



Faculty of Economics and Business

**IMPACTS OF SELECTED ECONOMIC SHOCKS ON  
MALAYSIAN EXTERNAL SECTOR**

Chai Ai Hui

Bachelor of Economics with Honours  
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EXTERNAL SECTOR**

CHAI AI HUI

This project is submitted in partial fulfillment of  
the requirements for the degree of Bachelor of Economics with Honors  
(International Economics)

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## Statement of Originality

The work described in this Final Year Project, entitled  
**“Impacts of Selected Economic Shocks on Malaysian External Sector”**  
is to the best of the author’s knowledge that of the author except  
where due reference is made.

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Data Submitted

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Chai Ai Hui

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## **ABSTRACT**

### **IMPACTS OF SELECTED ECONOMIC SHOCKS ON MALAYSIAN EXTERNAL SECTOR**

By

Chai Ai Hui

The main research on this study is to estimate the variables of Malaysian economic growth (RGDP), real effective exchange rate (REER), world oil price (WOP), and industrial productivity index of United States (USIPI) which are used to explain the outcome of Malaysia's net export (NEX) over period of 1980 to 2013 under time series econometric techniques such as ADF and PP tests, JJ cointegration test, VECM, granger causality test, Impulse-response functions (IRFs), and diagnostic checking. The results revealed that RGDP and REER are negative related with NEX, while WOP and USIPI are positive related with NEX during the period of 1980 to 2013. However, REER is not a major factor affect Malaysia's net export as compared to other explanatory variables used in the model. WOP is the most significant impact on Malaysia's net export in both short term and long term. Close linkage between U.S. and Malaysia is also important indicator to Malaysia's net export. With the diagnostic checking, the model used in the study is valid and robust from 1980 to 2013. Limitations of the study are provided to improve the study in the future.

## **ABSTRAK**

### **KESAN KEJUTAN EKONOMI TERPILIH TERHADAP SEKTOR LUAR MALAYSIA**

Oleh

Chai Ai Hui

Pembolehubah yang digunakan dalam kajian ini adalah pertumbuhan ekonomi Malaysia (RGDP), kadar pertukaran efektif sebenar (REER), harga minyak dunia (WOP), dan index produktiviti di United States (USIPI) untuk menerangkan eksport sebenar di Malaysia (NEX) dari 1980 – 2013 dengan menggunakan kaedah ekonometrik secara tahunan seperti ujian imbuan dickey-fuller stationary - pegun dan ujian punca unit Phillip-Perron, ujian kopengamiran johansen dan juselius, model pembetulan ralat vektor, ujian penyebab granger, fungsi tindak balas impuls (IRFs), dan semakan dignostik. Hubungan RGDP dan REER terhadap NEX didapati adalah negatif, manakala WOP dan USIPI mempunyai hubungan positif terhadap NEX. Walau bagaimanapun, REER bukan faktor utama yang mempengaruhi eksport sebenar di Malaysia. WOP and U.S. merupakan pembolehubah yang penting terhadap eksport sebenar di Malaysia dalam masa jangka panjang. Dengan adanya kajian dignostik, model yang digunakan sepanjang kajian ini adalah berasas dan tepat dari tahun 1980 hingga 2013. Batasan dalam kajian ini adalah untuk membuktikan penambahbaikkan di masa akan datang.

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## **Chapter 1**

### **Introduction**

#### **1.0 External Sector (mainly to Export)**

Adam Smith strongly supports that the principle of invisible hand plays an important role in free trade market which he believes that it has a power to generate a competitive price and product in efficient and effective ways. According to Hunt and Lautzenheiser 2011, David Ricardo creates a law of comparative advantage which is adopting Adam Smith's theory of absolute advantage and free trade in one's country, where international trade is encouraging to bring benefits for both trading partners with lowest cost, and optimum outputs and profits. Simply says, economic is an exchange. People make an exchange for maximizing their satisfactions or fulfilling their needs as well as their wants. However, people making an exchange among countries facing more challenges even riskier than making an exchange in local market due to the impacts of some unexpected events.

