THE IMPACT OF SELECTED MACROECONOMIC VARIABLES AND THE GLOBAL FINANCIAL CRISIS ON THE MALAYSIAN ECONOMY

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2023

ACKNOWLEDGEMENT

First and foremost, praises to Allah S.W.T for His bountiful grace, which enabled me to finish the thesis for my final year project successfully. I am also grateful that I can complete this thesis within the stipulated time frame. I also want to express my most profound appreciation and gratitude to Dr Normala binti Zulkifli as my supervisor, who has guided, taught, advised and encouraged me throughout my completion of this dissertation. Most important, thank you to my friends and family for the encouragement and support during the completion of this dissertation. And lastly, I want to give credit to myself for surviving until the end of this study and completing this dissertation well.

THE IMPACT OF SELECTED MACROECONOMIC VARIABLES AND THE GLOBAL FINANCIAL CRISIS ON THE MALAYSIAN ECONOMY

ABSTRACT

The major goal of this research is to determine how the global financial crisis and certain macroeconomic factors have affected Malaysia's economic growth. This research investigates how Malaysian economic growth is impacted by government investment on education, real interest rates, broad money, and the global financial crisis. Annual secondary data have been utilised for this study's objectives beginning in 1992 and continuing through 2021. In order to calculate the coefficient values for the four variables in this study—government expenditure on education, real interest rates, broad money, and dummy variables that symbolise the global financial crisis—the least squares method was used. According to the study's results, Malaysia's economic growth is significantly influenced favourably by the factor of government spending on education. The coefficient value of β=0.323 supports this finding. The study's results also show that the broad money variable has a positive and substantial impact on economic growth, with a coefficient value of β=0.139. The study's results also suggest that the real interest rate and dummy varibale indicators of the global financial crisis have a negative and significant impact on Malaysia's economic growth. The respective coefficient values of β=-0.419 and β=-4.5994 provide credence to this conclusion. Overall, the government's investment on education, broad money, interest rates, and the global financial crisis all have an impact on economic growth in Malaysia. The study's findings demonstrate that long-term economic development in a nation may be fueled by government investment on education. The study's results also imply that Malaysia's economic development may be impacted by broad money

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LIST OF ABBREVIATIONS

GDP	Gross Domestic Product
OLS	Ordinary Least Square
R^2	Coefficient of Determination
TSS	Total Sum of Squares
ESS	Explained Sum of Squares
RSS	Residual Sum of Squares
BLUE	Best Linear Unbiased Estimator
SPSS	Statistical Package for the Science

