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Selected Macroeconomic Variables and Textiles Industry Output in Nigeria

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Abstract
The textiles industry in Nigeria used to be the highest employer of labour, apart from the federal government in the 1980s but due to its lack of competitive edge, poor policy implementation; lack of technological capability, high cost of production, inadequate infrastructure such as transportation, water supply, electricity supply and telecommunications etc. Its membership has shrunk from 175 firms in 1985 to less than 20 firms in 2022 and exportability is next to zero this is why the aim of this paper is to investigate the relationship that exists between selected macroeconomic variables and textiles industry output in Nigeria. Ex-post facto design was adopted. Data were sourced from CBN annual statistical bulletin, the National Bureau of Statistics, and the World Bank. ARDL was adopted for data analysis. ADF Unit root tests revealed mixed order of integration while Co-integration Bounds test revealed the existence of long-run relationship between the dependent and independent variables. Findings revealed that there is a long-run relationship among the variables. While interest rate, exchange rate and net exports have positive relationship on textile industry, government capital expenditure has negative relationship with textile industry output. The probability values indicate that all the variables do not have significant impact on textiles industry output. The paper recommends that the Central Bank should formulate deliberate policy measures that will bring down the exchange rate and capital expenditure should be increased to the real sector to encourage investment in the manufacturing sector and the textile industry sub sector.

Keywords: Textiles industry, Interest rate, Exchange Rate, Net Export, Government Capital Expenditure

JEL Classification E23, E6, L52, L67

1.0 Introduction

The Nigerian textile industry is the country's largest and oldest manufacturing sub-sector. (Owen, ogunleye & Orekoya. 2016). In the past, the Nigerian textile industry was the largest employer of labour after government and had always been a major player in the manufacturing sector of the economy as it employed over one million Nigerians and secured a market of 250,000 tons of raw cotton for growers and generates over N1billion revenue to the federal government of Nigeria. It was also a major consumer of high percentage of local raw materials such as cotton and polyester.(Owen, ogunleye & Orekoya. 2016). Before 1997 the Nigeria textile

Vol. 7, No.05; 2023

ISSN: 2456-7760

industry was the second largest in Africa after Egypt with above 250 vibrant factories and over 50 percent capacity utilization. Olumide (2015) reported that by the 1970s and the 1980s, the Nigerian textile industry recorded an annual growth of 67% and employed about 25% of workers in the manufacturing sector. This era could be described as the golden period of Nigeria's textile industry. The Nigerian Textile Manufacturers association (NTMA) on the state of the textile industry noted that membership of the textile industry has shrunk from 175 firms in 1985 to less than 20 firms in 2022.

Macroeconomic variables refer to factors that are pertinent to the broad economy at the regional or national level and affect a large number or population rather than a few individuals. They are factors affecting an organization in which its management has no control over it, this include political conditions, government regulations policies, etc. (Egbunike & Okerekeoti, 2018). Also, it must be noted that both internal and external factors are considered when measuring or ascertaining manufacturing performance. In view of this, Peace (2019) remarks that the interaction of these internal factors and macroeconomic variables is what determine the performance of a firm. This could be attributed to the fact that macroeconomic indices set the pace of how well a firm will thrive. A stable macroeconomic environment favours growth of the textile industry by reducing uncertainty (Olorunfemi, Tomola, Felix, & Ogunleye, 2013). The macroeconomic variables highlighted in this paper include interest rate, exchange rate, net exports and government expenditure based on monetary, fiscal and trade policies.

In an attempt to reverse the negative economic decline resulting from the monocultural orientation negative external balances, to ensure proper and efficient resource allocation, reduce wasteful government expenditure and provide a base for long term growth, the government was propelled to pursue several industrialization policies which include the import-substituting industrialization strategy embedded in the first national development plan of 1962–1968, emphasized domestic production of manufactured goods for domestic markets, the indigenization policy of 1972 and 1977 aimed at preparing indigenous entrepreneurs for rapid industrial development, the export promotion industrialization strategy embedded in the structural adjustment programme of 1986 which emphasized domestic production of manufactured goods for export in order to generate more foreign exchange particularly from non oil sources, the foreign private investment led industrialization strategy adopted since 1999 after years of military dictatorship and targeted at restoring investor's confidence in the Nigerian economy, the small and medium enterprises development agency of Nigeria established to cater for the development of SMEs in Nigeria and the national economic empowerment and development strategy, which was aimed at growing the private sector as the engine of growth for wealth creation. (Ogbuabor, Orji, Anumudu, Onwumere, &Manasseh**2018).**Subsequently, vision 20:2020 development plan was executed in 2008 with the objectives of improving electricity supply, increase in the share of the manufacturing sector and the transformation of the country's economy from the importer of petroleum to a net exporter among other objectives of the policy. Similarly, Trade and Financial Liberalization Policy of 1989 was a follow up of Structural Adjustment Programme, The failure of the above policies led to the introduction of Bank of

