

DRIVERS OF YOUTH UNEMPLOYMENT IN MALAYSIA: AN ARDL ANALYSIS OF
INFLATION, ECONOMIC GROWTH, POPULATION, FOREIGN DIRECT INVESTMENT
(FDI), AND EDUCATION EXPENDITURE.

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DECLARATION

I am Melly Mustagfiroh (D20211100975), a final year student from Faculty of Management and Economics at Universiti Pendidikan Sultan Idris. I hereby declare that this Final Year Project (FYP) entitled “Drivers of Youth Unemployment in Malaysia: an ARDL Analysis of Inflation, Economic Growth, Population, Foreign Direct Investment, and Education Expenditure.” is my original work. On that note, I declare that this project has been composed by myself and the work has not been submitted for any other degree or professional qualification. I confirm that the work submitted is my own, except where work which has formed part of jointly authored publications has been included. Any expression, thoughts, research results references and/or bibliography cited in the study have been fully acknowledged. Therefore, I confirm that the intellectual content of this study is the result of my own efforts and prepared under the guidance of my supervisor.

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ABSTRACT

Unemployment is a vital indicator of a country's economic health. A country's high unemployment rate, especially youth unemployment indicates that its economy is not competitive. This study examines the drivers of youth unemployment using the Autoregressive Distributed Lag (ARDL) model, focusing on macroeconomic factors namely, inflation rate, Gross Domestic Product (GDP), population, Foreign Direct Investment (FDI), and education expenditure. This study makes Malaysia the country studied with the use of annual time-series data spanning from 1970 to 2023, with the aim of exploring both long-run and short-run relationships between dependent variables and independent variables. The results of this study reveal that inflation has a significant inverse relationship with youth unemployment, while FDI shows an insignificant negative relationship with youth unemployment. Population and GDP shows a significant positive relationship with youth unemployment, while education expenditure exhibits a positive but insignificant effect on reducing youth unemployment, by highlighting the skills mismatch issue. This study also concludes that tailored economic policies addressing these drivers are critical to reducing the percentage of youth unemployment and fostering sustainable growth in Malaysia.

ABSTRAK

Pengangguran adalah penunjuk penting kesihatan ekonomi sesebuah negara. Kadar pengangguran, terutamanya pengangguran belia yang tinggi di sesebuah negara menunjukkan keadaan ekonomi yang tidak berdaya saing. Kajian ini mengkaji pemacu pengangguran belia dengan menggunakan model Autoregressive Distributed Lag (ARDL), memfokuskan kepada faktor makroekonomi iaitu, kadar inflasi, Keluaran Dalam Negara Kasar (KDNK), bilangan penduduk, Pelaburan Langsung Asing (FDI), dan perbelanjaan pendidikan. Kajian ini menjadikan Malaysia sebagai negara yang dikaji dengan menggunakan data siri masa tahunan yang menjangkau dari 1970 hingga 2023, dengan tujuan untuk meneroka kedua-dua hubungan jangka panjang dan jangka pendek antara pembolehubah bersandar dan pembolehubah bebas. Hasil kajian ini mendedahkan bahawa inflasi mempunyai hubungan songsang yang signifikan dengan pengangguran belia, manakala FDI menunjukkan hubungan negatif yang tidak signifikan dengan pengangguran belia. Jumlah penduduk dan KDNK menunjukkan hubungan positif yang signifikan dengan pengangguran belia, manakala perbelanjaan pendidikan menunjukkan kesan positif tetapi tidak ketara dalam mengurangkan pengangguran belia, dengan mengetengahkan isu ketidakpadanan kemahiran. Kajian ini juga merumuskan bahawa dasar ekonomi yang disesuaikan untuk menangani pemacu ini adalah penting untuk mengurangkan peratusan pengangguran belia dan memupuk pertumbuhan yang mampan di Malaysia.

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LIST OF ABBREVIATIONS

Abbreviations	Definition
Y	Youth Unemployment
F	Inflation rate
GDP	Gross Domestic Product
POP	Population
FDI	Foreign Direct Investment
EDU	Education Expenditure
ARDL	Autoregressive Distributed Lag
BNM	Bank Negara Malaysia
CPI	Consumer Price Index
RM	Ringgit Malaysia
USD	United State Dollar
ADF	Augmented Dickey-Fuller
ECM	Error Correction Model
LM	Lagrange Multiplier
BPG	Breusch-Pagan-Godfrey
ARCH	Autoregressive Conditional Heteroscedasticity
CUSUM	Cumulative Sum
CUSUMSQ	Cumulative Sum of Square
SD	Standard Deviation
AIC	Akaike Information Criterion
ECT	Error Correction Term

CHAPTER 1

Introduction

1.1 Introduction

Unemployment is a vital indicator of a country's economic health. A country's high unemployment rate, especially youth unemployment indicates that its economy is not competitive. While youth unemployment refers to a group of persons aged 15 to 24 who are actively seeking employment but are unable to find work. The economic recession may be the cause of this youth unemployment, since corporate principals of young people will be the last employed and the first dismissed. According to statistics, the highest young unemployment rate in Malaysia has ever been in 2020, at 12.61%, while the lowest was in 2011 at 9.88%. In 2023, youth unemployment increased by 0.27% from 2022, reaching 10.66%. Inflation, Gross Domestic Product (GDP), Population, Foreign Direct Investment (FDI), and Education Expenditure are all included as elements that influence employment trends. Inflation increases raw material costs, causing enterprises to scale down production and, in the worst-case scenario, reduce labor. Gross domestic product (GDP) is a tool that evaluates the monetary worth or revenue of final products and services produced in a nation over a particular period, often a quarter or a year. Growth in the GDP can immediately improve work prospects, although not for all age groups. Most of the growth in work possibilities does not benefit the youth aged 15 to 24. On the other hand, population expansion and foreign direct investment can create more job possibilities in a nation while simultaneously increasing the competitive pressure to find work. This has an indirect detrimental effect on society by increasing youth unemployment. In terms of education expenditures, greater government spending in Malaysia has been directed towards enhancing vocational training and higher education, which is critical in resolving the gap between educational outputs and job market

requirements. In this study, we will go into depth on the impact of inflation, GDP, population, FDI, and education expenditure on youth unemployment in Malaysia.

