Economic Growth and Youth Unemployment in Malaysia

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Abstract
High unemployment is a significant issue for the economy, particularly among young people. By establishing a balance between the sustainability of economic growth and the creation of new jobs, government initiatives are meant to address this problem. The country's employment creation regulations are the main factor that has the greatest impact on young people. This study examines the impact of youth unemployment on Malaysia's economic growth between 1991 and 2019. Along with the inflation rate and wage data, this study also looked at foreign direct investment (FDI) for the chosen time frame. The study's particular goals were to analyse the relationship between Malaysia's economic growth and youth unemployment as well as the effects of youth unemployment on that country's economic development. The hypotheses examined include Okun's law and the Philip Curve theory, which explain various elements of unemployment and economic expansion. The ARDL bound test, Granger causality test, and the ECM approach were the methodologies used. Thus, there is a current unidirectional causal relationship between youth unemployment and this phenomenon. The data demonstrated that there is a positive association between youth unemployment and economic growth, but that this relationship is not statistically significant in Malaysia. The result indicates that youth unemployment has a growing impact on economic growth.
Keywords: Economic Growth, Youth Unemployment, Malaysia, Granger Causality.

Introduction
The employment of young people is one of the most important indicators that will have an impact on economic growth. The youth generation comprises around 1.3 billion young people between the ages of 15 and 24 on a global basis. Their participation in the labour market has had a long-term impact on the socio-economic development of their respective countries (International Labour Organization [ILO], 2020). Because of this, it is still possible to determine that the highest rates of youth unemployment are still found in other countries, particularly in Northern Africa and the Arab States, where the rates are approximately 2.2 and 1.7 times higher than the global rate, respectively. When it comes to Malaysia, the country's economy has remained stable at full employment levels with an unemployment rate below 4 percent since the 1990s. Malaysia's unemployment rate was 3.3 percent in 2018. However, it was

discovered that over 50% of those who are unemployed are under the age of 25. Unemployment among young people was recorded at a rate of 10.9 percent, which is nearly three (3) times higher than the overall unemployment rate in the country. As a result, it is critical to assist young people in entering the labour force. Thereby, in this study used the International Labour Organisation's (ILO) data on youth age ranges from 15 to 24 years old.

Young people today encounter a challenging task in their quest for employment. The global recession has made its imprint, and youth unemployment rates have risen again after decreasing for several years (ILO, 2017). In Malaysia, where youth unemployment was double or treble that of adult unemployment, and while that proportion has been brought under control to some extent, there is still a potential problem, youth unemployment is becoming a problem. Given the young demographic profile of Malaysia's population, it is critical to continue to address the issue of youth unemployment in the region (Lee, 2020).

Many other factors can have an impact on how well young people do in the workplace. In the case of the recent global crisis, the lasting consequences of cyclical downturns, such as on potential output, may be quantified (Furceri and Mourougane, 2009), however the economic cycle cannot explain many of the "persistent" job challenges of young people relative to adults.

Therefore, the purpose of this study is an investigation of how youth unemployment, and economic growth affected with each other in Malaysia where the economic policies of the country aimed to reduce the unemployment rate with the average rates for the growth of economic.

Background of the Study

Historically, in Malaysia the youth unemployment rate was the lowest in 1997 at 8.4 percent, before rising to 11.7 percent in 2005 with the onset of the Asian financial crisis, before falling away again to around 10 percent in recent years. In 1993 the rate was also higher at around 12.3%, at the time when the youth labour force participation rate was 64.28 percent compared to 63.512 percent in 2005. This may suggest that the incidence of unemployment in 2011 among youth may actually be more prevalent than compared to 1998, even if the youth unemployment rate is lower at 9.83percent.
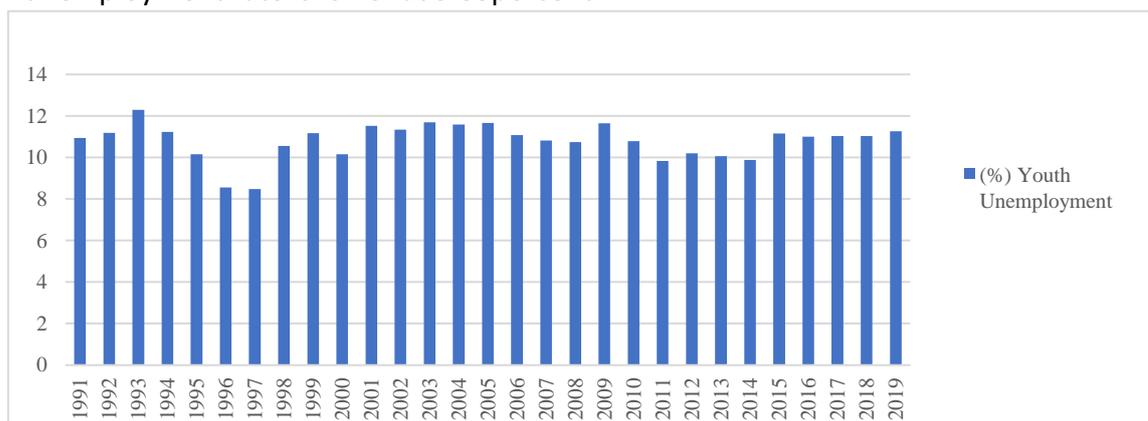
Figure 1: Youth Unemployment rate in Malaysia
Source: World Bank Data (2020)

Unemployment is a big concern in developed countries. High unemployment indicates that human capital is not being used effectively. Every country's macroeconomic priority should also be full employment, as it maximises productivity (Zaleha et. al., 2007). Figure 1 shows

Malaysia's youth unemployment rate, which shows that the rate began to rise in 2016 and continued to rise in 2019. Between these four years, the youth unemployment rate increased by 2.83 percent, from 10.95 percent to 11.26 percent. At the same time, the participant labour force of youth also increasing from 67.78 percent to 68.64 percent which is around 19 percent highest compare to total unemployment rate in Malaysia.

