

# MACROECONOMIC DETERMINANTS OF YOUTH UNEMPLOYMENT IN SRI LANKA: AN ARDL APPROACH (1990–2021)

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## Abstract

This study analyses the factors influencing youth unemployment in Sri Lanka from 1990 to 2021 by examining the empirical relationships among youth unemployment, Foreign Direct Investment (FDI), external debt, inflation, and labor force participation. While prior research has largely focused on general unemployment trends or specific macroeconomic indicators, limited attention has been given to a comprehensive analysis of the macroeconomic factors affecting youth unemployment specifically in Sri Lanka. To address this gap, secondary data were obtained from the annual reports of the Central Bank of Sri Lanka and the Sri Lanka Labor Force Survey reports for the specified period. The Autoregressive Distributed Lag (ARDL) approach was employed to identify significant determinants of youth unemployment. The findings indicate that FDI, GDP, external debt, and inflation are significant factors affecting youth unemployment in both the short run and the long run, while labor force participation is significant only in the short run. Inverse relationships are observed between these factors and youth unemployment. The CUSUM and CUSUMSQ tests confirm that the model is structurally stable within the 5% critical bounds, and the error correction term (ECM) indicates a slow adjustment process, with 33.82% of the previous year's disequilibrium in youth unemployment being corrected in the current year.

**Keywords:** Youth Unemployment, Foreign Direct Investment, External Debt, Gross Domestic Product, ARDL Model

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## 1. Introduction

The youth is undeniably among the most important formidable forces and resources a country can have in order to boost its social economic development. The youth are energetic, courageous and pose new ideas that can make changes to the social economic development if they are well coordinated and involved in economic activities of the country (Smith,2020). The United Nations defines youth as individuals between the ages of 15 and 24 (United Nations,2008). However, the definition of "youth" can vary across countries. In Sri Lanka, the Labor Force Survey similarly defines youth as those aged 15 to 24, which is the age group used in this study (Sri Lanka Labor Force Survey, 2014). In many developing countries, young people aged 15 to 24 are still in the process of acquiring knowledge to enhance their human capital, which is essential for their participation in the labor market. Despite their crucial role, the youth face significant challenges, particularly unemployment, in both developed and developing countries (Dagume & Gyekey, 2016). The importance of addressing youth unemployment lies in its potential to create a more productive and stable workforce, which can contribute to sustainable economic growth and social stability.

Youth unemployment has profound and far-reaching consequences, affecting individuals, economies, and societies at large. According to the International Labour Organization (ILO), global youth unemployment increased by 4.3 million between 2007 and 2018, with the youth unemployment rate reaching 17.2% in 2020 the highest rate in three decades. In South Asia, youth unemployment was 19.97% in 2019, surging to 26.9% in 2020 before dropping to 21.11% in 2021 (ILO, 2020). These figures highlight the persistent and widespread nature of the issue. Economically, high youth unemployment leads to a loss of productive potential, slowing GDP growth and reducing tax revenues while increasing government expenditure on welfare programs. Socially, it contributes to rising inequality, social unrest, and migration pressures as young individuals seek opportunities elsewhere. On a personal level, prolonged unemployment can damage mental health, eroding self-esteem and fostering a sense of hopelessness. These challenges collectively hinder societal progress, making youth unemployment not just a personal issue but a global crisis that demands immediate and sustained action.

In line with the global context, Sri Lanka is also grappling with the issue of high youth unemployment. The Sri Lanka Labor Force Survey defines youth unemployment as individuals aged between 15 and 24 who are not currently employed but are actively seeking work and are available for employment during the reference period. Youth unemployment in Sri Lanka experienced an unprecedented rise from 18.5% in 2017 to 26.5% in 2021 (Department of Census and Statistics, 2021). In 2021, according to the Department of Census and Statistics (2021), 439,783 individuals were unemployed, of which 226,206 were youth. The youth account for the highest proportion of overall unemployment in Sri Lanka, with 26.5% of the total unemployed population. Based on these statistics, Sri Lanka's youth unemployment rate of 26.5% exceeds the global average of 17.2% and South Asia's average of 26.29%, highlighting the significant challenges faced by the country. This disparity emphasizes the urgent need for policymakers to prioritize initiatives aimed at

reducing youth unemployment, as the high rate poses a threat to social stability and economic growth, depriving the country of a productive workforce and contributing to social unrest.

The potential social consequences of high youth unemployment, including increased poverty and social unrest, underscore the importance of addressing this issue, which is vital not only for economic growth but also for social stability and cohesion (Smith, 2020). However, high levels of youth unemployment pose significant dangers to economic health. There is a loss of potential economic output as unemployed youth are not contributing to production, innovation, or economic growth, resulting in wasted human capital (Jones, 2018). Moreover, youth unemployment is linked to various social issues, including increased crime rates, substance abuse, and mental health challenges, which strain public resources and undermine social cohesion (Kinoti, 2024). Additionally, unemployed youth may rely on social welfare programs for support, placing a burden on government finances and reducing funds available for other essential services and investments (White, 2020). Prolonged periods of youth unemployment can also have lasting effects on individuals' future employment prospects and earning potential, perpetuating cycles of poverty and inequality (Morze and Savage, 2006). High levels of youth unemployment can dampen consumer confidence and spending, leading to reduced demand for goods and services, negatively impacting businesses, and exacerbating unemployment levels (Dietrich and Möller, 2015).

