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MACROECONOMIC FACTORS AFFECTING MALAYSIA'S GDP FROM 2000 TO 2019

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MACROECONOMIC FACTORS AFFECTING MALAYSIA'S GDP FROM 2000 TO 2019

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ABSTRACT

This study investigates the factors that determine Malaysia's economic growth. The determinant factors used are Government Expenditure (GE), Balance of Trade (X-M), and Foreign Direct Investment (FDI) in Malaysia from the year 2000 to 2019. Three main theories were used in this study which are Keynesian's, Wagner's Law and The Theory of Exchange Rates on Imperfect Capital Markets in determining factors which contribute to Malaysia's economic growth. The methodology used was OLS regression analysis which is to analyse the relationship between Malaysia's economic growth and the determinant factors. Overall, findings show that the rising of total government expenditure (GE) and foreign direct investment (FDI) have a significant and positive relationship with economic growth. However, Balance of Trade (X-M) has a negative and insignificant relationship with the economic growth. The study concludes that government expenditure (GE) and foreign direct investment (FDI) play important roles as determinant factors to Malaysia's economic growth and Balance of Trade (X-M) may have a role as a catalyst and complement determinant factor to economic growth in Malaysia.

Keywords: Economic growth, Determinant factors, Correlation, Multiple Regression, Malaysia

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ABSTRAK

Kajian ini mengkaji faktor-faktor yang menentukan pertumbuhan ekonomi Malaysia. Faktor penentu yang digunakan adalah Perbelanjaan Kerajaan (PRU), Imbangan Perdagangan (XM), dan Pelaburan Langsung Asing (FDI) di Malaysia dari tahun 2000 hingga 2019. Tiga teori utama digunakan dalam kajian ini iaitu Keynesian's, Wagner's Law dan Teori Kadar Pertukaran Pasaran Modal yang Tidak Sempurna dalam menentukan faktor yang menyumbang kepada pertumbuhan ekonomi Malaysia. Metodologi yang digunakan dalam kajian ini adalah analisis regresi OLS iaitu menganalisis hubungan antara pertumbuhan ekonomi Malaysia dan faktor penentu. Secara keseluruhan, penemuan menunjukkan bahawa kenaikan jumlah perbelanjaan kerajaan (PRU) dan pelaburan langsung asing (FDI) mempunyai hubungan yang signifikan dan positif dengan pertumbuhan ekonomi. Walau bagaimanapun, Imbangan Perdagangan (X-M) mempunyai hubungan negatif dan tidak signifikan dengan pertumbuhan ekonomi. Kajian ini menyimpulkan bahawa perbelanjaan kerajaan dan pelaburan langsung asing memainkan peranan penting sebagai faktor penentu pertumbuhan ekonomi Malaysia manakala Imbangan Perdagangan (X-M) mungkin berperanan sebagai pemangkin dan melengkapi faktor penentu kepada pertumbuhan ekonomi di Malaysia.

Kata kunci: Pertumbuhan ekonomi, Faktor penentu, Korelasi, Regresi Berganda, Malaysia

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LIST OF ABBREVIATIONS

UUM	Universiti Utara Malaysia
GDP	Gross Domestic Product
GE	Government Expenditure
FDI	Foreign Direct Investment
OPR	Overnight Policy Rate

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Chapter 1
Introduction

1.1 Background of Study

The analysis of a nation's economic growth is one of the key aspects of the macroeconomic theory. From 1990 to 1996, the growth of the Malaysian economy showed an average GDP growth of 9.5 percent per annum with a low inflation rate of 3.5 percent and an unemployment rate of only 2.5 percent in 1996 (World Bank, 2018). Therefore, Malaysia is known for the rapid growth economy before the Asian financial crisis in July 1997, compared to the developed nations of East Asia such as Japan, South Korea, Taiwan and Hong Kong (Blomstrom, 1996).

However, the Asian financial crisis in July 1997 has intensely impacted Malaysia's economic growth to a negative level of -9.67% in 1998 compared to 4.61% in 1997. The financial crisis does not only give a big impact on Malaysia and other Asian countries but also left tremendous effects on other macroeconomic variables such as trade between countries, services and investment. This is because, Asian countries have a direct relationship with the economy of other world countries. The Malaysian economy bounced back the following year with the Gross Domestic Product (GDP) rising from 6.1 percent in 1999 to 8.9 percent in 2000 after Bank Negara Malaysia (BNM) introduced a flexible fiscal and monetary policy approach. The fiscal policy aimed to address the key areas of vulnerabilities, including addressing the current account deficiency in the balance of payments and containing inflationary pressures arising from the ringgit depreciation. The government has also announced for an 18 per cent reduction in government expenditure including a 10 per cent pay cut for government ministers as well as the postponement of several infrastructure mega-projects such as the Bakun dam, The Express Rail Link and the land bridge to Thailand (Bank Negara Malaysia, 2016). Subsequently, through monetary policy, the government has set the Ringgit exchange rate to one US dollar of RM3.80 per dollar (Bank Negara Malaysia, 2016).

In 2009, the Malaysian economy experienced a 2.5 percent decline as result of the global financial crisis that took place in 2008. However, with the implementation of fiscal policy through increased government spending, especially in operating expenditure, has again caused the value of Gross Domestic Product (GDP) in 2010 to rise. Development in line with the 2010 Budget and monetary policy provisions through the Overnight Policy Rate (OPR) is

to avoid financial imbalances, unnecessary risks, preventing financial transfers from being impaired that might jeopardize long-term growth capabilities (Caves, 1996). In 2015, the Malaysian economy remains resilient despite the challenging economic environment with a moderate growth of 5 percent as compared to 6 percent in 2014. This growth was driven by continued growth in private-driven domestic demand and rising moderate external demand in second half of 2015. In 2016, the Malaysian economy continued to grow, but at a moderate rate of 4.2 percent (Bank Negara Malaysia, 2016). Economic growth is critical in deciding a country's future prosperity because growth and development are two terms that are inextricably linked. A nation can expand without growing, but it must evolve to develop (OECD, 2009).

1.2 Problem Statement

Since gaining independence in 1957, Malaysia has effectively differentiated its economy from horticulture and commodity-based, to robust manufacturing and service sectors. This has caused the nation to be the driving exporter of electrical machines, electronic parts and components. Malaysia is one of the most open economies in the world with a trade to GDP ratio averaging over 130% since 2010 (Bank Negara Malaysia, 2016). Openness to trade and investment has been instrumental in employment creation and income growth, with about 40% of jobs in Malaysia linked to export activities. After the Asian financial crisis of 1997-1998, Malaysia's economy has been on an upward trajectory, averaging growth of 5.4% since 2010, and is expected to achieve its transition from an upper middle-income economy to a high-income economy by 2024 (OECD, 2009). Malaysia is the 4th largest economy of South East Asia and it continues to perform strongly, due to a strong global demand for electronics, increased demand for commodities, such as oil and gas, an improving labour market, a pro-cyclical budget and ample infrastructure spending (Kvedaras, 2020).

However, the economic growth was expected to be 4.3 percent in 2019 due to decreased government spending and lower public and private investments (Sun, 2010). Malaysia's GDP growth has plummeted to -1.7 percent in 2020 due to the outbreak of COVID-19, according to revised IMF projections from 14th April 2020, and is projected to pick up to 9 percent in 2021, according to the post-pandemic global economic recovery strategy (Bank Negara Malaysia, 2016). During the past few years, a political crisis, low oil price and commodity export prices and the slowdown in China's economy have strongly affecting Malaysia's economy, putting pressure on the country's finances (Blomstrom, 1996). According to an IMF estimate, Malaysia has the highest debt rate in the country, at 56.3 percent of GDP in 2019, with investment

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growing faster than GDP. The fiscal deficit was narrowed to 2.6 percent in 2019 as a result of the increase in energy prices and the government's previous efforts to cut spending, such as reducing subsidies, and is expected to stay stable in the coming years (OECD, 2009).

In the late 2019, a global pandemic occurred, which affected the people and global economies known as COVID-19 (coronavirus), this pandemic had a major economic impact on Malaysia, particularly on vulnerable households. With less than 1% of Malaysian households living in extreme poverty based from the official national poverty line, Department of Statistics Malaysia (Barro, 1999). The government's focus has shifted towards addressing the well-being of the poorest 40% of the population ("the bottom 40"). This low-income group remains particularly vulnerable to economic shocks as well as increases in the cost of living and mounting financial obligations. Income inequality in Malaysia remains high relative to other East Asian countries (Hasnul, 2015). While income growth for the bottom 40 has outpaced the top 60 for the past decade, the absolute gap across income groups has increased, contributing to widespread perceptions of the poor being left behind (Hasnul, 2015). Following the removal of broad-based subsidies, the government has continuously moved towards focusing more measures to bolster the destitute and powerless, primarily within the shape of cash exchanges to low-income families (Knetter, 2003).