Economic Growth in Malaysia
The World Bank classifies Malaysia as a middle-income country, with a per capita GDP of USD 9,650 in 2017. Malaysia is often described as a "middle-income trap" country (Kumagai 2018). The pace of GDP growth from 1991 to 2019 is depicted in Figure 2. During this time, Malaysia has had three periods of negative growth. The Asian currency crisis of 1997, the dot-com crisis of 2001, and the global financial crisis of 2009 sparked the subsequent economic downturns, which were mostly caused by changes in the global economy rather than domestic ones (Umezaki,2019). The average annual rate of economic growth from 1991 to 2019 was over 11%. Despite the fact that the average growth rate has decreased with each crisis, falling to around 6% between 2002 and 2007, and then to around 5% since 2009, Malaysia has maintained stable economic growth for decades. Since the Asian currency crisis, trade volume has declined in terms of GDP ratio, but exports continue to outnumber imports, leading to the current account surplus.

Malaysia's Shared Prosperity Vision 2030 pledges to make the country a place where people from all walks of life, ethnicities, regions, and supply chains may succeed together. The fundamental objective of the economic plan was to increase real GDP at a rate of 4.7 percent per year at constant prices, and for nominal GDP to reach RM3.4 trillion (Shared Prosperity Vision, 2019). In 2007, the economy grew at a rate of 3.52 percent, while in 2008, it grew at a rate of 4.24 percent. However, throughout the year 2009, the growth rate fell to -3.29 percent as a result of each crisis. Despite the fact that the economy increased by 2.96 percent in 2019, it fell short of the Prosperity Vision 2030 for Malaysia.
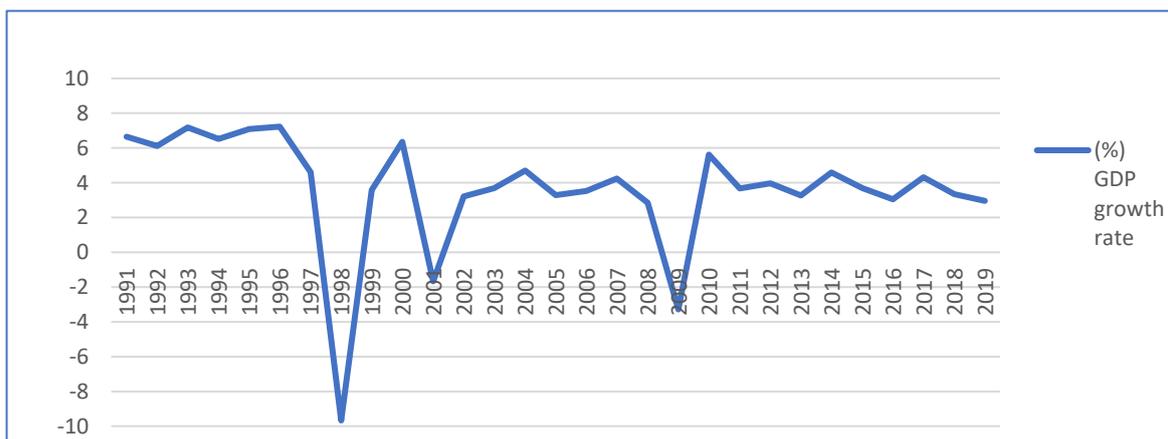
Figure 2: GDP growth rate in Malaysia
Source: World Bank Data (2020)
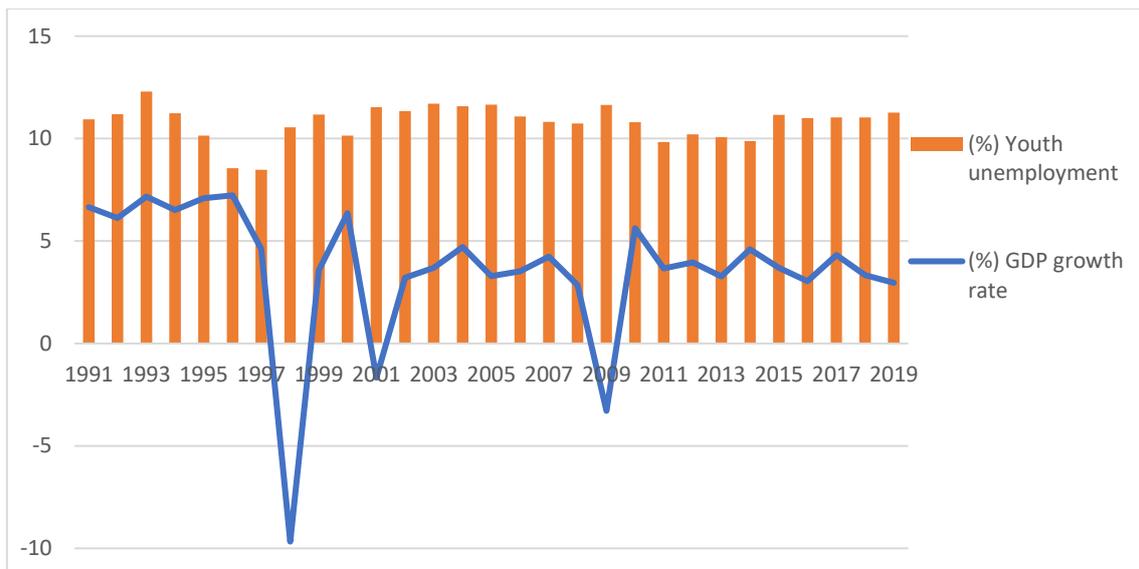
Figure 3: Youth unemployment and GDP growth rate in Malaysia
Source: World Bank Data (2020)

When it comes to youth unemployment and GDP growth aggressiveness, the relationship between developing the economy and lowering youth unemployment is at its most delicate. Figure 3 illustrates that, despite a rational increase in economic growth in relation to labour force growth over the years in question, employment growth outpaced economic growth, resulting in a surge in youth unemployment, which is linked to a high paid society and improved labour participation. Between 2003 and 2007, the Malaysian government's economic diversification initiatives were pushed and promoted, which resulted in an increase in GDP. Promotion and growth of the palm oil sector, petroleum and gas, and export-oriented manufacturing were among the measures employed (Lee, 2019).

