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# ASSESSING THE INFLUENCE OF IMPORT OPENNESS ON YOUTH UNEMPLOYMENT IN NIGERIA: THE DICHOTOMY OF MALE AND FEMALE YOUTHS

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## Abstract

*This study examined the impact of import openness on youth unemployment in Nigeria, disaggregated by total, male, and female youth unemployment, using annual data from 1991 to 2023. Employing the Autoregressive Distributed Lag (ARDL) estimation technique, the study captured both the short- and long-run dynamics of the influence of import openness on youth unemployment. The findings showed that over time, a 1% increase in import openness causes both the overall youth unemployment rate to grow by 19.1% and the female youth unemployment rate to climb by 35.4%. However, the impact on male youth unemployment was not statistically significant. On the other hand, import openness increases female youth unemployment by 17.4% and overall youth unemployment by 13% in the short run while having no discernible effect on male youth unemployment. The results indicate that Nigeria's employment market exhibits structural vulnerabilities, particularly for young women, amid increasing trade liberalisation. The study highlights the necessity for focused interventions, investments in local production, and gender-sensitive labour policies to mitigate the adverse effects of import dependence on employment opportunities for youth. Inclusive trade and employment policies should be developed based on these observations.*

**Key Words:** Import Openness, Youth Unemployment, Male Youth, Female Youth and Nigeria

## 1 Introduction

Trade openness, defined by reduced trade barriers and enhanced global integration, presents both opportunities and challenges for developing economies. Scholarly interest in its impact on unemployment has been increasing, especially in sub-Saharan Africa. Abdul-Mumuni et al. (2023) demonstrate that trade openness has asymmetrical effects, with positive shocks often increasing unemployment to a greater extent than negative shocks. This emphasises the complex connection between trade policy and employment, highlighting the necessity for strategies that reconcile job creation with economic development (Azu et al., 2021). This research assesses the relationship between youth unemployment in Nigeria and import openness, measured by the ratio of GDP in relation to imports of merchandise goods and services. It examines the gender-specific impacts of import openness on youth unemployment on both males and females, analysing these effects in the short- and long-run to inform policy action.

The unemployment issue jeopardises Nigeria's socio-economic stability. The economy remains reliant on imports, with petroleum and agricultural exports accounting for the majority of revenue, despite generating ₦1.94 trillion in foreign trade deposits in 2021. In 2020, Nigeria recorded its first annual trade deficit in four years, with imports surpassing exports by ₦7.37 trillion. According to the National Bureau of Statistics June 2021 report, the unemployment rate in the country in December 2020 was 33.3%, and the youth unemployment rate for those aged 15 to 34 years was 42%, which means 2.72 million people. Among the youths, unemployment rates were higher for those aged 15-24 years, with an unemployment rate of 53.4 %, while those aged between 25 and 34 years had an unemployment rate of 37.2 %. It worsens labour market problems, capital flight, and balance of payments problems that result from reliance on imports. Thus, this paper investigates the relationship between import operations and youth unemployment in Nigeria, particularly concerning the youthful labour force.

This paper has focused on Nigeria as one of Africa's largest economies, with complex dynamics in its labour market. This makes it a constructive case study to examine the relationship between trade and employment. Onifade et al. (2020) opined that Nigeria could explore the opportunity of trade openness to enhance economic activities as well as investments and thereby help reduce unemployment. More often than not, these effects are limited by institutional and structural imperfections that inhibit employment generation. According to Nwaka et al. (2015), while the promotion of trade openness is likely to foster economic development, it does not always stimulate employment creation as there is a lack of adequate labour market and industry development. This problem is most evidently shown in Nigeria, especially in the industrial and agricultural sectors, because, according to Asaleye et al. (2021), the liberalisation of trade has led to inadequate competitiveness and insufficient infrastructural base that exacerbate unemployment. Famode, Makalamba, and Ngobula (2020) asserted that trade openness was found to have an insignificant effect on unemployment in the Democratic Republic of the Congo.

Wider studies show shreds of evidence that the effect of trade openness on unemployment varies considerably with regions and individual economies. Beg and Bhat (2023) argued that in less developed countries (LDCs) like Nigeria, the structural labour market problems distort the advantages of being more open to trade. According to Ali et al. (2022), for trade policies to facilitate employment solutions, there should be complementary public expenditure, good institutional efficiency and increased human capital investment. Gonese et al. (2023) highlighted that appropriate trade policies, which focus on exports and acting proactively to import, are strategic among the Nigerian factors. The study highlighted that it is possible to optimally utilise the employment gains following openness to trade by resolving the current structural and macroeconomic restraints.