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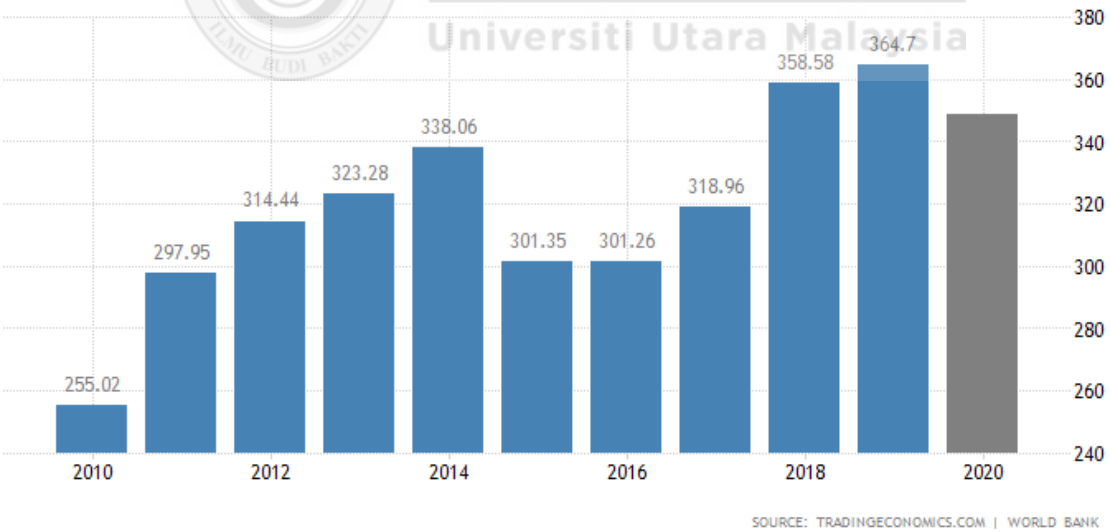

Figure 1 Gross Domestic Product Chart

Figure 1 above shows the economic situation remains sustainable in Q3:2020 after GDP shrank at a record pace in Q2, driven by a phenomenal withdrawal in both investment activity and household spending due to the compelling impacts of Covid-19 (Knetter, 2003). Together with recent monetary policy shifts by major central banks, diligent vulnerability encompassing

trade actions has actuated increased investor risk aversion and financial market volatility. Global growth is projected at –4.9 percent in 2020, 1.9 percentage points below the April 2020, World Economic Outlook (WEO) forecast (Blomstrom, 1996). The COVID-19 pandemic has had a more negative impact on economic activities in the first half of 2020 than anticipated. Therefore, the recovery is projected to be more gradual than previously forecast (Hasnul, 2015). The massive 17.1% gross domestic product (GDP) contraction in the second quarter 2020 (Q2:2020) has so far made Malaysia the worst-performing economy in ASEAN. For Malaysia, the figure is the worst double-digit quarterly contraction since 1998, or about 22 years, following the unprecedented lockdown imposed to control the spread of Covid-19 (Andersen, 2009). This has forced Bank Negara Malaysia (BNM) to revise down the country's 2020 GDP forecast to -3.5% to -5.5% from -2% to 0.5% previously, as the initial assumption was based on a lockdown period of only four weeks instead of seven weeks according to World Economic Outlook Reports, 2020.

It has been identified that foreign direct investment has been observed as a major driver underlying the strong growth performance occurrence by the Malaysian economy. Malaysia has received a substantial quantity of foreign direct investment in its industry over the past decade (Duce & España, 2003). Despite the significance of Government Expenditure (GE) to Malaysia's economy, there has been little studies carried out on the determinants of the GDP with macroeconomic variables such as Foreign Direct Investment (FDI) and Trade Income. This study will examine three macroeconomic variables, namely GE, FDI and Net Export, which affect the GDP in Malaysia over a period of 2000 to 2019.

1.3 Research Questions

Based on the problem statement, this research leads to four research questions;

1. Is there any relationship between macroeconomic factors of Foreign Direct Investment, Government Expenditure and Net Exports Income with Malaysia's GDP?

2. What is the most significant macroeconomic variable affecting the Malaysia's GDP?

3. How does the Macroeconomic Factors affect Malaysia's GDP before economic crisis?

4. How does the Macroeconomic Factors affect Malaysia's GDP during economic crisis?

1.4 Research Objectives

This research aims to achieve the following objectives

1. To examine the relationship between Government Expenditure, Foreign Direct Investment, Net Exports Income and Malaysia's GDP.

2. To investigate the most significance macroeconomic variable affecting the Malaysia's GDP.

3. To determine the effect of Government Expenditure, Foreign Direct Investment and Net Exports Income on Malaysia's GDP before economic crisis.

4. To determine the effect of Government Expenditure, Foreign Direct Investment and Net Exports Income on Malaysia's GDP during economic crisis.

1.5 Significance of Study

1.5.1 Theoretical Contribution

This study focuses solely on the effect of macroeconomic factors on Malaysia's GDP performance. The current study is restricted to three macroeconomic factors that affect the Gross Domestic Product in Malaysia. This is selected on the basis of crucial involvement of the factors in determining the trend of the GDP in different wavelength of the economy whether if it's during a shock or on normal days. A review of previous studies and the findings of current studies enabled the researcher to specifically integrate a number of independent variables to influence the GDP in Malaysia.

1.5.2 Practical Contribution

However, on a practical note, this study will provide possible initiatives to the policy makers and government in creating economic policies related to GDP. Through this study, relevant macroeconomic factors which affect Malaysia's GDP can be used to access appropriate economic sector, which needs assistance during the crisis situation.

1.6 Organization of Study

There are five (5) chapters for this study. Chapter one (1) addresses the general overview of the research, whereby Chapter two (2) discusses and highlights on the literature review of the variables involved which are Government Expenditure, Foreign Direct Investment, Balance of Trade and how does these factors affect the Gross Domestic Product of Malaysia. Besides, it is included with the framework developed and the theory used for the study. Chapter three (3) will further explain on the research methodology while Chapter four (4) discusses the results. Chapter five (5) presents the conclusion and recommendations with some policy implications.

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Chapter 2

Literature Review

2.0 Introduction

This chapter reviews about the previous research and selected literatures which are relevant to the variables used in this study which are Foreign Direct Investment, Government Expenditure, Net Exports and Malaysia's GDP. An analysis of the literature will aid in a deeper comprehension of the issue (Knetter, 2003) and based on the literature review, a research framework can be construct and presented.

2.1 Definition of Terms

Variables	*Definition*
Gross Domestic Product (GDP)	Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of a given country's economic health (Attari, 2013).
Foreign Direct Investment (FDI)	Foreign direct investment (FDI) is an investment made directly into production in a market by a corporation headquartered in another country, either by the acquisition of a company in the target country or the growth of an established industry in that country (Borensztein, 1998).
Government Expenditure (GE)	Government expenditure is divided into two categories, namely operating and development expenditure (Hasnul, 2015). Operating expenses address aspects like insurance, judges' compensation, state grants, office leasing, and asset and fuel purchases. Developmental spending, on the other hand, is a fund set aside to carry out development programs for a country.
Balance of Trade (X-I)	Balance of trade is the difference between the value of a country's exports and the value of a country's imports for a given period.

Table 1: Definition of terms

2.1.1 Gross Domestic Product

The indicator of the production of final goods and services provided by a country over time is its gross domestic product (GDP). Although GDP is the most significant metric for capturing these economic practices, it is not a fair representation of a society's well-being and only gives a small image of people's material living conditions (Hasnul, 2015). GDP is calculated in each country's own currency. To be compared across countries, these statistics must be converted into a single currency and the translation is frequently done using current exchange rates, which can lead to a misrepresentation of the true quantities of final goods and services in GDP. Using purchasing power parities is a smarter strategy (PPPs) as PPPs are currency converters that allow for international comparisons of GDP volumes and economy sizes by controlling variations in export price levels between countries (OECD, 2009). The cumulative monetary or consumer value of all finished goods and services manufactured within a country's boundaries in a given time span is also known as GDP (Duce & España, 2003). It serves as a holistic scorecard of a country's economic health because it is a general indicator of total domestic output (Nambiar, 2009).

