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## Exchange Rate Volatility and Economic Growth in the Francophone Countries

**Dr. Olalere, Sunday Shina**

Lecturer, Department Of Economics, Faculty of the Social Sciences  
Ekiti State University, Ado-Ekiti, Nigeria

**Dr. Tawose, Joseph Ojo Babalola**

Assistant Director, Monetary Policy Department, Central Bank of Nigeria, Nigeria

### **Abstract:**

*This study examines the impact of exchange rate volatility on output growth in the Francophone countries, using time series data spanning from 1980 to 2015. The study employs panel data analysis to examine the relationship between exchange rate volatility and output growth in Francophone countries within ECOWAS. GARCH was used to establish the existence of volatility while Panel ARDL was used to examine the impact of exchange rate volatility on output growth in French speaking sub-region. The result of volatility test from GARCH confirmed the presence of volatility in Real Effective Exchange Rate (REER) in Francophone countries within ECOWAS. Furthermore, the short-run result confirms that there is a negative and significant relationship between exchange rate volatility and output growth in Francophone countries. While a positive and significant relationship was found to exist between exchange rate volatility and output growth in French speaking countries in the long run. Based on the findings of this study, it is therefore recommended that exchange rate policy that will pave way for competitiveness should be formulated by monetary authorities in Francophone countries. In addition, French speaking countries should endeavour to add more value to their products before exporting them to other countries.*

**Keywords:** Exchange rate, volatility, output growth and francophone

### **1. Introduction**

Exchange rate management as agent of growth has continued to generate a lot debates among scholars across the globe. This debate is as a result of the one of economic theories which says, currency devaluation will make the price of goods and services from the country that devalued her currency to becomes cheaper in international market thereby increase the demand for such goods and services, this in turn will lead to increase output in such country (Genye, 2011; Micheal et al., 2003 & Rodrick, 2007). For instance, some researchers like Micheal et al., (2003), believe that, some Asian countries such as Japan, Hong Kong, Singapore, South Korea, Taiwan and most recently China have had recorded tremendous growth in their economies based on successes in their strategy as a result of competitive real exchange rate policy as an agent of growth. China and some developing countries have adopted a competitive real exchange rate as an important stimulus for economic growth. This has made China especially to be one of the leading Economies in the world (Micheal et al., 2003). However, the reverse is the case in most other developing countries like Francophone countries. In Africa, several measures have been taken by various governments in order to ensure increase the output in their various countries. One of such measures is the adoption of floating exchange rate. The adoption of flexible exchange rate by these countries led to the devaluation of their currencies. However, after the adopted floating exchange rate regime, the nominal exchange rate became more volatile (Suranovic, 2005).

For instance in Francophone countries, the value of West African CFA Franc in Cote D'Ivoire stood at about CFA417.38 to US dollar between 1984 and 1985 however, real GDP growth rate during this period increases from minus 3.9 per cent to about minus 2.7 per cent. In 2008, West African CFA Franc slightly appreciates in Cote D'Ivoire when it moves from about CFA471.34 to US dollar in 2008 to CFA455.34 to US dollar in 2009 representing about 3.5 per cent. Also, during this period, real GDP in Cote D'Ivoire moves from about 2.5 per cent to about 3.3 per cent. In Senegal, the currency depreciates from CFA271.73 to US dollar in 1981 to CFA328.61 to US dollar in 1982 representing about 20.93 per cent while real GDP in Senegal grew from about 5.07 per cent to about 7.84 per cent during this period. However, the Senegalese currency appreciates from about CFA449.26 to US dollar in 1985 to about CFA346.31 to US dollar in 1986 representing about 22.92 per cent while real GDP declines from about 3.28 per cent to about 3.11 per cent during this period (WDI, 2016).