Nonetheless, studies evaluating the effect of trade openness on unemployment in Nigeria, particularly youth unemployment, remain elusive. This work seeks to fill this literature gap by determining the impact of import openness on youth unemployment- from a gender perspective. The literature to date has concentrated on the general proxy for trade openness without considering such subcategories within trade openness as import openness and its varying impacts on youth unemployment rates for male and female groups. This research analyses the dynamics mentioned above from 1991 to 2023, using the Autoregressive Distributed Lag (ARDL) model, to establish both short-run and long-run implications. The outcome of this research

would provide some policy implications concerning unemployment problems in Nigeria.

Most importantly, this study is pertinent to the United Nations Sustainable Development Goals (SDGs) encapsulated by SDG 8 (decent work and economic growth). The youth constitute a significant component of the Nigerian workforce. Therefore, assessing an effective means of providing the youth with employment is pertinent, which is a sine qua none to the successful implementation of inclusive and sustainable development (Azu et al., 2024). Moreover, this study is strongly connected to SDG 1-eradication of poverty and SDG 10-inequality since high unemployment causes poverty and economic disparity. By investigating the relationship between import performance and youth unemployment, this paper helps to explain how patterns of international trade and economic policies create opportunities for youths, support and sustain development and reduce socio-economic risks.

The time frame covers the period of important policy changes with regard to trade liberalisation, economic diversification initiatives, and structural adjustment programs. The recency of the data further fortifies the relevance of the study for contemporary economic challenges, including post-pandemic recovery and efforts to lessen Nigeria's import dependency. Therefore, this study lays a sound bedrock for extracting practical insights and policy recommendations for the persisting youth unemployment challenge in Nigeria.

## 2 A Recap of Youth Unemployment and Imports in Nigeria

Youth unemployment by gender, merchandise, and service imports, as displayed in Figure 1, were for the period 1991 to 2023. In this period, youth unemployment edged up to 12.588 in 2019, and the projections for 2021-2023 were cut to 5.841%. In 2012, considering the gender analysis of unemployment rates, male youths were more unemployed than female youths. After 2012, female unemployment rates started to outcompete males, thereby signalling an increase in gender inequalities in the labour market across different levels (Azu et al., 2024). The merchandise imports performed greatly better, with a large expansion, which indicates a swing toward imported products. The trend of service imports indicates that Nigeria's trade structure diversified from 2006 to 2019 towards non-merchandising goods.