We may conclude from Figure 3 that when economic growth is at its lowest, the youth unemployment rate would rise. As a result, there are numerous other probable causes of excessive youth. A study of adolescent unemployment and low-quality employment – low entrance earnings, bad-quality occupations, and the growth of non-standard labour contracts – discovered a mismatch between the information learned via formal schooling and the skills required by the labour market. In general, the disparity between educational supply and labour demand has a stronger link to local economic performance than the degree of education among the population (Rodriguez-Pose, 2005).

There are a variety of programmes in place to reduce youth unemployment and improve the economy, yet youth unemployment is high and the economy is stagnant. The main target of the economic plan was for real GDP to increase at a rate of 4.7 percent per year at constant prices, and nominal GDP to achieve RM3.4 trillion, implying that the country's recent economic growth has been stunted. Examining the relationship between young unemployment and economic growth is critical.

Objectives of the Study
The main objective of this research is to identify the cause and effect relationship between youth unemployment and Malaysian economic growth. As a result, the study's precise aims are:
i. To examine the relationship between Malaysia 's economy and youth unemployment.
ii. To investigate the impact of youth unemployment on Malaysia's economic growth.

Theoretical Review
Okun's Law
Okun's law (1962) established a statistical link between a country's unemployment rate and economic growth. The law established a statistical link that allowed for the estimate of an unemployment-growth regression. A one-point increase in the cyclical unemployment rate results in a two-point fall in real GDP, according to Okun's law. The relationship between unemployment and real GDP growth differs depending on the country and time period studied. The model was made accessible by the following companies:

$$\Delta U_t = \alpha - b * \Delta GDP_t \qquad\qquad (1)$$

Where ΔU_t denotes the change in the unemployment rate, ΔGDP_t is the change in real gross domestic product, and b denotes the Okun's coefficient, which denotes the elasticity of the unemployment rate to GDP. According to Okun's law, a rise in the workforce size or labour productivity resulted in an increase in real gross domestic product without a decrease in net unemployment rates. Furthermore, gross domestic product was determined by the amount of labour used in the manufacturing process. As a result, there was a positive relationship between employment and real GDP. Production and unemployment have a negative relationship since the total employment population is estimated by subtracting the unemployed from the labour force.

The Philips Curves
Some ideas of unemployment and inflation were reviewed here. The Phillips curve is classified into four theories: negative, natural, and positive hypotheses. As a result, Keynes hypothesised a shift in the Phillips curve. Since 1945, professional analysis of inflation and unemployment has gone through two stages, and is now entering a third. It started by accepting Philips hypothesis.
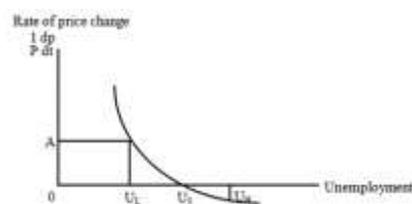
Figure 4: Philips Curve

Philips claimed that unemployment and wage growth had a consistent negative relationship. High unemployment means lower salaries, while low unemployment means higher wages. With the secular increase in productivity and a nearly constant mark-up factor, the salary change was tied to the price change.

Figure 4 shows Friedman's normal method of connecting unemployment directly to price change, bypassing the intermediate step of wages. A causal relationship was often viewed as offering policymakers a steady trade-off. They might pick low unemployment at the expense of inflation. In that situation, they must accept A as inflation rate. To attain U_L, one must first choose the appropriate measure (monetary, fiscal, or other), but once chosen, one need not worry about unemployment and inflation. Alternatively, policymakers could aim for low inflation or even deflation. That means increased unemployment, lower inflation, and deflation (Friedman, 1976).

Conceptual Framework

It is a research framework that shows the relationship between independent variables like youth unemployment, inflation, and economic growth. According to the linkage of theoretical and empirical data, the relationship between economic growth, youth unemployment, inflation, wages and foreign direct investment. can be discovered by one economist and confirmed by another. The research framework for this study appears to be an endogenous growth model. Endogenous factors such as young unemployment, inflation, wages, and FDI can all have a significant impact on economic growth (see figure 5). It is a widely used growth model to analyse government policies and programmes.
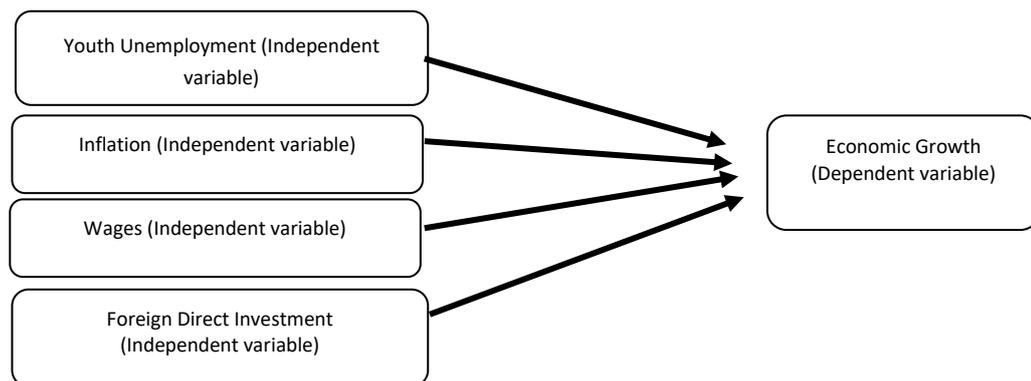
Figure 5: Research Framework among economic growth, youth unemployment, inflation, wages and foreign direct investment.
Source: Authors Computation

