



## Remittances and Openness to Trade in ECOWAS Countries Evidence from Panel Data

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### Abstract

This paper explores the relationship between trade openness in ECOWAS countries using panel data. This is evidenced from the significance of foreign remittances over time and its potential in boosting trade relation. The theoretical framework is rooted in the Mercantilists approach which advocate the positive impact of remittance flows on exports thereby increasing the ability to finance imports. The pooled OLS, fixed effect and random effect estimations are adopted. Results show indirect impact of remittance flows on openness to trade for the fixed and random effect estimations while there exists a positive influence of remittance flow on trade openness in the pooled OLS estimation. Economic boom, gross capital formation and money supply impact positively on trade openness. A weakening institutional quality is demonstrated by the negative impact of it on trade orientation. Therefore, it is important that distribution of remittances be well guided, stiff trade policy including bureaucratic bottlenecks should be regulated and adequate infrastructure be put in place to further boost the region's trade relation.

**Keyword:** Trade openness, Remittance, Pooled OLS, Fixed effect, Random effect

### 1. Introduction

In the present days, issue of migration has attracted more and more attention from the world economists. Based on (World Bank 2016a) statistics, total migrants around the world are up to 250 million in which 150 million international migrants translating to about 60% of the total are within the working class. Accordingly, share of immigrants in the world population increased from 2.4% in 1960 to 3.3% in 2015, about 0.9% point difference. The increasing number of migrants in the past few decades is consequent upon availability of job opportunities, labour shortages due to decline in birth rate, push forces such as internal conflict, natural disasters, climate change among others (World Bank, 2016a). International migrants now see financing their home countries as important. Thus, remittance inflows have now been seen as a major supporter of economic growth and a hindrance to poverty in the recipient countries and most importantly, the developing countries. Remittances received by developing countries, sent mostly by citizens of developing countries working as migrant workers abroad, have reached an all-time high in

recent years. The value of remittances is thrice the value of official development assistance exceeding 10 percent of GDP in most of the recipient countries worldwide (Mohapatra & Ratha, 2010). Statistics has shown that global remittances reached \$601 billion from which the developing countries received the share of 73.3% of the total amounting to \$441 billion. Remittance inflows bring about increase in import demand and with low levels of exports; this may result into slower economic performance (Tausch & Heshmati, 2012).

One of the arguments of globalisation is increased trade and hence openness to trade among nations, regions, and continents to the extent that the share of global trade has become a major determinant of economic performance and a country's standard of living. IMF (2001), referencing the economic success of East Asia, concludes that these countries achieved substantial improvements in the living standards of their citizens as a result of increased global trade. A country's ability to trade globally signifies the major difference between developed or industrialised countries and Developing Countries.

Contribution of African continent to global trade remains negligible; one of the reasons for the poor performance of African economy. A call for reversal has been made on the basis of the persistent continent's dependent on trade in raw materials and unfinished products with the rest of the world (Nkurunziza, 2015). Between 2000 and 2018, African exports to the rest of the world ranged from 80-90 percent (AfDB, 2019) which is less than 3 percent of total global exports (Schmieg, 2016). Accordingly, (Schmieg, 2016) indicates that revenue from international trade accounts for more than 50 percent of total income; hence the dependence of African economy on world trade.

Arguments have arisen that international capital flows such as remittances impact positively on trade performance on the basis that foreign capital boosts domestic investment, reduce unemployment, encourage new managerial skills including technology transfer to the receiving economies (Wafure & Nurudeen, 2010). It has been observed that countries experiencing economic depression can achieve economic success if local conditions are attractive to foreign capital flows that are directed at enhancing trade diversification. In West Africa, foreign capital inflows have the potential to enhance local production, inspire private sector activities and set the base to sustain growth and economic transformation through trade relation (Adjovi, 2010). Reports also show that remittance flows have contributed towards increased investment in human capital including education and health together with small businesses in various recipient communities across countries. These apart, it could also support increased trade relation, investment, knowledge and technology transfer from contribution of the people in the diaspora. In another view, remittances may create hurdles in economic development by inflating prices and reduce work incentives among migrants' family members (Le, 2009).

