WOMEN'S ENTREPRENEURSHIP AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The study was conducted to examine the impact of women entrepreneurship on economic growth in Nigeria. The study adopted the quantitative research design. This study employed the use of annual time series data which are secondary in nature, and the annual time series data for the period of 2001-2023. The Vector Error Correction Mechanism (VECM) was conducted with the aid of E-views 10. The result of the study revealed that women entrepreneurship has a positive and insignificant impact on economic growth in Nigeria. The result further shows that women representation in parliament reveals a positive relationship with economic growth in the short run but shows a negative and insignificant relationship with economic growth in the long run. The causality results also revealed a bidirectional relationship between women entrepreneurship and economic growth. Based on the findings of the study, it is therefore recommended that removing barriers such as discriminatory property and inheritance laws, customary law, lack of access to formal financial institutions, and time constraints related to family and household responsibilities could provide more opportunities for increase female-led enterprises to grow in Nigeria and there should be access to-intervention funds meant for empowerment of women.

Keywords: Women's entrepreneurship, entrepreneur, economic growth, cointegration and Vector Error Correction

1. INTRODUCTON

Indeed, recently there has been a surge of interest around the world in the development of women's entrepreneurship and the study of policies to support women's participation in entrepreneurship. Moreover, the under-development of women's entrepreneurship represents untapped potential for growth and prosperity in many countries. Through entrepreneurial activity, women create jobs, generate income, participate in the development of economic independence and contribute to sustainable development. While there is an urgent need to create a more enabling environment for the development and strengthening of women's entrepreneurship, more thoughtful policies and decisive measures aimed at empowering women are crucial (Gulvira, Ainash, Sagynysh, Meiramgul and Aliya' 2024). The field of entrepreneurship is not limited to certain gender. The rising of women entrepreneurs all over the world has brought attention from both the academic and business sphere of life.

Women entrepreneurship is very critical for any economy of the world. Women can contribute much more than men if they are provided with supports and equal resources. Woman entrepreneur is a woman who initiates, organizes and operates a business enterprise. In line with this, most countries in which entrepreneurship has been conquered by men the entering of women into entrepreneurial ventures most especially through small scale enterprises have increased. Also, in addition to this the success stories of other women entrepreneurs have encouraged other women both employed and housewife to run their own small-scale enterprises (Usman, 2021). Developing economies are empowering and transforming the society through the participation of entrepreneurs in the small-scale enterprises, by involving women entrepreneurs in entrepreneurship. Hence, women entrepreneurship has not been enhancing small scale enterprises which will in turn have not been able to alienate poverty and grow the economy

In order to deliver prosperity and wellbeing to emerging nations, women entrepreneurs have been identified as the new growth engines and rising stars of these economies over time. A woman's role in life itself is that of a reproductive agent. As of right now, she serves as humanity's lifeblood. She is the child's first teacher, provides for and upholds the family, fosters harmony, is a representation of beauty, and plays a key part in forming the character of the child. The human race was created by her (Adebanjo, 2022). Despite the fact that there are more efforts and resources available to encourage and expand women's entrepreneurship in developing countries, women still own and manage fewer firms than men, earn less money from their businesses that grow more slowly, and are more likely to fail (Hajara, 2021). Women are also more likely to start businesses out of necessity. Women's labor still goes largely unacknowledged, unpaid, and unappreciated. However, in modern times, women are challenging the existing norm. The implementation of mechanisms to repair the alleged "Cultures Wrong", the voices of women are now being heard, appealing for recognition of their significant contributions to national advancement and an improvement in their socioeconomic situation (Amah, 1995). Women are underrepresented in the global population of entrepreneurs, according to the European Union (EU) and Organization for Economic Cooperation and Development (2017).

Women's entrepreneurship is a complex phenomenon and faces a double challenge. On the one hand, entrepreneurship is a social phenomenon; on the other hand, gender is a social construct. The ability of women to provide economic growth and jobs justifies research interest in this area. However, although their contribution to economic development has only recently been recognized and appreciated, women have always played an important economic role in society. The purpose of this paper work is to analyze the impact of women's entrepreneurship on the economic growth of Nigeria and to develop some recommendations for the development of women's entrepreneurship. It is expected that this study would provide policy direction to the government in formulating policies that aims at promoting women entrepreneurship activities in Nigeria.