Gross Domestic Product (GDP) is a metric that measures a country's gross production over a fixed time span, focusing on final goods and services (OECD, 2009). GDP is significant in assessing economic development, according to Konchitchki and Patatoukas (2014), since it represents the overall main summarization of economic activities. According to Fuller (1991), sustainable growth is linked to an increase in economic productive capability. As a result, GDP and per capita income are the most accurate measures of economic activity (Hasnul, 2015). Hussin and Saidin (2012) go into greater detail about GDP changes, suggesting that increased overall productivity leads to increased labour demand, which increases private consumption, which is among the primary determinants of GDP.

2.1.2 Foreign Direct Investment

Foreign direct investment (FDI) is an investment made directly into production in a market by a corporation headquartered in another country, either by the acquisition of a company in the target country or the growth of an established industry in that country (Borensztein, 1998). Foreign direct investment is being carry out for many reasons including to take advantage of cheaper wages in the country, special investment privileges such as tax exemptions offered by the country as an incentive to gain tariff-free access to the markets of the country or the region (Carkovic, 2002). In developing countries, foreign direct investment (FDI) is known as an important catalyst for economic growth. By transferring technology, increasing human capital formulation, access to global market and also stimulating domestic investment & affects economic growth of host countries (Arafatur Rahaman, 2015).

The aim of FDI is for a resident individual in one economy (direct investor) to have a long-term stake in an enterprise in another economy (the direct investment enterprise). The word "lasting interest" refers to a long-term association between the direct investor and the direct investment enterprise, as well as a considerable level of control on the latter's management. The initial transaction forming the relationship between the investor and the company, as well as all subsequent capital transactions between them and among associated companies, both incorporated and unincorporated, are all considered direct investments. Capital transfers which do not result in a settlement, such as an equity exchange between related firms, must also be registered in the Balance of Payments and the International Investment Position (IIP) (Duce & España, 2003).

For developed countries, foreign direct investment (FDI) is important. Individuals or corporations may own a portion or all of a company headquartered in another country by foreign direct investment. However, the international investor should have a long-term stake in the investment and significant leverage over it. FDI leads to productivity in a number of areas. It has a strong effect on development because it is a driver of capital accumulation. A rise in FDI, as part of private investment, would lead to an increase in overall investment. A rise in investment contributes directly to productivity. FDI Granger triggered economic growth, according to Bloomstorm, Lipsey, and Zejan (1996). The authors stated that FDI boosts growth if the nation is adequately calculated in terms of high per capita income. The bidirectional relationship was discovered by (Caves, 1996). FDI and economic development are mutually beneficial. Large economic growth generates high-profit opportunities, drawing more domestic

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and foreign direct investment. FDI, on the other hand, has a direct positive economic development impact in host countries due to its spill over effect (Borensztein, 1998).

Borensztein et al. (1998) use evidence on the flow of FDI from developed countries to 69 developing countries over the past two decades. The authors investigate the impact of foreign direct investment on economic development in a cross-country regression context. The study concludes that FDI is an effective medium for technology transition, contributing significantly more to growth than domestic investments. The higher efficiency of FDI, on the other hand, is only valid when the host nation has a certain level of human resources. As a result, FDI only leads to economic development when the host economy has an adequate absorption potential of advanced technologies. Carkovic and Levine (2002) analysed the effects of foreign direct investment on economic development and found that it had minimal effect on long-term growth. They analysed the relationship between FDI inflows and economic growth using a panel data collection that included 72 developing countries. They claimed that the lack of a positive effect of FDI on economic growth is contrary to human resources, economic creation, or economic transparency. A well-developed financial intermediary structure would result in improved capital distribution, resulting in increased production and economic development (Bech, Levine, and Loayza) (2000).

Chowdhury and Mavrotas (2003) looked at the causal association between FDI and economic growth using a sophisticated econometric approach. The study investigates the direction of causality between the two variables in a follow-up report by using time series data from 1969 to 2000 for three developed countries: Chile, Malaysia, and Thailand. Each of these countries is a significant beneficiary of FDI and has a unique experience of macroeconomic episodes, policy regimes, and development trends. Kholdy and Sohrabian (2005) discovered no correlation between economic growth and inflation. As a result, the empirical evidence on the causal relation between economic growth and FDI is mixed, necessitating a new investigation into the topic. Hsio and Shen (2003) conclude that FDI and development have a two-way relationship and that FDI and GDP have a feedback relationship. The study used panel data from 84 countries spanning 30 years from 1970 to 1999.

Malaysia operates under an open economy framework and is widely regarded as one of Southeast Asia's most attractive investment destinations (Fadhil & Almsafir, 2014). When a foreign investor obtains a long-term stake in a business in another country, it is known as foreign direct investment (FDI) (Patterson et al., 2004). Based on OLS regression analysis

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using cross-section results, Balasubramanyam, Salisu, and Dapsoford (1996) discovered a positive impact of FDI on growth of developed countries that practice export promotion strategy. Har et al. (2008) used a time series study of Malaysian data from 1970 to 2005 to further validate this correlation, and the findings are consistent with the previous research. FaridUllah and AbdurRauf (2013) applied some more factors to the calculation, including the saving rate, exports, work force size, and tax rate. Their results show that FDI and the savings rate have a positive impact on Malaysia's GDP. Furthermore, it was discovered that human capital accumulation plays an important role in FDI inflows and, as a result, boosts the host country's economic growth (Arafatur Rahaman, 2015).

2.1.3 Government Expenditure

In Malaysia, government expenditure is an important fiscal instrument which is divided into two categories, namely operating and development expenditure (Hasnul, 2015). Operating expenses address aspects like insurance, judges' compensation, state grants, office leasing, and asset and fuel purchases. Developmental spending, on the other hand, is a fund set aside to carry out development programs under the Malaysian Five-Year Plan. The development budget is a capital and non-recurrent expense that is more of an undertaking than a spending expense. Thus, it involves a large capital or provision, giving long-term benefits and requires supervision and maintenance. For example, construction of roads, schools, offices, hospitals, clinics and police stations (Hasnul, 2015).

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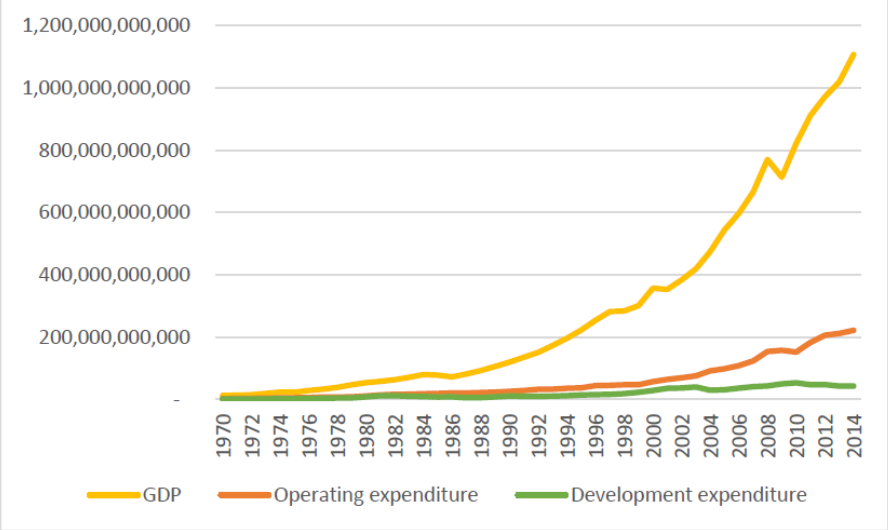

Source: The World Bank, 2017

Figure 2: Real GDP and government expenditure in Malaysia 1970 – 2014

Malaysia has consistently had one of the world's fastest rates of economic growth. Malaysia's manufacturing industry has been rapidly expanding. Since 1988, real GDP has increased at an annual average rate of 8.5 percent each year (World Bank, 2018). The Malaysian government's Fifth Strategy (1986-1990) made major policy changes. The promotion of the private sector as the source of economic growth was one of it. Figure 2 depicted the growth in GDP and government spending over the last 45 years. In comparison to operating expenses, development spending has been relatively flat. Malaysia has seen four economic crises between 1970 and 2014: in 1975, 1985, 1998, and the most recent global financial crisis in 2008. Government spending is the amount of money expended by the government on purchasing goods and providing services such as schooling, healthcare, social security, and defence (Attari, 2013).

Government final consumption spending is known as national income accounting. It is when the government acquires goods and services for current use to directly meet the individual or mutual needs and requirements of the population (Attari, 2013). Economic spending happens as the government attains goods and resources for potential use. Public expenditures and investment, as well as tax distributions and transfer costs, fall into this category. Government spending on taxes helps government to produce or import products and services that are necessary to fulfil their economic objectives. The position and scale of governments around the world have changed drastically over time. Government spending grew dramatically in the twentieth century, when countries around the world began to devote more resources to schooling, healthcare, and social security. Governments of developed countries actually invest more as a proportion of GDP than governments of developing countries (Blomstrom, 1996).