ECOWAS countries rely mostly on inflows of capital more so as remittances remain a significant part. This enable the countries to finance domestic investment and import demand and cover up domestic imbalances. However, the huge capital flows do not seem to improve the economic performance of the region as poverty, unemployment and infrastructural deficiency among other economic menaces including poor technological development, low workers' skills and poor market access (Ahmed, Arezki, & Funke, 2005; Antra's & Cabellero, 2009; and Marwa, 2014) among others still persist. Moreover, the large cost involved in sending remittances between countries could not clearly show the quantity of remittances which significantly contributes to growth as greater portion has to go through informal channels (World Bank, 2016b). While remittance flows have positive impacts on the economies of recipient countries, it has also been deduced that such inflows can result in negative impacts such as increasing inequality levels within poor countries because different households may have different size of remittance flows resulting in some having higher income than the others.

Remittances form significant part of the financial resources which can give support to international trade flows between countries though this has not been given a strong evidence in some parts of the world. Several evidence however exist in Africa. (Bourdet & Falck, 2006) suggest that remittance flows can trigger prices of non-tradables and subsequently cause exchange rate depreciation and thus reduce exports competitiveness in support of import demand. While this may seem related to a single country case, much evidence is still lacking for a group of countries such as ECOWAS. This study is motivated by further enhancing substantial evidences on the contribution of remittances on international trade flows for a cross country case like ECOWAS. Consequently, the objectives of the paper are to examine the contribution of remittance flows to trade performance in the ECOWAS and to provide a suitable model for estimating the relationship between remittance flows and trade.

## **2. Theoretical literature**

In the classical theory, the mercantilism emphasises the need to create more wealth for a nation through increasing the volume of export and based on (Kumar, 2008) policies that should regulate trade flows need be put in place for a favourable balance of trade. Adam Smith criticised this on the basis of free trade and that exporting more goods than importing gives the importing country undue advantage as it tends to make available fewer imports such as jewelry and gold compared to what would have been exported. Theory of absolute advantage as explained by Smith involves countries trading in goods for which they have a least comparative cost disadvantage. Labour is considered as the only factor of production so that productivity can be a major determinant of trade imbalance. He advocates that it is important to have subsidies and other policies that can encourage exports and discourage imports. Specialisation in production of goods that a country has least absolute cost disadvantage put both countries engaging in it at advantage. The theory of absolute advantage is criticised on the basis that countries can still trade even with a country having absolute advantage in engaging trade in two goods.

In the theory of Mercantilist, there is need to export to gain currency to finance imports. With remittances, the receiving countries are placed in a position to finance their imports of goods and services (Kumar, 2008). Such countries without having to export can be motivated to import given the foreign reserves. However, it is assumed by the Adam Smith and David Ricardo that there is no movement across the border, hence there is no explanation on how remittances affect trade balance.

Remittance flows educate the receiving countries residents on allocation and distribution of the resources. With this, it is expected that productivity of the receiving countries improves which subsequently encourages export and reduces import thereby creating a favourable balance of trade. This invariably increases the extent to which the countries partake in global trade and permit foreign firms to do business in their domestic markets.

In the Keynesian model, free trade between countries causes trade imbalances. Countries with trade surplus reduce global aggregate demand as it results in negative externality. A proposed international bank by Keynes (Deardorff, 2014) meant to clear trade imbalances explains the role of international currency in measuring trade imbalances and borrowing to clear imbalances. This would stabilise international trade within countries. However, given that there is no trade balance, there may be chaos as predicted because if the countries with trade deficit are unable to pay for loans borrowed, then this keeps countries with trade surplus on the loss (Seyoum, 2009). While borrowing is expected to improve domestic trade and lessen imports, countries may not even embark on investment that would generate positive returns. As suggested by the theory, international borrowing for investment can reduce trade deficits and hence remittances can be useful for investment and thus reducing dependence on imports.

The monetary views support remittances as they finance imports steadily. Though this can increase trade deficits, the locals enjoy more foreign goods rather than keeping the worthless paper money (Seyoum, 2009).