2.   Literature Review
2.1   Conceptual Review
2.1.1   Concept of Entrepreneurship

There is a lack of understanding of what entrepreneurship is and what it requires. Joseph Schumpeter, one of the pioneers of the entrepreneurship literature, wrote in 1947 that entrepreneurs are responsible for "developing new things or doing things that are being done in a new way. According to Ireland, Hitt, Camp, and Sexton (2001), who were quoted by Ida (2013), entrepreneurship is viewed as a context-dependent social process by which individuals and groups create wealth by fusing unique resource packages to seize market opportunities. According to Ikeme (2012), entrepreneurship is the process by which people learn that owning a business is a viable alternative, generate business ideas, understand how to become entrepreneurs, and start and grow a firm. Entrepreneurship, according to Sodipo (2017), entails actualization, financing, data collection and analysis, career development, hiring employees, enacting policy, conception, and orientation, training, and other tasks. Entrepreneurship also refers to the act of risking one's resources while looking for change, adapting to it, and seizing the chance to advance the economy. Entrepreneurship, as defined by Chowdhury, Ismail, and Shamsudin (2013), is a creative and innovation process that tackles four different dimensions: the individual, the organization, environmental conditions, and process.

2.1.2 Concept of Women Entrepreneurs

Pareek (2012) define women entrepreneur as a female who plays a captivating part by repeatedly interacting and keenly adjusting herself with financial, socio-economic, and support spheres in society. Globally the impact of women entrepreneurs is gaining recognition intensely; worldwide as the number of female business owners continue to increase steadily as women entrepreneurs and are making positive impact in the global economy. Women entrepreneurs around the world are major contributors to the economy, as they are making a difference in the socio-economic arena. They contribute numerous ideas and a great deal of energy and capital resources to their communities, and generate jobs as well as create additional work for suppliers and other spin-off business linkages. Despite these there are major factors that constrained women from business venture, mostly gender-based discrimination, lack of shared support, limited or no access to information, not enough education and training facilities, lack of trust in ones capabilities and access to resources (Afiza, Hassan and Rashid, 2010).

2.1.3 Concept of Economic growth

Etuk, (2014) defined economic growth as the increase in an economy's potential output or productivity capacity which is the level of output realized when all factors of production (capital, labour, land, natural resources and technical expertise) are fully utilized. Emphasis here was made on the quantity and quality of the factor inputs as major sources of economic growth. Netshidzivhani, and Mamokhere, (2021) posited that, economic growth arises when a country's Gross National Product (GNP) increases tenfold in half a century and where personal consumption expenditure per capita doubles in real terms in less than thirty (30) years. Here, emphasis was laid on production capacity and the percentage of utilization of this capacity; implying that a fall in unemployment will lead to increase in national income (NI). They further stated that constant value of money is essential to measuring growth because a fall or rise in prices as the case may be affects output in either way. This is true of Less Developed Countries (LDCs) because of prices volatility and the fact that GDP is usually measured in monetary terms. The fallen output that led to recession in Nigeria despite rising prices is an extreme situation which the researcher attributed to high demand arising from high population.

According to Nwankpa (2017), economic growth is the increase in an economy's potential output or productivity capacity which is the level of output realized when all factors of production (capital, labour, land, natural resources and technical expertise) are fully utilized. He laid emphasis on the quantity and quality of the factor inputs as major sources of economic growth.

2.1.4 IMPACT OF WOMEN ENTREPRENEURSHIP ON THE GROWTH OF THE ECONOMY

Entrepreneurship which is a line of action of owning and managing a new business or improving on an existing products or services that create value, assuming the accompanied risks, receiving the resulting rewards and independence (Tersoo, 2013). The small, medium and large business plays an important role when it comes to job creation, market competitiveness, innovation and the advancement of industrial development has been recognised by both academic and policy makers (Nagare, 2013). Nigeria, as a country has a strong desire for the growth of their economy, which is why a unique focus is given to entrepreneurship. There is this program called sustainable development program which is geared toward self-sufficiency, poverty eradication, hunger eradication, good roads and the likes, all these can be carry out through entrepreneurship. Some of these entrepreneurial programmes already embarked upon by the Nigerian government includes; "National Economic Empowerment and Development Strategy (NEEDS)", "Family Economic Advancement Program (FEAP)" and "Small and Medium Enterprise Development Agency (SMEDAN)". This sustainable development program declared in Abuja Nigeria will see the light of the day when women who constitutes 50% of the population fully participate in the program (Tersoo, 2013). Woman enterprise is a vital wellspring of financial development in creating new occupations and by being hereditarily extraordinary, the inspiration for considering women entrepreneurship both in creating and created nations derives from the expanding comprehension of their essential part in making and creating business as a major driver for monetary development (Abosede & Onakoya, 2013). Women give diverse answers for administration and business issues yet the women enterprise has been neglected especially in business research. (Acs, BardasI, Estrin, & Svejnar, 2011). According to Jeminiwa, (1995) cited in (Tersoo, 2015). States that" women are at the centre of development because they are in charge of most of the non-monetary economy like subsistence farming, giving birth to children, trading labour amongst others