Literature Review

According to Azeng and Yogo (2013), who investigate the effects of youth unemployment on political instability in developing countries, samplings covering 40 developing countries over the period 1991 to 2009 are used to investigate the effects of youth unemployment on political instability in developing countries. In the end, it was discovered that youth unemployment has a positive effect on political violence, which is consistent with the findings of the study. Moreover, there is no definite correlation between youth unemployment and political instability in the country.

Batkus and Seputiene (2019) concluded that high youth unemployment rates reflect structural unemployment that persists despite economic progress. As a result, demand-stimulating policies are less effective than structural reforms. To be effective, policy proposals and actions should be tailored to each country's equilibrium youth unemployment rate.

Bayrak & Tatli (2010) studied factors affecting youth unemployment in Turkey. The unemployment rate for Alamoudi and Bayrak & Talti studies is different. As a result, higher inflation and higher education rates in Turkey can reduce long-term young unemployment. Thus, the link between GDP growth and youth unemployment is negative, in line with Turkish economic expectations.

A number of observations have a greater impact on youth unemployment than on overall unemployment, and the difference between youth and total unemployment estimates is statistically significant. Overall (and youth) unemployment should be reduced by boosting economic growth and then executing appropriate labour market reforms, such as generous "active" labour market policies that are well integrated with necessary "passive" labour

market policies, and encouraging economic freedom in product markets (Choudhry et.al., 2014).

Iloabuchi (2019) discovered a negative and insignificant association between unemployment and economic growth in Nigeria from 1999 to 2017. The primary purpose of this research is to evaluate the impact and causality between GDP and Okun's law. Based on Granger causality, unemployment and Nigerian economic growth are unidirectional. The model's population growth result is concurrent with economic growth. This means that governments should promote natality rates by investing in quality education and human capital development.

Karatekin et al (2015) investigated the relationship between youth unemployment and economic growth in Central and Eastern European countries using panel data analysis and co-integration. According to the study, higher-than-average economic development will lower youth unemployment. The estimated outcomes are insufficient to address the issue, given the high frequency of youth unemployment in these countries (50-60 percent). The governments should create and execute policy measures to address this issue. Economic development alone did not suffice to reduce youth unemployment. Heavily severe, implying no link between variables.

Next, Katumo and Maingi (2020) study on youth unemployment and economic growth. The research demonstrated a one-way causal relationship between the two variables, with economic growth causing youth unemployment. It also demonstrated a link between economic growth and youth unemployment. In 2014, Shahid (2014) researched the impact of unemployment and inflation on economic growth in Pakistan. The data is from the World Bank and covers 1980-2010. This study's dependent variable is economic growth, whereas the independent variables are unemployment and inflation. Shahid used the Augmented Dickey-Fuller (ADF) approach to assess the influence of inflation and unemployment on the country's economic growth. The findings demonstrate varying stability. The finding shows that variables were stable and the existed of negative relationship between unemployment and economic growth but inflation have a positive impact on economic growth.

According to Prince et al (2018), the young unemployment problem in Egypt, Jordan, Morocco, and Tunisia has evolved new policies and institutions. Lessons learned from 2011 should be reflected in policy recommendations from national governments and international financial institutions (IFIs), as well as bi-lateral aid agencies. Moreover, the data demonstrates that rising young labour force participation rates appear to be unrelated to economic growth. Gontkoviová et al (2015) investigate youth unemployment in the EU. The data reveal that being employed does not imply having qualified jobs. Greece, Spain, Croatia, Italy, Cyprus, Portugal, and Slovakia clearly suffer the most. Ten or more young unemployed travel on holiday in Cyprus and Spain. The majority of unemployed adolescents have only primary or lower level schooling. Unemployment among youth is linked to the business cycle. We noticed that many employed young people have irregular and unpredictable job arrangements.

Method
In this study, the data was collected from World Bank. Time series data was applied to investigate the relationship between the dependent variables and independent variables. Modified Okun's type model that Okun's law is a diminished version of the Phillips postulate. The economic growth rate (GDP), unemployment rate and inflation rate are assumed to be linearly related. The model for this study is written as follows

$$GDP = f(UNEMPLO, INFLA) \tag{1}$$

Since this study will run Malaysia only and the number of observations is 29 years (T), and thus the model can be written as follows:

$$GDP_t = \alpha + \beta_1 YU_t + \beta_2 INFLA_t + \beta_3 W_t + \beta_4 FDI_t + \mu_t \qquad (2)$$

where:

GDPt	=	GDP per capita in Malaysia
YUt	=	Youth unemployment rate in Malaysia
INFLAt	=	Inflation rate in Malaysia
Wt	=	Wages level in Malaysia
FDIt	=	Foreign Direct Investment level in Malaysia
α	=	constant
β	=	coefficient
μ	=	error term