1.2 Research Background

The study was conducted to determine the relationship between youth unemployment and the following independent variables: GDP, inflation rate, population, Foreign Direct Investment (FDI) and education expenditure. The ARDL approach is used to investigate the short and long-term relationship between independent and dependent elements. Furthermore, the purpose of this study is to investigate how an increase or fall in inflation, GDP, population, FDI, and education influences youth unemployment in Malaysia. The ARDL technique enables researchers to explain the relationships between all variables during a certain period, as well as which of variables have biggest impact on youth unemployment that happened during both short and long periods of time. Youth unemployment is defined as individuals who are jobless between the ages of 15 and 24, making up a significant portion of the youthful labor force. (N.B Singh & Y Lee) (2023). According to the study, during the last Covid-19 pandemic, the youth unemployment rate rose since the pandemic hit the younger generation more than others. Here is a trend analysis for each of the variables used in this study.

1.2.1 Analysis Trending

This subsection explains the trending analysis for each of the variables focused on this study. The dependent variables used are youth unemployment, while the independent variables are inflation rate, Gross Domestic Product, population, Foreign Direct Investment, and education expenditure. The six variables of the trending data throughout the period from 1970 to 2023 are explained in graph form and explained in more detail in this subsection.

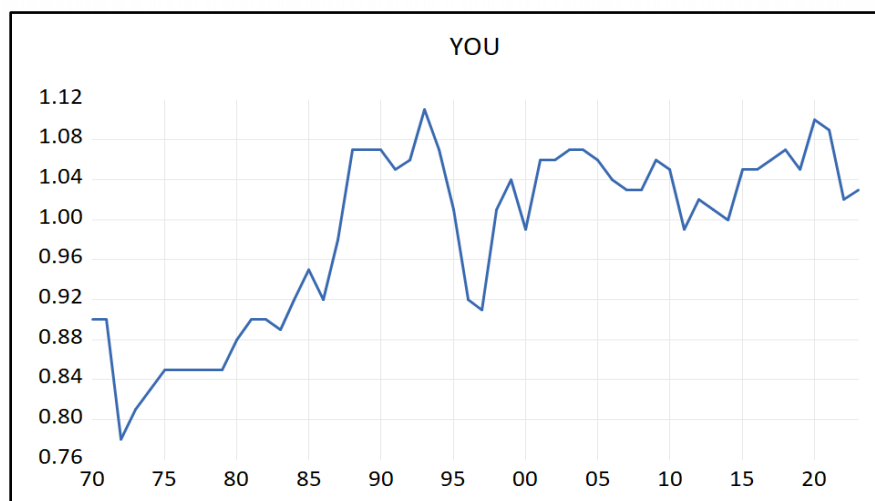


Figure 1: Youth unemployment rate in Malaysia

Youth unemployment rate shows a noticeable decrease from around 0.88 to 0.80 in the early 1970s, but in the mid-1970s to 1990s, there is a gradual increase surpassing 1.00 by late 1980s to early 1990s. Unfortunately, between 1990s to early 2000s there is a fluctuation, but it stays slightly above 1.00, showing that the youth unemployment rate is relatively higher but varying. Between 2010 to 2023 there is a slight decline or stabilization in the after 2020 due to the recent economic impact of the Covid-19 pandemic.

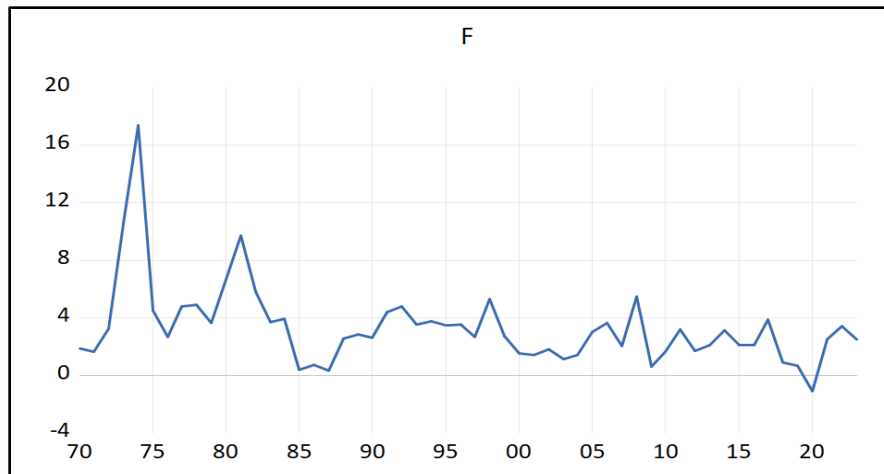


Figure 2: Inflation rate in Malaysia (%)

Based on the graph, Malaysia's inflation rate shows that there is a sharp peak that almost reaches 18 around the mid-1970s and is followed by a situation where inflation has a rapid decrease. This initial spike is caused by the occurrence of major economic events such as financial crisis, inflation shock and external shock such as the oil crisis in the 1970s. Around 2010 to early 2020, there was a small fluctuation, but it remained in the range near to zero and it was stable. Near-zero stability indicates that there is a stable economy, better economic management and structural adjustments.