According to the above information, high youth unemployment can be cited as a major problem in Sri Lanka, and it is a key factor in determining how healthy the economy is. Therefore, it is important to understand the factors that determine youth unemployment in Sri Lanka. Accordingly, the objective of this study is to analyse the macro factors affecting youth unemployment in Sri Lanka.

## **2. Literature Review**

The theoretical literature highlights four main theories: Okun's law, the Phillips curve, efficiency wage theory, and the mismatch hypothesis. According to Okun's law, a 1% increase in the unemployment rate above the natural rate corresponds to a 2% decrease in GDP below its potential, indicating that higher unemployment is significantly associated with lower GDP growth (Okun, 1962). The Phillips curve demonstrates an inverse relationship between inflation and unemployment, suggesting that rising inflation correlates with decreasing unemployment and vice versa (Blanchard & Quah, 1989). Blanchard and Quah (1989) analyzed data from OECD countries and confirmed a negative correlation between inflation and unemployment. Similarly, Ball (2009) analyzed U.S. data and found that the short-run Phillips curve exhibits a steeper slope than the long-run Phillips curve, signifying a stronger relationship between inflation and unemployment in the short term. This indicates that inflation changes have a more immediate impact on unemployment. However, this relationship evolves over time due to factors like shifting inflation expectations and supply-side dynamics.

The mismatch hypothesis posits that unemployment can persist even when job vacancies exist due to a discrepancy between the skills possessed by job seekers

and the skills demanded by employers (Friederichs, 2012). This mismatch can arise from various factors, such as changes in technology, shifts in industry demand, or inadequate education and training programs (Blanchard & Katz, 1999). Empirical evidence supporting the mismatch hypothesis comes from studies analyzing job vacancy data and unemployment rates across different sectors and regions. For instance, research by Autor et al. (2003) found evidence of sectoral shifts in employment and persistent vacancies in certain industries, suggesting the presence of skill mismatches. Similarly, studies examining regional disparities in unemployment rates have identified mismatches between the skills of local workers and the demands of regional labor markets. These findings highlight the importance of addressing skill gaps through targeted education and training programs to reduce unemployment and enhance labor market efficiency. According to Hettige et al. (2004), unemployment in Sri Lanka was not only affected by the skills mismatch but also the slow growth and restrictive policies in the labor market that limited sufficient employment creation.

Many studies investigated determinants of unemployment. Some studies used a microeconomic perspective and others used macroeconomic determinants of unemployment. The primary focus of this study is to study macroeconomic variables that affect youth unemployment. Therefore, research findings pertaining to the macroeconomic determinants are presented in the following section.

Duval et al. (2015) conducted a comprehensive investigation across OECD countries, utilizing panel data analysis to assess how economic growth, inflation, labor market regulations, and education policies affect unemployment rates. Their findings suggested that skills mismatches, along with economic conditions, played a significant role in shaping youth unemployment trends. Building upon this, Bell et al. (2017) undertook a comparative study focusing on European nations, employing time-series data and panel regression techniques to analyze the effects of GDP growth, inflation, labor market institutions, and specific policies on unemployment rates. Their results showed that labor market institutions, such as active labor market policies and educational reforms, were crucial in reducing unemployment in the long term.

Khan and Ahmed (2019) expanded the scope by examining the repercussions of financial crises on youth unemployment in developing countries, to explore the influence of financial market volatility, credit constraints, and fiscal policies on unemployment rates during economic downturns. Meanwhile, Smith and Johnson (2018) conducted a meticulous analysis of unemployment and business cycle fluctuations in the United States to understand how changes in GDP growth, inflation, and other macroeconomic indicators impact unemployment rates over the business cycle. Li and Wang (2020) undertook a cross-country analysis to evaluate the effectiveness of macroeconomic policies in mitigating unemployment, employing to assess the impacts of monetary policy, fiscal stimulus measures, and labor market reforms on unemployment outcomes.

Rahman and Liu (2014) investigated the impact of Foreign Direct Investment (FDI) inflows on unemployment in China, focusing on employment opportunities within export-oriented industries and technology-intensive sectors. Using both quantitative analysis and qualitative methods, the research assessed correlations