The empirical analyses above show that, devaluation of exchange rate may not necessary lead to output growth. For instance, from the above analysis, it shows that even during the period of appreciation in the exchange rate, some

economies record appreciable increase in their level of output growth while some economies record decline in growth level of output in their countries during the period of depreciation in exchange rate. The changes in growth of output in these countries might be as a result of volatility in exchange rate. Hence, in order to ascertain the real impact of exchange rate volatility on output growth, this study examines the relationship between exchange rate volatility and output growth in ECOWAS countries. Empirically, the impact of exchange rate volatility on output growth in both developed and less developed countries has been examined by several scholars such as Sorsa, 1999; Arize, Osangi & Slotlye, 2000; Balswin, Skudely & Taglioni, 2005; Korsu & Braima 2007; Munthali, Simwaka and Nwale 2010; Klaassen, 2011; Dincer & Kandil, 2011; ErIdal, Erdal & Esengu, 2012; Hassanov & Samadova, 2012; Madesha, Chidoko & Zivanomoyo, 2013; Rasaq, 2013; Otuori, 2013; Akinlo & Adejumo, 2014; Akinlo, 2015; Ismaila, 2016 etc.). For instance, Dincer et al., (2011) using Vector Autoregressive concluded that, exchange rate policy has significant impact on export growth in Turkey. On his own part, Alagidede et al., (2016) employed GARCH and GMM submitted that, real exchange rate volatility has long-run significant negative impact on economic growth in Ghana. However, Munthanhi et al., (2010) using Co-integration concluded that devaluation of the REER has insignificant positive relationship with economic growth in Malawi. Also, Rasaq, (2013) employed OLS and granger causality submitted that exchange rate volatility has positive relationship with economic growth in Nigeria.

Danladi, et al., (2016) using GARCH found that, exchange rate volatility has significant negative impact on economic growth in Nigeria and Ghana. Also, Arize, et al., (2002) employed Johansen multivariate method and ECM concluded that exchange rate volatility has negative impact on export flow in 13 less developed countries. On the contrary, Sani, et al., (2016) using co-integration and ECM submitted that, exchange rate volatility has significant positive relationship with output growth in visually all the Anglophone countries except Liberia. However, most of these studies suffer from several short-comings because most of the variables and the techniques adopted in their studies were not adequate enough. These might have accounted for the controversies in their findings and made the submissions on the impact of exchange rate volatility on output growth to remain inconclusive. As some of the studies argued that exchange rate volatility has negative impact on output growth while other submitted that, exchange rate volatility has positive impact on output growth. From the empirical studies above, it could be suggested that most of the findings of these studies are faced with some controversies as there were no consensus in the findings of these studies therefore the impact of exchange rate volatility on output growth remain inconclusiveness. This is because; most of the empirical studies do not have a common view on the impact of exchange rate volatility on output growth. Finally, these divergent opinions in reviewed works might also be due to omission of some key variables while examining the impact of exchange rate volatility on economic growth in their studies. In order to overcome the short-coming of the previous studies, this research work incorporate Export (EXPT), Real International Interest Rate (RINT), Inflation (INF), Real Effective Exchange Rate (REER) as well as Exchange Rate Volatility (VOL) into panel ARDL to determine relationship between exchange rate volatility and output growth in Francophone countries within ECOWAS.

The study focuses on Francophone countries within ECOWAS and it covers the period between 1980 and 2015, which represents the pre-SAP and post-SAP eras. The length of the period allows the study to investigate and establish the long run relationship that exists between exchange rate volatility and economic growth in Francophone countries. Precisely, the chosen period is long enough to meet the minimum observation requirement necessary for the Panel ARDL estimation technique. The study focuses on exchange rate volatility and output growth in Francophone countries simply because cross countries research coverage of this nature presents an in-depth study on exchange rate volatility model estimate and its appropriate implementation shall lead to higher output growth and sustainable development in Francophone countries. Like earlier said that the study is majorly on Francophone countries within ECOWAS and these countries includes Benin, Burkina Faso, Cote D'Ivoire, Guinea (Conakry), Mali, Niger, Senegal, and Togo. Four countries are selected in Francophone within ECOWAC countries. The selection criteria are Size, Common Monetary Policy, Economic Union, Gross Domestic Product as well as volume of their Exports. The selected four countries are Senegal, Cote D'Ivoire, Burkina Faso and Togo.

