

The Competitiveness Role of Currency: Competitiveness and Currency Devaluation in COMESA Member Countries

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Abstract

Currently, domestic currency devaluation is the daily home work of the COMESA countries in order to stimulate their global competitiveness. To examine the competitiveness role of domestic currency devaluations of COMESA countries over 2004 - 2017 the paper employs panel data Tobit RE model and robust panel transformed ordinary least square data models. The paper also examined other factors that influence the competitiveness of COMESA. The study was constructed on an indexed model of RER to measure competitiveness based on twelve pillars. Both descriptive and econometrics approaches are used to analyze the results. COMESA countries are clustered based on the efficiency enhancer approach and are grouped under the middle-income level of development. Panel Tobit Random effect model and Robust Transformed Linear Model are employed. After validated both models with different diagnostic tests, the robust linear transformed model was selected for the econometric analysis. Domestic currency devaluation has no significant role in the competitiveness of the COMESA. However, export, GDP per capita, trade balance, unemployment, and governance effectiveness has a significant role. The study, therefore, suggests that the stakeholders of the COMESA countries ought to give more emphasis on economic and non-economic variables than domestic currency devaluations.

Keywords: COMESA, competitiveness, indexed model, panel models, devaluations, real exchange Rate.

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Introduction

COMESA has undergone strategically planned and ultimately missioned to attempt the direction of long-term sustainable economic and social progress in member states through increased integration in all aspects of development since its birth in 1994. As stated under Article 4(3) (a) and (d) and Article 5(1) of the treaty of the region, “Adopt common standards, measurement systems, and quality assurance practices in respect of goods produced and traded within the common market. The experience of member countries has shown that competitiveness, at both micro and macro dimensions has played a critical role to bring sustainable economic growth. The macro dimension of competitiveness more or less dwells on the institution, policies, and factors that determine the level of productivity and long-term prosperity of a nation (GCR, 2017). On the other hand, the micro perspective lodges from the firm perspective.

Currently, determining the price of domestic currency in terms of foreigners is known as the exchange rate is the one macroeconomic issue in the COMESA countries. Indeed, the exchange rate is the overall competitiveness indicator or pillar of competitiveness of the economy (Aristomène, Varoudakis, and Thierry, 1997; Manel and Faika, 2013) and to be a competitive economy other macro and microeconomic activities and management plans have a great role. Like other developing countries, the COMESA countries continuously devalue their currency price in terms of foreigners over an epoch of years. In this region, the price of the domestic currency per unit of US dollar average shows a devaluation of 30.7746 percent from 2004-2017. Purposely the region devaluates its domestic currency as compared to the foreigner in order to boost exports, to shrink the trade deficits, to reduce sovereign debt burdens, and to generate a competitive regional economy. However, according to global and African competitiveness reports the region was stagnantly competitive and also trade deficit in the region is a persistent problem in different years. This is because of the economy of the member countries in the region are heavily relying on traditional and small enough commercialized agricultural goods.

Currency devaluation did not generate a competitive economy as the authorized body planned. This is because the foreign currency account is largely consumed by non-productive sectors than the product producer private or public institutions, poor and corrupted governance of the community, and politically unstable regions. Indeed, non-improved trade balance, high rate of

the producer unemployment rate, and weak governance effectiveness are the critical sources of a stagnant competitive economy. In COMESA countries most researches focus on other macroeconomic issues, but the overall African real GDP growth in 2015 was 3.9 percent against 3.8 percent in 2014. Africa's export to the world is poorly diversified and dominated by primary commodities such as hydrocarbons. And intra-Africa trade share is only 16 percent and remittances fell from 4.4 percent of GDP to 3 percent in 2015. The main objective of this paper is to examine the role of domestic currency devaluation on the competitiveness of COMESA countries in 2004-2017. Besides it, the paper attempts to address the competitiveness impact of some economic and non-economic variables and define the competitiveness level of the COMESA countries. This study, therefore, provides theoretical and empirical evidence on the subject of the study. The major findings of the study also create a skeptical attitude on the topic and to imply an optional policy.