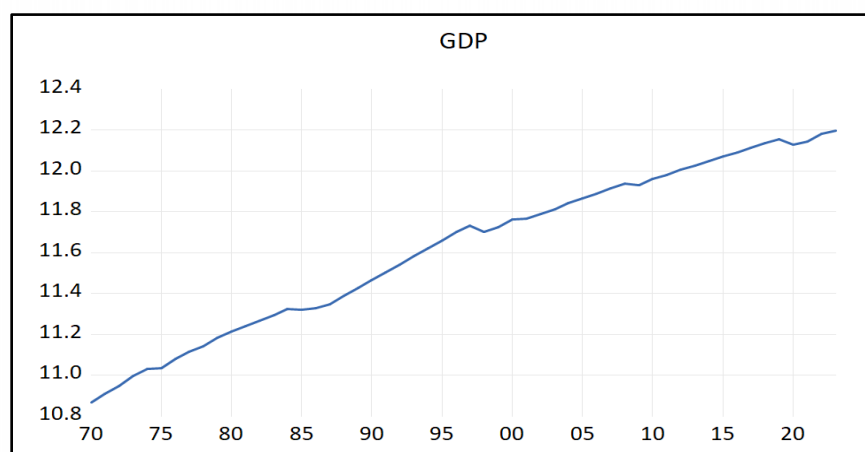


Figure 3: Gross Domestic Product (GDP) (RM million)

Malaysia's Gross Domestic Product (GDP) remains stable from 1970 to 2023. The country's GDP growth looks to be constant, with no obvious dips or recessions. The upward slope graph shows constant GDP growth, indicating that the economic boom occurred between 1970 and 2023. According to the graph, there are no severe recessions apparent, demonstrating resilience or the presence of a competent economic policy. Despite the existence of the financial crisis and the Covid-19 outbreak, Malaysia's GDP has a consistent slope, indicating sustained GDP growth.

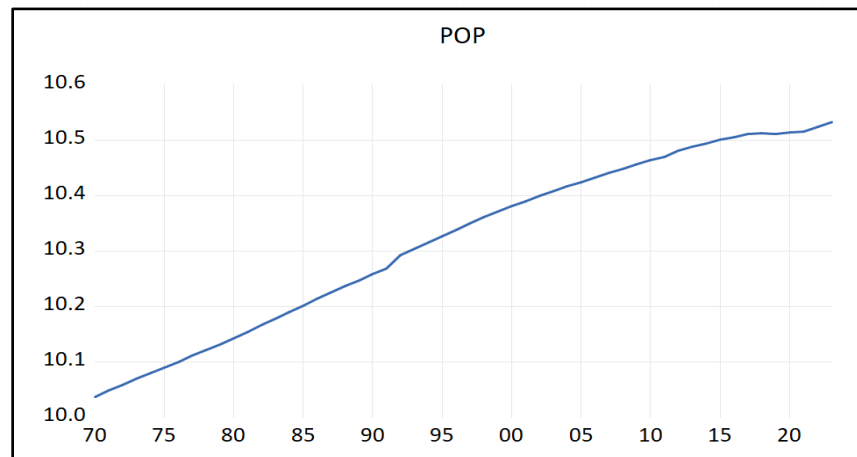


Figure 4: Population in Malaysia (%)

The graphic above depicts Malaysia's population from 1970 to 2023. The graph indicates that the population has grown steadily from 1970 to 2023, with no dramatic dips or fast spikes, indicating constant development throughout time. Based on this statistical data, it is possible to conclude that Malaysia is enjoying consistent demographic expansion, which might be attributed to improvements in health facilities, economic development, and the country's lower death rates.

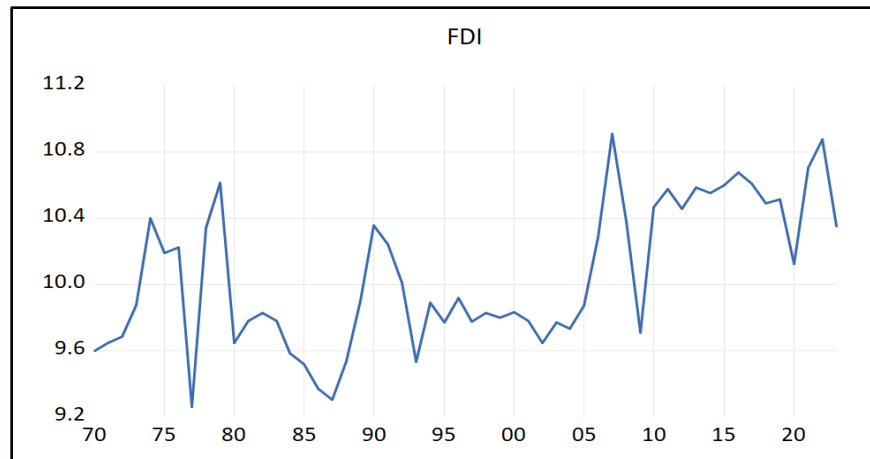


Figure 5: Foreign Direct Investment (FDI) in Malaysia

The Foreign Direct Investment (FDI) of Malaysia shows that this has fluctuated significantly over the years. Statistics show that in the early 1990s, the mid 2000s and 2010 was the highest point for Malaysian FDI. The fluctuations that occur show that FDI is very sensitive to global economic conditions, government policies and market conditions. High favorable investment climates, economic reforms and industrial growth are the causes of the increase in FDI, while the decrease in FDI is due to global economic downturns such as the Asian Financial Crisis in 1997.

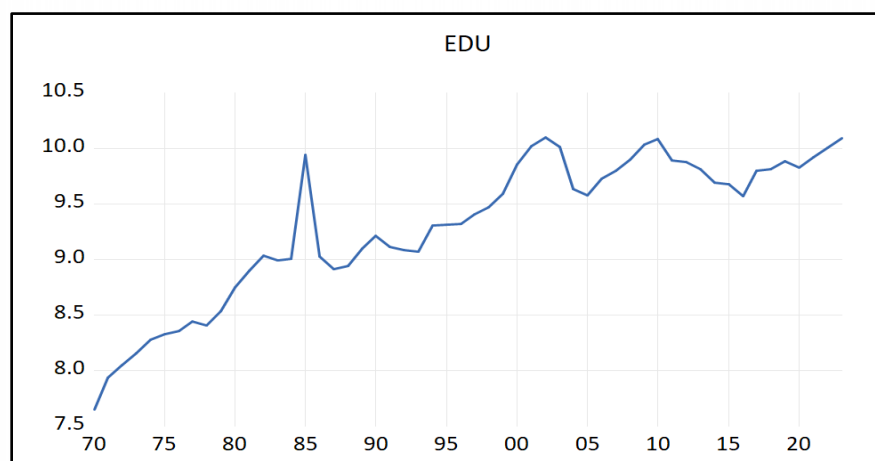


Figure 6: Education expenditure in Malaysia (%)

Malaysia's education expenditure has steadily increased throughout the 1970s, with minor oscillations in the 1980s and early 1990s. According to the graph, the long-term increasing trend indicates that education should be prioritized in the national budget approved by the government. An increase in education spending will result in an increase in human capital and assist economic growth through skill development. The drop, on the other hand, might be the result of a change in government policy that shifts funding priorities to other areas.