Vol. 7, No.05; 2023

ISSN: 2456-7760

Industry as an institution to accelerate industrial development through the provision of long term loans, (Bawalla & Adenuga 2017).

Despite the implementation of the above industrialization policies, Nigeria is still far from being industrialized (Nyor & Chinge, 2014). These facts indicate that the country has faced several challenges in its journey to industrialization. Ekpo (2014) specifically identified a myriad of factors militating against Nigeria's industrial development. These include poor policy conceptualization and implementation; lack of technological capability, which is a sine qua non for industrial development; high cost of production, inadequate infrastructure such as transportation, water supply, electricity supply and telecommunications, which are crucial enablers of industrialization; and poorly developed human capital. These points indicate that Nigeria has enormous challenges to overcome in its quest for industrialization.

The textile industry however, in the early nineties took a massive dive into an industrial abyss when companies began to close down one after the other. At a point during the crisis in the industry, from about 180 thriving textile companies, the number came down to almost zero, with textile giants such as UnitedNigerian Textile PLC bowing to the pressure imposed by a hostile operating environment. Pakistan (2010) revealed that the loss of jobs in the sector hit about 100,000 when the largest textile company in the country, the United Nigerian Textile PLC in Kaduna State closed down and many other textile producers were also forced to close shop due to unfriendly economic and political environment and massive smuggling and importation of textiles. The situation became worse in 1997 when the Federal Government lifted the ban on textile importation and when Nigeria became signatory to the World Trade Organisation (WTO) and fully liberalized textile trade under the then Military Government.Falaju (2015) reported that cotton, textile and garments industries across the country have become "shadows of themselves" due to influx of cheap textile materials, inconsistent government policies and dumping of sub-standard textile materials in the country. This is why the major objective of this paper is to examine the impact of selected macroeconomic variables on the textiles industry output in Nigeria.

The following formulated hypotheses will guide the study:
H_{01}: Interest rates has no significant impact on textile industry output in Nigeria
H_{02}: Exchange rate does not significantly impact textile industry output in Nigeria
H_{03}: Net export has no significant impact on textile industry output in Nigeria
H_{04}: Government capital expenditure does not significantly impact textile industry output in Nigeria.

2. Material and Method

2.1 Conceptual Review

Interest Rateis the amount a lender charges a borrower and is a percentage of the principal on the amount loaned. Crowley (2007) defined interest rate as the price a borrower pays for the use of money they borrow from a lender or fee paid on borrowed assets. Ngugi (2011) describes interest rate as a price of money that reflects market information regarding expected change in

Vol. 7, No.05; 2023

ISSN: 2456-7760

the purchasing power of money or future inflation. The Nigeria bank lending rate as at September 2022 is pegged at 15.50%. **Exchange Rate** is the price of a country's money in relation to another country's money. It is the value of one currency for the purpose of conversion to another. Harvey (2012) describes exchange rate as the value of two currencies relations to each other. It is the price at which the currency of one country can be converted to the currency of another. The exchange rate in Nigeria as at November 2022 was ₦442.99 =$1.

Net Export is a measure of a nation's total trade. The formula for net exports is the value of a nation's total export goods and services minus the value of all goods and services it imports equal its net export. A nation that has a positive net export enjoys a trade surplus, while negative net exports means the nation has a trade deficit. (Hayes,2021).

Government Capital Expenditure refers to government spending on building, road construction, land, and housing among others. It is an important instrument which the government can influence to achieve its macroeconomic objectives. The benefits of expenditures on capital projects are more durable and impactful as compared to those of recurrent expenditure. (Mansouri, 2008).