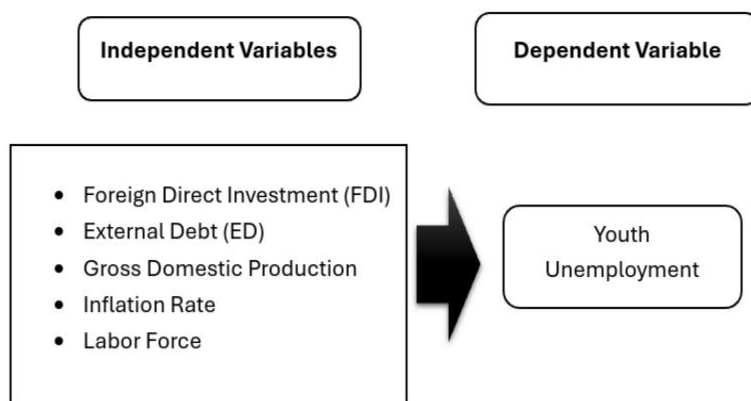
between FDI inflows, unemployment rates, and employment trends in these sectors. The study's findings shed light on the role of FDI in reducing unemployment by facilitating employment opportunities in sectors crucial to China's economic growth, emphasising the importance of FDI for enhancing labor market outcomes in emerging economies like China. For instance, a study by Görg and Strobl (2001) analysed data from a sample of developing countries and found that higher levels of FDI inflows were associated with lower unemployment rates in those countries.

Although extensive research has been conducted globally on unemployment, including its causes, impacts, and determinants, there is a noticeable lack of studies addressing Sri Lanka's unique economic context. Existing literature primarily focuses on general unemployment trends or individual macroeconomic indicators, with limited attention to youth unemployment as a distinct issue. Moreover, there is a significant gap in empirical analyses exploring the influence of macroeconomic variables such as GDP, inflation, Foreign Direct Investment (FDI), and external debt on youth unemployment in Sri Lanka. Despite the critical importance of this issue, few studies provide a comprehensive examination of how these factors interact to drive youth unemployment within the country. To address this gap, this study investigates the macroeconomic determinants of youth unemployment in Sri Lanka, contributing to a deeper understanding of the issue and offering evidence-based insights to guide targeted policy interventions.

### 3. Methodology

In this study, FDI, external debt, inflation rate and labor force participation and Gross Domestic Product (GDP) are considered as independent variables, while youth unemployment is the dependent variable. The conceptual framework of the research is rooted in understanding how changes in these macroeconomic factors influence youth unemployment rates over time.

**Figure 01. Conceptual Framework**



### 3.1. Research Design

This study employs a quantitative research design using time-series data to examine the relationships between macroeconomic variables and youth unemployment. Time-series data spanning from 1990 to 2021, collected quarterly, are used to capture longitudinal trends and patterns.

### 3.2. Data Collection Method

The data for this study were sourced from several reputable institutions to ensure accuracy and reliability. The dependent variable, youth unemployment, was obtained from the Labor Force Survey Quarterly Report, which provides detailed quarterly data on youth employment status in Sri Lanka. The labor force participation rate was also sourced from the same quarterly report. For the independent variables, data on external debt and Foreign Direct Investment (FDI) were retrieved from the World Bank Database, a leading source for international economic data. Gross Domestic Product (GDP) and inflation data were accessed from both the Central Bank of Sri Lanka's Data Library and its Annual Reports, which provide comprehensive national economic indicators and macroeconomic analysis. These data cover the period from 1990 to 2021 allowing for an extensive examination of the relationship between macroeconomic factors and youth unemployment over time.

### 3.3. Model Specification

To analyze the determinants of youth unemployment, this study employs the Autoregressive Distributed Lag (ARDL) model, which allows for the investigation of both short-run and long-run relationships between youth unemployment and a set of macroeconomic variables. The dependent variable, youth unemployment, is modeled as a function of five independent variables: FDI, external debt, GDP, inflation, and labor force.

The study first selects the appropriate lag length using the Akaike Information Criterion (AIC), a widely accepted criterion for model selection in time-series analysis. Subsequently, a unit root test is conducted to test for the stationarity of the variables over the study period. If the variables are found to be stationary at either their level or first difference, the ARDL model is estimated. The ARDL model facilitates the identification of both short-run and long-run effects of the independent variables on youth unemployment. The study is tested the following hypotheses:

H<sub>0</sub>: There is no long-run relationship between the independent variables and youth unemployment in the short run/long run.

H<sub>1</sub>: There exists a long-run relationship between the independent variables and youth unemployment in the short run/long run.

The short-run dynamics are captured by the following equation:

$$\Delta Youth\_Unemployment = \alpha_0 + \sum_{i=1}^p \Delta Youth\_Unemployment_{t-i} + \sum_{i=1}^q \gamma_1 \Delta FDI_{t-i} + \sum_{i=1}^q \gamma_2 \Delta ED_{t-i} + \sum_{i=1}^q \gamma_3 \Delta GDP_{t-i} + \sum_{i=1}^q \gamma_4 \Delta Inflation_{t-i} + \sum_{i=1}^q \gamma_5 \Delta Labour\ Force_{t-i} + \lambda ECM_t - 1 + \mu t \dots\dots\dots \text{Equation 01}$$

Where  $\Delta$  denotes the first difference of the variables,  $\alpha_0$  is the intercept,  $\beta_i$  and  $\gamma_i$  are the short-run coefficients, and  $\mu_t$  is the error term. The long-run relationship between the variables is specified as:

$$\begin{aligned} \Delta Youth\_Unemployment_t = & \alpha_0 + \beta_1 \Delta Youth\_Unemployment_{t-1} + \beta_2 \Delta FDI_{t-1} + \beta_3 \Delta External\_Debt_{t-1} \\ & + \beta_4 \Delta GDP_{t-1} + \beta_5 \Delta Inflation_{t-1} + \beta_6 \Delta Labor\_Force_{t-1} + \epsilon_t \end{aligned} \quad \text{Equation 02}$$

In this equation,  $\alpha_0$  represents the constant term, while  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  are the long-run coefficients. The model will be estimated using the bounds testing approach for cointegration, which enables the identification of both short-run and long-run relationships among the variables.