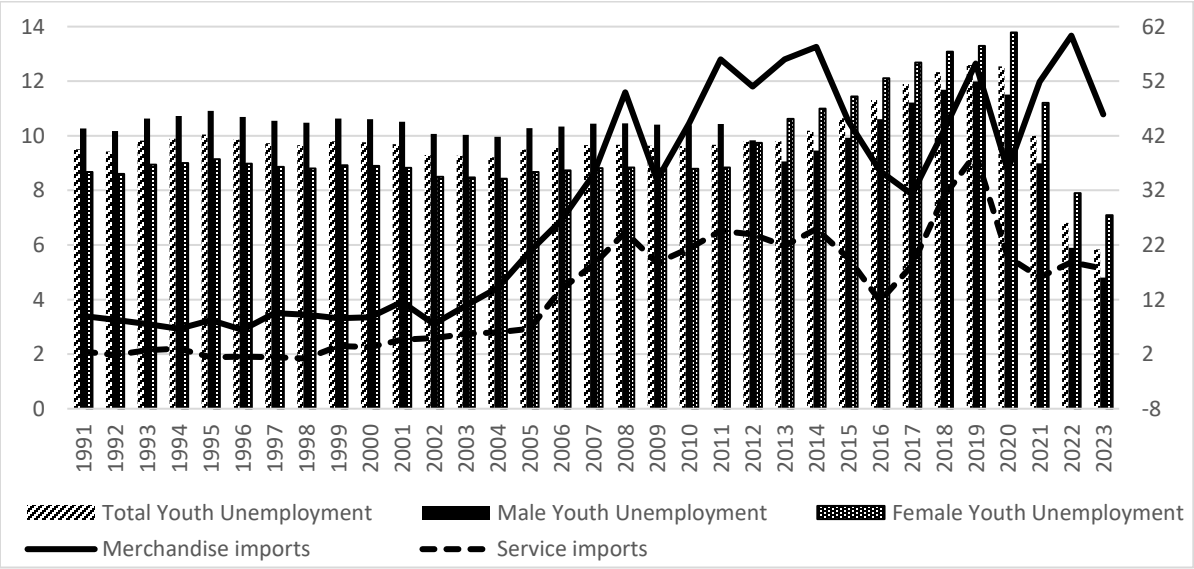


Figure I. Youth Unemployment and Nigerian Imports
**Sources of Data:** WDI

According to Abdul-Mumuni et al. (2023), there are major socio-economic challenges: the higher dependence on imports raises the risks of a decrease in products of final goods and services as well as job opportunities and exacerbates youth unemployment in the economy. According to Bhat and Beg (2023), the steep decline of the youth unemployment rate after 2021 will be due to recovery measures engulfed for COVID-19 and changes in the world economy. Consequently, the increase in the female youth unemployment rate since 2012 supports the global feminisation of employment inequality and advocates for gender-sensitive labour market approaches. To resolve the problems of youth unemployment and gender disparity in Nigeria's labour market, it is advisable to institute policies that decrease import dependency, enhance local businesses, and promote diverse and non-discriminatory employment.

## 3 Literature Review

Several theories of how trade openness relates to unemployment are based upon the complex dynamic of market conditions, industrial structures and factor endowments. The Heckscher–Ohlin (HO) hypothesis asserts that trade openness influences labour demand and unemployment by altering factor endowments and comparative advantage (Heckscher & Ohlin, 1991). The Stolper-Samuelson theorem that links trade, factor prices and distribution of income concedes that for any given product, change in unemployment is dependent on the variation in cost of capital and labour occasioned by trade openness (Beker, 2012; Feenstra, 2018). According to the New Trade Theory, trade openness affects labour demand and industrial development, bringing about employment fluctuations depending on individual countries' comparative advantage (Grossman & Helpman, 2018).

Previous research has investigated the relationship between trade liberalisation and unemployment in various settings, but the findings vary. Abdul-Mumuni et al. (2023) have employed sub-Saharan Africa (SSA) data and identified that positive shocks of trade openness have raised the unemployment rate much more than the negative shocks have lowered it. This paper thus documents worsening or enhancing coefficients in the trade-employment relationship using prolonged period panel estimators of higher quality, such as Pedroni and Westerlund cointegration tests. Gonese et al. (2023) worked on the SADC region and presented a correlation between imports and unemployment and an inverse correlation between exports and trade openness and unemployment. They show the multifaceted nature of trade-related job effects and establish the requirement for more comprehensive trade policies that can account for export-import relations and their consequences.

On the other hand, assorted research proves that trade openness will lead to a decline in unemployment under definite circumstances. Bhat and Beg (2023), by employing dynamic and static panel causality models, concluded that unemployment, as an outcome, declines when trade openness rises. This influence is confirmed to increase with the income level, although the strength of the effect is not always constant. Nessa et al. (2021) also pointed out that on a positive and favourable assumption about the labour market, trade openness may decrease unemployment but often increases unemployment in LDCs because of structural impediments. According to Awad-Warrad (2018), the level of trade openness and economic development has also generally significantly reduced unemployment in Arab countries. Nguyen (2022) finds that, in South Asia, trade openness decreases the

unemployment rate. The results indicate that employment benefits from trade openness depend on targeting policies, macroeconomic conditions, and their interactions with trade openness.

Previous literature on Nigeria's trade openness and unemployment have given inconclusive findings. The Phillips curve was confirmed by Onifade et al. (2020) that trade liberalisation and domestic investment negatively affect the unemployment rate in Nigeria. But, based on Asaleye et al. (2021), trade openness adversely impacted labour market outcomes, particularly in the industrial and agricultural sectors, stressing on sectoral risks. The study by Nwaka et al. (2015) unveiled the contemporaneous and long-run relationship between trade openness and unemployment in Nigeria and the short-run negative impact of foreign price shocks. This gap analysis reveals that Nigeria's commerce and employment are wracked by institutional and structural inefficiency.

The modelling of gender differences in trade and unemployment has only been done to a limited extent in Nigeria and Sub-Saharan Africa. Anyanwu (2014) states that intra-African trade accelerates youth unemployment reduction and establishes the role of urbanisation, education and domestic investment in job creation. According to Awad (2019), globalisation reduces youthful unemployment in Africa with different outcomes related to the labour market and demographic features. There is a knowledge gap about the gendered effects of trade openness because of a lack of research on the experiences of male and female youths. Regarding import openness and youth Unemployment in Nigeria, no gender dichotomy has been crafted. Examining the impact of import openness on differential male and female youth unemployment using the ARDL approach becomes paramount for policy ideas.