Competitiveness and Local Currency Devaluation in COMESA Countries

The 1994 established a common market for eastern and southern Africa (COMESA) encompassing nineteen separate economies. Namely: Burundi, Comoros, Congo D R , Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe. The establishment has a wide-ranging series of objectives such as the promotion of peace and security in the region, and its main focus is the formation of a large economies and trading unit. However, the regions are far from homogeneous social, political, and economic entities. And without a doubt for economic opportunities and for generating economic competitiveness in the region regional trade agreement and integration in the region is so crucial.

In the southern region, even though the communities are mostly developed but they are suffering from infections of chronic diseases like HIV/AIDS at a higher percentage of the world. In contrast, the eastern region is experienced high growth rates for a decade of years. Added to, except for Ethiopian the region communities were colonized by different colonel countries such as the United Kingdom, Germany, Portugal, Belgium, and France with different colonization legacies. Together with most Africans live in countries where domestic markets and openness to the international market is too small. And the economic region's convergence rate is estimated at 14.8% (AEO, 2016). And in the economic region some of them

experienced high growth rates for a decade of years, but according to ECA, 2016 & 2017, the overall African real GDP growth in 2015 was 3.9 percent against 3.8 percent in 2014.

Moreover, Africa's export to the world are poorly diversified and dominated by primary commodities such as hydrocarbons 55 percent were fuels over 2010-2015, but manufactured goods account for only 18 percent. On the other hand, manufactured goods dominate Africa's imports such as heavy machinery, automobiles, and chemicals with the largest share of intra-African trade on average of 43 percent in the period. And also the intra-Africa trade share is only 16 percent and the remittances fell from 4.4 percent of GDP in 2014 to 3 percent in 2015.

All listed above problems are reduced the effectiveness of currency devaluation. Indeed, according to Alexdender (2016), the technique used to control monetary policy include the rate at which we exchange domestic and foreign currencies, of an economy has a crucial role in the country's trade balance, international capital flow, the factor of production, and other macroeconomic developments. The COMESA region does well in some pillars of competitiveness, it is still competitive stagnantly (ACR, 2012). The average value of the COMESA member country's competitiveness composite index is 3.6148 in 2004-2017. Scored out in this period, relatively Mauritius (scored 4.3588) and Rwanda (scored 4.2447 out) are highly competitive in COMESA region while Burundi (scored 2.9021) and Malawi (scored 2.9021) are very low in competition. Thus, however, the region's overall development stage is efficiency enhancer and a middle clustering in competition level. This is due to the falling in domestic currency of the region with the weak access of financial institutions, suffering from persistent infrastructure deficits, and low investment in technological readiness and innovation. But still today the region is experiencing on devaluating their local currencies and the prices are evidence for the decrease of 30.7746 units of domestic currency per a unit USD in 2004-2017.

Review Related Literatures

There are various theories with different definitions, implications, measurements, and assumptions in order to create a better and clear understanding of the term competitiveness. But according to Tomasz, S, and Aldonaza W (2013), and Gabor (2015), it is not precise enough, and there is no generally accepted single definition and measurement of competitiveness. Meaning that the word competitiveness is a subjective term and competitiveness has dissimilar meanings

by different scholars in different fields of study. Thus, theoretically, the paper tries to conceptualize competitiveness through four theoretical frameworks such as global and Africa competitiveness reports (GCR & ACR), economic theories of competitiveness, management principles of planned and performed competitiveness strategies, and other competitiveness contributors like geographical setups. Finally, the paper attempted to share the major findings of the researcher's research work on individual firms or country and/ or regional levels of competitiveness.

In the global competitiveness report (GCR), the set of institutions and factors that determine the level of productivity can measure the country's competitiveness, and the economy grows foster is a higher competitive economy (GCR, 2017). In GCR, beyond the twelve sets of institutions and factors called pillars of competitiveness GDP, population, GDP per capita and GDP as the share of world GDP are the basic indicators of competitiveness. The twelve pillars compositely create the three development stages of competitiveness as a basic pillar: institution, infrastructure, macroeconomic stability, health, and Primary education, higher education & training; while the efficiency enhancer pillar: markets (goods, financial & labour markets, market size, technological readiness, and finally innovation and sophistication pillar: innovation & sophistication.