Additionally, diagnostic tests, including tests for autocorrelation, heteroscedasticity, and normality, were conducted to ensure the robustness of the model estimates. Furthermore, an Error Correction Model (ECM) was estimated to capture the adjustment mechanism between the short-run and long-run equilibrium relationships. The ECM provides insights into the speed of adjustment towards the long-run equilibrium following deviations from the equilibrium path.

## 4. Result and Discussion

### 4.1. Lag Length Selection

When the time series data are used for economic modeling, lag selection is very crucial and quite sensitive. Thus, an appropriate criterion for the selection of lag length is very important. There are different type criteria available for the selection of the model but Akaike Information Criterion (AIC) and Schwarz Information Criterion are the most popular methods in time series data analysis. The result obtained from the lag selection criteria is 2 optimum lags for this model which is presented in Table 01.

**Table 1. Optimum lag selection on the basis of the AIC**

Log	LogL	LR	FPE	AIC	SC	HQ
0	-11219.59	-	6.12e+68	181.090	181.2722	181.164
1	-10424.85	1474.115	4.67e+63	169.304	170.941*	169.969
2	-10309.53	199.0221	2.06e+63*	168.476*	171.569	169.732*
3	-10254.01	88.65653	2.44e+63	168.613	173.1619	170.461
4	-10188.25	96.5154*	2.52e+63	168.584	174.589	171.023

Source; Author's calculation using EViews

Selecting a lag length of 2 based on the Akaike information Criterion (AIC) indicates that the model with two lagged variables provides the best balance between goodness of fit and model complexity.

#### 4.2. Unit Root Test

A unit root test is a statistical method used to determine whether a time series variable is stationary or non-stationary. The null hypothesis (H0) of the unit root test is that the time variable has a unit root, indicating it is non - stationary. Conversely, alternative hypothesis (H1) is that the time series variables are stationary, implying the absence of unit root.

**Table 2. Augmented Dicky Fuller Test**

	Level				First Difference			
	Intercept		Trend & Intercept		Intercept		Trend & Intercept	
	t-statistic	Prob	t-statistic	Prob	t-statistic	Prob	t-statistic	Prob
Youth Unemployment	-1.395	0.58	-2.553	0.032	-8.491	0.000	-8.495	0.00
Labor Force	-1.013	0.74	-1.966	0.613	-15.909	0.000	-15.82	0.000
Inflation Rate	-4.275	0.013	-4.766	0.000	-11.52	0.070	-11.48	0.05
GDP	-0.431	0.899	-2.799	0.204	-1.935	0.000	-7.905	0.000
FDI	-0.27	0.954	-1.887	0.655	-9.293	0.000	-9.256	0.000
External Debt	0.919	0.779	-.266	0.890	-8.765	0.000	-8.789	0.000

*Source:* Author's calculation using EViews

The Augmented Dicky Fuller (ADF) test results indicate that some variables are stationary at level 1(0) while others are stationary in the first difference 1(1), it signifies a mixed order of integration among the variables. This finding implies that the variables exhibit different behaviors in terms of their stability over time. However, it is important to note that the ARDL model does not explicitly test for cointegration among variables. Therefore, if the research objective includes examining long-term equilibrium relationships, alternative models such as the Error Correction Model (ECM) would be more suitable. In conclusion, due to the mixed stationarity properties observed in the variables, we have chosen the ARDL model as it can effectively capture both short-term and long-term relationships.

**Table 3. ARDL based on AIC**

Variable	Coefficient	Standard Error	T - Statistics	Probability Value
Youth_Unemployment	0.661735	0.101278	6.5339	0.0000



FDI	-0.308922	0.187179	-1.65040	0.1065
FDI(-1)	-0.035487	0.178546	-0.198756	0.8434
External_Debt	-0.339285	0.134774	-2.51732	0.0158
GDP	-0.141562	0.070883	-1.997127	0.0525
GDP(-1)	-0.241098	0.85238	-2.828515	0.0072
GDP(-2)	-0.133684	0.07447	-1.795703	0.0799
Inflation	-0.025512	0.011661	-2.187755	0.0344
LN_LF	0.533469	0.427431	1.248080	0.2191
LN_LF(-1)	-0.928068	0.391051	-2.373264	0.0224
C	13.00997	4.551547	2.858362	0.0067
R <sup>2</sup>	0.954392	F-statistic	65.99703	
Adjusted R <sup>2</sup>	0.9399	Prob (F-statistic)	0.0000	
Durbin Watson	1.879	AIC	2.500	