## 4 Research Method

### 4.1 Model Specification and Data

The study adopts an ex-post-facto design, leveraging historical data to examine the impact of import openness on youth unemployment in Nigeria. It disaggregates unemployment into male and female categories, addressing gender dynamics and socio-economic disparities. It offers a comparative analytical enhancement based on Bhat and Beg (2023) and Abdul-Mumuni et al. (2023) models. Thus:

$$TUU_t = \delta_0 + \delta_1 GPC_t + \delta_2 TOP_t + \delta_3 INF_t + \delta_4 FDI_t + \varepsilon_t \quad (1)$$

Where $TUU_t$ is the unemployment rate. $GPC_t$ stand GDP per capita at time t, $TOP_t$ is trade openness at time t, $INF_t$ is the inflation at time t as considered in Bhat and Beg (2023) and $FDI_t$ is the Foreign direct investment inflow at time t. $\varepsilon_t$ – stochastic error term assumed to be normally distributed, $\delta_0$ stand for the constant term, $\delta_1$ *to* $\delta_4$ are the parameters to be estimated by regression.

To realise the objectives of this study, Equation 1 is augmented as follows: $TUU_t$(the unemployment rate) is replaced with $TYU_t$ (the Total youth unemployment rate). Which is further segregated into Male youth unemployment rate ($MYU_t$) and Female youth unemployment rate ($FYU_t$) as dependent variables. Again, $TOP_t$ (trade openness) is replaced with import openness ($MPG_t$). Import openness constitutes merchandise and service import as a percentage of the GDP. Thus, the model is modified and transformed into a natural logarithm ($ln$) as follows:

$$lnTYU_t = \delta_0 + \delta_1 lnGPC_t + \delta_2 lnMPG_t + \delta_3 lnINF_t + \delta_4 lnFDI_t + \varepsilon_t \quad (2)$$

**Table 1 Data Sources and Expected Signs of Coefficients**

| Variables | Expectation | Sources |
|---|---|---|
| Total Youth Unemployment ($TYU_t$) | Dependent | WDI |
| Male Youth Unemployment ($MYU_t$) | Dependent | WDI |
| Female Youth Unemployment ($FYU_t$) | Dependent | WDI |
| GDP per Capita ($GPC_t$) | Positive (+) | WDI |
| Import Openness ($MPG_t$) | Positive (+) | WDI |
| Inflation Rate ($INF_t$) | Negative (-) | WDI |
| Foreign Direct Investment ($FDI_t$) | Negative (-) | WDI |

Note: WDI-World Development Indicator

### 4.2 Estimation Technique

The Autoregressive Distributed Lag (ARDL) model, developed by Pesaran et al. (2001) and Pesaran and Shin (1999), allowed for robust short- and long-run relationship analysis in time series data. Its primary advantage lies in accommodating variables that are integrated at levels (I(0)), first differences (I(1)), or both, bypassing the need for stationarity pre-tests (Yusuf & Mohd., 2020). This flexibility allows simultaneous short- and long-run parameter estimation for dynamic analysis (Azu et al., 2024). ARDL works well for small sample sizes, delivering accurate findings across datasets (Abdullahi et al., 2024). Bounds testing identifies cointegration when the F-statistic exceeds the upper critical constraint. The error-correction mechanism model (ECM) also reveals equilibrium adjustment speed, which is negative and substantial (Banerjee et al., 1998). Equation (2) could be altered for a re-parameterised Auto-regressive Distributed Lag Model (ARDL) error correction model for this paper with all independent variables in natural logarithm:

$$TYU_t = \omega_i[TYU_{t-1} - \beta_i'(lnGPC_t + lnMPG_t + lnINF_t + lnFDI_t)] + \sum_{j=1}^{p-1}\gamma_{ij}\Delta TYU_{t-j} + \sum_{j=0}^{q-1}\delta_{ij}'\Delta lnGPC_{t-j} + \sum_{j=0}^{q-1}\delta_{ij}'\Delta lnMPG_{t-j} + \sum_{j=0}^{q-1}\delta_{ij}'\Delta lnINF_{t-j} + \sum_{j=0}^{q-1}\delta_{ij}'\Delta lnFDI_{t-j} + \alpha_i + \varepsilon_t \quad (3)$$

Notes: $\omega_i =$ coefficient for speed of adjustment to equilibrium, which is expected to be less than 0. $\beta_i'$ = Coefficients of long-run relationships. $ECT = \omega_i[TYU_{t-1} - \beta_i'(lnGPC_t + lnMPG_t + lnINF_t + lnFDI_t)]$ represent the error correction term to be estimated. $\gamma_{ij}$, $\delta_{ij}'$ represent the short-run dynamic coefficients.