In the economic theoretical frameworks, Competition is central to the operation of markets and fosters innovation, productivity, and growth (Godfrey, 2008). On top of this, there are three basic foundations: traditional trade theory, new trade theory, and fiscal theory. In traditional trade theories like Ricardo, (1817) and Solow (1956) the long-term source of economic growth are stoke of accumulated physical goods and labour markets. In new trade theory, Romer (1990); Solow (2000) and Lucas (1988), the long-term sources of economic growth are education, technology, infrastructure, R&D, and innovation. In fiscal theories, the exchange rate is the overall competitiveness indicator of the economy (Aristomène , Varoudakis, and Thierry, L. (1997) ; Manel, M ,and Faika,C ,2013). Competitiveness can be enhanced through fiscal devaluation Gheoghe (2014) while real effective exchange rate appreciation reduces the price competitiveness of tradable and lower outputs Dhritidyuti(2014). The summary of the perspective of these schools on competitiveness has been highlighted below.

In classical theory, Adam Smith (1776) and David Ricardo (1817) the first-time economic competitiveness brings on board with comparative advantage of a nation. The one key assumptions

of Adam Smith on competitiveness was nations should pay special emphasis on the products which can be produced by the least cost. But David Ricardo extended the views of Adam Smith and he claims that countries can produce goods and services as long as the costs of production are lower than the price of the importing. In the Neo-classical school of thought the basis for competitiveness is the availability of resources. Meaning that this theory, Heckscher-Ohlin (H-O) theory, asserts that countries should produce and export goods and services that intensively use the most abundant domestic resources and should import those goods that intensively use the scarcest resource in the domestic economy. Unlike the two theories, in Keynesian theory of capital intense economy, a good climate for investment and government spending, such as investment in the public domain and subsidies/tax cuts for enterprises can drive the highest competitive position of the economy. In New Economic Growth Theory known as Endogenous Growth Theory technological difference and human capital has a vital role in competitiveness generation. While skilled labor, specialized infrastructure, networks of suppliers, and localized technologies are the key driving factors in new trade theory competitiveness assumptions.

Based on Barney (1991) and Abuthahir (2014), management theory is the third major section of the theoretical fact considerations and entirely exploring on the three management theories. In management theory, even if firm-level competitiveness is the most popular, and national competitiveness was introduced by Michael Porter. And competitiveness of a firm is its share in the competitive market (Ambush and Momaya, 2004). Early Buckley *et al.* (1988) define a firm's competitiveness as its ability to produce and sell products and services of superior quality and lower costs than its domestic and international competitors. And then Porter (1990), defines Competitiveness as it is the national productivity through the national diamonds and external factors of nations.

According to Porter, the national competitiveness attributes are factor conditions, home demand conditions, related & supporting industries, and firm strategy, structure, and rivalry while government and chance are two exogenous factors. Factor Conditions are the situation in a country regarding production factors, like skilled labor, infrastructure, etc., which are relevant for competition in particular industries. Moreover, according to him, Home Demand Conditions describe the state of home demand for products and services produced in a country and they have

their own impact on the pace and direction of innovation and product development. Competitive supplying industries will reinforce innovation and internationalization in industries at later stages in the value system. The national advantages of ensuring high expectations of product performance, safety, or environmental standards or by encouraging vertical cooperation between suppliers and buyers at the domestic level are fostering by the government. And finally, by chance fortuitous events, such as interventions, political decisions by foreign governments, or wars, which are beyond the firm's control, can generate discontinuities that will influence gaining or losing a competitive position.

