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CAUSALITY BETWEEN EXPORT AND ECONOMIC GROWTH IN ETHIOPIA

LINGERH SEWNET AKALU
LECTURER
DEPARTMENT OF ECONOMICS
SAMARA UNIVERSITY
SEMERA

ABSTRACT

The study checked whether there exists a causal relationship between exports and economic growth in Ethiopia. It employed a secondary time series data ranging from 1970 to 2010. Augmented Dicky Fuller test was utilized to check for stationarity of the variables and are found to be integrated of order one (I (1)). Johansen co-integration method was chosen to verify the long run relationship between the variables and result showed the presence of long run association between exports and economic growth. Granger causality was applied to check the causation between exports and economic growth and Vector Error Correction model (VECM) is employed to estimate Granger causality. The result showed that the economic growth granger causes exports in the long run. On the other hand, the Wald test for short run causation showed as the two variables are independent. Besides, there is no causation coming from exports to economic growth both in the long and short run. Thus, the study suggests that the country do not need to promote export expansion policies with the aim of high economic growth on the expense of other developmental activities. It should devote its resources on the production of goods and services that are not solely for export and this will, in turn, accelerate the growth of exports.

KEYWORDS

Ethiopia, export, granger causality, growth, VECM.

INTRODUCTION

Export plays an important role for economic growth in developing countries. It is a source of foreign exchange, which is meager in developing countries, to import capital goods. As a process exporting provides static and dynamic gains. The former include access to larger outside markets, hence exploiting economies of scale and dynamic gains include efficiency advances as a result of knowledge and technological spillovers from exporting experience.

The export sector in Ethiopia is showing improvements in its performance. In the periods 1984/85 to 1988/89 the average share of exports from GDP was 1.88 percent. This figure has increased to 9.6 percent in the periods from 2004/05 to 2008/09. On average in the last two decades' merchandise exports accounted 4.9 percent of the GDP. Besides, according to the 2008/9 NBE annual report, total merchandize export reached to USD 1.45 billion. Coffee is the main export product claiming 26 percent of the value of total export followed by oilseeds 24.6 percent. Ethiopian exports are dominated by primary products. Agriculture contributes the largest share to Ethiopia's total export earnings. This share has been ranging between 83 percent in 2005/06 to 88 percent in the year 2008/09. (NBE, 2008/09)

Economists have agreed that growth of an economy depends on many factors. Along with other variables, trade is the main determinant of growth. Thus in an attempt to ignite growth, developing countries introduced different trade policies. These policies can be categorized as outward-looking or export led growth (ELG) strategies and inward-looking or import substitution (IS) development policies.

Ethiopia had implemented the IS strategy till 1990s. But due to the reform (1991), success of East Asian countries coupled with failure of the IS strategy, the country introduced export-led growth strategy (ELG). Thus, this study attempts to assess whether the shift from IS to ELG strategy augmented economic growth by checking the existence and direction of causal relationship between export and economic growth.

REVIEW OF LITERATURE

Trade policies that have been implemented by developing countries are categorized as outward-looking and inward-looking. Proponents of trade as the engine of development encourage outward looking trade policies. According to Todaro (1994), the outward-looking development policies encourage not only free trade but also free movement of capital, worker's enterprises and student the multinational enterprises, and open system of communications. In contrast, opponents of the traditional view advocate an inward-looking policy. This policy stresses the need for LDCs to implement their own styles of development and adopt indigenous technologies appropriate to their resource endowments.

During the 1950s and 1960s, following the first export pessimism which was brought up by influential development economists Raul Prebish (1952) and Nurkse R. (1959), led to the adoption of the IS trade strategy by many developing countries. According to Prebish, the terms of trade for primary product exports are deteriorating and hence the main exports of LDCs are declining regardless of the policies of developing countries. Nurkse's export pessimism arose from the view that markets of developed countries could not accommodate imports on a sufficient scale as developing countries accelerated their development. (Bhagwati, 1988)

However, the success of some developing countries especially the four Far Eastern economies has refuted the validity of the first export pessimism which provided the rational for the adoption of the IS strategy in many developing countries. According to Riedel (1984), unlike the view of export pessimists, the export performance of these and other countries is explained by domestic incentives (supply) more than by external (demand) conditions. Besides, developing nations that tried industrialization through import substitution grew at much slower rate than the few developing countries that followed an export-oriented policy. As Kruger (1985) stated development strategy that relies on integration with the world economy, rather than insulation from it, is not only feasible, but preferable.