The data for the study was gathered from government websites. Youth unemployment data was obtained from the World Bank's official website to complete the data for the study, which ran from 1993 to 2023. (<https://data.worldbank.org/indicator/SL.UEM.1524.NE.ZS?locations=MY>). The data for the remaining variables, GDP, inflation rate, population, Foreign Direct Investment (FDI), and education spending, was obtained from Bank Negara Malaysia's official website, especially from their BNM Monthly Highlights and Statistics page. (<https://www.bnm.gov.my/publications/mhs>). GDP has been used as a measure of economic growth, but all data for inflation rate, population, FDI, and education expenditures has been derived from themselves. All data represent values from 1993 to 2023. After gathering all the data, the study indicates that there is a link between independent factors and dependent variables, namely Malaysia's youth unemployment rate.

Inflation is described as the continual rise in the price of goods and services over time, resulting in an increase in living costs and a decrease in buying power. (V.F Yen, J.L.H Nga, 2021). According to an article in the Malaysian Journal of Fundamental and Applied Sciences, the inflation rate is a causative element in the young unemployment rate, since the Philip Curve Theory indicates a strong association between the two. (L.W Lok et al (2022). According to Ademola and Badiru (2016), there is a long-term positive association between GDP, unemployment, and

inflation. According to S.U Daniel et al (2021), they discovered a positive association between inflation and unemployment in Nigeria. In the same direction, Abugamea and Gaber (2018) claim in their study that the inflation rate has a beneficial influence on unemployment and that it has a significant positive effect on unemployment in the overall model.

According to E Michael and C Geetha (2020), GDP and youth unemployment are negatively related. This demonstrates that fluctuations in GDP had a contra effect on youth unemployment; and other research has found a long-term relationship between youth unemployment and GDP. (N.C. Yahya et al, 2024). In their study, Z Hasan and H Sasana found that low GDP growth had a significant influence on the unemployment rate. The ups and downs of the economy, or the expansion and contraction of real GDP, correspond to a greater or lower employment level as compared to the typical rate. (K.M Al-Sawaie, 2020). The variation of the economic structure and landscape is a possible cause of Malaysia's rising jobless rate. (M.I Hossain et al (2018).

The connection between population and youth unemployment rate is positive. This is because youth unemployment is defined as the number of jobless people aged 15 to 24 represented as a proportion of the young labor force. Unemployed persons are those who report being out of employment, being available for work, and taking active measures to find work during the past four weeks. The Organization for Economic Cooperation and Development (OECD). In accordance with V.F Yen, J.L.H Nga, (2021), the proportion of people aged 0 to 14 years will increase the unemployment rate. It has the same significance as the previous study, which claimed that as the population ages from 0 to 14 years increases, so does the youth unemployment rate. The rise in population causes an increase in unemployment. (N Balemba, 2022).

An increase in FDI has the potential to raise the unemployment rate, as it has done in Malaysia for youth. This is because an increase in FDI will result in two sorts of benefits: negative and positive effects on the unemployment rate. (M.S Ali, 2021). N.C Yahya et al (2024) argue that FDI has a negative association with youth unemployment because it creates new work chances, which lead to an increase in the employment rate. As FDI increases, the unemployment rate in the country, notably among young people, will fall. (Z Hasan, H Sasana, 2020). As a result of the significant investment, whether from the foreign, governmental, or private sectors, more job possibilities will be created, particularly for young people.

Education spending has a substantial influence on career opportunities. It is commonly recognized that education relates to decreased rates of unemployment. (OECD) Government expenditure on education is viewed as a means of addressing major economic difficulties such as economic downturns, poverty, and unemployment. (N Mehmetaj, N Xhindni, 2022). Government funding on all levels of education is termed human capital investment. Educated young people have had a more difficult time obtaining suitable work during the previous fifteen years, resulting in higher and growing unemployment rates. (H.N.A Yong, 2019). According to O.K Binuomoyo's research, there is a positive association between public spending on education and unemployment in Nigeria. Education is closely associated with youth unemployment. (S Alcin et al (2021).

In the next part, this study will discuss the problem statement in the research. It also will investigate independent variables and dependent variables in more detail.

1.3 Problem Statement

Youth unemployment is by no means uniformly distributed among young people. A variety of individual variables might enhance or decrease a young person's probability of becoming unemployed. Young individuals have greater unemployment rates than their older counterparts; nevertheless, the consequences of such unemployment are likely to be less disastrous for this group than for adults, particularly older ones. The major topic of these arguments concerns the duration of unemployment. It is feasible to conclude that the negative effects of unemployment rise more than proportionally with the length of the period. The most noticeable overall labor market characteristic of youth's unemployment is that it exceeds that of adults. (N O'Higgins) (1997). Malaysia's young unemployment rate is significantly higher than that of other age groups. In 2019, unemployment rates were 14.4% for 15–19-year-olds and 9.5% for 20–24-year-olds, declining to 3.8% for those aged 25 to 29 and less than 2% for everyone else. The high rate of youth unemployment, as well as the huge disparity with the rest of the population, highlight the gravity of the situation. (H.A Lee (2020)).