Governments all over the world depend on the private sector to manufacture and maintain goods and services, and public-private partnerships, in particular, have become a common way for governments to fund, plan, develop, and run infrastructure projects. In 2005 to 2010 period, the total value of public-private partnerships, designed to increase the spending on public infrastructure projects in low and middle-income countries, doubled (Tang, 2009). Gregoriou (2005) provided evidence that points to the presence of a negative association between government consumption and economic growth for the period 1970-1990, using pooled time-series and cross-section data for 33 countries in Sub-Saharan Africa (Gregoriou, 2005). Yasin (2000) looked at the relationship between government spending and economic development in 26 sub-Saharan African countries using the same sample field. The author developed the model

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in accordance of neoclassical production function. By using panel data from 1987 to 1997 period and employing both the random effect and fixed effect techniques, he found a different result with Gregoriou (2005) which concludes that the government expenditure has the significant and expected positive effect on economic growth.

2.1.4 Balance of Trade

The assessment of the trade balance impact is widely discussed in the scientific literature. Economic theory identifies well-known channels through which trade can influence economic growth (Garces, 2019). Trade promotes efficient resource allocation, scale economies, technology transfer, economic creativity, and investment in both domestic and international markets, as well as the creation of innovative products. Many economists have focused on the importance of export in improving economic development because exports are seen as a growth engine (Carkovic, 2002).

Exports contribute to the economy in three ways. First, it is an exchange rate source that helps to increase the balance of payments. Second, it acts as the source of employment creation and the third, it helps the state to enjoy scale economies and also accelerate technological advances in production (Barro, 1999). The effect of the banking crisis, currency crisis, and global financial crisis on the connection between export and economic development in China is studied by Duce and Espana (2003). The findings suggest that exports of goods and services have a favorable and important effect on economic development in the short and long run, while the financial and currency crises have a detrimental impact on the economy. This means that the positive impact of the export of goods and services on growth is not significant during the banking crisis and currency crisis. The currency crisis has a higher impact on export rather than the banking crisis. However, during the global financial crisis, export had a positive and significant impact on economic growth in China, which suggested that the global financial crisis did not significantly affect export growth drastically.

2.2 The Effect of Balance of Trade on GDP

Andersen (2009) established the processes by which foreign trade would impact economic development. International trading enables access to global intermediates and innovations, as well as the international diffusion of information and the widening of the demand for new commodity varieties. The Thirlwall Law explains that the trade surplus should be tied to economic development in the conventional sense (Thirlwall, 1979). According to the balance of payment (BOP) growth model, real growth can be forecasted using the ratio of export growth to import demand income elasticity, and the BOP must be in balance (Garcimartin, 2016).

The basic idea of Thirlwall model is that export performance and import behaviour determine the long-term economic growth. Increasing foreign exchange revenue from export is the only sustainable way financing increasing imports caused by the expanding domestic activity. There were various attempts to test empirically the assumptions of Thirlwall model (Thirlwall, 1979). Soukiazia (2014b) developed a model based on the assumption of Thirlwall Law testing in different countries (Portugal, Italy, Slovakia, Greece) and additionally taking into account internal imbalances (twin deficit), also that relative prices are not neutral for economic growth (Soukiazia, 2014b). In the context of BOP limited economic development, Garcimartin (2016) investigates the origins of market cycle. Interest payments and net flows were added to the model by Alleyne (2008), as these factors are critical to the growth of developed countries.

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Kvedaras (2020) contributed the analysis of BOP constrained growth model decomposing economic growth rates and a cyclical growth term caused by net capital inflows. Empirical studies have strong evidence that international trade has a positive impact on economic growth by facilitating capital accumulation, modernization of industrial structure, technological and institutional progress (Kvedaras, 2020). More specifically, increased imports of capital and intermediate products not available on the domestic market may increase the productivity of production (Sun, 2010). Stott (1998) stated that the promotion of increased export fosters more intense competition and improved productivity. In the export industry, learning-by-doing activities can be accelerated by the spread of knowledge and technology (Stott, 1998).

2.3 The Effect of FDI on GDP

Foreign Direct Investment (FDI) is very important for developing countries. Through foreign direct investment, individuals or corporation obtain partial or total ownership of firms located in another country. Nevertheless, the foreign investor has substantial control over the investment. FDI contribute to growth through several channels (Arafatur Rahaman, 2015). It has a strong impact on development because it is a driver of capital formation. Blomstrom (1996) found evidence that FDI Granger caused economic growth. The author stated that the FDI growth is enhancing if the country is sufficiently measured in terms of high per capita income. Caves (1996) found the bidirectional relationship between FDI and economic growth where both variables are positively interdependent. Large economic growth provides high-profit opportunities in attracting higher domestic and foreign direct investments (Caves, 1996).

Borensztein (1998) used a cross-country regression method to analyze the effects of foreign direct investment on economic development. Over the last two decades, the author used data on FDI movements from industrial countries to 69 developing countries. According to the results of this report, FDI is an effective medium for technology transfer, contributing considerably more to growth than domestic investment (Borensztein, 1998). Carkovic (2002) looked at the effects of foreign direct investment on economic development and found that it had little effect on long-term growth. The author examined the relationship between FDI inflows and economic growth using a panel data collection that included 72 developing countries. The lack of a positive effect of FDI on economic growth, according to the author, is not dependent on human resources, economic progress, or economic transparency (Carkovic, 2002).

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2.4 The Effect of Government Expenditure on GDP

Guseh (1997) used pooled time-series and cross-section data for 33 countries in Sub-Saharan Africa for the period 1970-1990 produced evidence that points towards the existence of a negative relationship between government consumption and economic growth (Guseh, 1997). On the same sample region, Yasin (2000) examined the relationship between government spending and economic growth in 26 sub-Saharan Africa countries. The author developed the model on the basis of neoclassical production function. By using panel data from 1987 to 1997 period and employing both the fixed effect and random effect techniques, the author found a different result from Guseh (1997). Guseh (1997) suggest that the government spending on capital formation has the expected positive and significant effect on economic growth. The author concluded the study with suggestion for these countries to increase government spending on capital formation and create favourable economic environment (Guseh, 1997).

Using similar econometric approaches and similar model with Yassin (2000), Alexiou (2009) explored the impact of a string of variables to condition economic growth for seven countries in the South Eastern Europe region spanning from 1995 to 2005 (Alexiou, 2009). The evidence indicates that out of the five variables used in the estimation, government spending on capital formation, development assistance, private investment and a proxy for trade-openness have positive and significant effect on economic growth, whereas the remaining one, population growth, is found to be statistically insignificant (Alexiou, 2009). Finally, the author argues that policymakers will foster government expenditures on capital growth, private sector spending, and trade by creating a favourable climate (Alexiou, 2009).

Although a few studies have been undertaken in Malaysia to investigate the relationship between government spending and economic development, those studies have largely concentrated on the impact of aggregate government spending. Tang (2009) found that there was only one report that looked at the impact of disaggregated government spending on economic development (Tang, 2009). However, according to Tang (2009), there is also a lack of evidence since it does not account for the impact of operational and construction spending on economic growth.

2.5 Underpinning Theory

Based on these literatures, it can be concluded that the effect of government spending, foreign direct Investment and balance of trade on economic growth can be positive or negative. The relationship between those variables and economic growth is very unclear. All of the literatures either support the Keynesian hypothesis or the Wagner's law. Besides that, the theory of Exchange Rates on Imperfect Capital Markets stated that the point fanning towards export income of a country which determines the economic performance.

1. **Keynesian demand-side** – In the short and medium term, Keynes assumed that aggregate demand from government spending and foreign direct investment could affect economic growth (Galí, 2006). Despite the fact that most growth theories neglect the importance of aggregate demand, some economists claim that recessions can induce hysteresis effects, resulting in slower long-term growth.

   In a Keynesian short-term viewpoint, aggressive monetary policy, such as increased government spending, impacts demand and, as a result, contributes to increased revenue or economic development in a country by multiplier and accelerator effects. Government spending, according to Keynes' theory, is an exogenous policy tool that can influence economic development (Gohar Samvel Sedrakyana, 2019). Keynesians are distinct from other economists by their confidence in activist tactics to reduce the amplitude of the price cycle, which they view as the most important of all economic problems. Rather than dismissing unbalanced government budgets, Keynes called for interfering in the business cycle. Deficit investment on labour-intensive growth schemes, for example, will be supported by Keynesian analysts in order to raise wages and maintain incomes during recessions (Nambiar, 2009). When demand-side growth is abundant, taxes should be raised to slow the market and prevent inflation. Monetary policy, for example, may be used to boost the economy by lowering interest rates and stimulating spending. Keynes argued that rather than waiting for market forces to fix issues in the long term, policymakers should solve problems in the short run (Kvedaras, 2020).