### 5 Results and Discussion

Table 2 Panel A shows the variable distribution across 33 observations using descriptive statistics. Total youth unemployment (TYU) averages 9.88% with a standard deviation of 1.31%, showing substantial fluctuation. MYU averages 10.12%, whereas FYU averages 9.65%; however, FYU has a standard deviation of 1.69%. GDP per capita (GPC) ranges from 494.13 to 3200.95, averaging 1664.90, reflecting economic performance differences. Import openness (MPG) averages 0.15 and has small fluctuation (0.046), whereas inflation rates (INF) vary from 5.39 to 72.84, averaging 18.61, suggesting instability. Foreign direct

investment (FDI) averages 1.30 with substantial fluctuation from -0.04 to 2.90

Table 2 Descriptive Statistics and Correlation Matrix

| Panel A: Descriptive Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| Variable | $TYU$ | $MYU$ | $FYU$ | $GPC$ | $MPG$ | $INF$ | $FDI$ |
| Obs | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| Mean | 9.8788 | 10.121 | 9.6506 | 1664.9 | 0.1532 | 18.609 | 1.3014 |
| Std. Dev. | 1.3128 | 1.3872 | 1.6925 | 789.77 | 0.0463 | 16.029 | 0.8552 |
| Min | 5.841 | 4.803 | 7.092 | 494.13 | 0.0428 | 5.3880 | -0.0395 |
| Max | 12.588 | 11.996 | 13.782 | 3201.0 | 0.2206 | 72.836 | 2.9002 |
| Panel B: Correlation Matrix | | | | | | | |
| Variable | $lnTYU$ | $lnMYU$ | $lnFYU$ | $lnGPC$ | $lnMPG$ | $lnINF$ | $lnFDI$ |
| $lnYTU$ | 1 | | | | | | |
| $lnMYU$ | 0.8802 | 1 | | | | | |
| $lnFYU$ | 0.8296 | 0.4652 | 1 | | | | |
| $lnGPC$ | 0.1577 | -0.1284 | 0.4448 | 1 | | | |
| $lnMPG$ | -0.0907 | -0.1284 | -0.0184 | -0.1738 | 1 | | |
| $lnINF$ | -0.1551 | -0.098 | -0.1767 | -0.3392 | -0.1911 | 1 | |
| $lnFDI$ | -0.1953 | 0.0073 | -0.3725 | -0.3555 | 0.6915 | -0.0428 | 1 |

Sources: Author's Computation

The correlation matrix in Table 2 Panel B highlights relationships among the natural logarithms of the variables. Total youth unemployment ($lnTYU$) is highly correlated with male youth unemployment ($lnMYU$, 0.8802) and female youth unemployment ($lnFYU$, 0.8296), indicating strong gender-specific linkages. GDP per capita ($lnGPC$) has a weak positive correlation with all three youth unemployment variables, suggesting a limited impact on youth unemployment. Import openness ($lnMPG$) and inflation ($lnINF$) show weak negative correlations with unemployment variables, implying negligible direct effects. Foreign direct investment ($lnFDI$) has a moderate positive correlation with import openness (0.6915) but shows weak or negative relationships with unemployment variables, suggesting FDI's indirect or limited role in addressing youth unemployment. These emphasise the complexity of interactions between economic factors and unemployment dynamics, and no issue of multicollinearity is envisaged (Azu et al., 2021).

Table 3 Augmented Dickey-Fuller (ADF) Unit Root Test

| Variables | Level (t-statistics) | 1st difference (t-statistics) | Remarks |
|---|---|---|---|
| $lnTYU$ | -4.358*** | -4.338*** | I(0) |
| $lnMYU$ | -5.528*** | -3.764*** | I(0) |
| $lnFYU$ | -2.659* | -3.753*** | I(0) |
| $lnGPC$ | -2.285 | -3.261** | I(1) |
| $lnMPG$ | -2.464 | -3.061** | I(1) |
| $lnINF$ | -2.990** | -4.444*** | I(0) |
| $lnFDI$ | -2.266 | -4.510*** | I(1) |
| Critical Values | 10% | 5% | 1% |
| Level | -2.623 | -2.983 | -3.709 |
| Ist Difference | -2.624 | -2.986 | -3.716 |

Note: * indicates stationery at 10 %, ** means stationery at 5% and *** means stationery at 1%. Unit root test was based on Augmented Dickey-Fuller (ADF) Using Stata 14