Youth unemployment is defined as individuals who are unemployed between the ages of 15 and 24, making up a significant portion of the youthful labor force. (N.B Singh & Y Lee) (2023). According to the data, Malaysia's youth unemployment rate has increased over the last decade. However, the youth unemployment rate in Malaysia has significantly increased. The reason for this is that more teenagers are dropping out of school and beginning to work primarily as service and sales employees. They also noted that during the last Covid-19 pandemic, the youth unemployment rate rose because the epidemic disproportionately impacted the younger group. This study will look at five variables to see how the youth unemployment rate continues to rise. The factors include inflation, GDP, population, foreign direct investment, and education

expenditure. Next, this study will go further into each element and its impact on youth unemployment.

Inflation is described as the continual rise of goods and services over time, resulting in an increase in the cost of life. Inflation worsens conditions through a rise in the price of things, causing the money value to fall as buying power diminishes. (V.F Yen, J.L.H Nga, 2021). According to an article in the Malaysian Journal of Fundamental and Applied Sciences, the inflation rate is a causative element in the youth unemployment rate, since the Philip Curve Theory indicates a strong association between the two. (L.W Lok et al, 2022). According to the text, high inflation and low unemployment are indicators of positive economic growth. This is due to an increase in output when prices rise, which reduces the unemployment rate in the economy. E Michael and C Geetha (2020) also stated that growing inflation rates will automatically expand a country's economy, gradually increasing work possibilities when youth unemployment falls. As a result, the inflation rate is a key factor in driving economic development and reducing youth unemployment. A.S Ademola and A Badiru (2016), who conducted research on the impact of unemployment and inflation on the Nigerian economy, found a long-term positive association between GDP, unemployment, and inflation. According to S.U Daniel et al (2021), they discovered a positive association between inflation and unemployment, whereas stated by discovered a substantial relationship between inflation and unemployment rates in Nigeria. High inflation rates and high unemployment rates have been found to coexist, particularly in emerging nations. In the same vein, Abugamea and Gaber (2018) claim in their study that the inflation rate has a beneficial influence on unemployment and that it has a significant positive effect on unemployment in the overall model.

According to E Michael and C Geetha (2020), GDP and youth unemployment are negatively related. This demonstrates that fluctuations in GDP had a contrasting impact on young unemployment; nonetheless, research found a long-term connection between youth unemployment and GDP. (N.C. Yahya et al 2024). A prior study found that the unemployment rate had a negative association with GDP. A rise in GDP is typically connected with a reduced unemployment rate. Many scholars have identified a correlation between GDP and young unemployment. Low GDP growth has a significant influence on unemployment rates. (Z Hasan, H Sasana (2020). The ups and downs of the economy, or the expansion and contraction of real GDP, correspond to a greater or lower employment level as compared to the typical rate. Unemployment, for example, arises when the economy experiences a recession known as 'periodic unemployment', or when an economic downturn strikes. (K.M Al-Sawaie, 2020). As the country's economic position fluctuates, workforces alternate between employment, unemployment, and non-participation. The variation of the economic structure and landscape is a possible cause of Malaysia's rising jobless rate. (M.I Hossain et al (2018).

The relation between population and youth unemployment rate is favorable. The fraction of the population aged 0 to 14 years might influence the youth unemployment rate. This is because youth unemployment is defined as the number of jobless people aged 15 to 24 represented as a proportion of the young labor force. Unemployed persons are those who report being out of employment, being available for work, and taking active measures to find work during the past four weeks. The Organization for Economic Cooperation and Development (OECD). According to (V.F Yen, J.L.H Nga, 2021), the proportion of people aged 0 to 14 years will increase the unemployment rate. It has the same significance as the previous study, which claimed that as the population ages from 0 to 14 years increases, so does the youth unemployment rate. This is because

that population group is likely to be the young people who seek jobs in the future. Population is calculated using the de facto definition of population, which includes all inhabitants regardless of legal status or nationality. The rise in population causes an increase in unemployment. (N Balemba (2022).

Foreign direct investment (FDI) is the investment made by an entity which is person, corporation, or government, from one nation into commercial interests in another. An increase in FDI has the potential to raise the unemployment rate, as it has done in Malaysia for young people. This is because an increase in FDI will result in two sorts of benefits: negative and positive effects on the unemployment rate. (M.S Ali, 2021). In the near term, higher FDI indicates more investment and financial assistance from foreign investors. This instantly boosts work prospects in Malaysia, and youth unemployment rate will fall. However, as FDI increases, youth unemployment rates rise when investors from other nations modernize a country through technology and innovation rather than labor-intensive techniques. Finally, a rise in foreign direct investment will raise Malaysia's youth unemployment rate. N.C Yahya et al (2024) argue that FDI has a negative association with youth unemployment because it creates new work chances, which lead to an increase in the employment rate. As FDI increases, the unemployment rate in the country, notably among young people, will fall. (Z Hasan, H Sasana, 2020).

Education aids in the application of new technological abilities, which improves workplace productivity and facilitates the acquisition, transfer, and distribution of information required to comprehend work processes. Education has a huge influence on work opportunities. It is a well-known fact that education relates to reduced rates of unemployment, particularly for persons with graduate degrees, who have historically had greater employment rates than their peers with less education. (OECD) Government expenditure on education is viewed as a means of addressing

major economic difficulties such as economic downturns, poverty, and unemployment. (N Mehmetaj, N Xhindni, 2022). They also indicated that if total public education spending increased by 1%, the youth unemployment rate would fall by 10.81%. Similarly, but less strongly, there is a long-term causal relationship between public spending on higher education and the graduated youth unemployment rate. Government funding on all levels of education is termed human capital investment. As a result, public education spending has considerable short- and long-term implications on people's ability to find jobs. Educated young people have had a more difficult time obtaining suitable work during the previous fifteen years, resulting in higher and growing unemployment rates. (H.N.A Yong, 2019). According to O.K Binuomoyo's research, there is a positive association between public spending on education and unemployment in Nigeria. Education is closely associated with young unemployment. (S Alcin et al (2021).