In summary, classical theory sees trade balance as being a loss to the economy as it induces outflow of wealth. The Keynesian theory explains that trade deficit does not benefit countries in engaged in trade while the monetarists support that trade deficit is good for the country involved. Even though no clarification on how remittances influence trade balance, it is a means of improving human capital relevant for encouraging comparative and absolute advantage. Human capital development here enhances knowledge for better utilisation of remittances and securing jobs that can facilitate productivity and hence reduce trade deficits (Loveth, Alfred, Eckes & Brinkman, 2004) which in turn increase trade openness.

It is important to view remittances as having some negative implication to the receiving countries. One of such is that such financial flows can be diverted from beneficial uses to a suspicious avenue; hence the need to pay attention more to the informal channel of transfer, a reason for the International Monetary Fund (IMF) has advocated for more efficient national supervisory system during the second convention on Hawal, 2004 (Salomone, 2006).

Empirical issues have been developed within the context of remittances and trade and in line with the theoretical ideas above. In a study conducted by Kurshid et al (2018) on the effect of remittances on trade balance of the low, lower and middle income countries for 1988-2014, using the Generalized Method of Moment (GMM) approach, findings show that foreign remittances to these receiving countries demonstrate a Dutch disease. Hien (2017) explores the impact of remittances on trade balance in Malaysia using the Ordinary Least Squares (OLS) method for 1990-2015. Results show that foreign remittances contribute positively to trade balance in this country. Maduka, Madichie & Ekesiobi (2019) investigate the impact of remittances on trade balance in Nigeria. Using the OLS method, a negative impact of remittances on trade balance is discovered.

### **3. Econometric Methodology**

The theory employed for this research is rooted from the Mercantilist assertion in which concentration on export increases foreign and create more avenue to finance imports. Essentially, this theory hinges on maintaining a favourable balance of trade given that there is movement across the border. The favourable balance of trade further increases the participation of the countries in question in global trade in terms of revealed openness and policy openness. Trade openness involves the ratio of the sum total of export and imports to gross domestic product and in some cases, it may be referred to the average of the exports and imports. A favourable trade balance occurs if exports ( $X$ ) outweigh imports ( $M$ ) of a country such that:

$$X - M > 0 \tag{1}$$

But  $X$  depends on international output ( $Y_i$ ), international price ( $P_i$ ) and macroeconomic policy ( $M_p$ ) such as monetary policy, fiscal policy, trade policy, tax policy and other factors determining imports and exports such that the export function is:

$$X = X(Y_i, P_i, M_p) \tag{2}$$

Import depends on domestic output ( $Y_m$ ), domestic price ( $P_m$ ) and Macroeconomic policy as in the export function. Import specification is therefore

$$M = m(Y_d, P_d, T_p) \tag{3}$$

As observed from the theory, remittances flows encourage export for foreign exchange earnings and subsequently, for import financing. Thus, foreign remittances create injection into the economy through increasing exports and hence a favourable balance of trade. This further exposes countries to trade. Thus trade openness can be well fostered through foreign capital flows among other factors. The trade openness model can simply be specified as follows:

$$TOPENNESS = f(REM, EBM, GCF, GEX, BMS, INST, INF, NRES, \varepsilon_3,)$$

$$TOPENNESS = \beta_1 + \beta_2 REM + \sum_1^7 \beta_i X_i + \varepsilon_4 \tag{4}$$

Where  $X_i$  indicate other control variables including economic boom ( $EBM$ ), gross capital formation ( $GCF$ ), government expenditure ( $GEX$ ), broad money supply ( $BMS$ ), institutional quality ( $INST$ ), inflation rate ( $INF$ ) and natural resources ( $NRES$ ).

$\beta_1, \beta_2, \dots, \beta_7$  are  $\varepsilon_1 = \varepsilon_2 = \varepsilon_3 = \varepsilon_4 = \varepsilon$  is the error term which independently and identically distributed.