**5.1 Unit Root Tests and Cointegration**

The Augmented Dickey-Fuller (ADF) was preferred for the unit root test, and the results are presented in Table 3. It revealed that total youth unemployment ($lnTYU$), male youth unemployment ($lnMYU$), female youth unemployment ($lnFYU$) and inflation ($lnINF$) are stationary at level (I(0)). On the other hand, GDP per capita, import openness, and FDI are stationary at first differences, indicating they are integrated into order one (I(1)). The critical values confirm that the t-statistics for each variable meet the required thresholds for stationarity at the respective levels of significance. These findings suggest a mix of I(0) and I(1) variables, which justify the choice of the ARDL estimation technique

.Table 4 Cointegration Bound Tests Result

| | | | | |
|---|---|---|---|---|
| F-statistic (T) | 10.890 | $EC_{M-1}$ | -0.935*** | (0.133) |
| F-statistic (M) | 5.113 | $EC_{M-1}$ | -0.908*** | (0.190) |
| F-statistic (F) | 4.755 | $EC_{M-1}$ | -0.551*** | (0.121) |
| | Significant level | 10% | 5% | 1% |
| F-Bounds Test | Lower bound | 2.45 | 2.86 | 3.74 |
| | Upper bound | 3.52 | 4.01 | 5.06 |

Note: the number in parenthesis represents t-statistics, *** signifies a 1% level of significance, F-statistics is determined with restricted constant and no trend; T- Total Youth Model, M-Male Youth Model and F-Female Youth Model

The model was estimated three times: initially with total youth unemployment as the dependent variable (T-model), subsequently with male youth unemployment as the dependent variable (M-model), and finally with female youth unemployment as the dependent variable (F-model). The bound test for cointegration is presented in Table 4, indicating a long-run relationship among the three models estimated according to the criteria established by Pesaran et al. (2001). The F-statistics for the three models are significant at the 1% level. Furthermore, the Error Correction Term (ECT) coefficients in both models indicate the presence of long-run relationships. According to Azu et al. (2024) and Abdullahi et al. (2024), a negative value of ECT ranges from -1 to 0, indicating the absence of serial error correction problems and instability issues resulting from a structural break in the data. The magnitude of ECT is presented in Table 4, indicating coefficients of 0.935 for the T-model, 0.908 for the M-model, and 0.551 for the F-model. The convergence rates are 93.5%, 90.8%, and 55.1%, respectively, indicating a strong cointegration among the series.

### 5.2 Short Run and Long Run Results

In the long run, import openness has a positive effect on overall youth unemployment, indicated by a coefficient of 0.191, which is statistically significant at the 1% level, and on female youth unemployment, with a coefficient of 0.354, also statistically significant at the 1% level (See Table 5). The effect on male youth unemployment is not statistically significant. A 1% increase in import openness is associated with a 19.1% rise in total youth unemployment and a 35.4% increase in female youth unemployment. The findings indicate that a greater dependence on imports intensifies unemployment issues, especially among young women, likely due to the displacement of local industries and employment opportunities. The absence of a notable long-run relationship between import openness and male youth unemployment suggests gender disparities in the impact of trade openness on labour market dynamics.

**Table 5 Impact of Import Openness on Youth Unemployment in Nigeria**

| Variables | Total | Male | Female |
|---|---|---|---|
| Long Run Results | | | |
| $lnGPC$ | -0.00612 (0.0219) | -0.0518 (0.0318) | 0.0313 (0.0494) |
| $lnMPG$ | 0.191*** (0.0396) | 0.0430 (0.0571) | 0.354*** (0.0898) |
| $lnINF$ | 0.00592 (0.0222) | -0.0238 (0.0316) | 0.0214 (0.0510) |
| $lnFDI$ | -0.112*** (0.0181) | -0.0368 (0.0260) | -0.182***(0.0414) |
| Error Correction Short Run Results | | | |

| | | | |
|---|---|---|---|
| ECT | -0.935*** (0.133) | -0.908*** (0.190) | -0.551*** (0.121) |
| $l.\Delta lnT/M/YU$ | 1.638*** (0.154) | 1.741*** (0.229) | 1.105*** (0.159) |
| $\Delta lnGPC$ | -0.0640 (0.0429) | 0.0283 (0.0642) | -0.152** (0.0562) |
| $\Delta lnMPG$ | -0.130** (0.0469) | -0.0181 (0.0622) | -0.174** (0.0654) |
| $l.\Delta lnMPG$ | -0.0321 (0.0314) | -0.0358 (0.0435) | -0.0217 (0.0423) |
| $\Delta lnINF$ | -0.00291 (0.0205) | -0.00261 (0.0286) | -0.00497 (0.0274) |
| $\Delta lnFDI$ | 0.0379* (0.0205) | 0.00954 (0.0257) | 0.0203 (0.0267) |
| Constant | 2.531*** (0.409) | 2.597*** (0.598) | 1.474*** (0.425) |
| Observations | 33 | 33 | 33 |
| R-squared | 0.877 | 0.812 | 0.755 |