This study differs from the one mentioned in the article (N.C Yahya et al (2024)) because the researchers included a new variable to make the study more fascinating and adventurous. The new variables utilized in prior study include primarily inflation rate, Gross Domestic Product (GDP), population, and Foreign Direct Investment. In this study, researchers examined one more variable, education spending, to see if it has a significant or non-significant link with adolescent unemployment. This study attempted to determine the association between all factors and youth unemployment, as indicated in the aim. The goal of this study is to investigate long and short-term interactions between endogenous and exogenous factors and to find out which of the independent variables have the biggest impact on youth unemployment. In general, this study looks at the link between inflation, GDP, population, FDI, and education. Addressing these research gaps will greatly improve our understanding of youth unemployment in Malaysia. Future study in these areas can give more nuanced and useful insights, assisting policymakers in establishing successful

targeted policies to lower youth unemployment rates. The researchers' strategy for this investigation is Autoregressive Distributed Lag (ARDL), which allows them to continue the research from the prior study by diving into another variable that was not included in the previous study. This technique is ideally aligned with the primary goal of this research, which is to explore the interaction between stock prices, currency rates, and chosen macroeconomic factors in Malaysia across both short and long time periods. In the next part, we will continue to comprehend the topic's issue statement.

1.4 Conceptual Framework

Based on the article that is used as the main source of this study which is *Explaining Youth Unemployment in Malaysia: The Autoregressive Distributive Lag (ARDL) Approach* by N.C Yahya et al (2024), there are four independent variables and one dependent variable. However, in this study, the researcher has added another independent variable as a continuation of the main article and as a form of renewal on the research conducted. In this study, there will be four variables as the independent variables are Inflation rate, Gross Domestic Product (GDP), population, Foreign Direct Investment (FDI), and Education expenditure. Youth unemployment would be the dependent variable for this study.

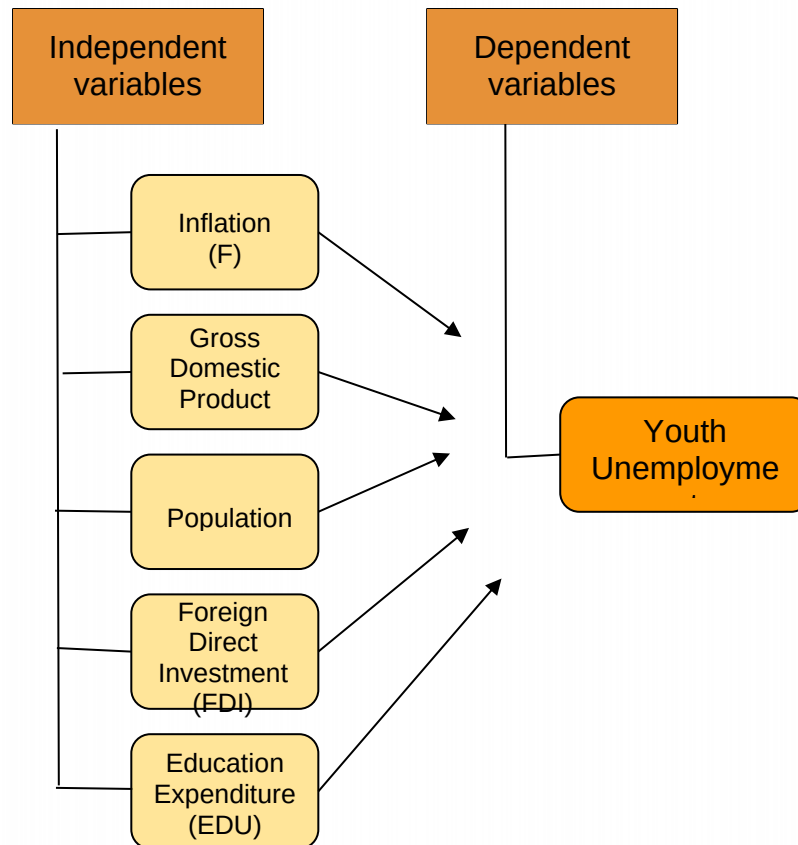


Figure 7: Conceptual Framework

Based on the above conceptual framework, all five of the variables are being chosen to be independent variables as the inflation, GDP, population, FDI, and education expenditure, would be the factors that determine the fluctuation of youth unemployment in a country. As for inflation, the higher inflation rate can make economic conditions slow down and companies will suffer to pay workers' salaries, and they need to fire some employees as a solution. Higher amount in population can be defined as a huge supply of labor and it can be maximized to increase production of the country. If the GDP has a great performance, it will gradually open a job opportunity in the country. As the GDP growth increases, companies or firms will increase their production and need more labor to maximize their production because they can afford to pay a higher salary to the labor force. Higher GDP means that consumers have a higher spending on goods and services.

Population has had a positive relationship with youth unemployment in the history of studies. Increase in population can be defined as an increase of people in a country. This increases a young generation as well as increasing youth unemployment in the country. Meanwhile, for FDI, these variables have a complicated relationship with the economy, as the economy may gain a positive effect on employment growth. FDI tends to decrease the numbers of a job offered in the short run by using more labor-saving technology and will slowly increase the job offered in the long run by enhancing labor productivity. While for education expenditure, an increase in the allocation to education will further increase the marketability of young workers. Although the increase in the budget on education does not have a quick effect, it has a long-term effect by emphasizing the quality over the quantity of labor. In addition, the increase in education expenditure will further reduce the skill mismatch problem faced by youth workers.

1.5 Research Question

There are several questions related to study objectives that researchers want to answer by doing this study. The questions that will be answered is:

1. Are there long and short-term relationships between youth unemployment and the independent variable namely, Inflation rate, Gross Domestic Product, Population, Foreign Direct Investment and Education Expenditure?
2. Which of the independent variables have more impact on youth unemployment?

1.6 Research Objectives

There are several research objectives of the study that are listed as follows:

1. To investigate long and short-term relationships between youth unemployment and the independent variable namely, Inflation rate, Gross Domestic Product, Population, Foreign Direct Investment and Education Expenditure.
2. To examine which of the independent variables have more impact on youth unemployment.