In general, economic shock is explained as an unexpected incident that happens in a country or beyond a country which is either in positive way or negative way. In other words, exogenous factor has its own power to impact endogenous economic variable over some specific periods. Likewise, unpredictable volatility or shock is a challenge or a test for an individual, firm,

and country as well. Economic shock has its own wide meaning and its effect will significantly change a country's performance.

External sector or export is always a hot issue for discussion in order to analyse the performance of economy growth in a country. A higher total export can lead to a greater cash inflow, to create trade surplus and it is usually cover the country's debts. Hence, international trade brings more benefits to mother country than other colonies, especially exports' activities. Based on Department Statistic Malaysia (2014), there was a rapid growth in total export in Malaysia from 1970 to 2008. However, Central Asia Crisis in 2008 had declined total export. Malaysia's export performance was recovered during December 2013 until February 2014 due to the increases of petroleum products, crude oil, palm oil products and natural rubber (Departure of Statistics Malaysia, 2013). Malaysian firms have tendency to break into export markets, thus government plays a major role on preventing some unexpected economic shocks.

In this study, economic growth (real gross domestic growth; RGDP) will be used to estimate the export performance although it had been discussed in many researches over the decades. However, it still remains ambiguous whether the hypothesis export-led growth (ELG) is better than hypothesis growth-driven export (GDE) or vice versa. Real effective exchange rate (REER) is the second variable to explain Malaysian export's growth, exchange rate can be either a "shock" or in control towards export's growth. The third variable is volatility of world oil price (WOP) which bring some

impacts on oil-exporting country including Malaysia. Lastly, the variable will be used in this study is the foreign economic growth, where the industrial productivity index of United States (US IPI) is selected to examine how powerful of economic growth in U.S. could affect Malaysian export growth.

## **1.1 Background of Malaysia**

Malaysia is a capitalist, developing and small open economy country which has tendency becomes a knowledge-based economy developed country. Over the fifty-seven years, Malaysia had transformed from natural-based sector (agriculture), manufacturing and industry sectors, service sector, and now knowledge-based economy where has promotes the economy performance over the decades (Poon, 2005). Export competitiveness of Malaysia in world market should be encountered which may affected by change of exchange rate and structural transformation effect. The international trade is encouraging among countries because of different factor endowments, however, in contrast, there have similar factor productions and relative prices in both trading partners, especially in developed countries (Malcolm & Rebecca, 2004).

On the other hand, economy growth of Malaysia is not always as smooth as people expected. Before the pegged of Ringgit Malaysia to US dollar in September 1998, Malaysia had been a highest growth in record, at the same time, an unstable foreign exchange rate also creates an imbalance of account on economy development. Malaysia is a small open economy country where

deeply relying on international trade for enhancing Malaysian development. In other words, Malaysian economy development is easily influenced by economic shocks and its trading partner, especially from vast and developed countries. The most critical problem is the oil shock where it has a power to control all the commodities' price, inflation in the world. Lau and Baharumshah (2003) stated the first oil shock was from 1971 to 1975 which had created instability of current account in Malaysia; over the period of 1980 to 1985 was the second oil shock and commodity crisis with the recession of the world. After 1985, Malaysia has made a revolution and move on to manufacture-based exporter to enhance economic growth. The revolution has welcomes investors and investments from foreign countries. However, Malaysia's economy was dramatically impacted by the 1997-1998 Asian Financial Crisis with worsen value of Ringgit, although it has brought a large trade surplus but the financial crisis has affect the competitiveness market inversely (Lau & Baharumshah, 2003).

Likewise, *Malaysia Policies and Issues in Economic Development* (2011) had listed five significant periods happened in Malaysia, including:

- i. In pre-1957, there was traditional export economy.
- ii. In 1957-1969, there was modernization and diversification period.
- iii. In 1970-1986, there was state-led development.
- iv. In 1987-1999, there was trade liberalization and financial crisis in Asia.
- v. In 2000 and afterward, there was human capital development.