As a result, many developing nations began to pay more attention to export-oriented policy. The benefits or returns of this strategy are thought to be both numerous and widespread (Bhagwati, 1988 and Kruger, 1985). It is argued that trade according to the principle of comparative advantage yields efficiency in terms of resource allocation. Another gain from adopting the export promotion strategy relates to the economies of scale issue. Advocates of this strategy argue that domestic markets are too small to allow firms to achieve optimal scale. It is through production for sale to foreign markets that firms can achieve increasing returns and, eventually, optimal scale. (Grabowski, 1994)

Regarding the direction of causality between export and economic growth, empirical researches are not conclusive. For instance, the studies by Chow, (1987) for Argentina, Brazil, Hong Kong, Israel, Korea, Mexico, Singapore and Taiwan; and Marin, (1992) for USA found that export causes economic growth. Whereas studies by Oxley, (1993) for Portugal and Ukpolo, (1998) for South Africa indicated that export does not drive economic growth. The study by Kwan *et al,* (1991) for China found a bi-directional causal relationship between export and economic growth. The last group of studies by Ahmad and Kwan, (1991) for 47 African countries; and Jin and Yu, (1996) for USA found no evidence of causal relationship between export and economic growth.

IMPORTANCE OF THE STUDY

Identifying and examining the causal relationship between economic growth and exports is important for policy makers. It helps to design appropriate policies to enhance growth of the export sector in particular and economic growth in general.

STATEMENT OF THE PROBLEM

The proponents of ELG hypothesis postulate that export expansion is one of the prime determinants of economic growth. According to Bhagwati, (1978) and Krueger, (1978) the overall growth of countries economy can be generated not only by increasing the amounts of labour and capital within the economy as the classical economist's postulates, but also by expanding exports to wider markets. (Chandra, 2010)

An export led growth strategy aims to provide producers with incentives to export their goods through various economic and governmental policies. It also aims to increase the capability of producing goods and services that are able to compete in the world market, to use advanced technology, and to provide foreign exchange needed to import capital goods. Exports can increase intra-industry trade, help the country to integrate in the world economy and reduce the impact of external shocks on the domestic economy. Experiences of Asian and Latin American economies provide good examples of the importance of the export sector to economic growth and development, which led economists to stress the vital role of exports as the engine of economic growth.

In spite of the benefit of export promotion mentioned above, influential development economists such as Raul Prebish, (1952) and Nurkse R., (1959), contend that developing countries (LDCs) could not reap the benefits of export. The reason they provide is that the terms of trade for LDCs exports are deteriorating for the pattern of exportable goods is dominated by primary agricultural products and semi-processed agricultural products. Besides, markets of developed countries could not accommodate imports of primary products on a sufficient scale. Moreover, these countries are facing decline in the prices of primary goods in the international market.

In light of this, the question that prevailed is does the ELG strategy brought economic growth in Ethiopia? This question is answered by identifying and examining the causal relationship between economic growth and exports. Thus, the objective of this paper is to examine whether the Export Led Growth hypothesis is valid or not in Ethiopia.

OBJECTIVES

The main objective of this study is to analyze the causal relationship between economic growth and exports in Ethiopia. Specifically the study aims at;

1. Analyzing the long run causal relationship between exports and economic growth
2. Analyzing the short run causal relationship between exports and economic growth

HYPOTHESISES

1. Economic growth granger cause exports in the long run
2. Economic growth does not granger cause exports in the short run
3. Exports do not granger cause economic growth in the long run
4. Exports do not granger cause economic growth in the short run

RESEARCH METHODOLOGY

GRANGER CAUSALITY: EXPORT AND ECONOMIC GROWTH

In multivariate time series analysis, causality test is undertaken to check which variable causes (precedes) another variable. According to Granger (1988), given two variables export (X) and GDP (Y), X is said to cause Y if lagged values of X predicts Y well. If lagged values of X predict Y and at the same time lagged values of Y predict X, then there is a bi-directional causality between X and Y.