2.2 EMPIRICAL REVIEW

Jamiu (2018) study on impact of female entrepreneur on Job creation in Nigeria, using Taraba state as a case study. The study make use of 188 respondents comprises of female entrepreneurs in Taraba state was used as the population of the study. Chi-square analysis was adopted as the estimation techniques and the results revealed that female entrepreneur has created various empowerment for the people of the state.

Adefola (2021) study also looked at Impact of female entrepreneurship Business on economic development in Adamawa state, Nigeria. The study used regression analysis as the estimation techniques and the findings revealed that female entrepreneurship business has a positive relationship with economic development in Adamawa state, Nigeria and the F statistics shows that the overall model is statistically significant at 5% level of significance.

Onu, and Abass (2018) examined the impact of Women entrepreneurship in the development of Lagos state. Women entrepreneurs have attracted the attention of organizations, policy makers and researchers as they have been identified as an important unexploited source of economic growth and

development. An empirical survey was conducted with a longitudinal data of women via secondary data from the National Bureau of Statistics and SMEDAN. Data were analyzed using Linear Regression with the aid of the Stata software. Findings revealed that women entrepreneurship positively and significantly influence development in Lagos state. The paper recommended that Lagos state government should encourage more women in entrepreneurial activities by providing infrastructural facilities such as trade centers, shops and credit facilities that will enhance their participation in business.

Sam (2016) examined the impact of women entrepreneurs in national development, using Taraba state as study. Descriptive and ANOVA f-statistics were employed to analyse the data as well as test the raised hypothesis. Findings from study revealed that the women entrepreneurs who seize opportunities have better control over the affairs of their businesses which implies that capability of women entrepreneurs does affect their financial control. Resources available to women entrepreneurs affect how profitable their business ventures are. This goes to say that for women entrepreneurs to have profitable ventures access to continuous and unlimited resources is essential. The study also revealed that entrepreneurial knowledge of women does affect their access to good marketing networks. Since networks impacts on the performance of women entrepreneurs, their access to continuous learning is essential and vital for their growth and development. Thus, women entrepreneurs are advised to acquire the necessary knowledge needed to access good networks. Women entrepreneurs should develop the inner strength and strong will to channel and control their finances properly.

Tersoo (2013) examined the impact of women entrepreneurs on economic growth in Benue State, North-Central Nigeria. An exploratory survey method employed and the questionnaire used for data collection. A sample of Sixty (60) respondents was drawn from 244 registered businesses in Benue state. Analysis of Variance (ANOVA), Analysis of Co-variance and Regression and Correlation were employed as tools for testing hypotheses. Findings revealed that the operations of women entrepreneurs have not significantly impacted on the growth of Benue State economy due to the numerous operational challenges faced by them over the years. It was also observed that a weak positive relationship exists between public policy support and women entrepreneurs in Benue State. This implies that, government programmes and other support services have not helped them surmount the inhibiting operational challenges. In order to help the women entrepreneurs overcome their operational hardships in Benue State, it is recommended among others: capacity building programmes on entrepreneurship education, provision of effective and realistic support services for women entrepreneurs, promoting of gender neutral environment in all policy measures to help women entrepreneurs impact significantly on economic growth.