2.2 Empirical Review

There exists a lot of empirical evidence of studies carried out on the impact of selected macroeconomic variables on textiles industry output. However, the major issue is that these studies used different variables and modeling techniques in their analysis, thereby leading to variations in their findings.

Ullah., Pinglu., Ullah., Zaman and Hashmi (2020) examined the nexus between capital structure, firm-specific factors, macroeconomic factors and financial performance in the textile sector of Pakistan during the period 2008–2017. The panel regression estimation technique was employed for analysis purposes, and both cross-sectional and time series data were collected for this study as well as the random-effect regression estimation model based on the Hausman diagnostic test statistics. The results indicate that the capital structure debt to equity variable hasa negative and significant relationship with financial performance while the asset turnover ratio and firm performance showed a negative and statistically insignificant relationship. Export growth and sales growth have aconsiderable positive connection with financial performance and firm size has a negative and significant impact on the firm.

Nigerian textile industry: Evidence of policy neglect was examined by Mohammad., Buba., Agboola and Lola (2018) the aim was to examine how poor policy implementation stunted the development of the Nigerian textile industry from 1985-2015. The findings indicated that overreliance on petroleum resources emboldened imports on foreign made products especially from China.

In another study, Odey., Saliu., Achukwu and Olashina. (2018) evaluated the problems Nigerian textile industry has faced from the time independence to date. These problems include globalization of marketing of textile goods, smuggling of textile goods, un-favorable economic policies, among others. Findings of this study indicate that there is room for improvement of the Nigerian textile industry through improved techniques of cotton production, exploration of

Vol. 7, No.05; 2023

ISSN: 2456-7760

international markets, re-introduction of measures to regulate the importation of foreign textile goods.

Furthermore, Aluko., Akinnola and Sola. (2017) investigated globalization and the manufacturing sector: a study of selected textile firms in Nigeria with focus on selected textiles firms from Lagos, Asaba and Kano. Data were collected using both qualitative and quantitative methodologies. The data were analysed using parametric and non-parametric statistics. The main finding of the study is that globalization has strong adverse effect on capacity utilization in the textile industry.

For the period of 2005-2014, Widyastuti., Oetomo and Riduwan (2017) investigated the influence of working capital and macroeconomic variables as value creation in Indonesian textile companies. The study used path analysis techniques to analyse the data. Based on statistical analysis, it was observed that investment structure, financing structure and liquidity significantly affected the performance and value of textile companies as well as foreign exchange rate. Moreover, cash conversion cycle, working capital turnover, and interest rate did not significantly affect their performance.

The Influence of Financial Performance, Capital Structure and Macroeconomic Factors on firm's Value –Evidence from Textile Companies at Indonesia Stock Exchange was an analysis by Jubaedah, Yulivan, and AbdulHadi (2016).This research involved 20 textile companies listed in Indonesia Stock Exchange. Using panel data regression, the results show that financial performance, capital structure, inflation and exchange rate are contributory factors that influence firm's value.The study also reveals that ratio of short term debt to total assets has no significant impact on firm's value, while there is a positive significant relationship between the ratio of long term debt to total assets and firm's value.

Zulfiqar and Din (2015) evaluated Inflation, Interest rate and firms' performance: the evidences from textile industry of Pakistan. The panel data of fifty different textile firms listed at Karachi stock exchange is selected as sample for this research. In order to test the hypothesis, regression model is applied.The result shows that inflation and interest rate has a significant and positive impact on Return on Asset (ROA). Furthermore, the inflation rate found positively insignificant with Return on Equity (ROE) but interest rate found highly significant and having a positive impact on ROE.

Environmental performance in textiles industry: prospect and opportunities in Nigeria was evaluated by Umar and Rigasa (2015). They were of the view that textiles industries were established in Nigeria for jobs and national development. The paper reviewed environmental performance advanced local industries and textiles in the developed world and proposed strategies for sustainability in textiles industry in Nigeria, the strategies if implemented will ensure compliance of the industry to local environmental regulation and sustainability of the industry in Nigeria.