CHAPTER 1

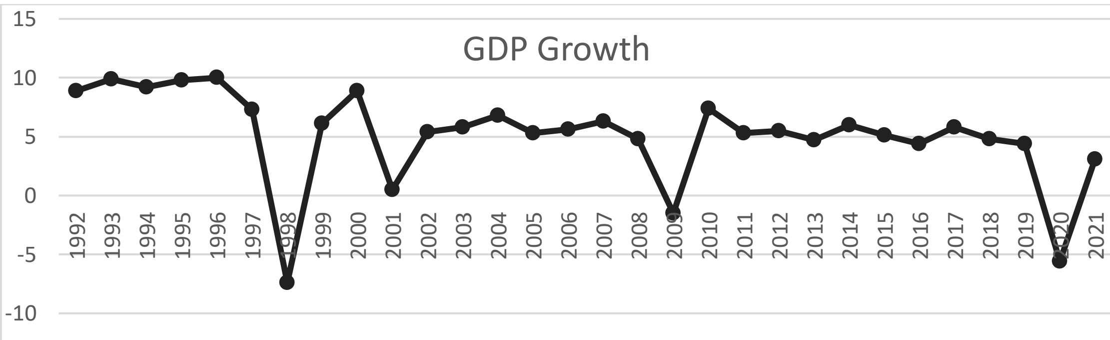
INTRODUCTION

1.1 Introduction

Economic growth is a tool to measure the development performance of a country through physical and economic development, such as the increased output of goods and services, increased infrastructure, and economic development. This economic growth is also able to increase the prosperity of a country. A prosperous country can better take care of its citizens and improve their standard of living. Various efforts have been carried out by the Malaysian government to further strengthen economic growth in Malaysia by increasing the Gross Domestic Product (GDP) every year in the face of challenges towards Vision 2020 and achieving the status of a developed country. Weakness and shrinking world economic growth can impact Malaysia's economic growth. The global economic environment primarily influences Malaysia's situation. In international trade, globalization can be applied to current developments such as the currency crisis, inflation, and trade balance that impact developing countries. The adverse effects of globalization are beginning to be felt by developing countries, especially in economic development. Younis et al., (2020) states that the world financial crisis is a major global event expected to influence the national economy negatively. However, the impact may vary according to the economic environment of each country. Likewise, sustainable economic growth in Malaysia is one of the fundamental goals for a country to achieve, especially for a developing country. Various macroeconomic factors and global financial crisis problems are likely to affect a country's economic growth, such as education expenditure, investment, net exports, and others. Therefore, a study should be conducted so that the findings of the study can later be used as a reference to find out the relationship or influence between economic growth and selected macroeconomic factors.

1.2 Research Background

Economic growth is typically viewed as an annual increase in real GDP and is frequently defined as a rise in Gross Domestic Product (GDP) or aggregate growth. The fundamental objective of every country, including Malaysia, a growing nation in Asia, is sustainable economic growth. In their study, Raja Nurul Aini and Amalina (2017) characterize Malaysia as a developing nation in Asia that has achieved success by its criteria while working to become a developed nation. Malaysia, whose economy formerly depended on agriculture, has switched to a mixed economy. GDP growth is consistently seen as a topical subject being researched by several academics. A nation's inconsistent GDP per capita growth will increase the prevalence of poverty, impede advancements in crime, health, and education, and eventually impede economic growth. In order to prevent the development of socio-political instability, factors that contribute to GDP growth are relatively crucial. Figure 1 shows the economic growth trend that refers to real GDP from 1992 to 2021. Overall, the economic growth trend for the year 1992 to 2021 shows an increasing trend, but at certain periods economic growth experienced a decrease.



*Note that GDP was proxy for Economic Growth.

Figure 1.1: Malaysian Economic Growth 1992 -2021. Source from World Data Bank.

Despite being impacted by the global financial crisis brought on by the COVID-19 outbreak, Malaysia was nevertheless able to contribute significantly to the GDP. Following the introduction of movement control orders and border closures internationally, Malaysia's GDP decreased by 3.4 percent during the fourth quarter of 2020 amidst a sharp rise in Covid-19 infection cases, bringing the total performance for the year to -5.6 percent. Malaysia's Financial Minister, Tengku Zafrul, said that the government's immediate actions to implement plans under four economic stimulus packages totaling RM305 billion, or 20% of GDP, are expected to have contributed up to four percentage points to economic growth for 2020. Norhidayati & Ali Basah (2021) contend that to promote Malaysia's economic growth, the government and the relevant institutions must adequately perform their respective roles in reviewing or enacting financial system rules and legislation. The link between the two has been the subject of continuing research using several interventions and factors because economists feel that financial progress is a meaningful indicator to evaluate rates of rapid economic expansion. Understanding and identifying the variables contributing to economic progress is necessary to guarantee it. Understanding the drivers of economic growth is crucial for both the community and government policymakers and for creating effective public policies. Significant structural changes in the economy have accompanied this steady growth record, indicating the development of the Malaysian economy amid shifting local and international circumstances. Since the late 1970s, Malaysia's economy has changed from being a major producer with a progressive industrialization plan to one highly open due to increased trade and financial integration. Malaysia has one of the highest levels of trade openness in the area, with a peak of 192% of GDP in 2000.