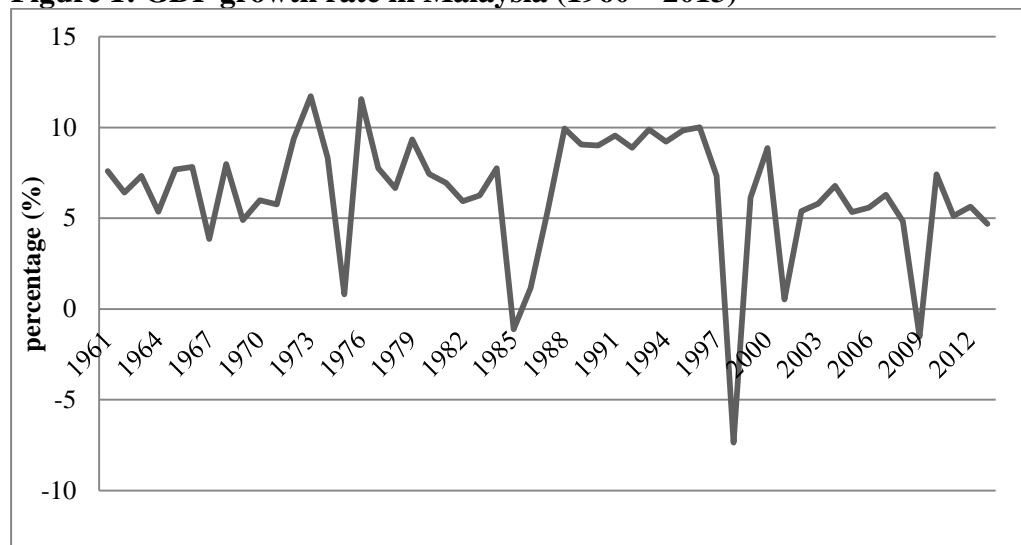
For traditional export economy before 1957, Malaysia was under British law and primary commodities such as rubber and tin were largely exported to United Kingdom and other countries, which both rubber and tin had brought about 30 per cent out of Malaysia's GDP, thus Malaysia heavily concentrated on primary sector at that period. However, the excessive demand of rubber and tin caused insufficient of supply where there was an adverse impact of lop-sided development, as a result, Malaysia had established five year development plans (1957-1969) after Independence 1957 for better growth (*Malaysia Policies & Issues in Economic Development*, 2011). The purposes of five year development plans had fostered economic growth and rural sector along with the contributions of private sector.

In 1970-1986, the New Economic Policy (NEP) had been established under Second Malaysia Plan to create national unity, especially to increase income levels and opportunities of employment to reduce poverty, and economic function without identification of races (*Malaysia Policies & Issues in Economic Development*, 2011). At the same period, Heavy Industries Corporation of Malaysia (HICOM) had been established under state-led heavy industrialization programme in 1980, aimed to involve with foreign firms to invest high technology and high-skill projects. Dr Mahathir learned from South Korea and Japan to promote Malaysian development, where heavy industry is a main element of the Fourth Malaysian Plan (4MP 1981), to use variety of natural resources wisely (*Malaysia Policies & Issues in Economic Development*, 2011). However, the recession 1980s had caused a dramatic drop of commodity prices which was depressed manufactured export of



electronics. HICOM was affected, thus Malaysia promoted privatization in 1983 to reduce government financial problem, to increase corporation with private sector and improve productivity to achieve NEP's programme. Yet, privatization programme was failed to achieve it during that period. In 1990, NEP was replaced by National Development Policy (NDP) for pro-Malay development strategy. In 2000 onwards, average of Malaysia GDP was around 5.5% after crisis, and targeted to 6% under Ninth Malaysia Plan (2006-2010). Therefore, apart from trade liberalization system, Malaysia has refer to Solow model in which labour capital, other capital input, technological are main factors to improve the total factor productivity (TFP) growth.