In their analysis of Nigerian textile industry: a tool for actualizing economic stability and national development, Makinde., Fajuyigbe and Ajiboye (2015) examined the factors that are responsible for the dwindling and near extinction of the textile industry in Nigeria and its implications for national growth and development. The study adopts the historical method based on interviews, archival records, print and electronic media; while the data was critically analysed using the modernization and dependency theory development. Findings reveal that trade

Vol. 7, No.05; 2023

ISSN: 2456-7760

liberalization, Nigeria's policy on textile imports and desire for foreign textiles over home-made ones, unstable power supply some are factors responsible for the gradual extinction of the industry.

2.3. Theoretical Review

This study is hinged on the Keynesian theory of investment which is discussed below: Keynesian theory of investment was propounded by Keynes (1937), the theory avows that investment is a direct function of interest rate. Implying that decrease in interest rate stimulate investment in the real sector of the economy. As assumed in the theory, interest is always and every time a monetary phenomenon. Onakoya (2014) remarks that a well-functioning and thriving manufacturing sector of which textiles industry emanates from, is a necessity and an integral part of the industrialization process for developing countries. This indicates that manufacturing sector performance is a subset of sustainable development through the process of spurring other sectors of the economy including the service sector. As part of the national accounts of a country and in regard to the national income equation, the equation of the theory is depicted below as follows:

$Y = C + I + G$…….(1)

Where; Y = National output, C = consumption, I = investment and G = Government. In the above equation (i) investment (I) is a function of interest rate

$I = f(i)$…….(2)

Where I represents investment in the manufacturing industry and i is the interest rate.

3.1 Methodology and Model Specification

Research Design: *Expost-facto* research design was employed for this study. An expost-facto research design is very appropriate for this study because it describes the statistical association between two or more variables. The use of this design allows for the testing of expected relationships between selected macroeconomic variables and textiles industry output in Nigeria and making impact predictions regarding these relationships.

Sources of Data Collection: Determining the cause–effect relationships among the selected variables are the major aim of this study and hence, the data used primarily consist of secondary (annual) data collected from the publications of the Central Bank of Nigeria (CBN) Statistical Bulletin for a period of 36 years (1986-2021). The data generated are data on Textile industry (Billion Naira) Interest rate (%); Exchange rate (Naira to dollar); Net export (export minus import in Billion Naira) and Government capital expenditure (Billion Naira).

Method of Analysis: The paper conducted unit root tests (pre-estimation diagnostics tests) using Augmented Dickey Fuller (ADF) test to ascertain the stationarity of the data before carrying out the cointegration test. Dickey and Fuller (1979) have also stressed the importance of investigating time series data whether they exhibit random walks that needed to be white-noised before using them for estimation purposes. Failure to do this, according to them could result to spurious regression analysis that would not permit us to obtain a robust estimate of the parameters.

Vol. 7, No.05; 2023

ISSN: 2456-7760

After conducting the stationarity test on the times series, it is imperative to ascertain if they have long-run relationship. The use of cointegration technique allowed the study to capture the equilibrium relationship between non–stationary series within a stationary model. It permitted the combination of the long-run and short-run information in the same model and overcame the problem of losing information which could have occurred when attempting to address non stationary series through differencing. Autoregressive Distributed Lagged (ARDL) was used for the estimation and this procedure was developed by Pesaran and Shin (1999) which was later expanded by Pesaran, Shin, and Smith (2001) and the procedure allows the researcher to use variables that are not integrated in the same order. Also, the error correction model (ECM) was used to establish the short-run and long-run causal relations between selected macroeconomic variables and textile industry output in Nigeria.

Model Specification: It is the aim of the researcher to derive the impact of selected macroeconomic variables on textile industry output in Nigeria. The paper assumed that textile industry (TEX) is a function of selected macroeconomic variables (interest rate, exchange rate, net export and government capital expenditure). Mathematically, this implies that:

TEX = f (INTR, EXCR, NEXP, GCEXP)---------- (*Eqn 1*).

Justification of the Variables in the Model: Interest rate, Exchange rate, Net export and Government capital expenditure were included in the model to achieve the stated objectives. Also, they are the selected macroeconomic variables based on monetary policies, trade policies and fiscal policies; while, interest rate was also included in the model because of the theory adopted by this study.