1.7 Research Hypothesis

Research hypothesis is an observation that suggests a possible explanation for an occurrence or a link between variables. It is a precise and testable prediction regarding the outcome of a research activity. In essence, a hypothesis directs the investigation and offers a framework for determining the validity of the suggested explanation. To understanding and answering the study, there is the null hypothesis and alternative hypothesis as follows:

1)

H_0 = There are no long and short-term relationships between youth unemployment and the independent variable namely, Inflation rate, Gross Domestic Product, Population, Foreign Direct Investment and Education Expenditure.

H_1 = There are long and short-term relationships between youth unemployment and the independent variable namely, Inflation rate, Gross Domestic Product, Population, Foreign Direct Investment and Education Expenditure.

2)

H_0 = Inflation rate, GDP, population, FDI, and education expenditure have equal impacts on youth unemployment.

H_1 = At least one of the independent variables (inflation rate, GDP, population, FDI, or education expenditure) has a more significant impact on youth unemployment than the others.

1.8 Scope of Study

The research title, “Drivers of Youth Unemployment in Malaysia: An ARDL Analysis of Inflation rate, Economic Growth, Population, FDI, and Education Expenditure”, aims to investigate the factors influencing youth unemployment in Malaysia. The factors that are discussed deeply in this study are inflation, GDP, population, FDI and education expenditure in Malaysia.

All the data that have been is a times series data using data from 1993 to 2023. All the data taken is based in Malaysia because it is easy to get the data as there is an official website such as Bank Negara Malaysia that provides and updates the data every year. The sample data for this study is an annual data for a 30-year span of period. This data can be used for both short- and long-term analysis to investigate the relationship between dependent variable, youth unemployment and independent variable namely, inflation rate, GDP, population, FDI and education expenditure.

All the factors were chosen based on past research indicating that they are related to youth unemployment. However, in this study, more research and in-depth analysis will be conducted to learn more about their link. The first variable to be considered is Inflation rate. The greater the inflation rate, the higher the production expense, and firms will cut output while the labor force and youth unemployment rise. Next is economic growth, which is measured by Gross Domestic Product (GDP) to determine the level of output within a nation rather than production outside of

it. Inflation is an essential topic to study since it has a significant influence on Malaysian youth unemployment. Population increase may be seen in the proportion of people aged 0 to 14, as these are the future young population. The bigger that share of the population, the higher the young unemployment rate as job rivalry occurs. FDI factors have an influence on youth unemployment, both lowering and increasing it. The last variable, education spending, indicates that increased education investment will lower Malaysia's youth unemployment rate. Because the study focuses on Malaysia, all the data and hypotheses are rooted in Malaysia.

1.9 Definition Operational

This study uses five variables from Malaysian yearly data and corresponds to the study by N.C Yahya et al (2024), which serves as the primary reference for this study. All the data chosen is legitimate and was obtained from a Malaysian government website. The youth unemployment rate is assessed as the percentage of the labor force aged 15 to 24 who are jobless but actively looking for work. The youth unemployment-to-population ratio measures the proportion of young people aged 15-24 who are now being unemployed. (John C Anyanwu, 2013). As a summary, young unemployment indicates people who are at the age between 15 to 24 years that are currently unemployed or jobless but always seeking and willing to find a job. The statistics on youth unemployment is obtained by dividing the number of jobless youths by the total youth labor force and multiplying by 100. The Department of Statistics Malaysia (DOSM) official website provides data on youth unemployment. This is the formula on how to calculate the youth unemployment rate as we need the data of the total of youth labor and the unemployment youth amount in a certain period and certain country.

$$\text{Youth unemployment rate} = \frac{\text{The number of unemployed youth}}{\text{The total youth labor force}} \times 100$$

The inflation rate is the rate at which the overall level of prices for goods and services rises while diminishing buying power. Inflation is a term that has both heating and cooling effects in all economies. Inflation has several negative consequences, including uncertainty about future pricing, diminished savings and investment, inefficiencies, and distorted markets. Furthermore, inflation encourages economic participants to become short-sighted and focused on short-term

goals, driving investors to shift resources to stable economies. (A. Aragaw (2024). Inflation can also be defined as the rate of prices for the goods and services in the country that is rising unconditionally and continuously at a certain period and has both positive and negative sides on the economy of the country. Furthermore, the inflation is tracked by the Consumer Price Index (CPI), which represents the percentage change in the cost of a basket of goods and services. However, in this study, the inflation data is referred to as the inflation rate, and the researcher did not obtain it from the CPI data.

Economic growth indicators are quantified using Gross Domestic Product (GDP) as a proxy. The data for this variable is sourced from Bank Negara Malaysia Highlights and Statistics. GDP is the yearly percentage change in the value of all goods and services produced in Malaysia, computed as a percentage increase over the previous year. GDP is the total value of goods and services produced inside a country's borders during a certain period, commonly expressed in constant numbers to account for inflation. (A.A. Abdulkadr et al (2024). Gross Domestic Product is the value calculated based on products or goods and services produced in a country without differing their origin. It means that all the products produced in the country are being calculated as the GDP of the country even though the producer of the product is a foreign company or factory. All the data taken on the GDP are mostly in an annual form and always taken every year without missing as the data is crucial to the country as it is indicative of the country's economic growth.

As the data to obtain this study is taken and derived from World Bank official figures. The population rate refers to the percentage increase in Malaysia's overall population per year. This statistic indicates how the general population size has changed throughout time. A greater percentage of the population means that the country's labor force participation rate is higher. While M. H. Badii et al (2017) stated in their study that the natural growth rate of the population is

calculated by subtracting the crude death rate from the crude birth rate. We distinguish between natural increase and overall growth rate, which includes immigration, emigration, births, and deaths. Both growth rates are commonly represented as percentages. It can be taken from previous study that the population is the increase or decrease in the amount of people the country has without considering their ages. It also shows that the growth of the amount of people can be taken whether as a positive or negative effect on the country.