The Granger causality test was performed by first lagging youth unemployment and then lagging economic growth

$$YU_t = \alpha_0 + \sum_{i=1}^{\rho} \beta_i YU_{t-1} + \alpha_1 GDP_t + \alpha_1 INFLA_t + \alpha_1 W_t + \alpha_1 FDI_t + \mathcal{E}_t \qquad (3)$$

$$YU_t = \alpha_0 + \sum_{i=1}^{\rho} \beta_i YU_{t-1} + \sum_{i=1}^{\rho} \beta_{1i} GDP_t + \alpha_1 INFLA_t + \alpha_1 W_t + \alpha_1 FDI_t + \mathcal{E}_t \qquad (4)$$

Equation 4 revealed that youth unemployment was a function of both past and present values. Granger's economic boom caused youth unemployment. The alternative null hypothesis was:

$H0: \beta 1i=0$

$H1: \beta 1i \neq 0$

It would indicate that economic growth Granger promotes youth unemployment. Youth unemployment, inflation, wages, and foreign direct investment were independent variables. To express economic growth as a lagged dependent variable, see below.:

$$GDP_t = \lambda_0 + \sum_{i=1}^{\rho} \beta_i \lambda_i GDP_{t-1} + \sum_{i=1}^{\rho} \ell_i YU_t + \alpha_1 INFLA_t + \alpha_1 WG_t + \alpha_1 FDI_t + \mathcal{E}_t \qquad (5)$$

The parameter estimations are $\ell, \gamma, \lambda, \beta, \alpha$, where ρ is the lagged number observations.

Equation 5 was used to see if economic growth is linked to youth unemployment. The null and alternative hypotheses that were investigated were as follows:

$H0: \ell i=0$

$H1: \ell i \neq 0$

If the null hypothesis is rejected, it means that youth unemployment generates economic development. The second goal of the study on the impact of youth unemployment on economic growth was achieved by using the following equation:

$$GDP_t = \alpha_0 + \alpha_1 YU_t + \alpha_2 INFLA_t + \alpha_3 WG_t + \alpha_4 FDI_t + \mathcal{E}_t \qquad (6)$$

Empirical Findings and Discussion

Secondary data was obtained to investigate the link between young unemployment and economic growth.

Descriptive Data Analysis
Table 1
Descriptive Data

	GDP	YU	INFLA	WG	FDI
Mean	3.608	10.794	2.663	73.966	4.035
Median	3.688	11.028	2.663	74.370	3.508
Maximum	7.229	12.300	5.443	76.780	8.761
Minimum	-9.671	8.481	0.583	69.950	0.057
Std. Dev.	3.440	0.866	1.342	1.722	1.917
Skewness	-2.305	-1.094	0.357	-0.637	0.535
Kurtosis	9.219	4.203	2.276	2.917	3.710
Observations	29	29	29	29	29

Source: Authors Computation

Table 1 shows that the average annual GDP growth rate from 1991 to 2019 was 3.6 percent, with a standard deviation of 3.440 percent. In 1996, the highest rate of GDP growth was 7.229 percent, while the lowest was -9.671 percent in 1998. The standard deviation of the youth unemployment rate throughout the study period was 0.866. The greatest and lowest rates of youth unemployment, respectively, were 12.3 and 8.481 percent. The emphasis on the growth of informal jobs had a significant impact on the lowering of youth unemployment. Inflation, on the other hand, averaged 2.663 percent, peaking at 5.443 percent in 2008, just as the economy was recovering from the financial crisis.

As a result of this test Malaysia's economy has shifted dramatically from reliance on agriculture and commodity exports to a more diversified and open economy with strong linkages to global value chains. As a result of a development model that emphasises equitable growth, which includes increased participation of the Bumiputera (ethnic Malays and indigenous groups) in the modern economy, the benefits of growth have been widely distributed, and the high levels of income inequality that existed at independence have gradually decreased (OECD Economic Surveys, 2016).

The wages had a mean of 73.966 percent in 2011, with a maximum of 76.78 percent in 2011 and a minimum of 69.95 percent in 1991 due to significant inflation. With a standard deviation of 1.971 and a mean of 4.035 percent, the highest and lowest values for FDI were 8.761 percent and 0.057 percent, respectively. The variables in the descriptive analysis of the data indicate variability due to the variance in the provided fundamental descriptive statistics. On the other hand, the data can be subjected to more statistical analysis.

Diagnostic Test
Diagnostic tests were done to determine the statistical soundness of variables. The residual-based tests and the findings are below.

Test of Normality
The test of Jarque-Bera was used to validate that the residuals in the regression model were normal. That is, the residuals are regularly distributed. The test findings were as follows
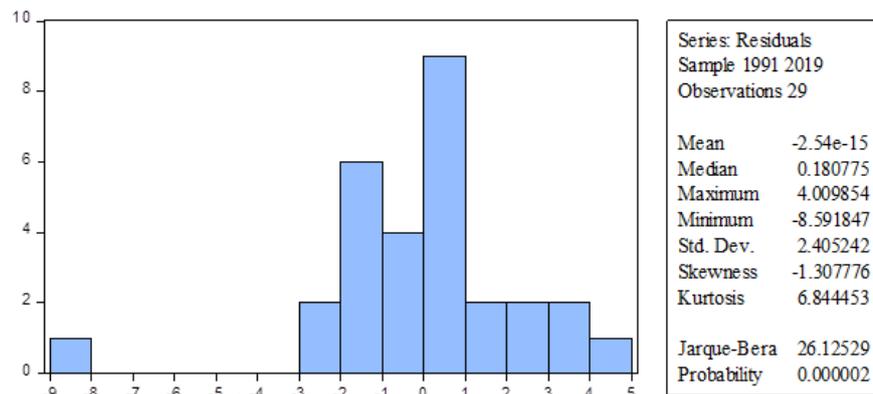
Figure 6 Jarque-Bera Normality Test

Mantalos (2010) contends that checking for normality is as crucial, if not more, than assuming normality. The Jarque-Bera Normality Evaluate is the most extensively used approach in econometrics to test if a sample's distribution is normal. Figure 6 shows that p-value (0.000) is less than percent significant. The null hypothesis of regularly distributed error term is rejected at 5% significance level. Based on our empirical tests, our error term is not regularly distributed. According to Omoniyi and Olawale (2015), if the error term is homoscedastic, it is acceptable.