Transforming Eqn 1 into econometrics form leads to:

$TEX = \alpha_0 + \alpha_1 INTR + \alpha_2 EXCR + \alpha_3 NEXP + \alpha_4 GCEXP + \mu_t$---------- *(Eqn 2)*

Where; TEX= Textiles Industry, INT= Interest rate, EXCR= Exchange Rate, NEXP =Net Export, GCEXP= Government Capital Expenditure. = α_1- α_4 = the coefficients of interest rates, exchange rate, net export and government capital expenditure. α_0 = intercept and μ_t = error term

Equation (2) is the baseline model for determining the impact of selected macroeconomic variables on textiles industry output in Nigeria.

The ARDL model cointegrating vector is re-parameterized into ECM, which result gives short run dynamics and long run relationship of the variables of a single model.

Therefore, below are the specified Autoregressive Distributed Lagged (ARDL) and the Error Correction Model (ECM) according to the specific objectives of the study which is as follows:

$$\Delta TEX = \beta_0 + \sum_{i=i}^{P} \beta_1 \Delta \ln TEX_{t-i} + \sum_{i=i}^{Q} \beta_2 \Delta \mathrm{INTR}_{t-i} + \sum_{i=i}^{R} \beta_3 \Delta \ln EXCR_{t-i} + \sum_{i=i}^{S} \beta_4 \Delta \ln NEXP_{t-i} + \sum_{i=i}^{t} \beta_5 \Delta \ln GCEXP_{t-i} + \varphi_1 \ln TEX_{t-1} + \varphi_2 \ln INTR_{t-1} + \varphi_3 \ln EXCR_{t-1} + \varphi_4 \Delta \ln NEXP_{t-1} + \varphi_5 \Delta \ln GCEXP_{t-1} + \varepsilon_t - - - - -$$

(Eqn 3)

Where $\Delta$is the difference operator, whileφ is the parameter for textile industry output. β_1- β_5 represent the short run parameters, the terms with the summation signs represent the error correction dynamics, and φ_1 - φ_5 are the long run parameters. The cointegration test requires setting up the two hypotheses (null hypotheses against the alternative hypothesis as follows:

Vol. 7, No.05; 2023

ISSN: 2456-7760

$H_0 = \varphi = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5$ …… Null hypothesis

$H_1 \neq \varphi \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5$……..... Alternative hypothesis

If the F-statistic is greater than the upper critical bound value, the null hypothesis is rejected confirming the existence of the long run relationship and vice versa. After establishing the long run relationship, the next step is to estimate the long run model started as follows:

$$\Delta GDP = \beta_0 + \varphi_1 TEX_{t-i} + \varphi_2 \Delta INTR_{t-i} + \varphi_3 \Delta EXCR_{t-i} + \varphi_4 \Delta NEXP_{t-i} + \varphi_5 \Delta GCEXP_{t-i} + \mu \quad ----(Eqn\ 3)$$

After estimating the ARDL long run specification and the connected long run multipliers, the error correction model need to be estimated too. Thus, the error correction model mainly formulated to estimate the short run dynamics is stated as follows:

$$\Delta TEX = \beta_0 + \sum_{l=i}^{P} \beta_1 \Delta \ln \mathrm{TEX}_{t-i} + \sum_{l=i}^{Q} \beta_2 \Delta \ln INTR_{t-i} + \sum_{l=i}^{R} \beta_3 \Delta \ln EXCR_{t-i} + \sum_{l=i}^{S} \beta_4 \Delta \ln NEXP_{t-i} + \sum_{l=i}^{S} \beta_5 \Delta \ln GCEXP_{t-i} + \varphi_1 ECM_{t-i} ----$$

(4)

Where β_1- β_5 represent the short run parameters and φ_1 is the speed of adjustment parameter which is expected to be less than zero. ECM is the lagged error correction term obtained from the estimated cointegration model equation above.

3.2 Results and Discussion

This paper conducted descriptive statistics to examine the mean, standard deviations and auto-correlation properties of the dataset before carrying out the Unit Root test to ascertain the stationarity properties of the series. The ARDL is then conducted as well as pre-estimation test results. The result of descriptive statistics is presented in Table 1.