According to Granger (1988), the existence of co-integration between X and Y must be checked before running causality test. If co-integration is found, then it exists a causal relationship in at least one direction. To test for causality, first the following co-integrating equations need to be estimated by OLS.

$$LX_t = a_0 + b_0 LY_t + U_{1t} \quad ---------- (1)$$

$$LY_t = a_1 + b_1 LX_t + U_{2t} \quad ---------- (2)$$

Where LX and LY are log forms of export and GDP respectively.

Assuming that LX and LY are $I(1)$, co-integration implies that the residuals U_{1t} and U_{2t} be $I(0)$. Having found that the variables LX and LY are co-integrated, the error correction models are formulated as follows:

$$-\Delta LX_t = \delta_1 + \sum_{i=1}^{p} \alpha_{1i} \Delta LX_{t-i} + \sum_{i=1}^{p} \beta_{1i} \Delta LY_{t-1} + \gamma_{1i} U_{1t-1} + \varepsilon_{1t} \quad ------ (3)$$

$$\Delta LY_t = \delta_2 + \sum_{i=1}^{p} \alpha_{2i} \Delta LY_{t-i} + \sum_{i=1}^{p} \beta_{2i} \Delta LX_{t-i} + \gamma_{2i} U_{2t-1} + \varepsilon_{2t} \quad ------- (4)$$

Where γ_{1i} and γ_{2i} are the residual coefficients for a one period lag co-integrating vectors and Δ is a symbol for first difference operator.

The error correction terms, U_{1t-1} and U_{2t-1}, are the stationary residuals from the co-integration equations (1) and (2) respectively. By including these terms in equations (3) and (4), the error correction models introduce an additional channel through which Granger causality can be detected. In equation (3) LY is said to Granger cause LX not only if the $\beta i's$ are jointly significant, but also if γ_1 and γ_2 are significant. The error correction model allows for the finding that LY Granger cause LX as long as the error-correction term carries a significant coefficient even if the $\beta i's$ are not jointly significant. Thus to determine whether exports granger cause economic growth and vice versa in the short run, we should test the significance of the coefficients β_{2i} and β_{1i} using the Wald test. The error correcting coefficients, γ_1 and γ_2 tells us about the long run causal relationship.

DATA SOURCE

To analyze the casual relationship between exports and economic growth, an annual data from 1970 to 2010 is used. The data are sourced from United Nations Conference for Trade and Development statistical database (UNCTAD-UNCTAD*STAT*). Both of the variables are at 2005 constant prices and exchange rates.

RESULTS AND DISCUSSION

STATIONARY AND NON-STATIONARY SERIES

A time series is stationary if its mean and variance are constant over time and the value of covariance between the two periods depends only on the distance or gap between the two periods and not the actual time at which the covariance is estimated. But most of the time series data have a unit root or they are non-stationary in which we can only study its behavior for the time period under consideration. As a consequence, it is not possible to generalize it to other time periods. In addition if we have two or more non stationary time series, regression analysis involving such time series may lead to the phenomenon of spurious or nonsense regression. Thus, the non-stationary data should be converted to stationary series through differencing. (D. Gujarati, 2011)

TESTS FOR UNIT ROOT

There are several ways of testing for the presence of unit root. The most common one is the Dicky-Fuller (DF) test. The DF test is based on the assumption that the data generating process of the variable being tested is a random walk [auto regressive process of order one (i.e. AR (1)]. However, if the variable follows a higher order auto regressive process, the error term will be auto correlated which will invalidate the use of the DF distribution. The Augmented Dicky-Fuller (ADF) test solves this problem by considering a higher order and augmenting the random walk equation with some more lags. It is suggested to allow both an intercept and time trend in the regression model used to test the presence of unit root. In both tests the null hypothesis is that the variable is non-stationary against the alternative stationary. The null hypothesis is rejected only when there is strong evidence against it at the conventional levels of significant. Thus in this study ADF test is utilized. The result, in table 1 shows that both variables are not stationary at levels. But they become stationary in their first differences, i.e., they are not integrated of order zero or I (0). But as we can see in the table two below both are stationary at 1% level of significance in their first difference and thus are termed as integrated of order one or I(1).

TABLE 1 A: ADF UNIT ROOT TEST RESULT AT LEVEL

Null Hypothesis: LY has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on AIC, maxlag=9)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		2.451997	1.0000
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	
*MacKinnon (1996) one-sided p-values.			