**Figure 1: GDP growth rate in Malaysia (1960 – 2013)**

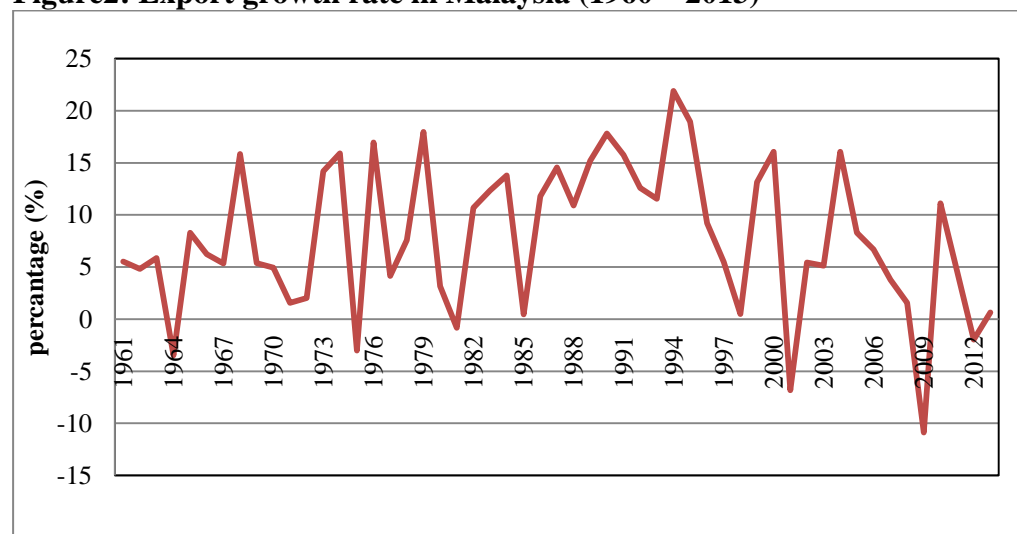


Source: CEIC database

Based on figure 1, Malaysian economic growth had faced some dramatic shocks at some particular periods (1975, 1985, 1998, 2001, and 2009). There was the lowest GDP growth rate of 0.8 per cent from 1960 to 1980 in Malaysia during the world crisis of 1975, due to the unstable exchange rate of Malaysian currency towards US dollar. The second shock was from the

consequence of the commodity crisis and the weak external demand in 1980, which the GDP declined to adverse rate, -1.21 per cent in the 1985 recession, yet export-oriented policy had been imposed and contribution of net export had pushed GDP rate into positive condition in 1986 (1.15 per cent). However, the Asian Financial crisis 1997-98 was the most challenging issue towards Malaysian growth, in which GDP of Malaysia had dropped heavily with 7.4 per cent and the adverse condition had loss confident among investors. The major contributions of export during recession 1985 were commodities, meanwhile electronic and electrical products (E&E) were major export product in 1998. Therefore, the robustness of Malaysian foundation in improving economy is from the effective and efficient of the structural transformation and financial sector. Based on the Figure 1, Malaysia GDP growth rate was in stable and positive region for the year 2001 to 2008, due to the rising of domestic demand in Malaysia. Nevertheless, Central Asia Crisis 2009 was causing GDP rate dropped to -1.5 per cent in 2009 and steady after 2010 due to the increasing of variety products.