Table 1: Summary of Descriptive Statistics of the Study Variables

	TEX	INTR	EXCR	NEXP	GCEXP
Mean	3.367071	2.510833	123.9356	9.541111	627.6453
Median	3.858654	4.945000	123.1950	4.515000	468.3620
Maximum	6.018058	18.18000	435.0000	84.55000	2522.468
Minimum	-0.415515	-31.45	1.750000	-25.01	6.372500
Std. Dev.	1.850702	9.953561	111.8742	19.16661	635.9732
Skewness	-0.677659	-1.196959	0.960553	1.830107	1.320059
Kurtosis	2.250809	5.194355	3.372782	7.893133	4.374180
Jarque-Bera	3.597264	15.81906	5.744428	56.00986	13.28789
Probability	0.165525	0.000367	0.056574	0.000000	0.001302
Sum	121.2145	90.39000	4461.680	343.4800	22595.23
Sum Sq. Dev.	119.8784	3467.568	438054.0	12857.56	14156166
Observations	36	36	36	36	36

Authors computation from eviews 10 (2023)

Vol. 7, No.05; 2023

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Table 1 revealed that the skewness values of TEX and INTR are negative which indicated that they are skewed to the left while the positive skewness values of EXCR, NEXP and GCEXP indicated that they are skewed to the right. Kurtosis measures the peakness or flatness of the distribution of a series. The kurtosis revealed that TEX is platykurtic because its value of 2.250809 is less than 3 while the INTR, EXCR, NEXP and GCEXP are leptokurtic because their values all exceed 3. Jarque-Bera (JB) tests whether the series are normally distributed or not. The Null Hypothesis states that the distribution is normally distributed. The probability values of the JB indicated that the probability value of TEX (0.165525) and that of EXCR (0.056574) are normally distributed, while the probability values of INTR (0.000367), NEXP (0.000000) and GCEXP (0.001302), show that the series are normally distributed because their values are all less than 0.05 percent.

Unit Root Test Result

In this paper the Augmented Dicker-Fuller (ADF) unit root test is used to conduct a pre-diagnostic test to ascertain the stationarity levels of the variables to avoid spurious (meaningless) regression output. Table 2 is summary of the Unit root output

Table 2 Summary of Augmented Dicker Fuller Stationarity Test

Variable	ADF Test Statistics	Critical Value @ 5%	Probability Value	Order of Integration
LnTEX	-4.681429	-2.951125	0.0006	I(1)
INTR	-4.887415	-2.95711	0.0004	I(1)
EXCH	-3.008533	-2.951125	0.0441	I(1)
NEXP	-3.083753	-2.948404	0.0371	I(0)
GCEXP	-7.640817	-2.951125	0	I(1)

Authors computation from eviews 10 (2023)

As shown in Table 2, results of ADF test indicate that three of the variables (TEX, INTR and GCEXP) were found non-stationary at levels and at 5% level of significance respectively. They were however, stationary at first difference. Hence, the unit roots ADF test for the variables were accepted at levels for the three variables of interest. The variable NEXP however, was found to be stationary at level when considered at 5% level of significance. Thus, the variables were found to integrate in a mixed order which satisfies the condition for using the Auto-Regressive Distributive Lag (ARDL) model which is best suited for the analyses to estimate the variables.

Table 3: Bound Test Co-integration result

The bound test shows if a long run relationship exists among the variables of study.

Test Statistics	Value	Significance	I(0)	I(1)
F-statistic	7.54501	10%	2.45	3.52
K	4	**5%**	2.86	4.01
		1%	3.74	5.06

Sources: Authors Computations from eviews 10 (2023)

Vol. 7, No.05; 2023

ISSN: 2456-7760

Bound test shows long run relationship between a dependent variable and independent variables. The value of the F-statistics must be greater that the upper bound for long run relationship to exist. Table 3 revealed that there is a long run relationship among the variables because the value of the F statistics (7.545005) is greater than the value of the lower bound (2.86) and the value of the upper bound (4.01). This means the variables are co-integrated and as such, long rung relationship exist between textile industry and macroeconomics variables.

ARDL-Error Correction Model (ECM)

The ECM shows the long run and short run relationship. Table 4 revealed the summary of results of the ECM.