Data for this study is mainly collected from the World Development Indicators

#### 4. Estimation and Discussion

**Table 1: Descriptive statistics**

Variable	Mean	Median	Std. Dev	J-B Prob.
TOPEN	63.28	57.88	30.58	0.00
ECOBM	5.15	4.78	3.35	0.00
GEX	12.89	12.78	5.59	0.00
INST	25.29	21.03	16.99	0.00
GCF	20.12	18.99	10.54	0.00
INF	9.06	4.85	14.52	0.00
$\Delta MS$	25.59	22.10	15.17	0.00
NATRES	1.91	0.0004	4.48	0.00

Source: Computed using E-views

Descriptive statistics shows the statistical distribution of the variables employed. First, the mean ranges from 1.91 to 63.28 with trade openness variable appearing with the largest mean value and natural resource variable having the lowest mean value over the period. In the same vein, the two variables still have largest and lowest median values. The openness variable also has the greatest spread of 30.58 showing its fluctuating trend over the period. The high level of spread may be connected with the increasing trade relationship in the recent period. The variables do not give evidence of normal distribution as observed from the Jarque-Bera probability values.

**Table 2: Panel Unit root test summary**

Variable	Test Method	Prob.	Cross sections	Observation
TOPEN	L, P & S, ADF, PP	0.00, 0.03, 0.04	15,15,15	516,516,516,
ECOBM	L, P & S, ADF, PP	0.00,0.00,0.00	15,15,15	327,327,327
GEX	L,L,L, P & S, ADF, PP	0.00,0.00,0.00, 0.00	15,15,15	481,481,481,497
INST	L, L, P & S, ADF, PP	0.00,0.00,0.00,0.00	15,15,15,15	225,225,225,240
GCF	L,L, P & S, ADF, PP	0.02,0.00,0.00,0.00	15,15,15	484,484,484,499
INF	L,L, P & S, ADF, PP	0.00,0.00,0.00,0.00	15,15,15	422,422,422,438
$\Delta MS$	L,L, P & S, ADF, PP	0.00,0.00,0.00,0.00	15,15,15,15	479,479,479,496
NATRES	L,L, P & S, ADF, PP	0.00,0.00,0.00,0.00	6,6,6,6	210,210,210,210

Source: Computed using E-views

In the pre-estimation tests, the variables employed are subjected to panel unit root to checkmate any likely occurrence of spurious results. The study employs the unit root under “summary” encompassing all the available test statics. The variables-government expenditure, institutional quality, gross capital formation representing domestic investment, inflation and natural resources are stationary in their levels for all the test methods while trade openness and economic boom are stationary for at least three of the methods in their level forms. However, broad money supply is only stationary in its first difference for all the methods.

**Table 3: TOPEN estimation Results**

DEP. VAR: TOPEN	OLSPOOLED			F.E			R.E		
Variable	Coeff.	S.E	Prob.	Coeff.	S.E	Prob.	Coeff.	S.E	Prob.
C	4.45	0.17	0.86	8.75	8.40	0.30	16.72	7.62	0.03
REM	0.81	1.35	0.18	-0.96	0.53	0.07	-0.89	0.51	0.08
EBM	0.30	1.22	0.23	0.57	0.47	0.23	0.68	0.43	0.11
GCF	0.48	2.59	0.01	0.13	0.19	0.49	0.04	0.18	0.83
GEX	-0.07	-0.12	0.91	1.20	0.54	0.03	1.48	0.50	0.00
BMS	1.05	2.87	0.01	1.71	0.21	0.00	1.16	0.17	0.00
INST	-0.18	-0.87	0.44	-0.18	0.09	0.04	-0.07	0.08	0.37
INF	-0.03	-0.14	0.89	0.78	0.23	0.00	0.71	0.21	0.00
NRES	1.06	2.08	0.04	-1.05	0.38	0.01	-0.75	0.37	0.04
AR(1)	0.94	0.04	0.00						
R <sup>2</sup>	0.88			0.64			0.48		
Adj R <sup>2</sup>	0.87			0.55			0.44		
F-STA	66.82			6.69			13.10		
DW	2.04			0.46			0.36		
FE TEST				0.00			0.00		
HAUSMAN									
RCD test									0.00
Heter LR test									0.04