   Political spending is an example of an external factor that can be used as a policy tool to control government spending, as well as economic growth and uncertainty in the short term. Government spending and economic growth are also considered to have a

clear causal link (Attari, 2013). The causality relationship is reflected here in the fact that an increase in governmental spending, which are perceived as an external indicator, will result in an increase in national revenue, and hence the causality will emerge along the path from governmental expenditures to economic growth. Government spending would become a strong political weapon if the causality indicated by the above Keynesian Approach holds true about governmental expenditures and economic growth. In this context, Gohar Samvel Sedrakyana (2019) examined the relationship between the growth of government spending and the growth of national income using time-series evidence from seven developing countries (the G7), and found that government budgets in advanced countries became national income elastic in the long run.

Another group of economists looks at the impact of government spending on national income over a ten-year cycle (1970–1980) in thirty developing countries (Knetter, 2003). The study indicates that the investment in education has long-term consequences for the economic development of developing countries. Additionally, according to the same study, aggregate current expenditure has no influence on productivity, while aggregate capital expenditure has a positive impact. In contrast to this study, Devarajan, Swaroop, and Zou (1996) use data from forty-three developing countries over a twenty-year period to estimate that increasing the share of existing spending has a significant and statistically meaningful growth effect on the economy. The result was the capital aspect of government spending has a negative relationship with per-capita growth.

2. **Wagner's Law** – Wagner's Law is a theorem that demonstrates that public investments are endogenous to economic development, according to the law of the growing (Kvedaras, 2020). Long-term trends remain for public investment to rise in comparison to certain national revenue aggregates, such as the gross domestic product (GDP). The development of a causal relationship between public spending and national income, according to this hypothesis, stems from national income. According to Wagner's theorem, government growth is caused by the demand for public goods and the regulation of externalities, so causality runs from national income to government spending (Gohar Samvel Sedrakyana, 2019). Wagner's law maintains that government spending is an endogenous component, not a source, of national income growth (Galí, 2006).

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There are two key points of view in the economic literature: one argues that there is a positive causal link between government expenditure and economic growth, and the other asserts that there is none (Tang, 2009). In this background, Wagner, a German economist, was the first to look at the relationship between government spending and economic development which signifies the rate of increase in government spending was higher than the rate of increase in national income. In other words, the author stated that the demand for governmental expenses has a greater income elasticity than the general market, and that governmental spending would grow faster than national income (Gohar Samvel Sedrakyana, 2019). As a result, Wagner's rule is recognised as the "Rule of Governmental Spending Growth" in economic literature. Public spending is referred to as an internal phenomenon, with the causal chain spanning from economic development to government spending (Nurudeen, 2010).

There have been many studies conducted to assess the validity of Wagner's Law, and there is a significant amount of literature available on the subject. In an empiric manner, the validity of Wagner's Law has been measured and tested using multiple econometric approaches for different countries. Any of the findings gleaned from these experiments are reassuring. Oxley (1994); Ahsan et al. (1996); Kolluri et al. (2000); Sideris (2007); Kumar et al. (2012), while some present contrary evidence Courakis et al. (1993); Koop and Poirier (1995); Afxentiou and Serletis (1996); Ansari et al. (1997); Chow et al. (2002) and Burney (2002).

3. **The Theory of Exchange Rates on Imperfect Capital Markets-** The weakness of foreign exchange was first discussed from the perspective of international trade. The effect of volatility on FDI was studied by Arafatur Rahaman (2015) and Borensztein (1998). From the theoretical study, Arafatur Rahaman (2015) found that real exchange rate increases stimulated USD FDI while foreign currency appreciation reduced American FDI. The strengthening of the dollar, according to Arafatur Rahaman (2015), has resulted in a 25% drop in FDI into the United States. Currency risk rate theory, on the other hand, is unable to account for concurrent foreign direct investment between countries that have different currencies.

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Chapter 3

Methodology

3.0 Introduction

This chapter explains about the methodology used in conducting this research and highlight on the research framework, hypothesis development, research design, sample and sampling techniques, data collection procedures and also data analysis techniques.

3.1 Research Framework

Several authors have come out with several different models in analysing the factors affecting Malaysia's GDP. As for this study, the framework related to the Gross Domestic Product that will be developed is adopted from several past studies and it will also utilise the Theory of Keynesian by John Maynard Keynes. Based on the literature review, the following conceptual structure was created with the aim of addressing the research questions and achieving the research objectives.

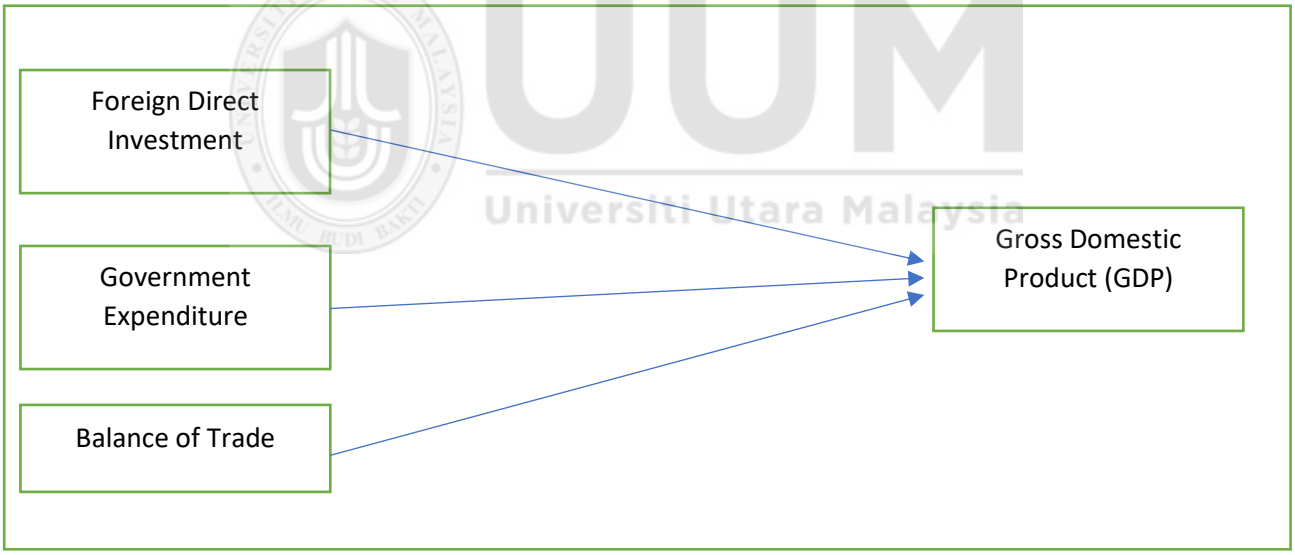

Figure 3: Conceptual Framework

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3.2 Research Hypothesis

These following generated hypotheses are proposed in order to test the relationship between foreign direct investment, government expenditure and balance of trade with GDP:

H1: There is a significant relationship between foreign direct investment and Malaysia's GDP

H2: There is a significant relationship between government expenditure and Malaysia 's GDP

H3: There is a significant relationship between balance of trade and Malaysia's GDP

3.3 Research Design

Research design is one of the significant master plans related to the collection, measurement and analysis of data which depends on the research questions developed for the study (Sekaran & Bougie, 2013). Besides, this process is crucial in ensuring that the data that will be use is capable in providing valid and reliable answer for the researchers. This section will further discuss on the type of study, data sources, unit of analysis, sample and sampling techniques involved.

3.3.1 Type of Study

The nature of this study is quantitative design which investigates the relationship between the independent variables (foreign direct investment, government expenditure and balance of trade) and the dependent variable (gross domestic product). According to Sekaran, Robert and Brain (2001), as for social sciences and business-related field, quantitative is a suitable and common use for the empirical evidences, besides, being able to determine and validate the connection between the variables (Alleyne, 2008). Additionally, cross sectional method will be applied in gathering information process as to avoid time delays.

3.3.2 Sources of Data

All annual time series data which are Gross Domestic Product at current price (GDP), Government Expenditure (GE), Balance of Trade (X-M), and Foreign Direct Investment (FDI) from the periods 2000 to 2019 in this study were obtained from International Financial Statistics (IFS), International Monetary Fund (IMF), Department of Statistics Malaysia, Central Bank of Malaysia and United Nations Conference on Trade and Development (UNCTAD).