Table 4: Error Correction Model Regression Results

ARDL-ECM				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.427067	0.055817	7.651196	0
D(LNTEX(-1))	-0.018608	0.16583	-0.112209	0.9118
D(LNTEX(-2))	-0.634568	0.128166	-4.95112	0.0001
D(LNTEX(-3))	-0.342256	0.097184	-3.521741	0.0021
D(INT)	-0.014863	0.001907	-7.795057	0
D(INT(-1))	0.016329	0.003358	4.862094	0.0001
D(INT(-2))	0.005605	0.002003	2.797893	0.0111
CointEq(-1)*	-0.001651	0.000245	-6.7283	0
R-Square = 0.862692				
R-square Adjusted = 0.822644				
F-Statistics = 21.54135				
Probability Value = 0.000000				
Durbin-Watson stat = 2.188596				
Long-Run ARDL				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
INTR	-22.67267	379.3267	-0.059771	0.9529
EXCH	0.226102	3.564805	0.063426	0.9501
NEXP	-1.128649	19.32613	-0.0584	0.954
GCEXP	0.004862	0.092422	0.05261	0.9586

Source: Authors Computation (Eviews 10) 2023

Table 4 shows that the lagged error corection term (ECT-1) satisfies all the three requirements of being negative, significant and less than unity and statistical significant at 5%. The ECT value of -0.001651 fulfilled these conditions with its probability value of 0.0000. The ECT shows the ones there is disequilibrium in the system, it will take an average speed of -0.001651 to adjust to equilibrium. The coefficient of determination (R-square) of 0.862692revealed 86.2692% changes

in textile output were collectively due to INTR, EXCR, NEXP and GCEXP respectively, while the remaining 13.73% which are unaccounted for are captured by the error term. The Durbin-Watson statistic of 2.188596 shows that there is no evidence of auto-correlation in the model.

Table 5: Test for Serial Correlation
Breusch-Godfrey Serial Correlation LM Test

F-statistics1.	0.272370	Prob. F(2,18)	0.7647
Obs*R-square	0.939981	Prob. Chi-Square(2)	0.6250

Source: Author's computation using E-view 10 (2023)

The probability value of the F-statistics in table 3.6 which is 0.7647 indicates that there is no evidence of serial correlation in the model. Hence the null hypothesis of no serial correlation is rejected at 5% significance level.

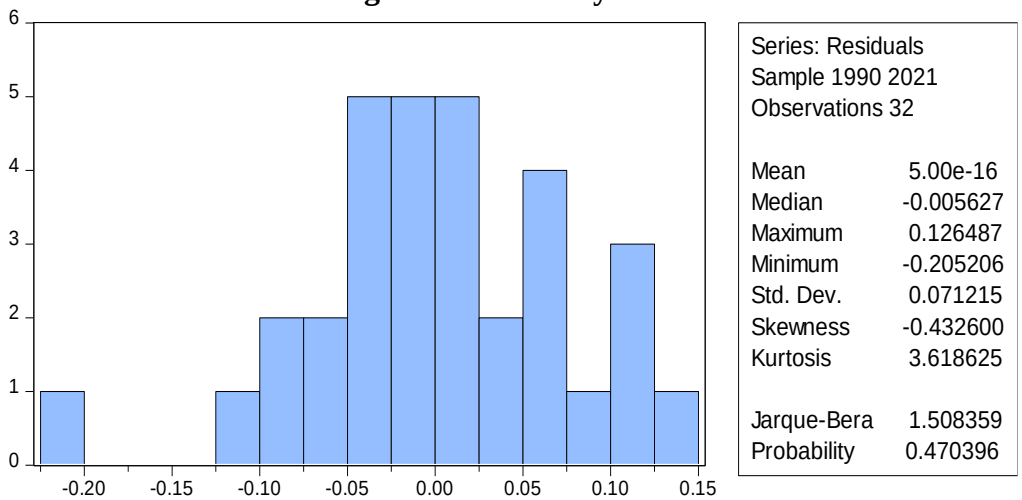
Table 6: Test for Heteroskedasticity
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistics	0.917123	Prob. F(11,20)	0.5429
Obs*R-squared	10.72931	Prob. Chi-Square(11)	0.4662
Scaled explained SS	5.487510	prob. Chi-square(11)	0.9053

Source: Author's computation from eviews 10 (2023)

Table 6 indicates that the variables are free from the problem of Heteroskedasticity because the p-values of F-statistics and the Obs*R-squared of 0.5429 and 0.4662 respectively are greater than 5% significance level.