Afolabi (2015) examines the effect of entrepreneurship in fostering economic growth and development. The methodology adopted was the narrative-textual case study (NTCS) method, which is preferred because of the absence of sequential data related to entrepreneurship and sustainable economic growth in Nigeria. However, interviews were also conducted. We used simple percentages, graph and chart in analyzing and interpreting the collated secondary data. We found that Nigeria's economy has continued to grow over the last decade- with the real GDP growth rate hovering around 7%. It was also found that entrepreneurship can enhance economic growth and development primarily by generating employment and foster the growth of micro, small and medium enterprises in Nigeria. We recommend that there should be proper policy coordination and policy stability; reforms in the educational curriculum to prepare students for

self-reliance; and fixing the power sector-Nigeria's basic infrastructure. When we have flourishing micro, small and medium enterprises (MSMEs), gainful employment will be created, wealth created will be distributed evenly and economy is developed.

Nwachukwu, Fadeyi, Paul and Minh (2021) examined Women Entrepreneurship In Nigeria: Drivers, Barriers And Coping Strategies. To achieve this goal, an unstructured questionnaire was employed to elicit information from participants. The study revealed that sourcing for alternative loan routes, customer service and credit sales are survival strategies employed by women micro-entrepreneurs. This study shed light on the experiences of women entrepreneur in Oyo State Nigeria, their constraints, motivations and survival strategies, contributing to gender and entrepreneurship literature in the developing country context. We, therefore, recommend that Government must provide adequate infrastructure to support women micro-entrepreneurs lending institutions should make it easy for women micro-entrepreneurs to assess loans for their businesses

Olusanya, Sufian, Adegoriola, Gaddafi, Ibrahim and Ifegwu (2023) investigated the impact of women entrepreneurs and national development in Nigeria, using women entrepreneurs in Lagos state. The objectives of the paper are to ascertain the role that women entrepreneurs have had on economic development and job creation in Lagos state, Nigeria, to determine how business organization of women entrepreneurs have contributed to economic development in Lagos state, Nigeria and to also investigate the financial contributions made by women entrepreneurs to Nigeria's economic development in Lagos state. Primary data analysis will be used and data will be collected from the women entrepreneurs registered with Lagos state, Nigeria. Spearman's rank correlation coefficient will be used as the estimation techniques. The findings show that there is a significant relationship between creation of jobs by women entrepreneurs and economic development in Lagos state and that there is a significant relationship between the business organizations of women entrepreneurs and economic development in Lagos state. The paper recommends that the federal government of Nigeria should give Nigerian women access to intervention funds intended for empowerment and acknowledge the contribution that women have made to the development of the nation's economy

Similarly, UNEP (2020) conducted a study on women's entrepreneurship in Morocco, focusing on the entrepreneurial environment and its contribution to economic and social development. The study attempts to describe and analyze the experience of women entrepreneurs in Morocco who work in a very difficult, if not hostile, socio-economic and cultural context. The study is based on the results of a survey conducted with a representative sample of 300 women entrepreneurs and showed that women's businesses have limited access to information about sources, price fluctuations, market needs, business opportunities, taxation, legalization, subsidies or subsidy programs. It is difficult for these enterprises to cope with strong competition and a hostile environment. In addition, due to the insufficient training they employ, women entrepreneurs tend to have great difficulty accessing appropriate sources of finance, and finally, it has been found that only a few women entrepreneurs are well versed in supply chain, manufacturing/ processing and marketing.

World Bank Group (2020) analyzed the role of women entrepreneurs in poverty reduction in Kenya. Based on a 15% sample selected from a target group of 664 women entrepreneurs, data was collected through interviews with 26 women entrepreneurs and a questionnaire was distributed. Using a qualitative

and quantitative data processing approach supported by SPSS software, the study concluded that women entrepreneurs play an important role in poverty reduction in Kenya. In particular, the study showed that there was a significant improvement in the economic and social status of women who worked in small and medium-sized enterprises selling shoes and clothing, as well as porcelain and sculpture. Finally, the study also revealed indicators of poverty reduction in society, such as the ability to meet basic needs, the ability to pay for children's education, have a high standard of living and easy access to healthcare.

UN Women (2022) conducted a study of the determining factors of women's entrepreneurship in the city of Bukavu. Combining qualitative (interviews with 30 women) and quantitative (questionnaires) approaches, the study aimed to identify the main factors that encourage women in Bukavu to become entrepreneurs. Data collected from a sample of 213 female entrepreneurs after processing using SPSS version 16.0, factor analysis, content analysis and multiple regression using the ANOVA test revealed various independent variables such as the age of the entrepreneur, marital status, number of children, level of education, experience, motivation, goals and occupation of the parents. The average age of women entrepreneurs was 39.6 years, while 53.09% of them are married and have an average of four children; the average age of children is at least 13 years.