## 2. Methodology

Single equation is adopted in this study. This single equation is enough to examine the impact of exchange rate volatility on output growth within Francophone countries. This equation is enough for this study to have a robust representation on the impact of exchange rate volatility on output growth in French speaking countries within ECOWAS. Following the theoretical proposition of Balassa-Samuelson's approach to the relationship between economic growth and exchange rate which was developed by Balassa (1964) and Samuelson (1964) which was adopted by Harberger (2003), Drine, et al., (2004) and Yanping, et al., (2010) in modeling their studies. The model of this study is in linear form and it mirrors the studies mentioned above with little modification.

$$RGDPgr_{it} = f(VOL_{it}, EXP_{it}, INF_{it}, RINT_{it}, REER_{it}) \quad \dots 3.11$$

The model for objective ii of this study is explicitly specified as follow:

$$RGDPgr_{it} = \alpha_0 + \alpha_1 VOL_{it} + \alpha_2 EXP_{it} + \alpha_3 INF_{it} + \alpha_4 RINT_{it} + \mu_{it} \quad \dots 3.14$$

where RGDPgr is Growth Rate of Real Gross Domestic Product, REER is Real Effective Exchange Rate, VOL is Exchange Rate Volatility, EXP is Export, INF is Rate of Inflation, RINT is Real Interest Rate,  $i$  entity or country,  $t$  is time or year,  $\mu_{it}$  is error or stochastic terms,  $\alpha_0$  is constant  $t$  value or the intersect  $t$ ,  $\alpha_1, \alpha_2, \alpha_3, \alpha_4$  are the coefficients of the variables

### 3. Sources of Data

The data set for this study consists of annual time series spanning from 1980 to 2015 for the purpose of investigating the impact of exchange rate changes on output growth in Francophone countries. Data on the growth rate of Real Gross Domestic Product (RGDPgr), Real Effective Exchange Rate (REER), Inflation (INF), Real International Interest Rate (RINT) as well as percentage of Exports to GDP (EXPT) of all the selected Francophone countries within ECOWAS member countries are sourced from World Development Indicator WDI (2016) while data on Volatility in Exchange Rate is collected from GARCH results.

### 4. Estimation Techniques

The estimation techniques employ in this study are GARCH, Panel Auto-regressive Distribution Lag (ARDL). Unit root test is carried out to determine the time series characteristics of the variables in the study. While examine both the short run and long run impact of between exchange rate volatility on output growth in Francophone countries, panel data estimation technique was employed.

### 5. Results and Discussion of Findings

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
RGDPgr	144	3.1620	4.2982	-15.0958	14.9824
REER	144	284.0504	201.3196	77.7433	733.0385
RINT	144	6.1555	5.7732	-8.5537	21.4956
EXPT	144	29.9352	12.8306	7.8842	53.8020
INF	144	4.1984	6.3166	-4.1407	39.1628

Table 1: Descriptive Statistics of Variables

Source: Author's Computation, 2017

In Table 1 above, the results of the estimated mean value which show the data distribution, recorded the highest mean value of 284.05 for REER while RGDP gr has the lowest mean value of 4.30. One major observation is standard deviation which measures the variability of the data, all the standard deviation values are positive. Variable like REER (201.32) has higher standard deviation which shows higher variability while other variables like EXPT (12.83), INF (6.32), RINT (5.77) and RGDPgr (4.30) have low standard deviation with low variability.

#### 5.1. Volatility Test

Since one of the issues in this study is to check for volatility clustering in the exchange rate, the study starts by testing for Heteroscedasticity in the real effective exchange rate data series. The lag length was selected at 5. The result of the ARCH LM test is presented in Table 2.

Dependent Variable: REER				
Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)				
Presample variance: backcast (parameter = 0.7)				
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	92.082	37.7934	2.4365	0.0148
AR(1)	0.9026	0.0119	75.6363	0.0000
	Variance Equation			
C	1020.313	146.2495	6.9765	0.0000
RESID(-1)^2	1.3309	0.2147	6.1997	0.0000
GARCH(-1)	0.0053	0.0016	-3.3364	0.0008
R-squared	0.8650	Mean dependent var	289.3913	
Adjusted R-squared	0.8640	S.D. dependent var	201.6467	
S.E. of regression	74.3682	Akaike info criterion	10.8339	
Sum squared resid	763226.5	Schwarz criterion	10.9390	
Log likelihood	-753.372	Hannan-Quinn criter.	10.8766	
Durbin-Watson stat	1.8223			

Table 2: ARCH/GARCH Volatility Test

Source: Author's Computation, 2017

The GARCH  $\varepsilon_{t-1}^2$  term is the volatility from previous period measures as the lag of the square residual from the mean equation is 1.33 and the GARCH term  $\sigma_{t-1}^2$  is the last period forecast variance is 0.01 in Table 2. They are both significant at 5% level.