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3.4 Data

Annual time series data were collected from 2000 to 2019 periods and the Ordinary Least Square Method (OLS) are used for the analysis. The dependent variable GDP is the real GDP measured in national currency where Yt is the growth rate of the real GDP in period t as a measure for economic growth. GEt is the government expenditure in period t, FDIt is the foreign direct investment in period t, X-Mt is a variable to measure the effect of trade policies. It represented by the balance of trade in period t. βi s are the unknown parameters that will be estimated, and εt is the error term. Every variable was explained for its trends before and during crisis.

3.4.1 Malaysia's GDP

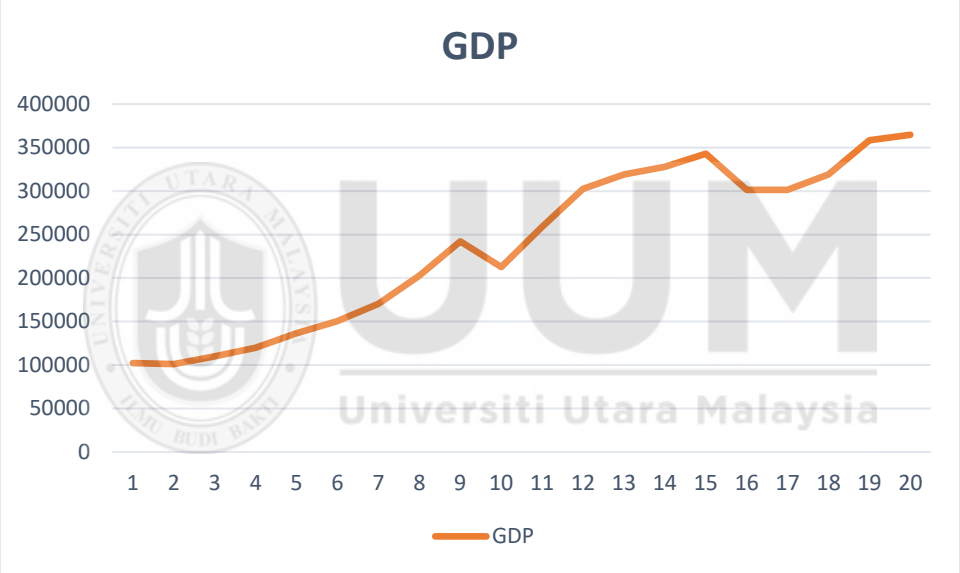

Figure 4: GDP Trend from 2000 to 2019

Malaysia has grown steadily and rapidly over the last three decades (Bank Negara Malaysia, 2016). Lehar, Anas, and Tey (2014) attributed this expansion to structural shifts in the economy after independence in 1957, which turned Malaysia into a developed nation with a multisector economy backed by strong manufacturing and services sector performances (Tang, 2009). They also noted that the country's Gross Domestic Product (GDP) changes with global economic ups and downs. Malaysia's GDP growth was volatile from 2000 to 2001, and again from 2007 to 2009. This indicates that, considering its strong macroeconomic management, Malaysia faces internal growth problems and threats posed by a highly open economic climate (Sun, 2010).

3.4.2 Government Expenditure

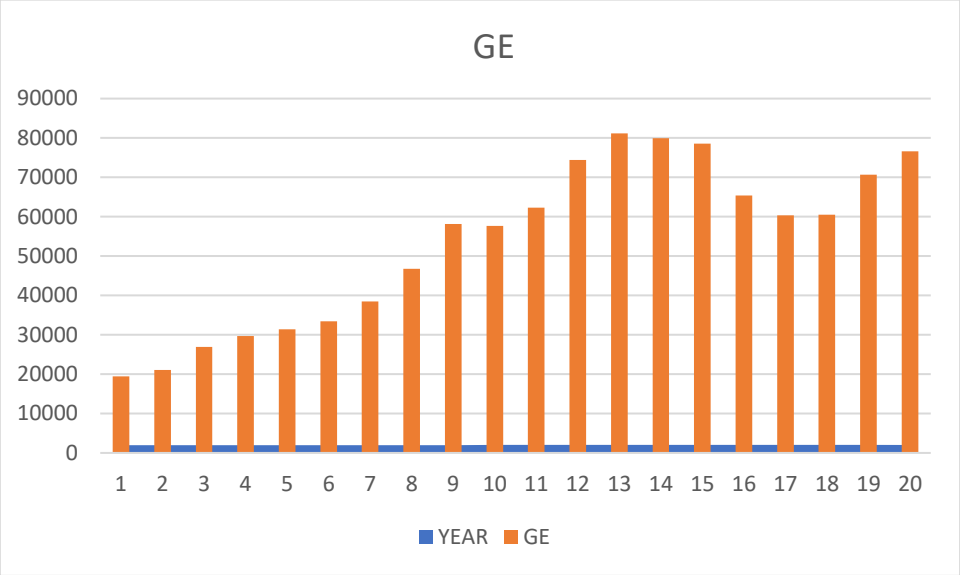

Figure 5: GE Trend from 2000 to 2019

GE_t is the government expenditure in period t, which represent by national spending on development as a proxy following the literature (Alexiou, 2009). According to an OECD survey from 1997, between 1960 and 1996, government spending increased in all OECD member countries (OECD, 2009). Despite the fact that Malaysia is not a member of the OECD, its government expenditure followed the same trends as OECD countries during the same timeframe. According to data from Malaysia's Economic Planning Unit and the International Monetary Fund's International Financial Statistics, the Malaysian government's spending rate has remained virtually constant since 1970 (Bank Negara Malaysia, 2016). Malaysia is made up of 13 states and a federal government. In the state level, the federal government is primarily responsible for taxation and expenditures. In addition, the federal government oversees large transfers to state and local governments in order to finance their operations and building budgets (Caves, 1996).

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3.4.3 Balance of Trade

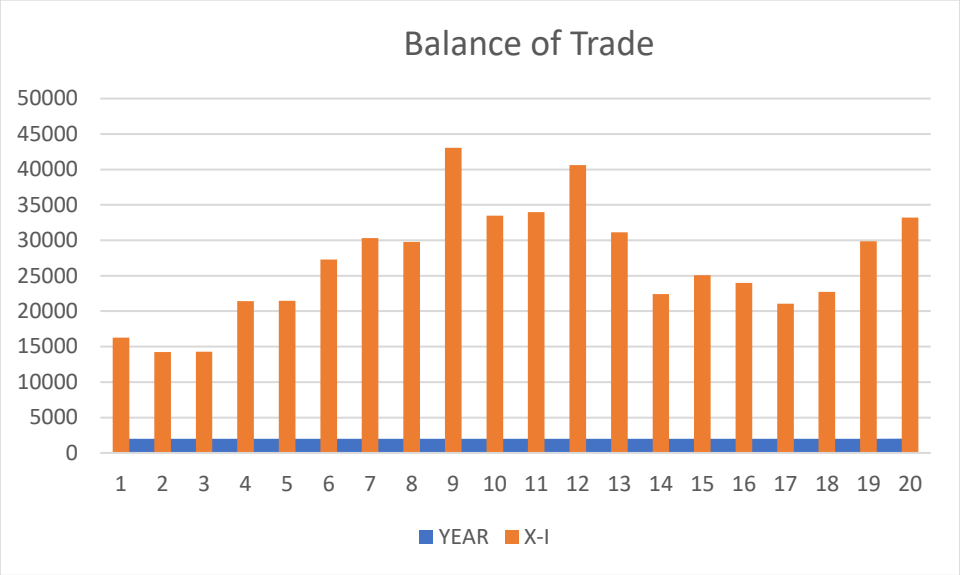

Figure 6: Balance of Trade Trend from 2000 to 2019

After the Asian Financial Crisis in 1998, exports and total trade growth have been on a long-term downward trajectory, according to Kvedaras (2020). The reduction in export growth has also coincided with a drop in the manufacturing sector's contribution to total GDP, which peaked shortly after the 2008 Recession at just over 30% and has since been on a downward trajectory, hitting about 21% in 2019 (Kvedaras, 2020). Additionally, this may be a sign of Malaysia's declining foreign competitiveness, as the country has lost export markets and goods, and its manufacturing sector has shrunk. If these were replaced by higher-value-added goods, as is commonly proposed, the downward trend in exports and manufacturing does not seem to be reversed (Alleyne, 2008).

For a developing nation like Malaysia, a lack of global competition and market share will have serious consequences. The export market is intertwined with the domestic economy's demand and investment practices. If the current pattern of declining exports persists, future growth may be much more sluggish (Blomstrom, 1996). The most troubling declined was in manufactured exports, especially electronics, electrical machinery, and appliances, which account for 40% of Malaysia's total exports. Total manufacturing exports fell 20% quarter over quarter in the fourth quarter of 2008, led by semiconductors and electronics. Exports of agriculture and natural products have also declined as oil prices have plummeted (Bank Negara Malaysia, 2016).