The second management competitiveness model is the Grounding-Enterprise-Markets (GEM) Model which was developed by Tim Padmore and Hervey Gibson by improving the Porter Diamond model. Tim Padmore and Hervey Gibson classify factors that determine competitiveness into six groups, which resources, infrastructures, supplies, and related industries, enterprise structure, strategy, rivalry, the local market, and external market. Moreover, physical structure and institutional arrangements that facilitate access to resources and support other business functions are under classified infrastructure. In the external market, the followings get more emphatic: closeness of markets, their size and growth rate, global market share for the cluster, characteristics of end users, existing market relationships, the barrier to entry, trade, and export barriers. The Resource-Based Approach (RBV) is the third component of management theory and in this theory, the questions are of why firms are different and how firms achieve and sustain competitive advantage by deploying their resources. The fundamental principle of the RBV is that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firm's disposal. In the other theoretical frameworks, there exists another field of study called economic geography. Geographical setups or territory affect the productivity and efforts of factors of production. More fundamentally, without geography, the economist's way of thinking about competitiveness may have sightless policy advertisements.

The Model Specification for Competitiveness and Estimation Techniques

This section compromises the quality and quantity of the study dataset availability and describes how sufficient data were collected to construct competitiveness of the COMESA model by various competitiveness aspects. Through doing so, the study develops different models used to analyze

the constructed dataset. Macro panel data was collected from 2004- 2017 on each study variable. Thus, the panel data econometric model has been employed to establish the bond between competitiveness and other covariates. Moreover, the panel models employed were broadly classified as the linear panel models which were estimated by the transformed ordinary least square models, and the non-linear panel Tobit estimated by the random effect modal. This research is primarily based on secondary data obtained from secondary sources.

In particular, from the Global Competitiveness and Africa Competitiveness report the researcher collects competitiveness ranks. To measure a country's competitiveness position, the global competitiveness index basically has three sub-indexes that are further disaggregated into 12 pillars and 111 sub-pillars. Namely; the basic factor-driven index which includes institution, infrastructure, macroeconomic environment, health and primary education and market size; the efficiency enhancer which includes higher education and training, goods market development, labor market efficiency, financial market development and technological readiness and the innovation-driven includes business sophistication and innovations. The dataset of independent variables was collected from World Bank Data Bank, the World Bank Development indicator, International Monetary Fund, and the Worldwide Governance Indicators (WGI) under the study period.

To specify the model for COMESA member country's competitiveness different theories and empirics are considered. In particular, the study used the methodological computations of the global competitiveness annual report on different approaches. The study model is also supported by different methodologies of the research papers conducted by Shingeyuki(2005), Isabel (2009), Taras (2013), Gheorghe(2014), and Dhritidyuti(2014). In addition to the competitiveness indicators, the paper incorporates other economic and non-economic factors. Therefore, the final competitiveness model on the panel dataset is given as:

$$CPX_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \epsilon_{it} \dots \dots \dots (1)$$

Where, X1: is domestic currency devaluation which is the change of the two consecutive years, X2: GDP per capita, X3: Export, X4: net Trade Balance, X5: Unemployment (% total labour),

X6: Governance effectiveness index, and X7: Rule of law index, and ε : the error terms. In spite of everything that is based on the theoretical and empirical evidences the researcher expects the sign of coefficients of variables as follows: domestic currency devaluation, export of goods and services, trade balance, rule of law, and government effectiveness can potentially produce competitiveness and unemployment constrains competitiveness. The dependent variable CPX_{it} of the twelve COMESA sampling countries is censored [0, 7] and the dataset is a macro panel since T>N. For such kinds of data, conventional regression methods (e.g. OLS) are biased, but consistent estimates can be obtained by the method proposed by Tobin (1958). This approach is usually called the Tobit model and is a special case of the more general censored regression model.