Aside from the political, economic, and social components, education is one of the elements that must be prioritized for a developing nation in order for it to progress toward being a developed nation. The education system established for a nation has its own goals, whether social, welfare, or other functions. In her paper, Nurhidayani (2014) discussed the value of education. In her opinion, education does have a significant impact on how a nation's society develops. The country can develop trained and qualified human resources in various professions due to education. The impact of education on economic development is another factor that indirectly reflects a nation's wealth and prosperity. This is because education also benefits community satisfaction and well-being besides boosting country production productivity. With education, the country can provide human resources that are easier to understand and always ready to face planned changes and development. The evolution of education in this country continues, despite problems that frequently evolve in line with the passage of time and the fact that education's purpose has changed. With education playing a significant part in both human and country development, the purpose of education may now also be considered as the foundation or preparation for the survival of a development. The government's ongoing efforts to elevate the country's education system demonstrate the sector's importance as a driver for the country's transformation into a developed one. It is commonly acknowledged that education has a significant role in determining economic progress. Adam Smith and Solow, two well-known classical and neoclassical economists emphasized education's role in developing their ideas and models of economic growth.

In addition, there are other factors that can affect economic growth, namely the real interest rate. The real interest rate is the nominal rate minus inflation. In other words, this rate is what the lender anticipates after taking inflation into account. The real return generated by borrowed or lent cash is the real interest rate. Since interest rates are the primary instrument used by central banks to control inflation, they tend to fluctuate in the same direction as inflation but with a lag. According to Sazma Bano (2018), several theoretical studies have also shown how the real interest rate is seen to be the most important factor in determining investment decisions, despite having a negative correlation in the eyes of economists and theorists. The central bank often raises interest rates when inflation is anticipated to rise as a preventative measure. In general, rising interest rates will make borrowing more expensive, which will reduce investment activity in a nation. Slower economic growth follows from this. The majority of research come to the conclusion that interest rates negatively affect a nation's ability to build its economy.

As in a study conducted by Priscilla Dorothy & Ching Kok (2021) which identified the effect of selected macroeconomic variables including interest rates on Malaysia's economic growth for the period 2010 to 2018. The study found that interest rates have a negative effect on economic growth. Similar to the study done by Njie & Badjie (2021), which has the main objective of studying the effect of interest rates on economic growth in The Gambia over the period from 1993 to 2017. Empirical evidence shows that there is no short-term relationship between Gambian economic growth and interest rates but that there is a long-term connection the long run from real interest rates and real exchange rates to GDP. Therefore, this study aims to determine how interest rates affect Malaysia's economic growth.

In addition, the relationship between macroeconomic factors and the expansion of the money supply, in particular, will be examined. A category used to evaluate the quantity of money moving across the economy is called "broad money." As the most comprehensive way to estimate a nation's money supply, it takes into account both narrow money and other assets that are readily convertible into cash for making purchases of goods and services. The value of money in circulation often rises when the GDP growth rate shows an increase in economic productivity. This is so that each unit of money may subsequently be used to purchase more expensive products and services. Lower interest rates are often the result of a rise in the money supply, which leads to greater investment and more money in consumers' hands, which in turn boosts consumption. It indicates a rise in economic output, as does the value of money in circulation. This is so that each unit of money may subsequently be used to purchase more expensive products and services. According to Alaa Razia & Mostafa Omarya's study from 2022, the amount of money available, the level of capital formation, and the rate of inflation all contribute to economic growth. According to the study, money supply has a considerable negative impact on economic growth at a level of 1% whereas the availability of money is favourably beneficial to economic growth.

Therefore, previous research has proven that factors including education expenditure, real interest rate and broad money supply may either favorably or adversely affect economic growth. However, prior research solely focused on the relationship between economic development and the variables studied, ignoring additional variables like the economic crisis that occurred during the study's period. This is due to Malaysia not being exempt from financial and global economic crises, such as the Asian financial crisis that happened in 1997, the global economic crisis around 2007 to 2008, and the most recent in 2020, while seeing good economic development year after year. These two crises affect the country as a whole, particularly on GDP growth. This country's open economic structure has made it difficult to avoid the consequences of the world recession, particularly in the sector related to foreign trade. Therefore, the research carried out is expected to show the difference in the results of previous studies by taking into account the economic crisis the country experienced in influencing the country's economic growth for the time frame chosen for this study. Although studies on the impact of the financial crisis on economic growth have been conducted, these studies have employed different measures and did not take into account other macroeconomic issues.