TABLE 1 B

Null Hypothesis: LX has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=9)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.404216	0.8988
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

Source: Eviews 7 computation

*MacKinnon (1996) one-sided p-values.

TABLE 2 A: ADF UNIT ROOT TEST RESULT AT FIRST DIFFERENCE

Null Hypothesis: D(LY) has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=9)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.426362	0.0011
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Table 2 B

Null Hypothesis: D(LX) has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=9)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.158411	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	
*MacKinnon (1996) one-sided p-values.			

Source: Eviews 7 computation

CO-INTEGRATION AND ERROR CORRECTION MODEL

There are two common methods for testing co-integration and estimating the relationship among co-integrated variables. These are the Engle and Granger, (1987) two-step procedure and the Johansen's maximum likelihood methods. However, the Engle-Granger procedure has a number of weaknesses. First the test for co-integration is likely to have lower power against the alternative tests. Second, its finite estimates of long-run relationship are potentially biased and third, inferences cannot be drawn using standard t-statistics about the significance of the parameters of the long run model. (Harris, 1995) In addition to the above the test procedure assumes that there is only one co-integration vector, when in fact there could be more, that is any linear combination of these vectors is obtained when estimating a single equation. The Johansen procedure takes care of the above shortcomings by assuming that there are multiple co-integrating vectors.

The Johansen procedure is a multivariate generalization of the Dickey-Fuller test. (Enders, 1995) Under this procedure the variables under consideration are by vector auto regressive (VAR) of lag p given by:

$$Z_t = A_1 Z_{t-1} + A_2 Z_{t-2} + \ldots + A_p Z_{t-p} + \varepsilon_t \quad (5)$$

Where:

Zt is the (nx1) vector (Z1t, Z2t, …, Znt) and Ai is an (nxn) matrix of parameters. The error term $\varepsilon_t$is an independently and identically distributed n-dimensional vector with zero mean and variance matrix $\sum_{\varepsilon}$.

The above equation can be written in vector error correction model (VECM) as:

$$\Delta Z_t = \sum_{i=1}^{p-1} \Pi\, i\, \Delta Z_{t-1} + \Pi Z_{t-p} + \varepsilon_t \quad (6)$$

In the above formulation, the rank of the matrix Π is equal to the number of independent co-integrating vectors. If rank$(\Pi) = 0$, the matrix is null implying no co-integration. If instead, Π is of rank n, then the vector process is stationary. For cases in which $0 < r$ and$(\Pi) < p$, there are multiple co-integrating vectors and in particular if rank$(\Pi) = 1$, then there is a single co-integrating vector and the expression $\Pi Zt - p$ is the error-correction factor. The rank of a matrix is equal to the number of its characteristic roots (λi) that differ from zero. Once p and λi 's are estimated, the test for the number of characteristic roots that are insignificantly different from unity can be conducted using the $\lambda trace\ (r)$ and $\lambda max\ (r)$ statistics. (Harris, 1995)

In the $\lambda trace\ (r)$ test statistic the null hypothesis is that the number of distinct co-integrating vectors is less than or equal to r against a general alternative while in $\lambda max\ (r)$ statistics the null is that the number of co-integrating vectors is r against the alternative of $r + 1$ co-integrating vectors.

Since the variables are I (1), the next step is to test whether they are co-integrated. As indicated above, this is done by using the Johansen full information maximum likelihood method. The result of co-integration is displayed in the following table.

TABLE 3: JOHANSEN CO-INTEGRATION RESULTS

Date: 05/03/12 Time: 21:45				
Sample (adjusted): 1975 2010				
Included observations: 36 after adjustments				
Trend assumption: Linear deterministic trend				
Series: LX LY				
Lags interval (in first differences): 1 to 4				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.288448	18.33807	15.49471	0.0181
At most 1	0.155562	3.841466	6.087008	0.0736
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				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.288448	12.25106	14.26460	0.1016
At most 1	0.155562	3.841466	6.087008	0.0836
Max-eigenvalue 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: EViews 7 computations

From table three we can understand that exports and GDP are co-integrated. The trace statistic and maximum Eigen value statistic indicates that the variables are co-integrated at 5% level of significance and there is one co-integrating vector.