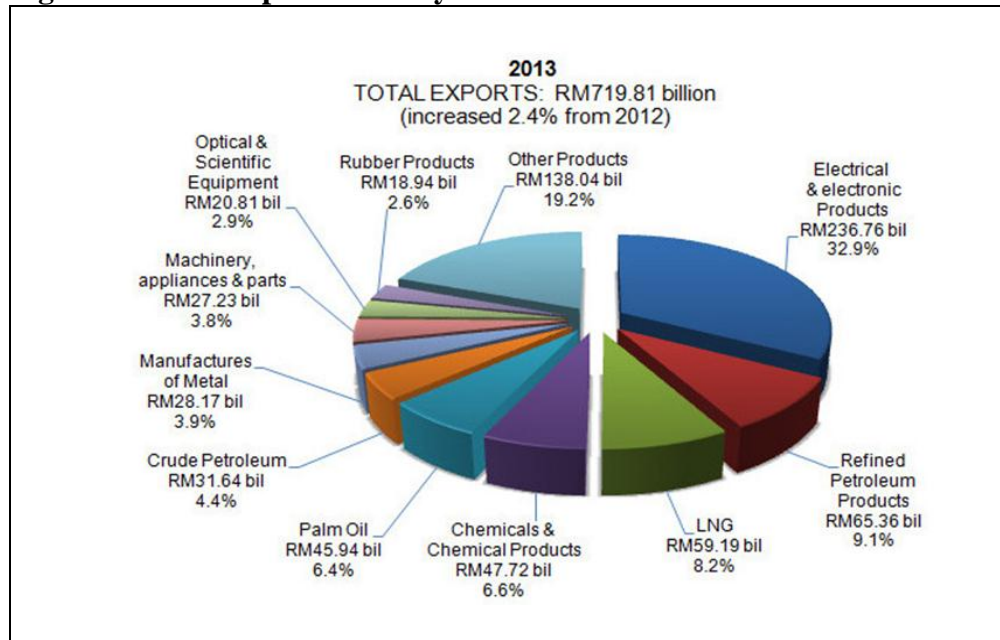
**Figure2: Export growth rate in Malaysia (1960 – 2013)**



Source: CEIC Database

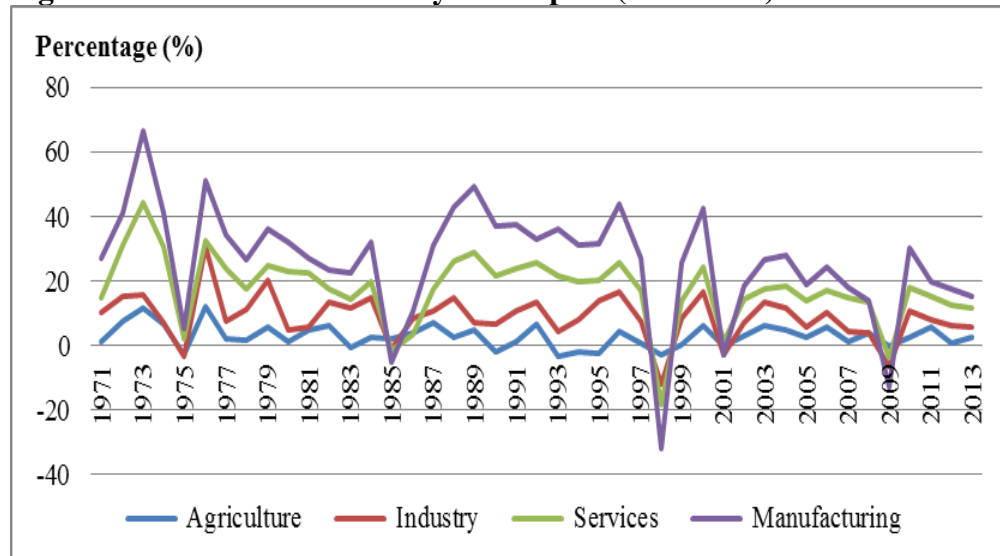
Based on figure 2, Malaysian export was performed rapidly during 1960 to 2013. For sub-period of 1961 to 1970, total export growth was in stable and with the highest rate at 16.9% in 1968. While, the first oil shock period of 1971 to 1980 has brought Malaysian total export rose to highest rate of 14.2%, 15.9%, 17% and 18% in 1973, 1974, 1976 and 1979 respectively. At the same period, there was a great recession on Malaysian economy but it was not a huge impact on itself performance due to Malaysia is a crude oil producer country. Besides, there was an Iran-Iraq war during 1978 to 1981 where has affected Malaysian export dropped to -0.83% in 1981. For 1981 to 1990, the rate growth of total export was at positive level even though there was a recession of second oil price shock, and commodity crisis during 1980 to 1985 where the lowest growth was at 0.45% in 1985. In the following period of 1991 to 2000, the Malaysian economy was recovered well due to the domestic demand and external supports. The highest rate of export growth was at 21.9% in 1994, while the lowest rate of export was at 0.5% in 1998 during the Asian financial crisis. After pegged RM3.80 to 1US dollar in September 1, 1980, the total export has had grew better in Malaysia with the development of electrical and electronic sector. For the year 2001 to 2009, the export was affected by the rising of domestic demand in Malaysia and affected by the terrorism issue of United States in 2001, which had dropped to -6.83% in 2001. Besides, Central Asia Crisis caused total export declined during 2008 and 2009 with 1.57% and -10.88% respectively. However, Malaysia's export performance recovered during 2010 to 2013 due to the increasing of variety product.