1.3 Problem statement

The primary goal of this study is to determine if certain macroeconomic variables and the global financial crisis impact Malaysia's economic growth. Positive macroeconomic factors foster financial stability in the economy and encourage economic growth. It entails a rise in product and service demand. It also boosts economic growth and supports industrial expansion. For individuals who profit from favorable macroeconomic circumstances in an economy, positive variables increase their purchasing power. Economic growth is an increase in economic activity that raises a nation's GDP due to higher overall production, improved infrastructure, and more employment possibilities. Consequently, solid macroeconomic indicators show that economic development in a nation is advantageous, especially for emerging nations. According to Muhammad Hilmi (2019), sustainable economic growth is one of the fundamental objectives of every country, including Malaysia, which is a developing country.

Therefore, the first issue that has to be strengthened if we want to maintain strong economic growth is the education system. The country's educational system has undergone modifications for a long time to achieve national unity and a better reputation among foreigners. Many countries are interested in producing high-quality human capital resources. The caliber of the human capital produced by this educational system can indicate how well a country's educational policies have worked. According to research by Mohd Yahya et al. (2012), fixed capital creation, labor force participation, and government education expenditures all have favorable long-term relationships with

GDP. These all have a strong connection. The study showed the long-term relationship between economic growth and education. Higher educational standards boost labor force effectiveness and productivity, which has a long-term effect on economic growth. This study demonstrates how important education quality is to develop the nation's economy and human capital. According to Hasnul's (2015) study, the lack of a positive correlation between government expenditure and economic development may indicate that government spending does not drive economic growth, contrary to Wagner's rule. It is advised that government spending be used more wisely and not excessively. The government must also ensure that the economy, particularly the economy of the country's citizens, is unaffected by the rise in government spending. Government expenditure may not be successful in boosting economic growth if it results in increased tax burdens or higher borrowing costs with higher interest payments. This demonstrates how different responses to spending on education contribute to the country's economy. So, to what extent does this government's education spending affect the country's economic growth?

Other elements, such as the real interest rate, can also influence economic growth. When inflation is anticipated to climb considerably beyond their inflation goal, central banks often hike interest rates. Higher interest rates make borrowing more expensive, diminish disposable income, and hence restrict the rise of consumer expenditure. Higher interest rates often result in increased exchange rates and a decrease in inflationary pressures. Like the research by Udoka & Roland A. (2012), which examined how interest rates affect the expansion of the Nigerian economy. GDP-based indicators of economic growth include interest rates. According to the data, there is a clear correlation between interest rates and economic growth, which means that a rise in interest rates would undoubtedly encourage more people to save and so boost economic growth. Additionally, Nigeria's economic expansion following interest rate deregulation has outpaced that of other countries.

Similar to the research conducted by Koumba Maiga (2017), who reported that the study's findings indicated that interest rates in Nigeria significantly affect economic development. According to the findings of the statistical research, an increase in investment will result in a unit change. The empirical data produced by this study will aid in analysing the correlation between the variables utilised to construct a model from the Nigerian economy between 1990 and 2013. However, it is different from the study for the country of Malaysia from Priscilla Dorothy & Ching Kok (2021) and Bosworth (2014) who stated there is no relationship between interest rates and economic growth in Malaysia. As a consequence, a study was undertaken to determine the trajectory of real interest rates and its link with economic growth, particularly in Malaysia, as a result of the discrepancy in the results of this empirical investigation.

In addition to studying the link between education spending and real interest rates, macroeconomic indicators like broad money growth will also be examined. Broad money, which includes cash and other assets that may be quickly transformed into currency, is the most flexible way to gauge the amount of money in an economy. Money growth aids in the better understanding of prospective inflation patterns by policymakers. To determine monetary policy, central banks frequently consider both narrow money and wide money. The amount of money in circulation, inflation, and interest rates are all closely related, according to economists. On the basis that it could have a reasonably stable relationship with the economy and can be reasonably regulated by the central bank, either through control over the supply of federal funds or federal funds reserves, the monetary aggregate is occasionally promoted as a guide for monetary policy. An increase in federal funds (and other short-term interest rates, for example) will make keeping money balances less desirable compared to new money market products that pay out greater yields, which will lower the demand for money and decrease the expansion of the money stock. The money stock may be measured using a variety of methods, ranging from M1-dominated transactions to the more comprehensive M2 and M3 measures, which also take other liquid balances into account and exhibit varied behaviour. In the 2017 study, Dingela et al. used four macroeconomic variables, including the broad money supply (M3), to come to the conclusion that there is a statistically significant positive association between the money supply and both short- and long-term economic growth. It is also consistent with Gnawali (2019) study, which indicated that the money supply had a favourable impact on economic expansion. However, it may be a different situation for Malaysia, so this empirical study leads to a study to be conducted.