Table 2

Heteroskedasticity Test: Harvey

F-statistic	2.016	Prob. F(14,14)	0.101
Obs*R-squared	19.385	Prob. Chi-Square(14)	0.151

Source: Authors Computation

Based on table 2, there is more than enough evidence to declare that the econometric model has homoscedasticity, since the result reveals 0.151 > 0.05 level which does not reject the null hypothesis of homoscedasticity. A skewness of -1.308 implies a negatively skewed distribution with a longer left tail. Also, the kurtosis value of 6.845 surpasses the usual kurtosis coefficient of 3. Positive kurtosis means larger tails and a stronger peak (Chen et.al., 2017).

Autocorrelation
To detect autocorrelation in data, Breusch-Godfrey test will be applied. The test of Breusch-Godfrey assumes that there is no serial correlation. Normally, the results will occur with no autocorrelation between error terms in multiple linear regression models (Huitema & Laraway,2006). Omission of variables and misspecification are possible causes of autocorrelation.

Table 3

Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.325	Prob. F(2,22)	0.729
Obs*R-squared	0.833	Prob. Chi-Square(2)	0.660

Source: Authors Computation

Table 3 shows the likelihood of F-statistics 0.660 over 0.05 level. we can conclude that no serial correlation was accepted. Hence, we have enough evidence to rule out autocorrelation.

Multicollinearity

The variance inflation factor was used to test multicollinearity. Multicollinearity is defined as a variance inflation factor of ten or more. As shown in the following table

Table 4
Multicollinearity Test

Variable	VIF	1/VIF
YU	1.069	1.027
INFLA	1.501	1.000
WAGES	1.728	1.096
FDI	2.064	1.536

Source: Authors Computation

Table 2 shows that the variance inflation factor (VIF) for all variables was less than 10, indicating that there was no multicollinearity. As a result, Multicollinearity was rejected.

Stationarity Analysis

The stationarity study was performed out by using ADF unit root test. The variables' co-integration will be examined later. The absolute t-statistics values were compared to the absolute significant values at all levels. The null hypothesis of non-existence of stationarity is rejected if the results are higher than the essential values.

Table 5
ADF Unit Root Test Result

Variable	Form of Test-ADF Test		Conclusion
	At Level	**At 1st Difference**	
GDP	-6.115*** (0.000)	-4.684*** (0.001)	Stationary at level
YU	-2.710 (0.085)	-4.976*** (0.000)	Stationary at 1st Difference
INFLA	-4.250*** (0.003)	-6.636*** (0.000)	Stationary at level
W	-2.629 (0.100)	-7.167*** (0.000)	Stationary at 1st Difference
FDI	-3.440*** (0.018)	-6.371*** (0.000)	Stationary at level

Note: *** Significance at 1 per cent
Source: Authors Computation

By applying the unit root test on the initial differenced values, from Table 5 we can see that the unit root tests' outcomes revealed a mixed integration order, suggesting a potential a long-term relationship. According to the ADF test, only GDP, INFLA, and FDI are stationary at level $I(0)$ at the 5% level of significance. However, at $I(1)$, the ADF approach demonstrates that YU and W are stationary. This finding supports the application of the ARDL model in Malaysia to estimate and establish the long-term relationships among young unemployment, inflation, wages, FDI, and economic growth.

ARDL Bound Test

The computed value of the F-statistic, which is displayed in Table 6 below, is 15.565, which is greater than the upper bound value of Narayan's (2005) critical value at the 1% level of significance. This shows a long-run cointegrated relationship between GDP and its determinants, specifically youth unemployment, inflation, wages and foreign direct investment. We next proceed to estimate the long-run coefficients and short-run model after rejecting the null hypothesis that there is no association between levels.

Table 6
F-Statistics for Testing Presence of Long-Run Cointegration

	Model		F-Statistic
	GDP=f(YU, INFLA,W,FDI)		15.565
	(n=1000, k=4)		
Narayan (2005)'s Critical Value	Lower Bound I(0)		Upper Bound I(1)
10%	2.2		3.09
5%	2.56		3.49
1%	3.29		4.37

Determination of Lag Structure

Lag 1 was chosen at the 5% level of significance in Table 7 below. This automatic selection had 29 observations after corrections. The ARDL is now (1, 1, 0, 0, 0). Thus:

Table 7
Lag Order Selection Criteria

Lag	Log	LR	FPE	AIC	SC	HQ
0	-231.144	NA	27.191	17.492	17.732*	17.565
1	-191.946	60.974*	9.8623*	16.441*	17.880	16.869*
2	-172.706	22.80292	18.702	16.867	19.507	17.652

* indicates the lag structure selected by the criterion and each test at 5% level.

Long Run Coefficient

The coefficients of the long-term association between GDP, youth unemployment, inflation, Wages and foreign direct investment are shown in Table 8.

Table 8
Results for Long-Run Coefficients

Dependent variable: GDP		
Independent Variable	Coefficients	t-Statistic (Prob.)
C	1.129	0.039 (0.969)
YU	0.531	0.903 (0.377)
W	-0.074	-0.210 (0.836)
INFLA***	-0.839	-1.991 (0.060)
FDI***	1.106	2.746 (0.012)

Note: *** Significance at 1 per cent
Source: Authors Computation

The outcome demonstrates that youth unemployment is inversely correlated with GDP, although the relationship is not statistically significant and has a coefficient of 0.53 rather than Okun's -0.5. Contrary to the theory's suggested direction, wages and inflation are both negatively correlated with GDP. However, only inflation and foreign direct investments statistically significant at 1%, but wages are not.