3.   Methodology

This study adopts quantitative research design. This study employed the use of annual time series data which are secondary in nature, and the annual time series data for the period (2001-2023). The data used in this study comes from secondary and multiple sources. Information on GDP per capita, women's school enrolment rate, fertility rate, women's representation in parliament, and women's entrepreneurship is taken from the World Bank's World Development Indicators 2023 database provided by the World Bank Online (WDI, 2023), and covers the period from 2012 to 2022. The missing data is supplemented by data available in the UNDP 2022 database, CEMAC, UNESCO, and the University of Sherbrooke website. The quantitative data were analysed with the econometric technique of Vector Error Correction Mechanism.

3.1   Model Specification

The main aim of the study is to examine the effect of women entrepreneurs on economic growth in Nigeria 2001-2022. To estimate the impact of women's entrepreneurship on economic growth in Nigeria, the Solow's (Hagemann, 2009) growth model and Barro's (1990) models were used. Thus, the Cobb-Douglas model of technological progress can be written as follows:

$Y = F (K, H,AL)$--(3.1)

where Y is the total income, K is the stock of physical capital, L is the amount of labour (assimilated or assumed proportional to the population), H is the stock of human capital, and A is the measure of neutral technological progress, in Harrod's sense.

The assumption of constant return makes it possible to write this ratio by expressing the values "per effective unit of labour", i.e.:

$y = f (k,h)$ --- (3.2)

Where:

$$y = \frac{Y}{AL}, k = \frac{K}{AL}, h = \frac{H}{AL}$$ ---(3.3)

Therefore, the functional form of the model is specified as:

RGDP = F(IWE, FER, WRP, FSER) …………………………………………………………..(3.4)

Where:

RGDP   =   Real gross domestic product

FSER   =   Female school enrolment rate

FR   =   Fertility rate

WRP   =   Women's representation in parliament,

IWE   =   Index of Women's entrepreneurship

The Econometric Form of the Equation (1) is transformed into:

$$RGDP_t = \alpha_0 + \beta_1 IWE_t + \beta_2 FER_t + \beta_3 WRP_t + \beta_4 FSER_t + \mu_t \dots\dots\dots\dots\dots\dots(3.5)$$

Where:

$\beta_1, \beta_2, \beta_3, \beta_4$ = The Regression parameters and slopes of the respective explanatory variables.

U_t =   error term that captured the other variables not included in equation

For the purpose of this study, the dependent and control variables are transformed into logarithm functions. Koutsoyianis (2003) found this transformed logarithm regression model to be superior to the untransformed version of the model in terms of statistical reliability and goodness of fit (R^2). Logarithm is introduced in the equation to bring the variables to common base since they are not in the same unit. Therefore, the linear form of the model is written as:

$$lnRGDP_t = \beta_0 + \beta_1 lnIWE_t + \beta_2 lnFER_t + \beta_3 lnWRP_t + \beta_4 lnFSER_t + \mu_t \dots\dots\dots\dots(3.6)$$

Where:

μ_2 =   error term that captured the other variables not included in equation (3.6)

$\beta_1 - \beta_4$ = Parameter estimates for the control variables.

With apriori expectation of $\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$

Real gross domestic product, Female school enrolment rate, fertility rate, women's representation in parliament and index of women's entrepreneurship are expected to have positive effects on economic growth in Nigeria.

4. Results and Discussion

4.1   Pre-Test

4.1.1   Descriptive Statistics

Table 1: Descriptive Statistics

	RGDP	IWE	FER	WRP	FSER
Mean	785765.4	32.22273	5.781409	5.558033	40.20840
Median	868478.0	34.40000	5.875000	5.833333	41.53933
Maximum	992176.8	44.90000	6.139000	7.222222	54.88297
Minimum	356994.3	18.80000	5.143000	3.380282	27.31945
Std. Dev.	216953.6	8.327232	0.329696	1.446126	7.059112
Skewness	-0.561468	-0.182174	-0.509450	-0.516054	-0.067186
Kurtosis	1.839080	1.782854	1.854418	1.669264	2.299120
Jarque-Bera	2.391326	1.479677	2.154638	2.599764	0.466848
Probability	0.302503	0.477191	0.340507	0.272564	0.791818
Sum	17286839	708.9000	127.1910	122.2767	884.5847
Sum Sq. Dev.	9.88E+11	1456.199	2.282691	43.91691	1046.452
Observations	22	22	22	22	22