Figure 1: Normality chart



Vol. 7, No.05; 2023

ISSN: 2456-7760

Normality test is conducted to check that the residuals are normally distributed. Observing from the normality diagram in figure 3.1the probability value of the Jarque-Bera which is 0.470396 (47.0396 %) revealed that the residuals are normally distributed because it is greater than 5% level of significant.

Figure 2: Stability Test

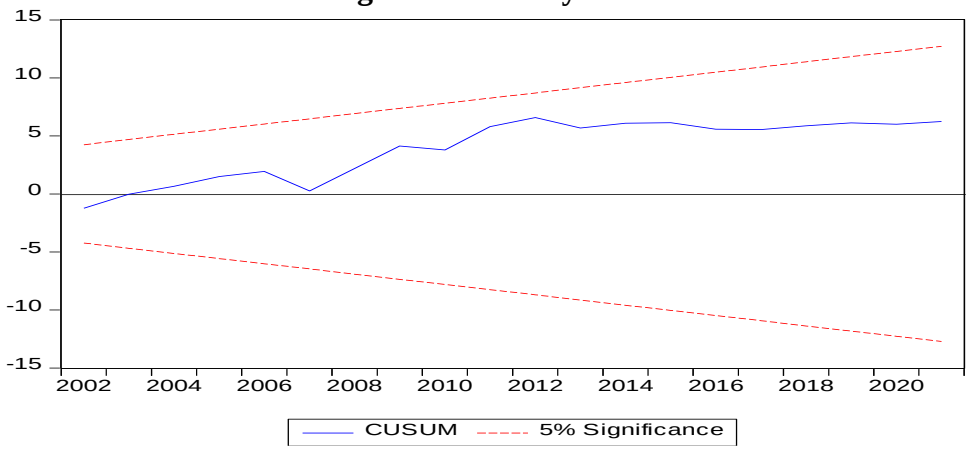


Figure 2 revealed the CUSUM series lies between the upper and the lower critical boundaries at 5%. This is an indication that the estimated model is stable and the estimated results are reliable.

3.3 Discussion of Findings

The impetus of this paper was to examine the impact of macroeconomics variables on the textile industry output in Nigeria from 1986 to 2021. The long run result shows that there is positive relationship between TEX and EXCR, GCEXP while INTR and NEXP have negative relationships with TEX. Furthermore, the result shows that INTR, EXCR, NEXP and GCEXP have insignificant relationship with TEX at 5% level of significant. Also, GCEXP has negative relationship with TEX and insignificant effect on TEX. The coefficient of INT which is -22.67267 implies that every 1% increase in INTR, will on average lead to -22.67267 percent decrease in TEX. With respect to EXCR, for every 1% increase in EXCR, TEX will on average increase by 0.226102 percent. For every 1 billion increase in NEXP, the TEX will decrease by -1.128649 percent. Finally, for every 1 billion increase in GCEXP, it will on average lead to 0.004862 percent increase in TEX.

4. Conclusion and Recommendations

The study examined the impact of selected macroeconomics variables on the textile industry in Nigeria from 1986 to 2021. TEX was used as the dependent variable while the INTR, EXCR, NEXP and GCEXP were used as the independent variables. The ARDL and ECM method of analysis was employed for the paper. The results of the paper showed that there is a long-run relationship among the variables. While the INTR and NEXP have negative relationship with TEX, which means that, when there is an increase in interest rate (INTR) and net export (NEXP) there is a corresponding decrease in textile industry (TEX). Result also indicated that INTR and GCEXP have positive relationship with TEX. Hence, the study concluded that the selected

Vol. 7, No.05; 2023

ISSN: 2456-7760

macroeconomics variables do not have significant impact on the textile industry during the period under review

Based on findings of the paper, the following recommendations were made:

i. The Central Bank of Nigeria should reduce the monetary policy rate which is the anchor rate in order to encourage the participation of private sector into the textile industry. Also, Government should encourage its citizen to patronize locally made textiles in order to revamp and keep the industry from collapsing.
ii. The federal government should increase her capital expenditure to the real sector to encourage investment in the manufacturing sector and the textile industry sub sector.
iii. The central bank should formulate deliberate policy measures that will bring down the exchange rate in order to encourage import of capital equipment for massive production in the textile industry.

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Vol. 7, No.05; 2023

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