The rule of thumb there is that: if  $\alpha + \beta$  is less than 0.5, there is no volatility, if  $\alpha + \beta$  is fall between 0.5 and 1, there is volatility and if  $\alpha + \beta$  is greater than 1, this is a case of overshooting.

The sum of the two coefficients is 1.33, which is greater than 1. This shows the presence of volatility in real effective exchange rate in Francophone countries within ECOWAS.

### 5.2. Panel Unit Root Test

The methods of panel unit root test adopted for this study are Im, Pesaran & Shin (IPS) and Augmented-Dickey Fuller (ADF) tests. The test has been proven to be suitable in verifying stationarity of variables in panel data Maddala & Wu, (1999) and Im, Pesaran & Shin, (2003). For comparison and clarification, the ADF Fisher Unit root test was also used. The results are presented in Table 4.

Variable	At Level				First Difference				
	IPS Statistic	Prob.	ADF - Fisher Chi-square	Prob.	IPS Statistic	Prob.	ADF - Fisher Chi-square	Prob.	
RGDPgr	-10.3167	0.000	90.3070	0.0000	---	---	---	---	I(0)
REER	-1.5804	0.0570	13.1926	0.1054	-10.7586	0.0000	-8.3420	0.0000	I(1)
RINT	-2.4544	0.0071	19.0052	0.0148	-13.9635	0.0000	119.738	0.0000	I(1)
EXPT	-0.8262	0.2043	12.4544	0.1321	-9.9330	0.0000	86.2856	0.0000	I(0)
INF	-6.5579	0.0000	53.5117	0.0000	---	---	---	---	I(0)
VOL	-3.5712	0.0000	21.8246	0.0000	---	---	---	---	I(0)

Table 3: Panel Unit Root Test  
Source: Author's Computation, 2017

The results of panel unit root test as shown in Table 3 examine the statistical prosperities of all the variables. The Im, Pesaran & Shin and ADF - Fisher Chi-square panel unit root test for unit root are conducted for the variables in the model. The null hypothesis tested for the IPS and ADF is  $H_0 : \alpha_1 = 0$  for all countries while the alternative hypothesis is  $H_1 : \alpha_1 < 0$ , for at least one country. The lag lengths are selected using the Akaike Information Criterion. The results of the test of all the variables are stationary at first difference except RGDPgr INF and VOL which were found to be stationary at their levels. The null hypothesis is that test is a unit in each series, that is, each variable is non-stationary. The rule of thumb is that, the null hypothesis should be accepted if the IPS and ADF statistics are less negative, meaning that, greater than the critical value at any chosen level of significance. The results of IPS and ADF in Table 3 indicate that all the variables are integrated of order zero, that is, I(0) except REER, RINT and EXPT which were found to be integrated of order one, that is, I(1).

ARDL Bounds Test		
Included observations: 140		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	9.922838	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.50%	3.25	4.49
1%	3.74	5.06

Table 4: Bound Test Result for Francophone  
Source: Author's Computation, 2017

	5% Critical Value		1% Critical Values	
	Lower	Upper	Lower	Upper
Restricted Intercept No trend	2.27	3.28	2.88	3.99
Unrestricted Intercept No trend	2.45	3.16	3.15	4.43

Table 5: Bound Test for Cointegration for Francophone  
Source: Pesaran, et al, 2001

The rule of thumb is that, if the computed F-statistics falls below the lower bound value I(0), the null hypothesis is (no cointegration) is accepted. Also, if the computed F-statistics exceeds the upper bound value I(1), the null hypothesis is rejected thus, there is existence of long-run relationship. If the computed result falls between the lower and upper bounds,

then the test is inconclusive. Based on this, the result of Wald test from Table 4 shows that, the null hypothesis of no cointegration is rejected since the F-statistic of 9.92 critical value of 5.878631 is higher than the upper bound critical value of 3.28 (restricted) at 5% error level from Table 5.