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; ARDL (2,1,2,1,1) regression

Import openness has a short-run negative impact on total youth unemployment, with a coefficient of -0.130 and statistically significance at 5%. Female youth unemployment likewise had a -0.174 coefficient, which is statistically significant at 5%. With a negative value of -0.0181, it has little effect on male youth unemployment (See Table 5). This suggests that enhanced import openness temporarily decreases overall youth unemployment by 13.0%, all things being equal. Notably, a percentage increase in import openness seems to decrease female youth unemployment by 17.4%, perhaps owing to better access to products and services that create jobs. Although not statistically significant at lag one, all studies showed negative coefficients. However, trade (import) openness has a greater short- and long-run influence on female youth unemployment, underlining the need for tailored strategies to address these gaps.

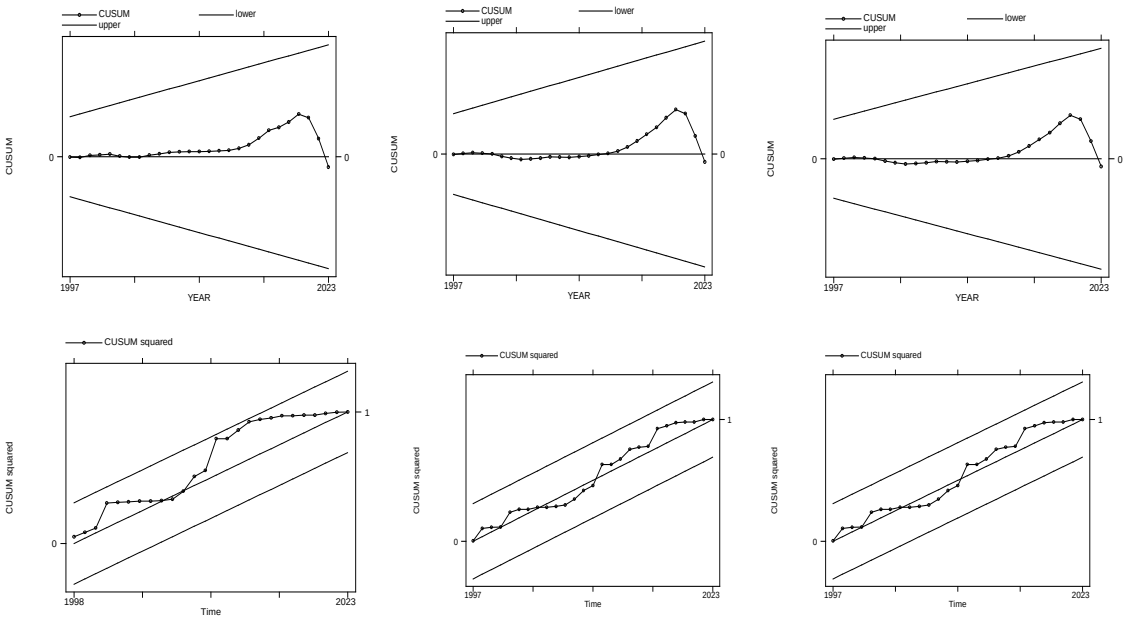
### 5.3 Stability Test

The diagnostic test results in Table 6 validate the robustness of the regression models for total, male, and female youth unemployment. High R-squared values—0.877 for total youth unemployment, 0.812 for male youth unemployment, and 0.755 for female youth unemployment—demonstrate significant explanatory power, with total youth unemployment exhibiting the highest value. The lower R-squared for female youth unemployment indicates the presence of additional influencing factors that require further examination. The Breusch-Godfrey test indicates the absence of serial correlation, with probabilities of 0.1648 (total), 0.7788 (male), and 0.5932 (female), all exceeding 0.05. The Breusch-Pagan-Godfrey test indicates no significant heteroscedasticity, with all probabilities exceeding 0.05. The CUSUM test indicates stability, as cumulative residuals remain within critical limits. The results confirm the models' reliability and underscore their significance for formulating informed, gender-specific policies addressing youth unemployment in Nigeria.