*Source:* Author's calculation using EViews

Table 3 indicates that the R-squared value of 0.954 indicates that approximately 95.4% of the variation in the dependent variable is explained by the independent variables included in the model. This suggests a strong level of explanatory power, indicating that the model is effectively capturing the relationship between the variables. The adjusted R-squared value of 0.9399 takes into account the number of independent variables in the model, providing a more conservative measure of model fit compared to R-squared. This adjusted value suggests that approximately 93.99% of the variation in the dependent variable is explained by the independent variables, accounting for the degrees of freedom. The F-statistics value of 65.997 is associated with a probability value (p-value) of 0.000, which is less than the conventional significance level of 0.05 ( $p\text{-Value} < 0.05$ ). This indicates that the overall regression model is statistically significant, meaning that at least one independent variable significantly affects the dependent variable. In summary, the high R-squared and F-statistics values indicate a strong overall fit of the regression model.

The Durbin-Watson (DW) value of 1.879 measures the presence of autocorrelation in the residuals of the regression model. A value close to 2 indicates no significant autocorrelation. In this case, the DW statistic is 1.879. so, it is close to 2 indicates we can prove no significant autocorrelation in this model. The AIC value of 2.500 is a measure of the relative quality of the model, considering both the goodness of fit and the number of parameters. A lower AIC value indicates a better balance between model fit and complexity, suggesting that the current model is relatively good at explaining the data while avoiding overfitting Before the data analysing we must check the diagnostic test. Table 4 Shows that summary of diagnostic test results.

**Table 04. Diagnostic Test**

	<b>Test Applied</b>	<b>CHSQ(x2)</b>	<b>P - Value</b>
<b>Autocorrelation</b>	Breusch Godfrey Serial Correlation Test	0.3933	0.5101
<b>Heteroscedasticity</b>	White Test	0.6423	0.699
<b>Normality Test</b>	Jarque - bera	-	0.3673
<b>Functional Form</b>	Ramseys' Reset Test	1.1954	0.274

*Source:* Author's calculation using EViews

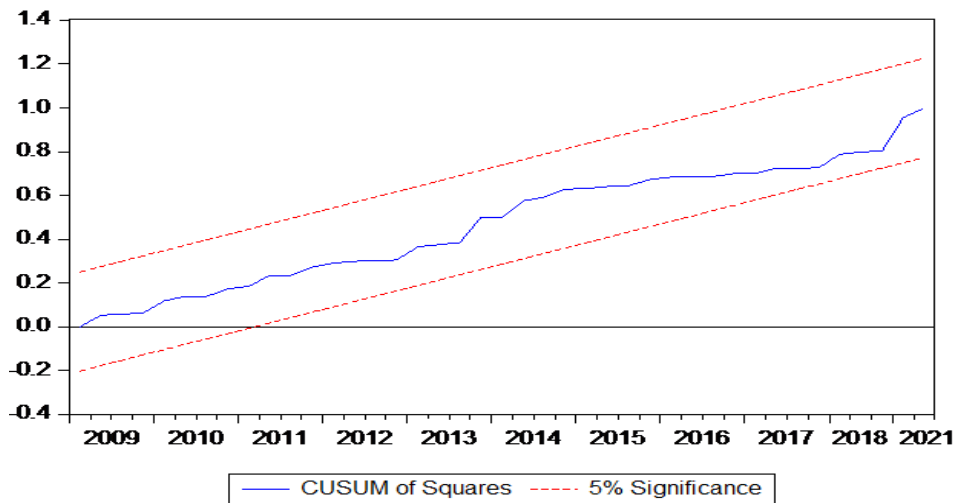
The test does not detect significant autocorrelation in the residuals. This indicates that the model adequately captures the underlying patterns in the data and provides a good fit to the observed data points. In summary, the Breusch-Godfrey Serial Correlation Test with a p-value of 0.5101 suggests that there is no significant serial correlation in the residuals of the regression model.

With a p-value of 0.699 is greater than the conventional significance level of 0.05, we fail to reject the null hypothesis, indicating that there is no significant evidence of heteroskedasticity in the residuals. Therefore, we can proceed with the assumption of homoscedasticity for the regression model.

Since the p-value (0.367) is greater than the conventional significance level of 0.05 (0.367,  $p > 0.05$ ), we fail to reject the null hypothesis ( $H_0$ ). Therefore, based on the Jarque-Bera test, we can assume that the data is approximately normally distributed.