Another researcher also confirms that the censored dependent variable is estimated by Tobit random effects models such as Giuseppe Bruno (2004), Greene (2008), Luoja (2002), and the like. And this is because according to Orme (1999), Arellano, and Honore (2000), Hahn (2002), and William Greene (2003), the panel Tobit fixed effect model is the biased and inconsistent estimator for the study dataset. Thus, the competitiveness composite index at each model of the study dataset for Panel Tobit random effect is:

$$CPX_{it}^* = X_{it}\beta + \mu_i + V_{it} \dots\dots\dots (2)$$

$$CPX_{it} = \begin{cases} a & \text{if } Y_{it} \leq a \\ Y_{it} & \text{if } a < Y_{it} < b \\ b & \text{if } b \leq Y_{it} \end{cases} \dots\dots\dots (3)$$

Where, $i=1, \dots, N$ & $t=1, \dots, T$, CPX_{it} : competitive composite index, CPX_{it}^* : censored version, μ_i : time invariant country specific effect, and V_{it} : the remaining disturbance, X_{it} : all explanatory variables. Moreover, the results in both models are validating by different diagnostic tests. Alternatively, to see the relationship between the variables in the study linearizing the nonlinear panel model via using a natural logarithm was employed. And again, we have observed that across various aspects of sampling countries, there is no single value that is exactly falling either the lower or upper limits. Therefore, we will employ the transformed ordinary least square model comparable to the panel Tobit random effect model for estimating the dataset. Thus, the transformed model of the data is:

$$\ln COX_{it} = \ln X_{it} + \mu_i \dots\dots\dots (4)$$

The generalized least square can be estimated for distributional parameters through log-logistic distributions. Moreover, after all, other post estimations are diagnosed in order to control the misleading inferences of the estimations.

Econometric Results, Discussion, and Analysis

The descriptive statistics of the study variables have been shown in the table below to offer an overall view of the data.

