are expected to generate a household income of less than 5%.

Table 4

*Household Income Generated by the NEM Expenditure Plan by 2020*

NKEA Code	NKEA Sectors	Total Household Income	%
12	Healthcare	54,564,128	39.43
3	Wholesale & Retail Trade	18,829,545	13.61
5	Tourism	14,004,862	10.12
11	Education	11,672,655	8.44
2	Electrics and Electronics	9,517,686	6.88
7	Financial Services	8,045,999	5.82
1	Greater Kuala Lumpur/ Others	5,995,631	4.33
4	Oil, Gas and Energy	4,656,320	3.37
9	Agriculture	4,579,918	3.31
10	Business Services	2,493,775	1.80
6	Palm Oil	2,077,137	1.50
8	Communication	1,927,354	1.39
	Total	138,365,009	100.00

Source. Computed.

The analysis discovered that these top four sectors are the most important to the Malaysian economy to uplift the household income of the society. Efforts should be made to focus more for the top 4 sectors to increase further the household income for the Malaysian society. This input-output analysis also considers the indirect effect from the other sectors generating income, of implies that the other sectors will also generate household income for the Malaysian economy.

### Employment Creation

Household income is very much related to employment in the country. It is also related to consumption in a country such as Malaysia. It is one of the important variables to determine the amount of Gross National Income. If the unemployment rate is low, it is good for the country.

The study found out that the NEM Expenditure plan is expected to create an additional 9.7 million jobs for Malaysia by the year 2020. The healthcare sector will be the highest job creator in Malaysia by the year 2020 amounting to 3,784,800 jobs (38.01%). The oil, gas and energy sector is expected to be the second highest job creator with 1,620,600 jobs (16.56) in the labour market. This is followed by the wholesale and energy sector with 1,122,706 jobs (11.47%), the agriculture sector with 936,600 jobs (9.57%), the electrics and electronics sector with 607,000 (6.2%), the tourism sector with 528,847 jobs (5.4%) and the rest of the sectors with less than 5% of the total employment created.

Table 5

*Employment Created by the NEM Expenditure Plan by 2020*

Bil.	NKEA Sectors	Total Output	%
1	Greater Kuala Lumpur/Others	70,215	0.72
2	Electrics and Electronics	607,000	6.2
3	Wholesale & Retail Trade	1,122,706	11.47
4	Oil, Gas and Energy	1,620,600	16.56
5	Tourism	528,847	5.4
6	Palm Oil	197,000	2.01
7	Financial Services	535,956	5.48
8	Communication	77,500	0.79
9	Agriculture	936,600	9.57
10	Business Services	188,700	1.93
11	Education	180,000	1.84
12	Healthcare	3,719,676	38.01
	Total	9,784,800	100.00

Source. Computed.

The demand for labour could only be materialized if there is enough supply of labour force. According to the Malaysia Department of Statistics, in April 2011, Malaysia has a labour force of 12,709,600 in the market (DOS 2011). However, labour supply is expected to increase every year by 1.7% yearly (DOS, 2011). It implies that, our labour supply is enough to cater to the need of NEM development.

### **Economic Input Structure Change 1978, 1991 and 2005**

This study only focuses on Total Intermediate Input Requirement, Import and Value-added for the Malaysian economy for 1978, 1991 and 2005. Looking at the average figures for all these variables, the study found out that the Total Intermediate Input Requirement for Malaysia has decreased gently from 0.467 in 1978 to 0.447 in 1991 and then increased again gently to 0.455 in 2005. It implies that the Malaysian economic structure has reduced a small amount of input requirement for the country in the production system. This may be due to the economic recession in the early 1990s because of the financial crises which started from Thailand. However, our government has managed to turn around our economy within one year. From 1991 to 2005 the input requirement has gradually increased again. It is a sign of economic recovery. Looking at the import side, the proportion of import material has increased from 0.117 in 1978 to 0.68 in 1991 but it decreased gradually again to 0.220 in 2005 implying that during the period from 1978 to 1991, the Malaysian economy was not in good condition. However, the economy had signs of recovery from 1991 to 2005 because the import proportion decreased again. The total input requirement for the production system was always in the opposite direction of one another (Table 6).

It is good to examine the value added for Malaysian economy for the same period. This study found out that the proportion of value added has decreased from 0.398 in 1978 to 0.372 in 1991 and in fact it further decreased to 0.318 in 2005. This indicates that the total profit in the production system is less profitable, which might affect the Gross National Product for the country. If the proportion of value added is bigger in value, it implies a good sign for the economy; therefore we need to increase this value added. From the same table, the proportion of others decreased from 0.018 in 1978 to 0.012 in 1991 but it decreased again to 0.008 in 2005. In this portion, it includes all the taxes imposed by the government, which the government used as economic tools in managing the Malaysian economy especially to solve the fiscal problem.