TESTING CAUSALITY FROM GDP TO EXPORTS

From equation (3) above, GDP is said to granger cause exports if either β_{1i} or γ_{1i} are significant. If the error correction coefficient γ_{1i} (in the VECM results presented below, γ_{1i} is denoted by C (1)) is found to be negative and significant, then we can claim that GDP granger cause exports in the long run. And this is to be checked from the VECM results presented below. The coefficient of C (1) shows a one period lag residual of co-integrating vectors between exports and GDP.

D(LX) = C(1)*(LX(-1) + 1.20222917994*LY(-1) - 48.0434613208) + C(2)*D(LX(-1)) + C(3)*D(LX(-2)) + C(4)*D(LX(-3)) + C(5)*D(LX(-4)) + C(6)*D(LX(-5)) + C(7)*D(LY(-1)) + C(8)*D(LY(-2)) + C(9)*D(LY(-3)) + C(10)*D(LY(-4)) + C(11)*D(LY(-5)) + C(12) ----------(7)

Equation 7 is estimated using OLS and the results are presented in table 4a below. The null in the long run causation from GDP to exports is GDP doesn't granger cause exports. This hypothesis will be tasted by checking the sign and significance of coefficient of C (1). The sign of C (1) is negative which is desirable and it is also significant at 5% level. Thus, the null hypothesis is rejected implying the presence of long run causation from GDP to exports.

TABLE 4 A: VECTOR ERROR CORRECTION RESULT

Dependent Variable: D(LX)				
Method: Least Squares				
Date: 05/03/12 Time: 21:26				
Sample (adjusted): 1976 2010				
Included observations: 35 after adjustments				
D(LX) = C(1)*(LX(-1) + 1.20222917994*LY(-1) - 48.0434613208) + C(2)*D(LX(-1)) + C(3)*D(LX(-2)) + C(4)*D(LX(-3)) + C(5)*D(LX(-4)) + C(6)*D(LX(-5)) + C(7)*D(LY(-1)) + C(8)*D(LY(-2)) + C(9)*D(LY(-3)) + C(10)*D(LY(-4)) + C(11)*D(LY(-5)) + C(12)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.260134	0.432978	-2.910351	0.0341
C(2)	0.046441	0.254123	0.182750	0.0641
C(3)	0.430350	0.248157	1.734189	0.0963
C(4)	0.164600	0.235227	0.699747	0.4911
C(5)	0.150634	0.248192	0.606926	0.5498
C(6)	-0.088622	0.258262	-0.343150	0.7346
C(7)	-0.292932	0.814863	-0.359486	0.7225
C(8)	-1.368374	0.735652	-1.860083	0.0757
C(9)	0.120610	0.767273	0.157193	0.8765
C(10)	-0.815527	0.677944	-1.202942	0.2412
C(11)	-0.542277	0.762222	-0.711443	0.4840
C(12)	0.097567	0.067755	1.439995	0.1633
S.E. of regression	0.169854	Akaike info criterion		-0.441894
Sum squared resid	0.663559	Schwarz criterion		0.091368
Log likelihood	19.73314	Hannan-Quinn criter.		-0.257812
Durbin-Watson stat	2.058494			

Source: EViews 7 computations

The presence of short run causation from GDP to exports is tested by checking the significance of β_{1i} from equation 3. The β_{1i} in the VECM are represented by c(7), c(8), c(9), c(10) and c(1i 11). The significance of these coefficients is checked by the Wald test. The null hypothesis in the Wald test is c(7)= c(8)= c(9)=c(10)=c(11)=0. It implies that in the short run there is no causation from a five lags cumulative GDP to exports. The probability of the chi-square value in the Wald test is 43.66% which is greater than 5%. Thus, the null hypothesis is accepted implying there is no causation coming from GDP to exports in the short run.

TABLE 4 B: WALD TEST RESULTS

Wald Test:			
Equation: EQ01			
Test Statistic	Value	df	Probability
F-statistic	0.966642	(5, 23)	0.4585
Chi-square	4.833209	5	0.4366
Null Hypothesis: C(7)=C(8)=C(9)=C(10)=C(11)=0			
Restrictions are linear in coefficients.			