Source: Authors Extract from E-Views 10, 2024

Table 1 shows the descriptive statistics which comprise of mean, median, standard deviation, Skewness, Kurtosis, Jarque-bera and probability with a total observation of 22. Real gross domestic product shows the highest average of 78576.4 which was flowed by female school enrolment with a mean of 40.20, index of women entrepreneurship 32.22, fertility rate 5.78 and women representation in parliament with the least average of 5.55. the table further reveal that real gross domestic product is more volatile with a standard deviation of 216953.6 followed by the index of women entrepreneurship (8.32), female school enrolment (7.05), women representation in parliament (1.44) and fertility rate with a minimum. He Table also reveals that all the variables are negatively skewed to the left. Also, all the variables indicate Platykurtic as their Kurtosis values are less than 3. The Jarque-bera statistics and their probabilities values indicates that the null hypothesis of normality is rejected at a 5% significant level.

4.1.2 Correlation Matrix

Table 2: Correlation Matrix

	RGDP	IWE	FER	WRP	WSER
RGDP	1				
IWE	0.9593	1			
FER	-0.8595	-0.9385	1		
WRP	0.2245	0.0750	0.1854	1	
FSER	0.8815	0.8286	-0.7165	0.2647	1

Source: Authors Extract from E-Views 10, 2024

Table 2 shows that there is a strong positive correlation between RGDP and IWE (r = 0.95), RGDP and FER (r= - 0.86) as well as between RGDP and FSER (0.88) while WRP show a weak positive correlation (r=0.22). The results further show that IWE, WRP and FSER are positively correlated to RGDP while only FER is negatively related to RGDP within the study period. In general, the results of the correlation matrix will be of information value in empirical analysis.

4.1.3 Unit Root Test

Table 3: Augmented Dickey Fuller (ADF) unit root test result

VAR	LEVEL 5%	T-STAT	PROB	DECISION	STATIONARITY
RGDP	-4.019305	-3.808546	0.0064	1(1)	Stationary
IWE	-7.906966	-3.004861	0.0000	1(1)	Stationary
FSER	-5.647991	-3.004861	0.0001	1(1)	Stationary
WRP	-8.058553	-3.004861	0.000	1(1)	Stationary
FER	-6.240192	-3.020686	0.0355	1(1)	Stationary

Source: Authors Extract from E-Views 10, 2024

Table 3 shows the Augmented Dickey-Fuller (ADF) test. The test mechanism shows that all variables were not stationary at levels. These were tested at 10%, 5% and 1% level of significance respectively. As a result of the stationarity of the variables at first difference 1(1). Since all the variables became stationary at first difference, we then move ahead to conduct the Johansen Cointegration Test.

4.1.4 Cointegration Test

Table 4: Cointegration Test result

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
At most 1	0.656954	42.77927	47.85613	0.1380
At most 2	0.416963	19.24167	29.79707	0.4756
At most 3	0.206849	7.372587	15.49471	0.5347
At most 4	0.098212	2.274278	3.841466	0.1315

 *Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

 * Denotes rejection of the hypothesis at the 0.05 level

*MacKinnon-Haug-Michelis (1999) p-values

Source: Authors Extract from E-Views 10, 2024

In Table 4, the null hypothesis of no cointegration was rejected as the trace test indicates 1 cointegrating equation, meaning there is the presence of a long run equilibrium. Having established the existence of a long run relationship, it is expedient to analyse the short and long-run impact.