Table 6

*Input Structure Change, 1978, 1991, 2005*

Commodity	1978					1991					2005				
	Total	Intermediate	Imports	Value Added	Others	Total	Intermediate	Imports	Value Added	Others	Total	Intermediate	Imports	Value Added	Others
Oil, Gas and Energy	0.407	0.365	0.222	0.006	1.000	0.350	0.064	0.575	0.001	1.000	0.437	0.004	0.423	0.136	1.000
Education	0.171	0.024	0.802	0.003	1.000	0.207	0.045	0.745	0.003	1.000	0.287	0.000	0.647	0.066	1.000
Tourism	0.519	0.100	0.331	0.050	1.000	0.493	0.113	0.375	0.018	1.000	0.625	0.001	0.288	0.086	1.000
Wholesale & Retail Trade	0.386	0.037	0.571	0.005	1.000	0.358	0.048	0.590	0.004	1.000	0.392	0.002	0.389	0.218	1.000
Electrics And Electronics	0.392	0.374	0.203	0.031	1.000	0.393	0.436	0.155	0.015	1.000	0.398	0.001	0.148	0.454	1.000
Healthcare	0.325	0.079	0.586	0.011	1.000	0.326	0.126	0.544	0.004	1.000	0.508	0.000	0.341	0.150	1.000
Palm Oil	0.669	0.029	0.297	0.006	1.000	0.750	0.034	0.215	0.001	1.000	0.657	0.000	0.275	0.068	1.000
Communication	0.146	0.072	0.780	0.002	1.000	0.317	0.030	0.651	0.002	1.000	0.447	0.000	0.499	0.054	1.000
Agriculture	0.227	0.055	0.711	0.007	1.000	0.333	0.042	0.621	0.005	1.000	0.363	0.000	0.561	0.075	1.000
Business Services	0.336	0.071	0.585	0.008	1.000	0.419	0.094	0.479	0.008	1.000	0.330	0.000	0.579	0.091	1.000
Financial Services	0.311	0.015	0.673	0.001	1.000	0.295	0.027	0.675	0.003	1.000	0.524	0.002	0.457	0.017	1.000
Others	0.540	0.127	0.309	0.024	1.000	0.482	0.193	0.309	0.016	1.000	0.472	0.003	0.305	0.220	1.000
Intermediate Input (Average)	0.467	0.117	0.398	0.018	1.000	0.447	0.68	0.372	0.012	1.000	0.455	0.220	0.318	0.008	1.000

Table 7

## Input Structure Malaysia 2005 Compared to Poland, Japan and Korea

Sectors	Malaysia			Poland			Japan			Korea							
	Total Intermediate	Imports	Value Added	Total Intermediate	Value Added	Others	Total Intermediate	Value Added	Others	Total Intermediate	Value Added	Others					
Oil, Gas and Energy	0.437	0.004	0.423	0.136	1.0000	0.626	0.365	0.009	1.000	0.607	0.393	0.00	1.000	0.648	0.352	0.000	1.000
Education	0.287	0.000	0.467	0.066	1.0000	0.162	0.811	0.027	1.000	0.138	0.862	0.00	1.000	0.195	0.805	0.000	1.000
Tourism	0.625	0.001	0.288	0.086	1.0000	0.559	0.388	0.053	1.000	0.456	0.544	0.00	1.000	0.583	0.417	0.000	1.000
Wholesale & Retail Trade	0.392	0.002	0.389	0.218	1.0000	0.429	0.562	0.009	1.000	0.301	0.699	0.00	1.000	0.404	0.596	0.000	1.000
Electrics And Electronics	0.398	0.001	0.148	0.454	1.0000	0.720	0.276	0.003	1.000	0.680	0.320	0.00	1.000	0.744	0.256	0.000	1.000
Healthcare	0.508	0.000	0.341	0.150	1.0000	0.313	0.650	0.037	1.000	0.376	0.624	0.00	1.000	0.441	0.559	0.000	1.000
Palm Oil	0.657	0.000	0.275	0.068	1.0000	-	-	-	-	-	-	-	-	-	-	0.000	-
Communication	0.447	0.000	0.499	0.054	1.0000	0.479	0.515	0.006	1.000	0.398	0.602	0.00	1.000	0.503	0.497	0.000	1.000
Agriculture	0.363	0.000	0.561	0.075	1.0000	0.529	0.446	0.025	1.000	0.465	0.535	0.00	1.000	0.420	0.580	0.000	1.000
Business Services	0.330	0.000	0.579	0.091	1.0000	0.497	0.500	0.003	1.000	0.372	0.628	0.00	1.000	0.000	0.000	0.000	1.000
Financial Services	0.524	0.002	0.457	0.017	1.0000	0.381	0.580	0.039	1.000	0.313	0.687	0.00	1.000	0.373	0.627	0.000	1.000
Others	0.472	0.003	0.305	0.220	1.0000	0.599	0.387	0.014	1.000	0.507	0.493	0.00	1.000	0.000	0.383	0.000	1.000
Intermediate Input (Average)	0.455	0.002	0.318	0.225	1.0000	0.481	0.498	0.020	1.000	0.419	0.581	0.00	1.000	0.392	0.461	0.000	1.000

Source: Input-output Table Malaysia, Poland, Japan and Korea 2005.