**Table 6 Diagnostic Test**

| Statistics | Youth | Male Youth | Female Youth |
|---|---|---|---|
| R-Square | 0.877 | 0.812 | 0.755 |
| Serial Correlation | 3.410(0.1648) | 0.079(0.7788) | 0.285(0.5932) |
| Heteroscedasticity Test | 2.23(0.1357) | 3.09 (0.1788) | 5.24(0.1221) |

Note: Probabilities are in parentheses; serial correlation is with the Breusch-Godfrey LM test; Heteroscedasticity test is with the Breusch-Pagan test.




## 5.4 Discussion of Findings

The findings of this study align with the existing literature on the intricate relationship between trade openness and unemployment, particularly over the long run. The findings indicate that import openness significantly influences total and female youth unemployment in the long run. The findings correspond with the observations of Abdul-Mumuni et al. (2023) and Gonese et al. (2023), who noted that rising imports in Sub-Saharan Africa and the Southern African Development Community region exacerbate unemployment by displacing local production and job opportunities. This suggests that import openness has a crucial impact on female unemployment, which corresponds with Anyanwu (2014), as follows: structural and demographic factors condition the unemployment dynamics in Africa, where young women face vulnerabilities in the trade-exposed sector. The lack of significant long-run effects on male youth unemployment suggests that male workers may be more resilient to trade-related disruptions. This trend necessitates additional examination of gendered labour market dynamics. The findings underscore the need for targeted interventions to assist female youth in adapting to evolving trade environments, as Awad (2019) indicated.

The study indicates that import openness in the short run leads to a temporary decrease in total and female youth unemployment, suggesting potential short-run employment benefits associated with heightened economic activity, as evidenced by research from Nessa et al. (2021) and Awad-Warrad (2018). The observed positive effect may be temporary, considering the long-run increase in unemployment, especially among females, as structural constraints and limited domestic capacity to compete with imports become more pronounced. The results are consistent with the assertions of Nwaka et al. (2015) and Asaleye et al. (2021) that Nigeria's sectoral vulnerabilities and institutional inefficiencies exacerbate the adverse effects of trade openness on employment. Anyanwu (2014) highlighted this study empirically to underscore the need to bring about gender-sensitive trade policy that addresses employment disparities, complemented by other such policies that would further strengthen labour market resilience and fast-track inclusive economic growth.

This study's findings offer empirical support for theories that connect trade openness with unemployment rates. The consistent finding that import openness elevates total and female youth unemployment corresponds with the Heckscher–Ohlin (HO) theory, indicating that Nigeria's factor endowments and comparative disadvantages in specific labour-intensive sectors may influence this issue. Stolper–Samuelson theorem posits that trade openness may result in wage suppression or decreased labour demand for favoured types of labour that compete against labour in sectors where Nigeria cannot successfully compete. The gender-specific effects proposed by these theoretical frameworks imply that the unemployment decrease affected female youth particularly badly because of structural labour market inequalities. The New Trade Theory, which says that trade can generally increase labour demand through economic restructuring, explains why the temporal increase in employment is correlated. Particularly, the enduring negative effects highlight the need for policies that not only reinforce Nigeria's comparative advantage but also minimise the structural vulnerability of the labour market towards maximising the potential of trade openness while aligning them to the country's socio-economic objectives.

## 6 Conclusions

In seeking to determine the effect of import openness on youth unemployment, the focus of this research was on total youth unemployment and male and female youth unemployment rates. The estimates corroborate the exposure of Nigeria to external trade and its labour market distortions – it finds that import penetration has a large long-run impact on total and female youth employment. Perhaps there are gender differences in the labour market dynamics of the economy such that unemployment of male youth in the economy is less sensitive to the openness of imports. Import openness in the short run also cuts unemployment, suggesting temporary benefits to trade activities (import-dependent jobs). The findings underscore the structural and institutional factors influencing labour market outcomes in Nigeria and illustrate the intricate relationship between trade and unemployment. To ensure that trade openness positively impacts inclusive and sustained job development, it is essential to address these issues.

To counteract the detrimental long-run effects of import openness on youth unemployment, particularly for young women, policymakers must implement measures to reduce reliance on imports and enhance local production capabilities. Youth may participate in value-added manufacturing sectors by investing in education and vocational training that meets the expectations of the local industry. Mitigating the unequal effects of import openness on young female unemployment

necessitates implementing gender-sensitive labour market strategies, including support for female entrepreneurs and affirmative action programs. Nigeria's industrialisation objectives should be integrated into trade policy, emphasising export promotion and developing industries where the country holds a competitive advantage. Enhancing the business environment, infrastructure, and institutional quality can elevate the competitiveness of local industries in the global market, thereby creating additional employment opportunities for youth.

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