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3.4.4 Foreign Direct Investment

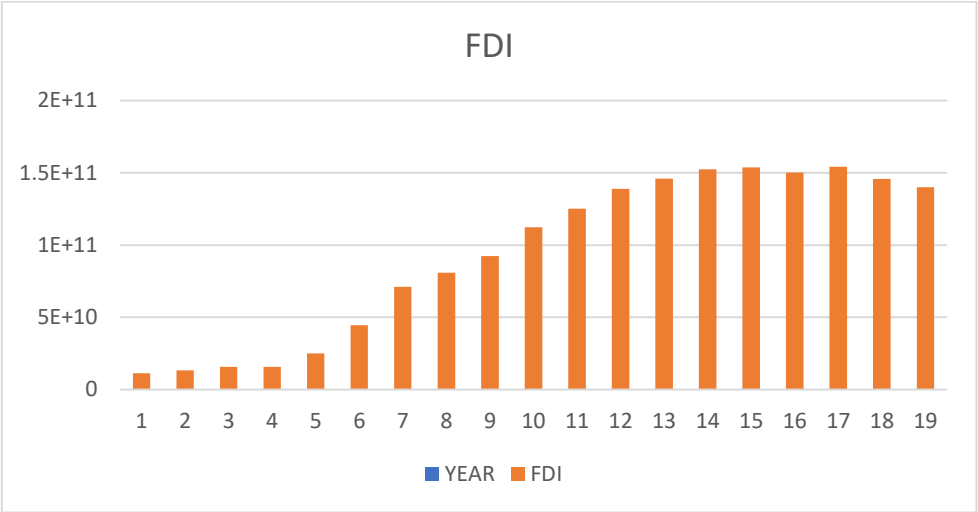

Figure 7: FDI Trend from 2000 to 2019

From 2006 to 2008, FDI was hovering around RM5.0 billion per quarter. There have been intermittent bursts of FDI inflows into Malaysia, most noticeably in the second quarters of 2007 and 2008 (Arafatur Rahaman, 2015). In the second quarter of 2007, major changes in FDI totalled RM11.5 billion, rising to RM15.9 billion in the second quarter of 2008. The first was attributed to investments in E&E operations by international investors (from Japan, the United States, Germany, and Singapore). The second was due to a major joint venture enterprise involving aluminium manufacturing that was started by an Australian firm. There is no question that, as a result of the crisis and the deterioration of Malaysia's conventional FDI outlets, FDI inflows have decreased (Borensztein, 1998).

In contrast to 2007, foreign direct investment dropped by 17% for the whole year of 2008. Malaysian firms increased their direct investment to RM 50.2 billion in 2008 (Bank Negara Malaysia, 2016). Malaysia's international assets have also suffered as a result of the crisis. In 2006, the country had international reserves worth $82.4 billion (Bank Negara Malaysia, 2016). Despite the fact that Malaysia's reserves were strong in the years following the 1997 crisis, the 2008 crisis took a toll on them. The truth of the recession is represented in quarterly estimates. Reserves stood at US$125.8 billion in the second quarter of 2008, before dipping to US$109.7 billion in the third quarter of the same year (Carkovic, 2002). However, the downturn was much more severe in the fourth quarter of 2008, hitting US$91.5 billion, a loss of US$18.2 billion. The comparatively stable current account balance had cushioned the falls in FDI, international reserves, and portfolio funds (Arafatur Rahaman, 2015).

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3.5 Data Collection Procedures

There are several options available for the researchers in order to clarify the data collected which include by email, internet sources, self-administer, post, and many more. As for this particular research, internet sources will be used in the process of retrieving the secondary data from the relevant websites. This method will be the most suitable as this helps in the speed of retrieving the data online. The data of all the variables have been retrieved from International Financial Statistics (IFS), International Monetary Fund (IMF), Department of Statistics Malaysia, Central Bank of Malaysia and United Nations Conference on Trade and Development (UNCTAD).

3.6 Data Analysis Techniques

Data analysis techniques such as multiple regression analysis will be applied in order to reach the conclusion besides determining the connection among the related variables (Neuman, 2000). For this study, statistical analysis will be conducted using the Eviews Student Version 11. The analysis techniques involved are as follows:

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3.6.1 Ordinary Least Square Regressions Analysis

The econometric technique which will be used in this study is the OLS (Ordinary Least Squared) method. This method was also used by Guseh (1997) and Alexio, (2009). OLS will allow us to find the independent effects of each explanatory variable on the dependent variable. However, a few assumptions need to be fulfilled in order for the OLS estimations to be BLUE (Best Linear Unbiased Estimations), such as the value of error term equal to zero and no multicollinearity between the explanatory variables (Alexiou, 2009).

Furthermore, the neoclassical production theory is used as the platform to specify our empirical model for this study (Barro, 1999). As what have been done by previous studies Alexiou (2009) Barro (1999), Caves (1996) and Blomstrom (1996), this study ignore the level of technology and include the government expenditure, foreign direct investment and balance of trade into the model. All of the variables are transformed into its log-form in order to stabilise the variance of the underlying data series. Hence, the model of this study will be a log-linear model as follows.

$$ln\ Y_t = \beta 0 + \beta 1 ln \mathrm{GE}_t + \beta 2 ln \mathrm{FDI}_t + \beta 3 ln \mathrm{X\text{-}M}_t + \varepsilon_t$$

Where,

Y_t is the growth rate of the real GDP in period t

GE_t is the government expenditure in period t,

FDI_t is the level of foreign direct investment in period t.

X-Mt is the balance of trade

β are the unknown parameters that will be estimated

ε_t is the error term.

The Keynesian hypothesis and endogenous growth theory are expected to hold true in the Malaysian economy, according to this study, which claims that increased government spending, foreign direct investment, and the balance of trade will stimulate economic growth. As a result, all of the independent variables should be positively correlated with GDP growth, with the exception of the error term, which is expected to be zero.

The model of this study will examine the relationship between the macroeconomic factors and economic growth, which will be shown by $\beta 1$, $\beta 2$, $\beta 3$ & $\beta 4$. If the parameter is favourable, the desired outcome is achieved, with increased government spending, foreign direct investment, and trade balance leading to higher economic growth. Moreover, as more input of various type of macroeconomic factors are being entered into the model, the study will find out which macroeconomic variable will contribute more towards the economic growth in Malaysia. The prime focus of the study is to investigate the effect of various type of macroeconomic variables on Malaysia's Gross Domestic Product (GDP).

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Chapter 4

Result and Analysis

4.0 Introduction

This chapter explains on the results and analysis of the research objectives of this study. The model performance was assessed by interpreting the result of R squared and Adjusted R squared. Table 1 displays the result of both R squared follows by the regression analysis.

4.1 The enhance new model

After specifying the models and running all the estimations, diagnostics tests are conducted for all models. Heteroskedasticity test: Breusch-Pagan-Godfrey proves that the residuals obtained are free from heteroskedasticity. The Obs*R-Squared is 2.04 and P-value is greater than 0.05. thus, null hypothesis is not rejected. It means that the residuals are homoscedastic, which makes the model fit.

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.421764	Prob. F(4,14)	0.7904
Obs*R-squared	2.043344	Prob. Chi-Square(4)	0.7278
Scaled explained SS	0.885315	Prob. Chi-Square(4)	0.9267

Table 2

Aside from that, all of the models had error-term normality problems, which was predicted from the beginning. This problem persists as a result of the existence of economic crises in the Malaysian economy at various times, resulting in the presence of outliers in the model. To address this question, a dummy variable for the year of the economic crisis, Dcrisis, was developed. Whether there was an economic recession that year, the worth is one, and if there was no economic crisis, it is none. In 2009, Malaysia experienced an economic recession as a result of the subprime mortgage crisis in the United States. The subprime mortgage crisis has exploded across the globe. The model was retested for standard after the dummy variable for the year 2009 was created and used in the model. As a consequence, the null hypothesis cannot be discarded, meaning that the dilemma has been solved. The formula had to be changed and a new model derived because of the extra dummy component. The re-estimate model's results are summarized in the following section. Economic growth is supposed to be negatively associated with the dummy component, since economic crises often result in lower GDP. The new model for the empirical analysis is as follows.

$$ln\ Yt = \beta 0 + \beta 1 ln\text{GE}t + \beta 2 ln\text{FDI}t + \beta 3 ln\text{X-M}t + \beta 4\text{Dcrisis}t + \varepsilon t$$