### **Economic Input Structure of Malaysia Compared to Poland, Japan and Korea 2005**

The economic input structure for the whole economy plays an important role to ensure a better economic impact. Besides the Malaysian economic input structure, this study borrowed economic input structure of other countries to compute the economic impact using the NEM Expenditure plan. The study found out that the proportion of Total Intermediate Input for Malaysian economy was higher than Japan and Korea but slightly lower than Poland (Table 6). However, the proportion of value added for Malaysia is lower than Poland, Japan and Korea. It implies that Japan and Korea are having a higher productivity level compared to Malaysia. This is because they had managed their economy well by using less intermediate inputs but had obtained a high proportion of value added for their countries. In the case of Poland, their proportion of total intermediate inputs requirement was almost equal to her proportion of value added. However the proportion of value added for Malaysian was still lower than Poland, Japan and Korea. It shows that, Malaysia needs to change the economic structure in order to increase the efficiency level and at the same time productivity could be much increased and indirectly it would increase the total output for the country.

Looking from the individual sector point of view, it was found that the education, the finance services, the healthcare and the wholesale & retail trade sectors were the key sectors which boost the economy (Table 7) because their coefficients were higher than the others sector.

### **Expected Malaysian Total Output Impact Using the Poland, Japan, Korea and Malaysia Economic Input Structure**

This study has managed to compute the additional total economic impact using the Malaysia, Poland, Japan and Korea economic input structure with the Total NEM Expenditure Plan by 2020. The results of this study found out that the Malaysian economic structure is expected to produce an additional RM1,603 billion total output.

Using the same Total NEM Expenditure Plan for different economic input structures for Japan, Poland and Korea the expected additional Total Economic Output is higher than using the Malaysian economic input structure. The expected additional Total Output produced is estimated to be about RM1,777 billion (10.79% higher than the Malaysian expected Total Output Produced) for the Japan economic input structure; RM2,058 billion (28.36% higher than the Malaysian expected Total Output Produced) for the Poland economic input

structure and RM2,217 billion (38.26% higher than the Malaysian expected Total Output Produced) for the Korea economic structure. It implies that, the Malaysian economy could be even better if our economic input structure is similar to the Japan, Poland or Korea economic input structure.

Table 8

*Expected Total Output Produced in 2020*

No.	Sector/Country	NKEA Code	Total Output Impact 2020 (RM'000)			
			Malaysia	Japan	Poland	Korea
1	Greater Kuala Lumpur/ Others	12	593,973,013	775,305,060	937,258,659	1,030,808,638
2	Electrics and Electronics	5	313,786,170	379,405,784	373,306,805	479,026,673
3	Wholesale & Retail Trade	4	189,536,184	130,231,267	198,252,020	113,546,921
4	Oil, Gas and Energy	1	187,367,781	209,432,223	180,767,230	322,384,649
5	Tourism	3	86,785,850	773,126,393	104,551,664	96,871,639
6	Palm Oil	7	65,351,629			
7	Financial Services	11	54,189,461	50,311,735	32,776,574	51,470,426
8	Communication	8	27,978,571	29,303,644	35,385,998	30,653,318
9	Agriculture	9	26,606,962	30,218,425	63,090,574	42,366,092
10	Business Services	10	23,470,826	67,902,562	97,913,252	16,332,859
11	Education	2	21,556,366	21,695,741	22,856,042	22,604,510
12	Healthcare	6	13,303,869	10,074,430	12,537,657	11,574,964
	Total		1,603,906,680	1,777,007,265	2,058,696,475	2,217,640,689
	%		100	110.79	128.36	138.26

Source. Computed.

**Expected Malaysian Household Income Impact in 2020 Using the Poland, Japan and Korea Economic Input Structure Malaysia**

The expected Total Household Income is a very important factor to uplift the Malaysian society is welfare. The expected Malaysian additional Total Household Income is estimated to be RM138 billion in 2020 based on the Total NEM Expenditure Plan. However if the



same budget is applied to the Japan, Poland and Korea economic input structures, the expected Malaysian household income could be even better (Table 9).