**Figure 3: Total Export of Malaysia in 2013**



Source: CEIC Database

**Figure 4: Four Sectors of Malaysian Export (1971-2013)**



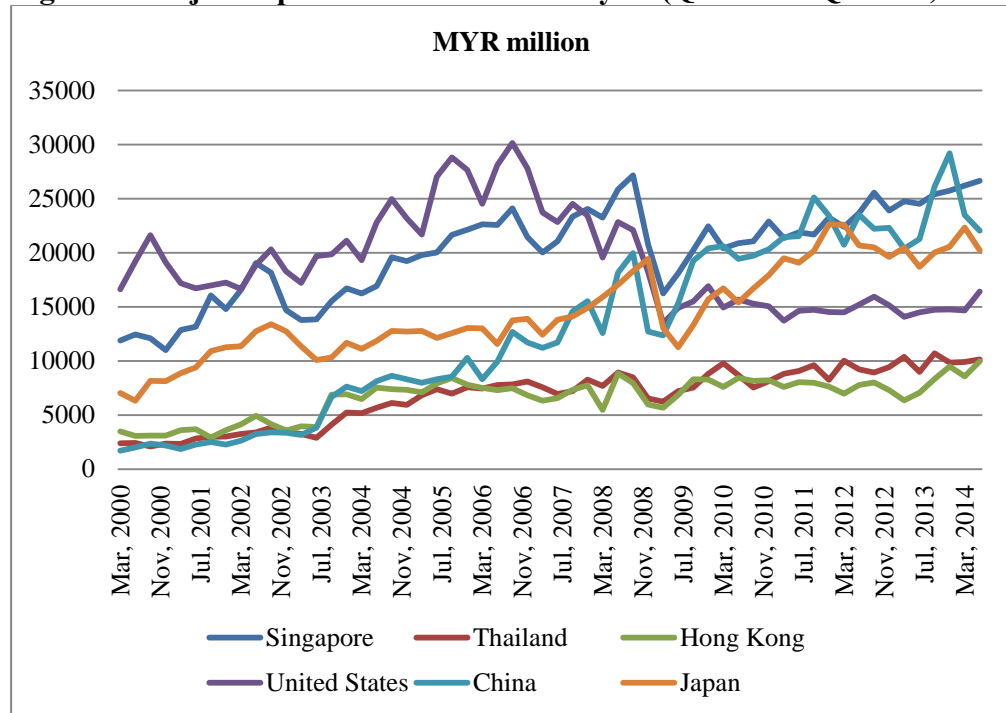
Source: Departure of Statistics Malaysia, 2013