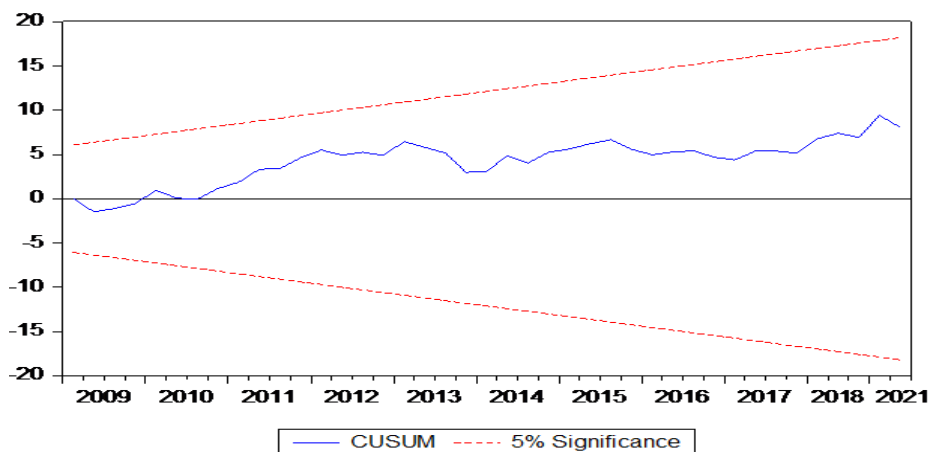
The Ramsey RESET (Regression Specification Error Test) is a diagnostic test used to determine whether a regression model is correctly specified. Based on the Ramsey RESET test with a p-value of 0.2741, we fail to reject the null hypothesis (the model is correctly specified), indicating that the regression model is likely correctly specified.

**Figure 2. Plot of Cumulative Sum of Squares Recursive Residuals**



*Source;* Author's calculation using EViews

**Figure 3. Plot of Cumulative Sum of Recursive Residuals**



*Source;* Author's calculation using EViews

Figures 2 and 3 are showing the cumulative sum of squares of recursive residuals and the cumulative sum of recursive residuals, respectively. Both CUSUMSQ and CUSUM are within critical bounds of 5%; hence, it is revealed that the model is structurally stable.

#### **4.3. Examining the relationship between variables over short periods of time**

According to Table 03, there is no significant impact between youth unemployment and FDI. Because the probability value of FDI is greater than 0.05 ( $p > 0.05$ ) However, when considering the lagged values of FDI and FDI (-1) together, they collectively

demonstrate a significant effect on youth unemployment. This is confirmed by the Wald test, indicating that the combined effect of these lagged values is statistically significant. Moreover, there is an inverse relationship between youth unemployment and FDI. The results show that the probability value of the first lag value of GDP (GDP (-1)) is 0.0072. So, the probability value of GDP is less than 0.05 ( $P, 0.0072 < 0.05$ ) Therefore, there is a significant relationship between youth unemployment and GDP. Moreover, when considering the lagged values of GDP, GDP (-1), and GDP (-2) together, they collectively demonstrate a significant effect on youth unemployment. This is confirmed by the Wald test, indicating that the combined effect of these lagged values is statistically significant. Also, there is an inverse relationship among variables. The results indicate that the inflation rate, external debt, and labor force have a statistically significant inverse relationship with youth unemployment in the short run.

Finally, we can conclude that FDI, external debt, GDP, inflation, and labor force participation are statistically significant in relation to youth unemployment in the short run.

#### 4.4. Bounds Test for Cointegration

The bounds test evaluates the presence of a long-run relationship, or cointegration, among variables. The null and alternative hypotheses for the bounds test are as follows:

H0; There is no long-run relationship (cointegration) among the variables.

H1; There exists a long-run relationship (cointegration) among the variables.

**Table 5. Bounds Test Results**

	Value	Critical Value	Lower Bound Value	Upper Bound value
F - Statistics	5.699729	10%	2.03	3.13
K	5	5%	2.32	3.50
		2.5%	2.6	3.84
		1%	2.96	4.26

*Source;* Author's calculation using EViews

In this case, the F-statistic is 5.66979 and critical values are 3.13, 3.5, 3.84, and 4.26 at significance levels of 10%, 5%, 2.5%, and 1%, respectively. Since the F-statistic exceeds all critical values, we reject the null hypothesis at all significance levels. This implies that there is strong evidence to conclude the presence of a long-run relationship among the variables. Therefore, based on the bounds test results, we can confidently assert that there exists a statistically significant long-run relationship among the variables examined in the ARDL model.

#### 4.5. Examining the Relationship between Variables over Long Periods of Time

In the long run, the following two general hypotheses are used to examine the relationship between youth unemployment and the variables.

H0; There is no significant relationship between the dependent variable and the independent variable in the long run.

H1; There is a significant relationship between the dependent variable and the independent variable in the long run.

If the probability value is less than 0.05 ( $P < 0.05$ ) then H0 is rejected and H1 is accepted.

**Table 6. Estimate Long-run Coefficient for selected ARDL Model**

	Coefficient	Standard Error	T - Statistic	Probability Value
LN_FDI	-1.018164	0.330045	-3.084926	0.0036
LN_ED	-1.003017	0.393544	-2.548677	0.0147
LN_GDP	-0.100953	0.183115	-0.551309	0.0244
LN_INF	-0.075419	0.034230	-2.203320	0.0332
LN_LF	-1.166540	0.996149	-1.171049	0.2483

*Source:* Author's calculation using EViews

The ARDL long-run analysis reveals crucial insights into the relationship between several macroeconomic factors and youth unemployment. FDI, external debt, GDP, inflation exhibit statistical significance in influencing youth unemployment in the long run. Moreover, the study identifies an inverse relationship between these factors and youth unemployment. However, economic growth, labor force, population are not statically significant.