Table 9

*Expected Total Household Income in 2020*

No.	Sector/Country	NKEA Code	Total Household Income 2020 (RM'000)			
			Malaysia	Japan	Poland	Korea
1	Greater Kuala Lumpur/ Others	12	54,564,128	71,221,829	86,099,368	94,693,147
2	Tourism	3	18,829,545	15,865,913	22,684,116	21,017,814
3	Electrics and Electronics	5	14,004,862	16,933,588	16,661,379	21,379,854
4	Financial Services	11	11,672,655	10,837,375	7,060,222	11,086,962
5	Education	2	9,517,686	9,579,223	10,091,526	9,980,468
6	Palm Oil	7	8,045,999			
7	Oil, Gas and Energy	1	5,995,631	6,701,677	5,784,418	10,316,071
8	Wholesale & Retail Trade	4	4,656,320	3,199,381	4,870,441	2,789,498
9	Agriculture	9	4,579,918	5,201,568	10,859,928	7,292,574
10	Business Services	10	2,493,775	7,214,647	10,403,283	1,735,366
11	Healthcare	6	2,077,137	1,572,924	1,957,508	1,807,203
12	Communication	8	1,927,354	2,018,634	2,437,628	2,111,609
	Total		138,365,009	150,346,758	178,909,817	184,210,567
	%		100	108.66	129.3	133.13

Source. Computed.

The additional Total NEM Expenditure Plan could only generate RM138.3 billion in 2020, while the expected additional Total Household Income will be RM150.3 billion (8.66% higher than Malaysia) for the Japan economic input structure, RM178.9 billion (29.3% higher than Malaysia) for the Poland economic input structure, and RM184.2 billion (33.13% higher than Malaysia) for the Korea economic input structure.

This analysis shows clearly that the expected additional Total Household Income for the Malaysian society could be increased by an additional 33.13%, if our Malaysian economic input structure is similar to the Korean economic input structure. Therefore the Malaysian

economic input structure needs serious adjustment with the new economic input structure introducing the right policy instrument. It could be focused on all sectors with higher multipliers for ETP.

### **Expected Malaysian Employment Created in 2020 Using the Poland, Japan and Korea Economic Input Structure Malaysia**

We have seen that the expected additional Total Output and Total Household Income in 2020 are higher if we use the Japan, Poland and Korean economic input structures. The analysis found that Poland's economic input structure is expected to create the highest additional Total Employment for Malaysia which is about 13.65 million jobs or 39.59% as compared with the existing Malaysian economic input structure. It is followed by Korea with 12.29 million (25.64% higher than the Malaysia economic input structure) and Japan with 10.25 million (4.76% higher input structure) (Table 10).

Table 10

#### *Expected Employment in 2020*

No.	Sector/ Country	NKEA CODE	Total Employment 2020 (RM'000)			
			Malaysia	Japan	Poland	Korea
1	Greater Kuala Lumpur/ Others	12	3,719,676	4,855,244	5,869,456	6,445,300
2	Wholesale & Retail Trade	4	1,620,600	1,113,522	1,695,123	970,865
3	Tourism	3	1,122,706	946,000	1,352,534	1,253,181
4	Agriculture	9	936,600	1,063,728	2,220,871	1,491,342
5	Education	2	607,000	610,925	643,597	636,514
6	Palm Oil	7	535,956			
7	Electrics and Electronics	5	528,847	639,441	629,162	807,339
8	Healthcare	6	197,000	149,179	185,654	171,399
9	Business Services	10	188,700	545,921	787,200	131,312
10	Financial Services	11	180,000	167,119	108,873	170,968
11	Communication	8	77,500	81,170	98,018	84,909
12	Oil, Gas and Energy	1	70,215	78,484	67,741	120,812
	Total		9,784,800	10,250,733	13,658,230	12,293,942
	%		100	104.76	139.59	125.64

Source. Computed.

The additional Total Employment actually very much depends on the employment multiplier. In this analysis it is good to examine the Poland economic input structure and the employment coefficient of Poland, which ultimately will produce the employment multiplier. Employment creation is very important in order to boost the total economy of the country.

### Conclusion

Malaysia is an upper-middle-income country that has relied heavily on income from its natural resources to engineer successful diversification into manufacturing and latter divert the economic development in the services sectors. This study has examined the Malaysian economic input structure compared to high-income countries such as Japan, Poland and Korea in order to transform Malaysia into a high-income country. The study has only focused on the additional Total Output generated, the additional increase in Total Household Income and the additional Total Employment creation. Based on these analyses it has been found that the Malaysian economic transformation needs to reshape the economic input structure similar to or even better than high-income countries such as Japan, Poland and Korea.

An appropriate regime of policy making and implementation is required, with extra focus on the higher multiplier on output, household income and employment. These could only be achieved if the Malaysian economic input structure undergoes urgent transformation which is similar to a high-income country.

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