Short Run Coefficient
The short run coefficient and the error correction term are shown in table 9.

Table 9
Results for Short-Run Coefficients

Dependent variable: GDP		
Independent Variable	Coefficients	t-Statistic (Prob.)
YU	0.515	0.936 (0.360)
W	-0.071	-2.108 (0.838)
INFLA***	-0.814	-2.159 (0.043)
FDI***	1.073	3.210 (0.000)
CointEq(-1)***	-0.970	-10.753(0.000)

Note: *** Significance at 1 per cent
Source: Authors Computation

Inflation and foreign direct investment are significant at the 5% level, but the results reveal that the association with the explanatory variables is still negative in the short run. The ECT coefficient's negative sign, which is consistent with theory and provides evidence of convergence should the long-run equilibrium become skewed, is the most intriguing feature of this short-run conclusion. The model will return to equilibrium at a rate of 9.70% based on the ECT's value of -0.970, which is negative. This modification will take 1 year more to complete (i.e., 1/0.970 = 1.03), as the high value of the ECT makes the speed incredibly fast. In other words, the duration of adjustment is the higher the ECT value, the shorter of adjustment and vice versa.

Granger Causality Relationship Result
The purpose of this study also to investigate the relationship between economic growth and other 3 macroeconomic variables in Malaysia. The Granger Causality Test was used in this investigation, and the results are reported in Table 10.

Table 10
Granger Causality Test

Null Hypothesis:	F-Statistic	Probability
YU does not Granger Cause GDP	3.992	0.033***
GDP does not Granger Cause YU	0.241	0.788
W does not Granger Cause GDP	1.735	0.200
GDP does not Granger Cause W	0.662	0.523
INFLA does not Granger Cause GDP	0.468	0.633
GDP does not Granger Cause INFLA	1.487	0.248
FDI does not Granger Cause GDP	0.690	0.512
GDP does not Granger Cause FDI	1.143	0.337
W does not Granger Cause YU	0.236	0.792
YU does not Granger Cause W	0.070	0.933
INFLA does not Granger Cause YU	0.993	0.387
YU does not Granger Cause INFLA	0.432	0.655
FDI does not Granger Cause YU	0.107	0.899
YU does not Granger Cause FDI	1.743	0.198
INFLA does not Granger Cause W	1.618	0.221
W does not Granger Cause INFLA	3.043	0.068**
FDI does not Granger Cause W	1.640	0.217
W does not Granger Cause FDI	1.893	0.174
FDI does not Granger Cause INFLA	4.319	0.026***
INFLA does not Granger Cause FDI	0.943	0.405

,* denotes rejection of the hypothesis at the 1 and 5 per cent.
Source: Authors Computation

The lags of young unemployment granger causation for the lags in economic growth, according to the data in Table 10, where the likelihood is similar to the significance threshold of 0.03. It suggests that the relationship between cause and effect is one-sided, as Malaysia's ability to reduce youth unemployment depends on its ability to expand its economy. In other words, there will be untapped resources that will cause an increase in demand for labour in both the private and public sectors, which will result in a hiring rage, when there is an economic growth upswing. The result was a reduction in youth unemployment. Given that there is a causal relationship between the variables, the study addressed whether the coefficient is statistically significant and either positive or inverse. Therefore, the result showed that there is unidirectional relationship between economic growth and youth unemployment, with causality going from youth unemployment to economic growth as well as wages granger cause to inflation and foreign direct investment granger cause to inflation.

Conclusions and Policy Implications
Finally, the findings demonstrated that while unemployment and economic growth. This contradicts Okun's law's hypothesis that unemployment explains variations in GDP, according to Mosikari (2013) research. However, Okun's law is regarded as the best and most direct method of examining the relationship between unemployment and economic growth. It might not be fair to rely on it to forecast unemployment based on a specific rate of growth, though. However, this does not mean that it should be ignored because it can help build a framework for researching how unemployment affects economic growth.

Table 11
Conclusion of the Study

	Theoretical	Contextual
Model	$GDP_t = \alpha + \beta_1 YU_t + \beta_2 INFLA_t + \beta_3 W_t + \beta_4 FDI_t + \mu_t$	
Long Run Relationship between YU and GDP	- Contrary to the theory's suggested direction, wages and inflation are both negatively correlated with GDP.	- There is no long run relationship between youth unemployment and GDP in Malaysia.
Short Run Relationship between YU and GDP		- There is no short run relationship as well between youth unemployment and GDP in Malaysia.
Granger Causality	- Malaysia's GDP is not much impacted by youth unemployment. Even though the relationship is also show positive.	- There is unidirectional relationship between economic growth and youth unemployment, with causality going from youth unemployment to economic growth in Malaysia.
Important of the finding	- Malaysia economy is based on capital intensity rather than labor intensity. As a consequence, it contributes little to the reduction in unemployment rates where it is in line with the finding of Conteh (2021).	
Contribution of the study	- This study contributes on highlighted the youth unemployment as an important issue that cannot be ignored in current situation of economic. Second, this research also finding the relationship among youth unemployment, economic growth, inflation, wages and FDI.	