### 5.3. Panel ARDL Long-Run and Short-Run Analyses for Francophone

Information on the Panel ARDL results for Francophone is presented in Table. 1.6

Dependent Variable: D(RGDPgr)				
Dynamic regressors (4 lags, automatic): VOL RINT INF EXPT				
Selected Model: ARDL(1, 2, 2, 2)				
Variable	Coefficient	Std. Error	t-Statistics	Prob.
Long Run Equation				
VOL	0.005964	0.002332	2.557081	0.0120**
RINT	-0.114519	0.067243	-1.703061	0.0915*
INF	0.007151	0.061488	0.116299	0.9076
EXPT	-0.087746	0.068712	-1.277016	0.2044
Short Run Equation				
COINTEQ01 (ECM)	-0.814008	0.196520	-4.142104	0.0001**
D(VOL)	-0.101897	0.062346	-1.634380	0.1052
D(VOL(-1))	-0.045123	0.024218	-1.863195	0.0653*
D(RINT)	0.238799	0.047397	5.038275	0.0000***
D(RINT(-1))	-0.037186	0.054706	-0.679744	0.4982
D(INF)	0.052970	0.083871	0.631560	0.5291
D(EXPT)	-0.218053	0.136697	-1.595155	0.1137
D(EXPT(-1))	0.348934	0.125835	2.772951	0.0066**
C	5.433668	1.438965	3.776094	0.0003***
Akaike Info Criterion			5.021254	
Schwarz Criterion			5.846202	
Hannan-Quinn Criterion			5.356466	

Table 6: Panel ARDL Results for Francophone

Source: Author's Computation, 2017

Note: \* Is 10 % Level Significance, \*\* 5% Level of Significance and \*\*\* Is 1% Level of Significance

Information from Table 6 shows both the long run and short run equation results of Panel ARDL for Francophone (French speaking countries) within the ECOWAS. The long-run equation indicates that, exchange rate volatility (VOL) and Inflation exhibit a positive relationship with output growth but only the impact of exchange rate volatility is said to significant. This implies that, a unit increase in exchange rate volatility will lead to about 0.60 per cent increase in output growth in Francophone countries and it is said significant at 10% level. This suggests that, volatility in exchange rate brings about more profits to the investors which in turn encourage them to invest more thereby leads to an increase in output growth in Francophone countries. The result is in line with the findings of Azeez et al., (2002); Razaq, (2012); Enakwe et al., (2013) & Huchet-Bourdon et al., (2013) who submitted that, exchange rate volatility has a positive impact on output growth. Although, inflation (INF) seems to exact a positive relationship with output growth, however, it is not significant in this study. However, the long run result shows that there is a negative but significant relationship between real international interest rate and output growth in French speaking countries. This suggests that, a unit increase in the real international rate of interest (RINT) will lead to a decrease of about 0.07% in output growth within the Francophone countries. Similarly, export (EXPT) seems to exact an indirect relationship with output growth, however, it was not significant in this study.

Furthermore, the short run equation from Panel ARDL result for Francophone shows that, the first difference of real international interest rate D(RINT) and the one period lag of first difference of export D(EXPT (-1)) exert a positive and significant impact on output growth in Francophone countries within the ECOWAS. The result shows that a unit increase in first difference of real international rate of interest D(RINT) leads to about 23 per cent increase in output growth in French speaking countries in ECOWAS region and it is significant at 1%. Similarly, an increase in one period lag of first difference of export D(EXPT (-1)) will lead to an increase of about 35 per cent in output growth of French speaking countries within ECOWAS sub-region and this is said to be significant at 10% level. This implies that, high local interest rate within the Francophone countries discourages local investors thereby encourages the inflow of foreign direct investment by foreign investors and bringing about an increase in output growth within the French speaking countries. Similarly, an increase in export also implies that more local products are demanded for thereby leading to output growth within the French speaking countries.

However, the first difference of one lag of exchange rate volatility D(VOL(-1)) indicates that an inverse relationship exists between exchange rate volatility and output growth. The result shows that a unit increase in first difference of one lag of exchange rate volatility D(VOL(-1)) will lead to about 4% decrease in output growth level in

French speaking countries within ECOWAS sub-region and this is found to be significant at 10% level. This result supported by Musyoki et al., (2012); Alagidede et al., (2016); Danladi et al., (2016), who confirmed that, exchange rate volatility exerts a negative impact on economic growth. More so, the first difference of exchange rate volatility  $D(VOL)$  and first difference of one lag real interest rate  $D(RINT(-1))$  exert an indirect relationship with output growth in French speaking countries but there are significant factor stimulating output growth. Again, the first difference of both inflation  $D(INF)$  and export  $D(EXPT)$  exert a direct relationship with output growth in Francophone countries within ECOWAS, however, they are not significant factors which can stimulate output growth. The coefficient of ECM which measures the speed of adjustment back to equilibrium is  $-0.814008$ . This is significant at 1% level with a negative sign, indicating that about 81.40% of previous disequilibrium is adjusted in the model in the short run within the Francophone countries.