4.2   Estimation Technique

4.2.1   Vector Error Correction Mechanism

Table 5: Short Run: Vector Error Correction Estimates

Error Correction:	D(GDPGR)	D(IWE)	D(WRP)	D(WSER)	D(FER)
CointEq1	-0.885931	0.148445	0.064319	0.936832	0.014204
	(0.37438)	(0.14453)	(0.13623)	(0.44684)	(0.01661)
	[-2.36637]	[1.02712]	[0.47212]	[2.09658]	[0.85518]
D(GDPGR(-1))	0.032804	-0.097292	-0.092900	-0.499517	-0.005754
	(0.27425)	(0.10587)	(0.09980)	(0.32733)	(0.01217)
	[0.11961]	[-0.91898]	[-0.93089]	[-1.52606]	[-0.47293]
D(IWE(-1))	0.175125	-0.589735	0.277557	-0.212445	-0.000359
	(0.56735)	(0.21902)	(0.20645)	(0.67715)	(0.02517)
	[0.30867]	[-2.69263]	[1.34440]	[-0.31373]	[-0.01427]
D(WRP(-1))	0.282983	-0.093174	-0.565148	-0.002178	0.012534
	(0.57522)	(0.22205)	(0.20932)	(0.68654)	(0.02552)
	[0.49196]	[-0.41960]	[-2.69998]	[-0.00317]	[0.49117]
SD(WSER(-1))	0.028878	-0.012128	0.055304	-0.112347	-0.000272
	(0.20248)	(0.07817)	(0.07368)	(0.24167)	(0.00898)
	[0.14262]	[-0.15515]	[0.75057]	[-0.46487]	[-0.03032]
D(FER(-1))	34.89350	6.009381	7.964278	-6.645947	-0.808251
	(22.8473)	(8.81989)	(8.31393)	(27.2690)	(1.01362)
	[1.52725]	[0.68134]	[0.95794]	[-0.24372]	[-0.79739]
C	1.195704	2.282842	-0.052826	0.942128	-0.057972
	(1.49018)	(0.57527)	(0.54226)	(1.77858)	(0.06611)
	[0.80239]	[3.96833]	[-0.09742]	[0.52971]	[-0.87687]
R-squared	0.731556	0.359142	0.491230	0.293004	0.070904
Adj. R-squared	0.6204178	0.102799	0.287722	0.010205	-0.300735
Sum sq. resids	150.6537	22.45100	19.94905	214.6089	0.296524
S.E. equation	3.169161	1.223411	1.153229	3.782494	0.140600
F-statistic	1.897970	1.401021	2.413814	1.036086	0.190787

Source: *Authors Extract from E-Views 10, 2024*

Table 5 presents the short run estimates and reveal the speed of adjustment from short-run disequilibrium back to equilibrium. The estimates shows that it takes 0.89 percent to be restored from disequilibrium. From the first column were RGDP is dependent variable, the estimates shows that one lagged period of IWE, WRP, FSER and FER have a positive and insignificant impact on RGDP as their statistics are: 0.56, 0.49, 0.14 and 1.52 are positive and less than 2 critical values, based on the rule of Thumb.

In terms of the goodness of fit of the model, the test result showed that the R- squared (R^2) value of 73 percent implies that about 73 percent of variation in the level of economic growth in Nigeria is explained by the explanatory variable in the model while the remaining 27 percent cannot be explained as it is captured by the error term. The adjusted R^2 value of 62 percent indicates that even when the model is adjusted; it still has a good fit. Hence, the model is said to be correctly specified. The value of f-statistic of 1.897970 implies that the model is highly significant at 5% level.

Table 6: Long Run coefficients

Source	Coefficient	Standard error	T-stat
IWE	0.7256	0.17575	4.12915
WRP	0.060808	0.41319	0.14717
FSER	-0.526641	0.09082	-5.79850
FER	3.399086	4.28197	0.79381

Source: *Authors Extract from E-Views 10, 2024*

The coefficients of the long run equation shows that a 1 percent increase in women entrepreneurship will lead to a 0.73 increase in economic growth. As for women representation in parliament, a 1% increase will lead to a 0.06 increase in economic growth. Concerning female school enrolment, a 1 percent increase will lead to a 0.53 decrease in economic growth while fertility rate indicates that a 1% increase in fertility rate will lead to a 3.39 increase in economic growth.