Malaysia has been a largest supplier of natural resources such as tin, rubber, oil, and natural gas since the late nineteenth century. This is because of the geography and climates of Malaysia where has plentiful of natural resources. Through the structural transformation over the past decades, the primary and secondary sectors still play important roles in Malaysian external sector or export. Based on figure 3, it shows the total export of Malaysian products in 2013, where electrical and electronic consists of 32.9% over total export with RM236.76 billion. Following to 9.1% or RM65.36 billion of refined petroleum products; 8.2% or RM59.19 billion of LNG; 6.6% or RM47.72 billion of chemicals and chemical products; 6.4% or RM45.94 billion of palm oil; 4.4% or RM31.64 billion of crude petroleum; 3.9% or RM28.17 billion of manufactures of metal products; 3.8% or RM27.23 billion of machinery appliance; 2.9% or RM 20.81 billion of optical and scientific equipment; 2.6% or RM 18.94 billion of rubber products; 19.2% or RM138.04 billion or other export products. As a result, there was increased 2.4% of total export in Malaysia compare to previous year, 2012. However, since 1970 Malaysia had enlarged the range of export-oriented manufacturing. Based on figure 4, four main sectors are important contributors in Malaysian export performance whereas there have two critical periods influence the growth of export which are 1997/1998 Asian Financial Crisis and Central Asia Crisis 2008.

Besides, Malaysia joined Free Trade Agreements (FTAs) for promoting trade among ASEAN members and other countries include Japan, Pakistan, China and New Zealand (Ministry of Trade and Industry, 2014). The main export's

partners are Japan, China, United States, Hong Kong, Thailand and Singapore which has shown at figure 5 with the period of 2000 to 2014 quarterly. Trading partners also play an important role in Malaysian export performance over the decades.

**Figure 5: Major Export's Partners in Malaysia (Q1 2000 – Q2 2014)**



Source: CEIC Database

## 1.2 Discussion of Malaysia's Socioeconomic Challenges<sup>1</sup>

According to Dr Lyndon La Rouché who was an American political economist suggested that the Asian-European continent has potential to make Asia countries become better off as long as supported by Western leaders. However, the suggestion was opposed in that time because most Western leaders want to

<sup>1</sup> Refer to Malaysia's Socioeconomic Challenges: Debating Public Policy Issues by Navaratnam (2003).

continue dominate the rest of the world especially United State America (USA). Over the decades, U.S. still plays a main role in major market in the world, which means most of the U.S. trading partners have put efforts on building up good and close relation with U.S., in other words, many countries still not able to against U.S. stand. However, the issue of September 11 terrorist attacks on the U.S. in 2001 had impact U.S. economy inversely and influence other countries significantly. The issue was like a caution for the world especially for the policies of U.S. In the same time, the slowdown economy of the U.S. and Japan had affected Malaysian export performance adversely because of the time lag effects.

In 2003, World Trade Organization (WTO) created a Trade-Related Issue on Terrorism (TRITs) where it was unfair and unbalanced trade practices for poor developing countries. For instance, the powerful countries tend to control the poor developing countries with rich of factor endowments and exploit those countries for their own benefits. This implies that WTO is controlled by the powerful countries rather than its development is for helping poor developing countries to become better. Therefore, Malaysia should caution on international terrorism and improve own economic welfare.

As Malaysia is an open economy country which relays more on international trade. The previous Prime Minister Dr Mahathir Mohammad had claimed that “dependency syndrome” should be prevented to compete in the globalization, stand stronger and stable in the world market. Besides, there is a close interlinked between economic, political and social, if one of them collapses in

Malaysia, it strongly destroy the whole economy which had been experienced in 1997.

### **1.3 Problem statements**

The relationship between total export, economic growth, exchange rate, foreign economic growth (US IPI) and volatility of world oil price are famous study topics for econometricians. In general, there are several macroeconomic factors significantly affect exports performance of a country to compete globalization challenges. Therefore, the effects of economic growth, real exchange rate, foreign economy (US IPI) and volatility of world oil price on net export in Malaysia will be focused in this study.

The relationship between total export and economy growth is confusing until now because of the development level in a country including Malaysia. It is likely that the study will be taken to estimate whether ELG hypothesis or GDE hypothesis or both are effective and efficient for Malaysia's development in long term and short term.

The foreign exchange rate is flexible before the pegged of MYR3.80 to \$1 dollar on September 1998, which has causes the trade balance of Malaysia unstable. It can be explained that a devaluation of Ringgit Malaysia will reduce total import but promotes exports in Malaysia. Foreigners are attracted to purchase on Malaysia's products with cheaper price. However, a longer