**Table 7. Error Correction Model**

Variable	Coefficient	Standard Error	F- Statistic	Probability Value
C	13.00997	4.551547	2.85832	0.0067
D(FDI)	-0.308922	0.187179	-1.65040	0.0476
D(FDI(-1))	-0.035487	0.178546	-0.198756	0.8434
D(External_Debt)	-0.339285	0.134774	-2.51732	0.0158
D(GDP)	-0.141562	0.070883	-1.997127	0.0525

<b>D(GDP(-1))</b>	-0.241098	0.85238	-2.828515	0.0072
<b>D(GDP(-2))</b>	-0.133684	0.07447	-1.795703	0.0799
<b>D(INF))</b>	-0.025512	0.011661	-2.187755	0.0344
<b>D(Labor_Force)</b>	0.533469	0.427431	1.248080	0.2191
<b>D(Labor_Force(-1))</b>	-0.928068	0.391051	-2.373264	0.0224
<b>CointEg(-1)*</b>	-0.338256	0.067647	-5.000429	0.0000

*Source:* Author's calculation using EViews

The ECM test is used to determine whether there is a long-run relationship among variables and whether short-run deviations from this relationship are corrected over time. The ECM (-1) is the lag value of one period of error terms that find out from the long-run relationship. The value of ECM shows that the disequilibrium of short-run will be fixed over a long period of time. The ECM (-1) has a negative value and it is statistically significant. The value of ECM term shows that the process of adjustment is not quick and 33.82% of last year's disequilibrium in unemployment from its equilibrium path will be corrected in the present year.

The short-run and long-run relationship between youth unemployment and selected macroeconomic variables can be depicted in the following model.

$$\begin{aligned} \text{Youth\_Unemployment} = & 13.00997 - 0.3383 \text{Youth\_Unemployment} (-1) - 0.3444 \text{FDI} \\ & (-1) - 0.3393 \text{External\_Debt} - 0.0341 \text{GDP} (-1) - 0.0255 \text{Inflation\_Rate} - \\ & 0.3946 \text{Labour\_Force} (-1) - 0.3089 \text{D(Inflation)} - 0.1416 \text{D(GDP)} \\ & + 0.13368 \text{Youth\_Unemployment} - (1.01812 \text{FDI} (-1) - 1.0030 \text{External\_Debt} (-1) - \\ & 0.10095 \text{GDP} (-1) - 0.07541 \text{Inflation} (-1) - 1.16653 \text{Labor\_Force} (-1) + 0.5335 \\ & \text{D(Labor\_force)}) \end{aligned}$$

$$\begin{aligned} \text{EC} = & \text{Youth\_unemployment} - (-1.0182 \text{FDI} - 1.0030 \text{External\_Debt} - 0.2010 \text{GDP} - \\ & 0.0754 \text{Inflation} - 1.1665 \text{Labour\_Force}) \end{aligned}$$

According to this study, the variables of FDI, foreign debt, inflation, and GDP have statistically significant relationships with youth unemployment in the short run and long run. But the labor force has a statistically significant relationship with youth unemployment in the short run.

## 5. Discussion

Empirical research of the relationship between unemployment and FDI can identify both negative and positive relationships. The relationship between unemployment and FDI in developing countries was examined by Busse and Spielmann (2006) and according to them, countries with flexible labor markets tend to attract more FDI and

therefore have lower unemployment rates. A study by Blomström and Kokko (2003) analysed the impact of FDI on unemployment in a sample of developing countries and found that FDI inflows were negatively associated with employment growth in manufacturing industries. Also, this study results show that there is a negative relationship between youth unemployment and FDI in the short run and long run. Youth unemployment in Sri Lanka is reported to be very high and according to this research, it is possible to reduce youth unemployment in the country through increasing foreign direct investment. Therefore, the following policy can be recommended for increasing FDI in Sri Lanka. governments should adopt a multifaceted approach through a range of targeted policies. Firstly, investment promotion policies are vital, offering incentives like tax breaks and streamlined regulatory procedures to attract foreign investors. Additionally, investing in infrastructure development, including transportation networks and utilities, can significantly enhance a country's appeal to foreign investors by reducing operational costs and improving efficiency. Moreover, governments must prioritise education and training programs to cultivate a skilled local workforce, thereby making the labour market more attractive to foreign investors, particularly in high-value sectors such as technology and manufacturing. Alongside, implementing labour market reforms that balance flexibility with worker protection is crucial, fostering a dynamic and competitive environment conducive to investment and job creation. Moreover, open trade policies, including participation in free trade agreements and regional trade blocs, can expand market access and lower barriers to investment, particularly in export-oriented industries. Furthermore, fostering entrepreneurship and innovation through supportive policies like startup incubators and research grants can attract investment in high-growth sectors, generating employment opportunities. Lastly, promoting sustainable development practices ensures that investments contribute to long-term value creation and inclusive growth, further attracting responsible investors. By implementing these diverse policies tailored to their specific context, governments can effectively stimulate FDI inflows while concurrently mitigating unemployment.