4.2.2 Granger Causality Test

Table 7: Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.	Decision
IWE does not Granger Cause GDPGR	22	5.45719	0.0148	Bidirectional
GDPGR does not Granger Cause IWE		0.15426	0.8582	Relationship
WRP does not Granger Cause GDPGR	22	1.00514	0.3867	No causality
GDPGR does not Granger Cause WRP		2.02474	0.1627	
FSER does not Granger Cause GDPGR	22	3.62677	0.0488	Bidirectional
GDPGR does not Granger Cause WSER		0.16838	0.8464	Relationship
FER does not Granger Cause GDPGR	22	2.95075	0.0794	No causality
GDPGR does not Granger Cause FER		3.31446	0.0609	

Source: *Authors Extract from E-Views 10, 2024*

The result from Table 6 showed that the p-value of women entrepreneurship and economic growth are 0.0148 and 0.8582 respectively indicating that there is bidirectional relationship between IWE and RGDP with causality running from IWE to RGDP. The probabilities of WRP and economic growth are 0.3867 and 0.1627 this showed NO causality. The result further indicates that the probabilities of 0.0488 and 0.8464 shows that there is bidirectional relationship between female school enrolment and economic growth. Also, fertility rate does not granger cause economic growth given their probability values of 0.0794 and 0.0609 which are all greater than 0.5% level of significance.

4.3 Post-Estimation Diagnostic Test for Long Run Model

In order to validate the performance of the model, the following diagnostic test were carried out; normality test, Breusch-Godfrey Serial Correlation LM Test, Heteroskedasticity Test and Ramsey RESET Test

Table 7: Residual Test of VECM Long run

Test	Statistics	Probability values
Normality (Jarque-Bera statistic)	0.728169	0.1857

Breusch-Godfrey Serial Correlation LM Test	0.863829	0.3184
Heteroskedasticity Test	0.515621	0.6723
Ramsey RESET Test	0.285142	0.3571

Source: *Authors Extract from E-Views 10, 2024*

From the diagnostic test in Table 8, the null hypothesis of should be accepted signifying that the model is free from misspecification problem (Ramsey RESET), and the successive errors are not correlated with each other (LM test of no serial correlation), the model is normally distributed or the residuals are normally distributed and there is equal variance among the errors of the model (ARCH test).

4.4   Discussion of Findings

The main objective of the study was to examine the impact of women entrepreneurs on economic growth in Nigeria. The results of the study revealed that the speed of adjustment to equilibrium was high at 0.89 percent. The short run and long run estimates show that women entrepreneurship has a positive and insignificant impact on economic growth in Nigeria. This result is in tandem with the findings by Adefola (2021) who found that female entrepreneurship business has a positive relationship with economic development in Adamawa state, Nigeria and the F statistics shows that the overall model is statistically significant at 5% level of significance. In addition, the study findings support the findings by Banwo (2021) who also found that female entrepreneurship has contributed and improved the business activities in Kano state. Onu and Abass (2018) in their study found that women entrepreneurship positively and significantly influence development in Lagos state. However, the result was at par with the findings by Tersoo (2013) who found that the operations of women entrepreneurs have not significantly impacted on the growth of Benue State economy due to the numerous operational challenges faced by them over the years. The study further reveals that women representation in parliament reveals a positive relationship with economic growth in the short run but shows a negative and insignificant relationship with economic growth in the long run. The causality results also revealed a bidirectional relationship between women entrepreneurship and economic growth while Women Representation in Parliament reveals no causality.

5. Conclusion and Recommendations

The study was conducted to examine the impact of women entrepreneurship on economic growth in Nigeria with time series data from 2001 to 2023. The works of other authors were reviewed and shows that most of the studies are cross country and regional, hence this study on Nigeria. The Vector Error Correction Mechanism was conducted with the aid of E-views 10 to ascertain the impact of women entrepreneurship on economic growth in Nigeria. The study concluded that women entrepreneurship has a positive and insignificant impact on economic growth in Nigeria. As a result, women's entrepreneurship can become one of the main directions of economic development strategies. In order for women to succeed in business development, it is necessary to develop an implementation strategy and at the same time cope with regulatory constraints. Women's entrepreneurship is a key element in strengthening women's economic independence and promoting gender equality in developed and developing countries. The study further concluded that women representation in parliament reveals a positive relationship with economic growth in the short run but shows a negative and insignificant relationship with economic growth in the long run. The causality results also revealed a bidirectional relationship between women entrepreneurship and economic growth while Women Representation in Parliament reveals no causality. Based on the findings of the study,

it is therefore recommended that removing barriers such as discriminatory property and inheritance laws, customary law, lack of access to formal financial institutions, and time constraints related to family and household responsibilities could provide more opportunities for sustainable female-led enterprises to grow in Nigeria and development in Nigeria. The federal government should recognize the impact women have made in the growth of the country's economy and also grant Nigerian women access to-intervention funds meant for empowerment.

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