Therefore, a prior study has proven that factors including education spending, real interest rate and broad money growth may either favorably or adversely affect economic growth. However, past research solely focused on the relationship between economic growth and the variables studied, ignoring additional variables like the economic crisis that occurred during the study's period. This is due to Malaysia experiencing both the 2008–2009 global financial crisis and the most recent one in 2020 while having positive economic growth throughout the period beginning in 2000 and ending in 2021. Muhammad Hilmi's previous study from 2019 focuses on macroeconomic factors such as education spending, global oil prices, and inflation rates to assess their impact on economic growth in Malaysia. As a result, it is crucial to evaluate other macroeconomic factors that might affect economic development, particularly in Malaysia. The macroeconomic factors examined include education spending, real interest rate and broad money growth. The 2020 beginning of the global financial crisis further highlights the significance of this study's examination of the crisis's effects on economic growth. This study may determine the elements that influence economic growth, and this will assist the country's economic to grow.

1.4 Conceptual Framework

The conceptual framework refers to the following relationship between the independent variables and the variables of this study:

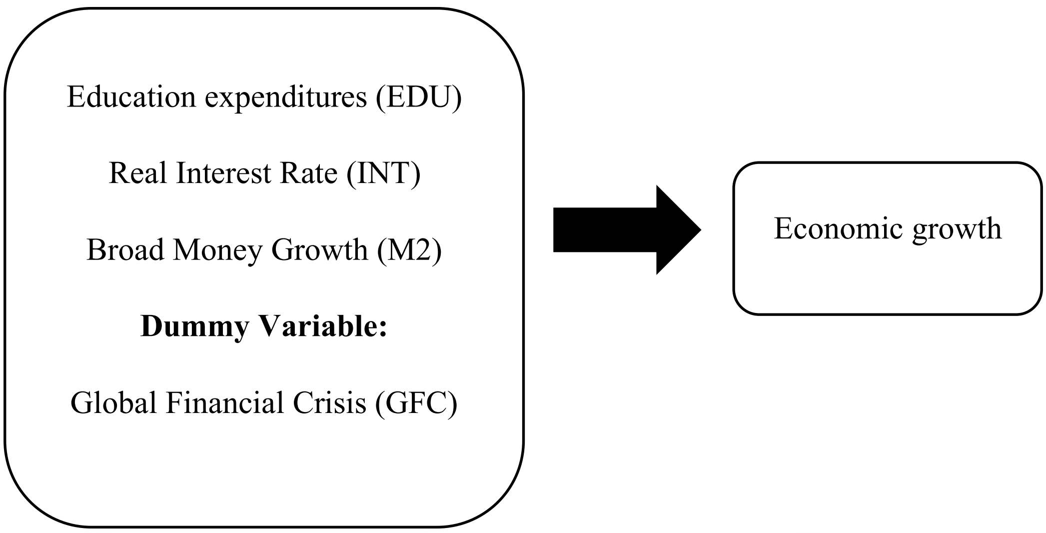


Figure 1.2: Relationship between dependent variable and independent variables

According to this conceptual framework, the relationship between the independent and dependent variables consists of macroeconomic variables such as education expenditure, real interest rate and broad money growth. The global financial crisis is another independent variable that is represented. These variables will be the basis for developing the research model and are utilized to explain the dependent variable of economic growth.

1.5 Research Questions

To meet the study's objectives, several research issues must be addressed. The following are the questions that will be looked into:

a. Is there a significant influence between the education expenditure (EDU) and the country's economic growth in the long term?
b. Is there a significant influence between the real interest rate (INT) and the country's economic growth in the long term?
c. Is there a significant influence between the broad money growth (M2) and the country's economic growth in the long term?
d. Is there a significant influence between the global financial crisis (GFC) and economic growth in Malaysia?