## 6. Discussion of Findings

Based on the objective of this study which to examine the impact of exchange rate volatility on output growth in Francophone countries, some econometric tests were carried out. First of all, the study conducts volatility test using GARCH, since volatility is one of the key variables in this study. The result confirms the presence of volatility in REER across all the selected countries in French speaking countries within ECOWAS. This result is in line with findings of Olimov, et al., (2008) who submitted that, there is existence of volatility in the rate of exchange rate. Again, stationarity test was conducted first to avoid spurious regression, using Im, Pesaran and Shin (IPS) and Augmented-Dickey Fuller (ADF Fisher). The results revealed that all the series are not integrated of the same order. While RGDPgr, VOL and INF are stationary at their levels, REER, EXPT and RINT are found to be stationary at first difference. The condition for panel cointegration has not met, therefore, the study proceeds to Panel Autoregressive Distributed Lag (ARDL). The panel data analysis was then conducted to analyze the impact of exchange rate volatility on output growth in Francophone. Before panel ARDL was conducted, the study carried out bound test to know if the variables can cointegrate in the long run and the result of bound test confirmed the presence of cointegration in the long run among the variables.

The short run ARDL results for Francophone countries suggest that, the first difference of exchange rate volatility and export on one hand and one lag of the first difference of exchange rate volatility, real international interest rate on the other hand shown negative relationship with output growth in French speaking countries. This suggests that, an increase in each of these variables will cause a reduction in the level of output growth within French speaking countries in the short run. First difference of real international interest rate, inflation and one lag of first difference of export exert positive impact on output growth in Francophone countries. It implies that an increase in the level of international interest rate, inflation and export bring about an increase in the level of output growth in Francophone countries in the short run. It also means that, high interest rate within the French speaking countries encourages foreign investors to invest in Francophone countries thereby boosting their output. Similarly increase in export within Francophone countries leads to output growth in French speaking countries. This is supported by a prior expectation. However, only the first difference and one lag of the first difference of export are said to be significant in the short run.

The long run ARDL results for Francophone show that, real international interest rate and export have negative impact on output growth but only RINT is said to be significant in French speaking countries within ECOWAS. It therefore implies that, an increase in the level of real international interest rate and export cause a reduction in output growth rate in Francophone countries. However, exchange rate volatility and inflation show a positive impact on output growth in Francophone countries. Again, only VOL was found to be significant in the long run. This suggests that, an increase in the level of exchange rate volatility and inflation lead to an increase in growth rate of output within the French speaking countries. It means that, fluctuations in exchange rate encourage investors to invest more and thereby increase output growth in Francophone countries. This result is in line with the findings of Azeez et al (2002); Rasaq (2012); Enakwe et al., (2013) & Huchet-Bourdon, et al., (2013) who submitted that, exchange rate volatility has significant positive impact on output growth.

This might be as a result of the fact that, Francophone countries adopted a single currency policy and this currency is tied to the currency of their France colony (France). The use of West African CFA franc as their common currency might have impacted on the impact of exchange rate volatility on output growth in Francophone countries coped with harmonization of both monetary and fiscal policies as well as coordination of sectorial policies within French speaking countries.

## 7. Conclusion

Based on the results and findings on the analysis of impact of exchange rate volatility on output growth in Francophone countries, the following conclusions were made: RINT & EXPT are said to exhibit a negative relationship with output growth however, only the impact of RINT is said to be significant within the French speaking countries in the long run. However, VOL & INF show a positive relationship with output growth in Francophone countries but the impact of exchange rate volatility (VOL) is found to be significant in the long run in French speaking countries within ECOWAS sub-region. It was therefore concluded that, exchange rate volatility in Francophone countries is sensitive to economic reforms such as harmonization of monetary and fiscal policies within the French speaking countries. This may be attributed to good institutional framework and high quality of public investment.

## 8. Policy Recommendations

In view of all the aforementioned findings in this research work, the following recommendations are therefore put forward:

- Monetary authorities in Francophone Countries should formulate exchange rate policies that will pave way for competitiveness within their economies.
- Francophone countries should endeavour to add value to their product before exporting them to the international market.
- The government within Francophone countries should encourage the advanced countries to open up their markets more for their products in order to increase output growth.

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