4.2 Empirical Analysis and Result Discussion

4.2.1 Ordinary Least Square Regression

Base Model

Dependent Variable: LGDP
Method: Least Squares
Date: 03/09/21 Time: 09:54
Sample (adjusted): 2001 2019
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGE	0.558543	0.178991	3.120503	0.0070
LFDI	0.219235	0.074175	2.955649	0.0098
LX_I	-0.103248	0.078195	-1.320405	0.2065
C	1.848922	0.636608	2.904336	0.0109

R-squared	0.973321	Mean dependent var	12.32653
Adjusted R-squared	0.967985	S.D. dependent var	0.431466
S.E. of regression	0.077201	Akaike info criterion	-2.100146
Sum squared resid	0.089400	Schwarz criterion	-1.901317
Log likelihood	23.95139	Hannan-Quinn criter.	-2.066496
F-statistic	182.4126	Durbin-Watson stat	1.030858
Prob(F-statistic)	0.000000		

Table 3

Model with Dummy Variable

Dependent Variable: LGDP
Method: Least Squares
Date: 03/09/21 Time: 10:01
Sample (adjusted): 2001 2019
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGE	0.518299	0.151999	3.409883	0.0042
LFDI	0.232737	0.062881	3.701248	0.0024
LX_I	-0.065858	0.067562	-0.974780	0.3462
DCRISIS	-0.182062	0.068761	-2.647750	0.0191
C	1.577823	0.547554	2.881583	0.0121

R-squared	0.982223	Mean dependent var	12.32653
Adjusted R-squared	0.977144	S.D. dependent var	0.431466
S.E. of regression	0.065230	Akaike info criterion	-2.400852
Sum squared resid	0.059570	Schwarz criterion	-2.152315
Log likelihood	27.80809	Hannan-Quinn criter.	-2.358789
F-statistic	193.3824	Durbin-Watson stat	0.831307
Prob(F-statistic)	0.000000		

Table 4

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The estimations result is shown in Table 2 for the base model while Table 3 for the model with dummy variable. Base model shows the effect of macroeconomic factors on Malaysia's economic growth before crisis while model with dummy variable shows the effect of macroeconomic variables on Malaysia's economic growth during crisis. The findings indicate that the explanatory variables as a category are 95% important and may justify the dependent variable's heterogeneity. The F-statistic outcome backs up this study, indicating that this model is significant and capable of rejecting the null hypothesis. Furthermore, the adjusted R-squared from model with dummy variable stated that 97.7% of explanatory variables used can explain the dependent variable of Malaysia's GDP. Likewise, from base model, where 96.8% of explanatory variables explain the dependent variable.

According to the classical growth principle, investment contributes to economic prosperity in a constructive way. Nonetheless, the findings of this research indicate that FDI has a strong and important impact on economic development. The result from base model and model with dummy variable shows a positive and significant relationship between FDI and GDP before and during crisis. By virtue of the effect on development and competitiveness of economic growth, the role of FDI is to produce the funding required to finance the government-led initiatives that enhances social safety nets and provide essential social services (Arafatur Rahaman, 2015).

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Furthermore, reliance on foreign investors has benefited from the distribution of social services to the underprivileged community, ranging from insurance programs to basic services such as water and electricity (Nambiar, 2009). As a result, it is critical for the national government to establish the necessary conditions for FDI to enter and play a significant role. A liberal and dynamic economic environment provides the foundation for FDI to penetrate and increase the capacity for productivity growth in the host economy, but changes can only arise if domestic players are capable of adapting to the new incentives (Alexiou, 2009). This finding is consistent with result reported by Alexiou (2009) and Yasin (2000).

Moving to the government expenditure. Overall, government spending is favourably associated with economic growth before and during crisis and this relationship is important at the 5% level of importance. It means that increased government spending leads to increased economic growth. The coefficient of 0.5182 means that if government spending increases by 1%, GDP

growth would rise by 0.5182 percent, during crisis situation. Our results are in line with those of Barro (1999) and Nurudeen (1999) in the literature (2010).

In our base model, the impact of trade balance on economic development is negative and insignificant. This finding is resilient since the coefficient of trade is not significant in other models, suggesting that the impact of trade balance on economic growth is not different from zero. Our dummy variable, which aim to capture the occurrence of economic crisis and conducted due to the presence of outliers, is highly significant in explaining the variation of dependent variable at 1% level of significance. In our model, the coefficient is -0.1820 which imply that during economic crisis, the rate of GDP growth will be lower by 0.1820% compare to non-crisis period, holding everything else constant. A complete crisis model with coefficient included to replace the unknown parameters of the variables is as follows.

$$ln\ Yt = 1.57782 + 0.5182 ln\text{GE}t + 0.2327 ln\text{FDI}t + (-0.0659 ln\text{X-M}t) + (-0.1820\text{Dcrisis}t) + 0$$

Dependent Variable: Malaysia's GDP Growth

Independent Variables	*OLS (base model)*	*OLS 1 (with dummy variable)*	*Relationship with Malaysia's GDP*
Constant	**1.848922**	**1.5778**	
Government Expenditure	**0.5585****	**0.5182****	**Positive**
Balance of Trade	**- 0.1032**	**- 0.0659**	**Negative**
FDI	**0.2192****	**0.2327****	**Positive**
Crisis Dummy	**-**	**-0.1820*****	**Negative**
No of Observations	*19*	*19*	
R-Squared	*97.33%*	*98.22%*	
Adj R-Squared	*96.80%*	*97.71%*	
F-Statistics	*182.41*	*193.38*	

** Indicate significance levels at 10%*
*** Indicate significance levels at 5%.*
**** Indicate significance levels at 1%.*

Table 5

Chapter 5
Discussion

5.0 Introduction

The main objective of this paper is to explore the effect of government spending, foreign direct investment, balance of trade on economic growth in Malaysia, which is measured as the growth rate of real GDP. The study uses macroeconomic variables such as Government Expenditure, Balance of Trade and Foreign Direct Investment (FDI) as independent variables

5.1 Discussion of the result

The study analysed the long-run relationship between economic growth, which is Malaysia's GDP and the macroeconomic factors. The model is tested using OLS techniques in order to find the effects of macroeconomic factors on Malaysia's economic growth. This study used annual time series data of Malaysia over the period of 2000 to 2019. The result shows that a larger government expenditure and foreign direct investment may lead to an increased economic growth in Malaysia before and during crisis. These findings indicate that the Keynesian hypothesis and Wagner's Law are applicable in Malaysia economy which evidently indicates that the growth rate of real GDP before and during crisis is enhanced by the government expenditure and also foreign direct investment.

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Governments may offer a set of incentives to foreign investors to stimulate the inflow of FDI, with the objective of increasing foreign exchange reserves. In fact, export promotion and FDI attraction demands government investment (Yasin, 2000). The government would set aside funds for the maintenance of free trade zones and tax exemptions, not to mention international corporation subsidies. Changes in export trends and a decrease in FDI inflow would reallocate certain amount of money that can be used to improve capability and the social welfare function.

In addition, government is suggested to use the government expenditure in a prosperous way and un-excessively. If government expenditure is utilized in the excess amount, the excessive development expenditure may become unproductive at the margin (Attari, 2013). Moreover, the fiscal policy as a macroeconomic instrument can be used for the economic stability. Furthermore, Malaysia government should spend intensively by allocating the funds into productive sectors and ensure that increased government expenditure do not offend the economy, particularly the economy of people within the country. Government expenditure

might not achieve its purpose of accelerating economic growth if an increased in government expenditure leads to a higher taxes cost or higher borrowing which result on higher interest payable (Nurudeen, 2010).

Meanwhile, the estimated balance of trade coefficient is negative and statistically insignificant. When the coefficient is insignificant, the outcome of the model's used data set cannot be used to draw any conclusions. It is impossible to prove if the trade deficit has a favourable or negative effect on economic development. The outcome is uncertain for Malaysia, and the balance of trade has yet to be established as a major determinant of the country's economic development. Given the insignificant negative relationship between trade balance and economic growth, it may be an indication that trade balance is not a source of economic growth.

Overall finding shows that government expenditure and foreign direct investment has a positive and significant relationship with Malaysia's GDP before and during crisis. However, balance of trade has a negative and insignificant relationship on economic growth before and during crisis. Although so, this should not eliminate the role of this factor in sustaining economic development. Rather, this variable should be interpreted as global growth catalysts and complements.

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In conclusion, this study has limitation as it does not engage the causality test to discover the direction of causality between independent variables and dependent variable. Future research may look into this area to analyse which variable affect the other variable, or is there any evidence of bi-directional causality between government spending, foreign direct investment, balance of trade and economic growth. This suggested model may provide better picture thus resulting for more proper policy implication in designing the fiscal policy for the future economy development.

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