For Malaysia, the issue of unemployment, particularly among the youth, must be addressed aggressively because young people are a national asset who must be developed over time, and their abilities and skills polished because they are a national asset who must be developed over time and their abilities and skills polished. Partnerships in apprenticeship, training and internships. Firms can also help by increasing internship opportunities and collaborating with colleges/universities and career centres. Firms can also improve on-the-job training for new graduates in their first year to combat skill mismatch. For instant, in Japan the workers are re-skilled during the first year of employment to meet industry demands. In addition to restructuring programmes, the Human Resources Ministry's Department of Skill Development must be staffed by industry experts who are knowledgeable of the skill sets required by local graduates to meet the needs of Malaysian and global industries. A collaborative effort between the government, industry stakeholders, and the youth themselves can help to narrow the demand-supply gap that currently exists in the industry, and this is something that everyone can get behind. It is critical that all parties demonstrate their commitment to the goal of elevating Malaysia to the status of a high-income developed country for the country to move forward.

References

Azeng, T. F., & Yogo, T. U. (2013). *Youth Unemployment and Political Instability in Selected Developing Countries (*Working Paper Series No. 171). Tunis: African Development Bank.

Batkus, M., & Seputiene, J. (2019). The output gap and youth unemployment: An analysis based on Okun's law. *Economies, 7(4)*.

Bayrak R., & Tatli, H. (2016). Short- and long-term analysis of some factors effecting youth unemployment in Turkey. *Theoretical and Applied Economics, 23 (3)*, 229-242.

Chen, L. X., Chew, Y. B., Rick, L. L. H., Tan, W. Y., & Twe, K. Y. (2017). *Macroeconomic Factors Affecting Unemployment Rate in China* (A research project). Universiti Tunku Abdul Rahman.

Conteh, K. (2021). Economic growth and unemployment: an empirical assessment of okun's law in the case of Liberia.

Dankumo, A., Ishak, S., Oluwaseyi, Z., & Onisanwa, I. (2019). Does Okun's law explain the relationship between economic growth and unemployment in Nigeria? *Jurnal Ekonomi Malaysia, 53*(3), 153-161. http://dx.doi.org/ 10.17576/JEM-2019-5303-12

Friedman, M. (1976). *Inflation and Unemployment- Nobel Memorial Lecture.* Illinois, USA: The University of Chicago.

Furceri, D., & Mourougane, A. (2009). The Effect of Financial Crises on Potential Output: New Empirical Evidence from OECD countries (OECD Economics Department Working Paper No.699). Paris.

Gontkovicova, B., Mihalcova, B., & Pruzinsky, M. (2015.) Youth unemployment - current trend in the labour market? *Procedia Economics and Finance 23*, 1680 – 1685.

Huitema, B. E., & Laraway, S. (2006). Autocorrelation. *Encyclopedia of Measurement and Statistics*.

Iloabuchi, C. C. (2019). Analysis of the Effect of Unemployment on the Economic Growth of Nigeria. *Journal of Economics and Finance, 10(3), 82-89.*

International Labour Organization. (2017*). Global Employment Trends for Youth 2017*: *Paths to a better working future.* Retrieved from http://www.ilo.org/wcmsp5/groups/public/----dgreports/---dcomm/---publ/ documents/publication/wcms_598669.pdf

International Labour Organization. (2020). *Global employment trends for youth 2020: Technology and the future of jobs.* https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_737648.pdf

Katumo, M., & Maingi, J. (2020). Relationship between youth unemployment and economic growth in Kenya. *Advances in Economics and Business, 8*(5), 255-267. http://www.hrpub.org

Karatekin, Gocer, & Yazar. (2015). *The Relationship between Youth Unemployment & Economic Growth in Central & European Countries: An Empirical Analysis Leman ERDAL.*

Lee, C. (2019). Globalisation and Economic Development: Malaysia's Experience (ERIA Discussion Paper Series No. 307). ISEAS–Yusof Ishak Institute.

Lee, H. A. (2020). Unemployment among Malaysia's Youth: Structural Trends and Current Challenges. *Researchers At ISEAS – Yusof Ishak Institute Analyse Current Events, 65*.

Mantalos, P. (2010). Robust critical values for the Jarque-bera test for normality. Jönköping International Business School.

Mosikari, T. (2013). The effect of unemployment rate on gross domestic product: Case of south Africa. *Mediterranean Journal of Social Sciences, 4*(6), 429-433. http://dx.doi.org/10.5901/mjss.2013.v4n6p429

OECD Economic Surveys-Malaysia. (2016). Economic Assessment Overview. http://www. oecd.org/eco/surveys/economic-survey-malaysia.htm

Okun, A. (1962). Potential GNP: Its Measurement and Signifcance. *In Business and Economic Statistics Section*, 98-104, American Statistical Association.

Omoniyi, L. G., & Olawale, A. N. (2015). An application of ARDL bounds testing procedure to the estimation of level relationship between exchange rate, crude oil price and inflation rate in Nigeria. *International Journal of Statistics and Applications*, *5*(*2*), 81-90.

Prince, H., Halasa-Rappel, Y., & Khan, A. (2018). Economic growth, youth unemployment, and political and social instability. (Working paper 2018-12).

Rodriguez, P. A. (2003). Human capital and regional disparities in the EU. Joint Conference of the EC and the EIB on: Human capital, employment, productivity and growth.

Shahid, M. (2014). Effect of inflation and unemployment on economic growth in Pakistan. *Journal of Economics and Sustainable Development, 5*(15), 103-106. https://cor e.ac.uk/download/pdf/234646504.pdf

Umezaki, S. (2019). The Malaysian Economy after the Global Financial Crisis: International Capital Flows, Exchange Rates, and Policy Responses. *Public Policy Review,15(1)*,69-98.

Zaleha, M. N., Norashida, M. N., & Judhiana, A. G. (2007). The Relationship between Output and Unemployment in Malaysia: Does Okun's Law exist? *International Journal of Economics and Management,1(3),* 337-344.