1.6 Research Objectives

Based on the problems mentioned above, the main objective of this study is to determine whether there is an influence of selected macroeconomic variables and the global financial crisis on economic growth in Malaysia. In order to achieve this outlined goal, this study has several specific objectives, namely:

a. Identifying whether there is a significant influence between education expenditure (EDU) and the country's economic growth from 1992 to 2021.
b. Identifying whether there is a significant influence between real interest rate (INT) and the country's economic growth from 1992 to 2021.
c. Identifying whether there is a significant influence between broad money growth (M2) and the country's economic growth from 1992 to 2021.
d. Identifying whether there is a significant influence between the global financial crisis (GFC) and economic growth in Malaysia for the period from 1992 to 2021.

1.7 Research Hypothesis

This research intends to investigate the impact of the certain macroeconomic variable on the growth of the country's economy between 1992 and 2021, including education expenditure, real interest rate, broad money growth, and the economic crisis. Based on the research that will be done, several hypotheses have been developed, including the following:

H1: There is a significant influence between education expenditure (EDU) and the country's economic growth rate in the long term.

H2: There is a significant influence between real interest rate (INT) and the country's economic growth rate in the long term.

H3: There is a significant influence broad money growth (M2) and the country's economic growth rate in the long term

H4: There is a significant influence of the global financial crisis (GFC) on economic growth in Malaysia.

1.8 Scope of study

The area covered for this research is the economic growth in Malaysia, which is affected by EDU, INT, M2 and GFC from January 1992 to December 2021. Malaysia is a developing country and practices country-oriented and open marketing. The country plays an essential role in generating the economy through macroeconomic planning. Around 2007, Malaysia's economy was the country with the largest economy in the world according to purchasing power parity, with the gross domestic product for the year 2007 estimated at US$357.9 billion with a growth rate of 90% to 99% since 1870. Malaysia is one of the most open in the world, with an average trade-to-GDP ratio of over 130% since 2010. Openness to trade and investment has played an essential role in job creation, and income growth, with approximately 40% of employment in Malaysia linked to export activities. Malaysia's economic growth is expanding at its fastest pace in more than a year, even as our country braces for growth moderation amid political uncertainty and a global slowdown. So, the independent variables used are education expenditure, broad money growth, real interest rate, and the global financial crisis is dynamic to influence economic growth.

1.9 Definition Operational

Each variable used in this study is defined in this section. It may help the reader better comprehend the terminologies used in macroeconomics.

1.9.1 Education expenditure

From an economic perspective, expenditure is the cost of the services or goods used to obtain the output. There are two different categories of expenditures: revenue expenditures, which are those related to daily transactional activity, and capital expenditures, which are those unrelated to regular daily transactions. The phrase "education expenditure" in this study refers to government spending on the education sector. This spending is a part of "government investment," which is an investment meant to provide returns over the long run. Mohd Nizam (2014) explained that the education sector is an important sector for the development of each country, and the allocation for the sector always receives the attention of each country and receives a large allocation every year to ensure that every community gets educational opportunities through the provision of comprehensive access to education.

1.9.2 Real Interest Rate

The interest rate that has been modified to account for the impacts of inflation is known as the real interest rate. Once modified, it accurately represents the borrower's actual funding costs and the lender's or investor's actual yield. The rate at which current products are preferred to future goods is reflected in the real interest rate. The difference between the nominal interest rate and the inflation rate is used to compute the real interest rate for investments. The real interest rate is a reflection of the change in buying power obtained from the investment or forfeited by the borrower, whereas the nominal interest rate is the interest rate actually paid on the loan or investment. The entity supporting the loan or investment will typically publicise the nominal interest rate. The change in the buying power of a particular quantity of capital over time may be detected by adjusting the nominal interest rate to counteract the impacts of inflation. The real interest rate, according to the time preference interest theory, represents how much people value current products more than future ones.