As for the Foreign Direct Investment, the data are being taken from the official websites of the Bank Negara Malaysia (BNM). A foreign direct investment is defined as the purchase of an asset in another country that grants the purchaser direct control over it. Foreign direct investment (FDI) is a sort of cross-border investment in which an investor from one country has a long-term stake in and significant control over a company in another. Foreign direct investment is an essential component of international economic integration because it creates strong, long-term links between economies. FDI facilitates knowledge transfer between countries, promotes international trade by giving access to foreign markets, and has the potential to be a key engine of economic growth. (OECD 2024) Foreign direct investment (FDI) occurs when a person from a different country invests enough stock in another to gain control of a business. This type of investment connects economies, promotes exchange of knowledge, boosts trade by opening new markets, and has the potential to stimulate economic growth.

This study considers the last variable, educational expenditures. Education expenditure refers to the government's spending on education, which includes elementary, secondary, and postsecondary education. In their study, V.J. Coronel and C. Díaz-Roldán (2024) said that effective education expenditure improves human capital and productivity. Education expenditure decisions are inextricably tied to efficiency, which has been extensively studied. Several studies have found

a positive association between educational spending and outcomes. Subsidies have a crucial role in stimulating economic growth. It shows that the education expenditure plays the essential part in determining the youth unemployment rate in the country as the more the government spends on education the less the young generation is jobless. It also indicates that the crucial part of the young generation's future can be dependent on the way the government makes an investment on the education of the country.

In the next section, researchers will go into depth regarding the limitations that occurred over the course of this analysis.

1.10 Limitation of Study

The researcher encounters a variety of limits or obstacles when conducting research. One of the study's drawbacks is its dependence on available and high-quality data. While attempts are made to use data from reliable sources such as the Department of Statistics Malaysia, the World Bank, and the International Monetary Fund (IMF), there may still be gaps in data coverage, quality, and consistency. There is a possibility that the study may not completely capture the real correlations between youth unemployment and the selected economic factors, resulting in possibly biased or incomplete results.

Furthermore, there are other issues to consider when doing research, such as the difficulty in gathering the essential data. The researcher had trouble locating FDI statistics since most of the data utilized USD currency and did not include data in RM. The researcher sought for the data on all of Malaysia's official statistics websites, including the World Bank, and eventually obtained the data from BNM. The researcher had trouble identifying the study's publication or article. Most

of the stories I discovered focused on unemployment rather than youth unemployment. As a result, finding an appropriate article for this study is rather challenging.

1.11 Significance of Study

The study's economic significance lies from its identification of the fundamental variables causing teenage unemployment, which serves as a platform for establishing policies that might improve economic stability. Youth employment helps to boost productivity and economic production. By addressing the causes of youth unemployment, the research promotes actions that can boost economic growth, resulting in a more dynamic and successful economy. Furthermore, a stable and developing economy with low unemployment rates appeals to both domestic and international investors.

The significance of this study takes place from its ability to influence effective policy making, direct economic and social programs, contribute to academic research, raise public awareness, and promote sustainable development. The study's goal is to help to the development of a more inclusive and dynamic economy that capitalizes on the potential of Malaysia's youthful people by offering a comprehensive examination of the determinants of youth unemployment.

The study's significance to the country is that studying the relationship between youth unemployment and independent factors gives useful insights into economic stability. The report presents empirical information on the main causes of youth unemployment in Malaysia. Policymakers may utilize these findings to develop and execute targeted policies to minimize youth unemployment. Understanding the influence of economic growth, inflation, population, FDI, and education spending aids in the development of comprehensive policies that address the underlying causes of youth unemployment rather than simply the symptoms.

Next, this paper describes the vast economic environment and its impact on society. The study helps to enhance living standards and economic justice by making young work more accessible. Young people and their families benefit from job options that give financial stability and upward mobility. Employment strengthens young people by instilling a feeling of purpose and belonging. The study's findings can assist build programs that improve young skills and employability, resulting in a more involved and productive society.

This research can be utilized to further educational opportunities. Recognizing the influence of education spending on youth unemployment might encourage further investment in the education sector. This can lead to improved educational infrastructure, resources, and opportunities, all of which help to grow human capital.

Finally, this work ought to be made public since it will benefit society. Researchers and scholars can obtain a better knowledge of the various elements that affect teenage unemployment. The study contributes to the current body of knowledge by offering a strong framework and empirical data that may be expanded upon in future research. The publication of the report enhances young people's knowledge of the elements that influence their career chances. This understanding enables individuals to be proactive in their schooling and career plans.

1.12 Conclusion

The first chapter emphasized the need of examining the reasons for youth unemployment in Malaysia, with a focus on inflation, economic growth, population, FDI, and education expenditures. Using the ARDL modeling approach, this study aims to provide a comprehensive evaluation of the determinants' short- and long-term impacts on youth unemployment. The chapter emphasized the significance of this study for policymakers, educators, and academics, citing its

potential to inspire effective initiatives, increase educational alignment with labor market demands, and contribute to scholarly literature. To increase clarity in the next investigation, operational definitions of key variables were supplied. This prepares the stage for a full investigation of the factors influencing youth unemployment in Malaysia in the following chapters.

The next chapter will review the literature for this subject. Chapter 2 will provide a comprehensive review of the research on youth unemployment and independent determinants, expanding on the introduction and background information offered in Chapter 1. Furthermore, for Chapter 3, it will explain in more depth about the methodology used for this study, which is the ARDL method. Also in this chapter, it will be clearly explained what tests are used in ARDL to get the desired results in this study. While on Chapter 4 there is a result discussion from all the tests explained in Chapter 3. Each test result will be explained clearly, concisely and concisely to achieve each research objective described in chapter 1. The results obtained will also explain whether each hypothesis for each test will be accepted or rejected. Finally, Chapter 5 shows a summary of all the parts in this study including chapters 1, 2, 3, and 4. In this last chapter, the results of the test will also be briefly explained and their relation to the objectives of the study. The objective of the study will be assessed as to whether this study can achieve the objectives set in Chapter 1 or not. Therefore, each chapter in the study has its own function to explain this study.