This study has found that there is an inverse relationship between GDP and youth unemployment which means when GDP goes down youth unemployment goes up and GDP goes up youth unemployment goes down. According to the conclusions obtained from this study; to increase GDP and simultaneously reduce youth unemployment, governments can implement a range of policies aimed at fostering economic growth and creating job opportunities specifically targeted towards young people. Firstly, investing in education and skills development tailored to the needs of the labour market is paramount. By expanding access to quality education, vocational training, and apprenticeship programs, governments can enhance the employability of young people, thereby facilitating their integration into the workforce and contributing to GDP growth. Encouraging entrepreneurship among youth through initiatives such as startup incubators, mentorship programs, and access to financing can stimulate innovation and job creation. Governments can provide support for young entrepreneurs by offering grants, loans, and tax incentives to help them start and grow their businesses. Implementing labor market reforms aimed at reducing barriers to youth employment can facilitate their integration into the workforce. This

includes measures to address labor market segmentation, such as removing restrictions on hiring and firing, promoting flexible work arrangements, and combating discrimination in hiring practices. Developing industry clusters and innovation hubs focused on emerging sectors such as technology, renewable energy, and advanced manufacturing can attract investment, foster innovation, and create employment opportunities for young people with specialised skills. Governments can implement targeted youth employment programs aimed at providing job training, internship opportunities, and subsidised employment for young people. These programs can help bridge the gap between education and employment and provide valuable work experience for youth entering the labor market. By implementing a combination of these policies, governments can stimulate GDP growth while also addressing the specific challenges of youth unemployment.

According to the results of this study, there is an inverse relationship between youth unemployment and external debt. Thus, it is not advisable to unnecessarily increase external loans to reduce youth employment, and for that reason, the external loans obtained by the government should be used in effective economic activities that create employment opportunities for the youth community as follows. External debt can be used to provide financing and support for small and medium-sized enterprises (SMEs) and entrepreneurship initiatives. By facilitating access to credit and business development services, governments can encourage entrepreneurship among young people and create employment opportunities. Overall, while increasing external debt can provide financing for investments that could potentially reduce youth unemployment, it's crucial for governments to implement policies effectively and manage debt sustainably to maximise the benefits while minimising risks. Governments can use external debt to fund targeted youth employment programs, including job training, internship opportunities, and subsidised employment schemes. These programs can help young people gain valuable work experience and transition into the labour market. External debt can be used to provide financing and support for small and medium-sized enterprises (SMEs) and entrepreneurship initiatives. By facilitating access to credit and business development services, governments can encourage entrepreneurship among young people and create employment opportunities.

According to this study, the variables of FDI, foreign debt, inflation, and gross domestic product (GDP) have statistically significant relationships with youth unemployment in the short run and long run. But variables of the labor force have a statistically significant relationship with youth unemployment in the short run. According to the results obtained by this study, it is possible to solve the problems of high youth unemployment in Sri Lanka through the above-mentioned policies.

## **6. Conclusion**

The empirical results of this study underscore the multifaceted nature of youth unemployment in Sri Lanka and highlight several significant factors influencing this phenomenon. FDI, GDP, external debt, and inflation rate emerge as key determinants of youth unemployment both in the short run and the long run. Particularly



noteworthy is the finding of an inverse relationship between these macroeconomic factors and youth unemployment, indicating that improvements in these variables could potentially lead to a reduction in youth unemployment rates over time. Additionally, the study identifies the labor force as a significant factor affecting youth unemployment in the short run, emphasising the dynamic nature of labor market dynamics and the importance of short-term policy interventions in addressing immediate unemployment challenges among young people.

By empirically examining the relationship between macroeconomic factors and youth unemployment in Sri Lanka, this study effectively addresses a significant research gap identified in the existing literature. Prior research has largely focused on youth unemployment globally or within specific country contexts, but there has been a noticeable absence of studies analysing this issue within the Sri Lankan context, particularly concerning the influence of macroeconomic variables. Through rigorous empirical analysis, this research fills this gap by providing valuable insights into the specific macroeconomic determinants of youth unemployment in Sri Lanka. The identification of (FDI), GDP, External Debt, Inflation, and labour force dynamics as significant factors affecting youth unemployment in both the short and long run contributes to a deeper understanding of the complex interplay between macroeconomic conditions and youth employment outcomes in Sri Lanka. Thus, this study not only adds to the body of knowledge on youth unemployment but also addresses a critical research gap by focusing on the Sri Lankan context and elucidating the role of macroeconomic factors in shaping youth employment prospects in the country.

Recognizing the critical role of macroeconomic factors in shaping youth employment outcomes, policymakers should priorities initiatives aimed at attracting FDI, promoting economic growth, managing external debt levels, and maintaining stable inflation rates. Moreover, efforts to enhance labor force participation and productivity should be pursued to address short-term unemployment issues among youth. By implementing targeted policies addressing these factors, policymakers can create an enabling environment conducive to job creation and economic opportunities for young people, ultimately fostering inclusive and sustainable development in Sri Lanka.

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