Source: Computed using E-views

The results of estimation on table 3 show the relationship between trade openness, remittance flows and other factors that affect openness for the pooled OLS, fixed effect and random effect models. First, remittance flows, the key variable relate positively with the trade openness only in the pooled OLS but shows negative impacts on openness in both fixed and random effect estimations. For the pooled OLS, a 1% increase in remittances flows increase openness to trade by about 0.8%. By implication, as remittance flows into the receiving countries of ECOWAS facilitate trade through increasing participation within and the global level. This result follows the mercantilist theory that remittance flows increase trade to finance more imports. Economic boom represented by the positive growth of GDP relate positively with trade openness across all equations with the highest coefficient from the random effect model which demonstrates that a 1% positive increase in growth results in about 0.7% increase in trade orientation. A growing economy is expected to facilitate trade relation as demonstrated and is theoretically plausible. The positive relationship between domestic investment represented by the gross capital formation growth and trade is in line with expectation across all the equations and is significant for the pooled OLS. Increasing domestic investment can facilitate export promotion and hence trade integration. Increase in money supply also facilitates trade as a 1% increase in money supply results in about 1.1% growth in openness to trade. With money supply growth, funds are

readily available for investment purpose with low interest rates. This further ensures higher investment for trade participation. Government expenditure has the largest significant positive coefficient for the random effect model. This is a demonstration that public expenditure can be relevant for trade. Government expenditure is expected to increase trade orientation; however, huge expenses on less productive amenities are not likely to foster trade and hence this retards growth. However, institutional quality has a negative impact on trade openness for each of the pooled OLS, fixed and random effect models. Weak institutional quality in terms of improper trade policy framework ranging from tax, bureaucratic bottlenecks across borders among other malpractices makes trading environment be frustrating and hence retard trade innovation. A 1% increase in inflation slows down trade orientation by about 0.03% in the pooled OLS. Inflation which represents economic instability hinders trade relation. During the period of high economic instability, it is expected that trade integration slows down and vice-versa. Natural resources as expected increases trade openness. A well-diversified natural resources can foster trade and investment environment.

The model has a good fit. The percentage variation in the trade openness left unexplained ranges from 12% to 52% showing that the explanatory power of the independent variables. The D-W value shows absence of serial correlation only in the pooled OLS while the F-statistic values shows the adequacy of the model across all estimations.

On the choice between the fixed effect and the pooled OLS, the redundant fixed effect test statistics supports the fact that fixed effect is a better estimation than the pooled OLS. The Hausman test statistics also supports that fixed effect is better.

For the post-estimation tests, the Residual Cross Sectional Dependence (RCD) test carried out show that residuals are cross sectionally dependent. The heteroscedasticity test statistics confirms the presence of non-homoscedastic error process.

## **5. Conclusion**

A strong argument of globalisation is the increased trade openness among nations, regions and the global world and as such share of trade in global trade has become a good measure of countries' economic performance. Increase in the volume of trade has increased the standard of living of some notable countries. As a way of boosting trade performance, attention has been called to the relevance of international capital flows such as remittance flows into the region as this increases domestic investment, trade relation and reduces poverty. The poor performance of the African economy has been linked among other reasons to low trade performance. Remittance flows believed to demonstrate some positive impact on trade is seen diverted to suspected irrelevant uses. In this paper, the link between trade openness and remittance flows in ECOWAS region is the focus with the theoretical framework routed from the Mercantilists approach which support remittance flows as key to export promotion to further finance imports. The pooled OLS, fixed effect and random effect estimation methods are employed. Results showed that in the pooled OLS estimation, remittance flows improved trade orientation while it retarded trade orientation in the fixed and random effect estimation for the ECOWAS region while control variables such as economic boom, domestic investment and money supply impacted positively on trade openness in all the estimation methods. However, institutional quality demonstrated negative impacts on trade openness in all estimation methods showing the general institutional quality weakness within ECOWAS region.

Policy implication for the region should be a close monitoring of remittance flows to channeled to productive uses. Trade integration should be fostered through relaxing some stiff trade policy and various bureaucratic bottlenecks. Provision of infrastructural facilities is equally encouraged to pave ways for a well-defined and helpful business and trading environment. This will ensure

massive improvement in domestic productivity for export promotion and hence high foreign exchange in the region.

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