1.9.3 Broad Money Growth

It is difficult for economists to estimate the quantity of money in circulation in the economy since cash may be converted into a broad range of financial products. Numerous methods exist for measuring the money supply. To identify the measure they are employing in a certain situation, economists use a capital "M" followed by a number. Each nation has its own unique money supply calculation method. The broadest definition of money includes both narrow money (such as cash and checkable deposits) and less liquid assets like certificates of deposit, foreign currencies, money market accounts, marketable securities, Treasury bills, and anything else that can be easily converted into cash. Broad money is the most comprehensive measure of money. The two most popular metrics of the money supply are M1 and M2. The Federal Reserve discontinued releasing M3 numbers in 2006. This measurement changes depending on how liquid the corresponding account is. Only the most liquid instruments, such coins and bills in circulation, are often included in M0. M3, which is regarded as the widest measure of money, is at the opposite extreme of the spectrum. Money is measured somewhat differently in many nations. To prevent misunderstandings, the word "money" is used liberally in academic contexts. Broad money is often the same as M3, but narrow money is typically described by M0 and M1.

1.9.4 Global Financial Crisis

The economic crisis sometimes referred to as the global financial crisis, is when various financial assets unexpectedly lose the majority of their nominal value. The global financial crisis has also affected European and Asian nations, like Malaysia, which negatively influenced GDP growth (GDP). An international financial catastrophe has resulted from the COVID-19 pandemic's global economic collapse. However, many nations are currently dealing with numerous crises, including a financial crisis, a health crisis, and a decline in commodity prices that interact in complex ways. Although this is essential for a healthy recovery, policymakers give extraordinary support to families, businesses, and financial markets. It is still being determined how the economy will look once the shutdown is over.

1.9.5 Economic growth

Economic growth is physical economic development, such as the increased output of goods and services, increased infrastructure, and other economic development. It is a tool to measure the development performance of a country. Economic growth can also be defined as the per capita increase in Gross Domestic Product (GDP) or aggregate growth, usually as the annual increase in real GDP change. In this study, real GDP economic growth has been used as a component representing the dependent variable of economic growth.

1.10 Limitation of Study

There are several restrictions on the study, including the limited scope of the empirical findings. If more statistical tests are employed in this study, more positive conclusions can be drawn from it. If the numerous tests carried out in this study are better, the outcomes of the study are also improved via the relationship between the variables. The study's minimal use of economic theory is the second drawback. If the other economic theory were to be used, the study's findings would be enhanced and more valuable to future researchers. The inexperience of the researcher was another barrier to doing this investigation successfully. Since this researcher has never conducted a study before, a lack of expertise is necessary for a practical study. Finding the data, interpreting the data, and better arranging all the information gathered are challenging tasks for the researcher.

1.11 Significance of Study

This research examines how macroeconomic factors including EDU, INT, M2 and the GFC affect changes in Malaysia's economic growth rate. Finding the significance between the independent and dependent variables is the aim of this investigation. Therefore, it makes predictions about what will happen to the dependent variable if the independent component changes between 1992 and 2021. Economic occurrences can be influenced or affected by changes in macroeconomic factors. The results of this study may be useful to governments and other decision-makers. As a consequence, decision-makers in government will have a better understanding of the connection between Malaysia's economic growth variations and the chosen macroeconomic factors. They could benefit from having a clearer and better knowledge of the macroeconomic factors influencing Malaysia's GDP movement. Policymakers will also be able to determine if changes in macroeconomic factors have a positive or negative impact on changes in exchange rates, as well as how these changes affect the movement of Malaysia's GDP. The link between a few macroeconomic variables and Malaysia's economic growth will be examined economically in this study, which may be helpful to academics. It can also be consulted by academics and researchers who wish to do more research on the connection between the mentioned macroeconomic factors and exchange rate changes.

1.12 Conclusion

Sustainable economic growth is the primary objective for every country, including Malaysia. Economic growth is typically defined as a rise in Gross Domestic Product (GDP) per capita or aggregate growth, and it is typically seen with an annual increase in real GDP. To ensure continued economic progress, it is essential to recognize and comprehend the factors contributing to it. In order to determine how certain macroeconomic factors, such as education expenditures, real interest rate, broad money growth and global financial crises, affect the country's economic growth, this study was carried out.