Source: EViews 7 computations

TESTING CAUSATION FROM EXPORTS TO GDP

From the granger causality model given in equation 4 above, exports will granger cause GDP if either β_{2i} or γ_{2i} or both are significant besides the sign of γ_{2i}should be negative. $\gamma_{2i}$is the coefficient for a one period lag residuals of co-integrating vectors. It shows the long run causation coming from exports to GDP. From the table 6a below, we can see that the coefficient of c (1) is insignificant at 5% level. This implies that exports don't granger cause GDP in the long run. The short run effect of exports on GDP which is tested by Wald test indicated that exports don't granger cause GDP.

TABLE 5A: VECM RESULTS

Dependent Variable: D(LY)				
Method: Least Squares				
Date: 05/03/12 Time: 21:33				
Sample (adjusted): 1977 2010				
Included observations: 34 after adjustments				
D(LY) = C(1)*(LY(-1) + 0.831788162097*LX(-1) - 39.9619823928) + C(2)*D(LY(-1)) + C(3)*D(LY(-2)) + C(4)*D(LY(-3)) + C(5)*D(LY(-4)) + C(6)*D(LY(-5)) + C(7)*D(LX(-1)) + C(8)*D(LX(-2)) + C(9) *D(LX(-3)) + C(10)*D(LX(-4)) + C(11)*D(LX(-5)) + C(12)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.115324	0.034087	-3.383219	0.0810
C(2)	0.194654	0.279003	0.697677	0.0742
C(3)	0.758387	0.254327	2.981933	0.0069
C(4)	0.048477	0.263381	0.184058	0.8557
C(5)	-0.519474	0.231897	-2.240106	0.0355
C(6)	-0.193568	0.260757	-0.742328	0.4657
C(7)	0.044781	0.089192	0.502074	0.6206
C(8)	0.144970	0.087360	1.659462	0.1112
C(9)	-0.086503	0.087589	-0.987603	0.3341
C(10)	0.034118	0.085093	0.400946	0.6923
C(11)	-0.111962	0.088708	-1.262135	0.2201
C(12)	0.087410	0.023071	3.788759	0.0010
S.E. of regression	0.057788	Akaike info criterion		-2.593508
Sum squared resid	0.073468	Schwarz criterion		-2.054792
Log likelihood	56.08964	Hannan-Quinn criter.		-2.409791
Durbin-Watson stat	2.085714			

Source: EViews 7 computations

TABLE 5 B: WALD TEST RESULT

Wald Test:			
Equation: EQ02			
Test Statistic	Value	df	Probability
F-statistic	1.189055	(5, 22)	0.3465
Chi-square	5.945273	5	0.3116
Null Hypothesis: C(7)=C(8)=C(9)=C(10)=C(11)=0			
Restrictions are linear in coefficients.			

Source: EViews 7 computations

FINDINGS

The VECM results confirmed that there is only one-way causation in the long run from GDP to exports, i.e. GDP granger causes exports. But in the short run there is no causation coming from GDP to exports. On the other way round, there is no causation from exports to GDP both in the long run and in the short-run. This implies that the Export Led Economic growth hypothesis will not be accepted for Ethiopian economy. The results are summarized in the following table.

TABLE 6: SUMMERY OF GRANGER CAUSALITY BETWEEN EXPORTS AND GDP

S/no.	Null hypothesis	Decision
1a	GDP does not granger cause Exports in the long run	Rejected
1b	GDP does not granger cause Exports in the short run	Accepted
2a	Exports do not granger cause GDP in the long run	Accepted
2b	Exports do not granger cause GDP in the short run	Accepted

RECOMMENDATION

Generally, the study indicated that export does not cause economic growth and this implies that policy makers do not need to promote export expansion policies with the aim of high economic growth. They should devote their resources on the production of goods and services that are not for export and this will accelerate the growth of the economy and there by exports.

CONCLUSION

The objective of this study was to check whether there exists a causal relationship between exports and economic growth in Ethiopia using Granger causality. The causation from GDP to exports is tested for the long run and short run. The result showed that the growth of GDP granger causes exports in the long run. On the other hand, the Wald test for short run causation showed as the two variables are independent. There is no causation coming from exports to GDP both in the long run and in the short run. This may be attributed to the fact that the share of exports from GDP is very low which shows the insignificant role of exports to economic growth and in addition, more than 90% of merchandise exports are primary products. And exports of primary products are not associated with dynamic gains that include efficiency advances as a result of knowledge and technological spillovers from exporting experience.

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