Table 1

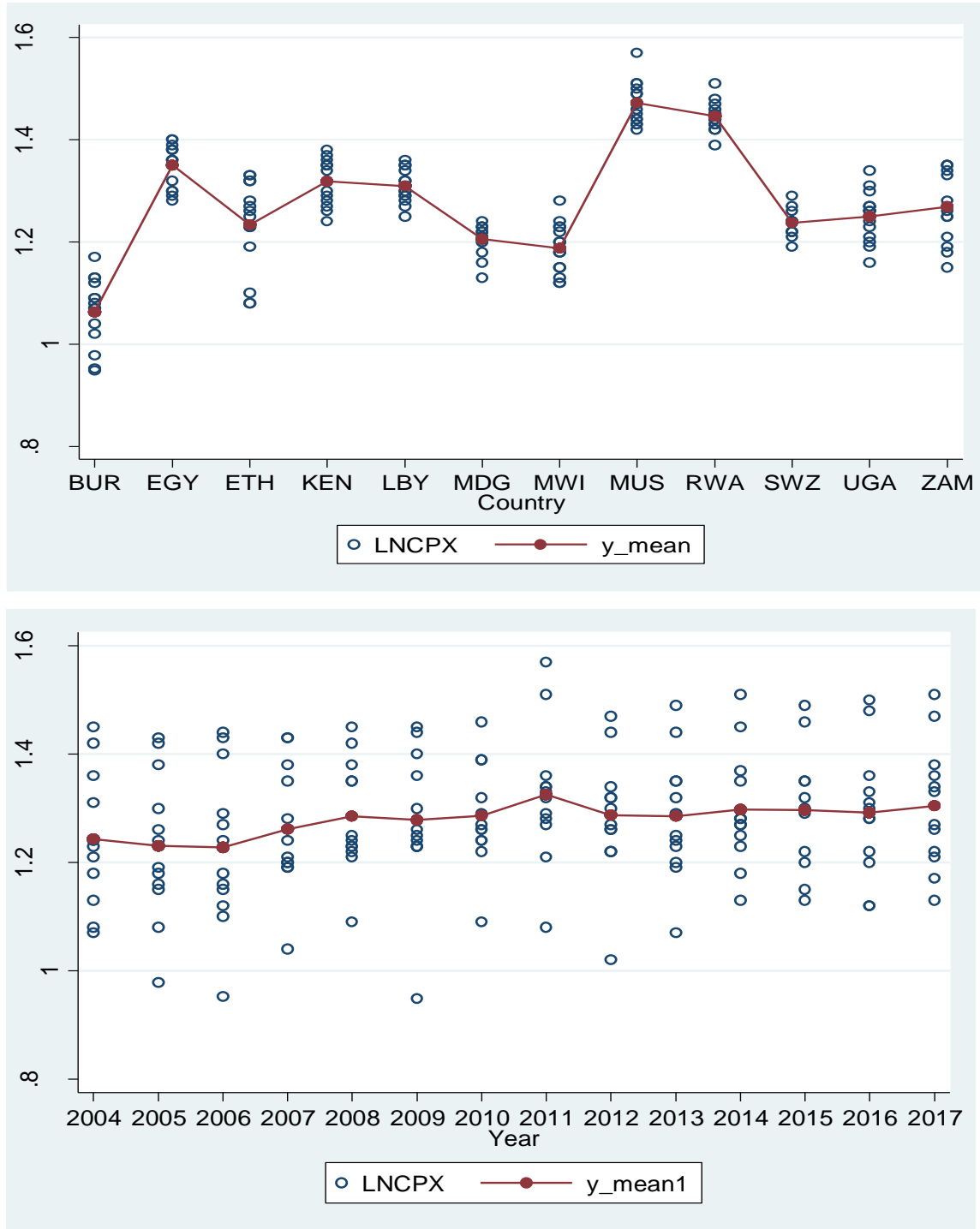
Descriptive Statistics of Variables

Variable	Model	Mean	Std. Dev.	Min	Max	Observations
cpx	Overall	3.614881	.4246971	2.58	4.83	N = 168
	Between		.4045731	2.902143	4.358571	n = 12
	Within		.1715511	3.10131	4.08631	T = 14
dva	Overall	30.77507	103.7512	-268	641	N = 168
	Between		47.77193	.007235	134.1929	n = 12
	Within		93.05808	-371.4178	554.1215	T = 14
gap	Overall	5.64731	6.928579	.581	29	N = 168
	Between		6.929832	.7467143	21.92143	n = 12
	Within		1.928969	-5.074119	12.72588	T = 14
gxp	Overall	9333.337	14364.05	64.3	62200	N = 168
	Between		13789.56	157.05	42050	n = 12
	Within		5565.626	-18063.09	37286.91	T = 14
trb	Overall	-1975.829	7959.535	-34200	36200	N = 168
	Between		6092.991	-15922.07	10780.71	n = 12
	Within		5396.257	-31256.54	23.44346	T = 14
uem	Overall	8.78228	7.189639	.6	28.2	N = 168
	Between		7.398286	1.592857	26.10714	n = 12
	Within		1.103203	4.675137	12.78657	T = 14
goe	Overall	-.570128	.5502449	-1.89	1.05	N = 168
	Between		.5384375	-1.309143	.8363571	n = 12
	Within		.1882094	-1.310164	-.0515566	T = 14
rol	Overall	-.4816506	.5519999	-1.87	1.03	N = 168
	Between		.5410737	-1.181143	.9242143	n = 12
	Within		.1863677	-1.170508	-.0376506	T = 14

Source: Authors computation using STATA

Figure 1

Heterogeneity Across Country and Years on Log-Transformed Variables



Source: Stata Output

Table 1 gives a summary of descriptive statistics of central tendency and measure of variations in about of the COMESA countries. The average value of each variable in the overall model is indicated by the mean value and captured by the correspondence standard deviation during 2004-2017. N.B CPX is the competitiveness composite index, dva is domestic currency devaluation, gap is GDP per capita, exp is export of goods and services, trb is the trade balance, uem is unemployment, goe is government effectiveness index, and rol is rule of law index. The heterogeneity of competitiveness across COMESA countries is different with countries. Mauritius and Rwanda have the highest variation against the mean value while Burundi and Malawi have the lowest variation of competitiveness (Figure 1). In the same fashion, COMESA country's heterogeneity of competitiveness across the years is spread increasingly since 2006.

The average value of the COMESA member country's competitiveness was 3.6148. Thus, the development stage of COMESA is efficiency enhancer, implying that COMESA member countries sort out comparatively well in different markets efficiency. In contrast, the minimum value of the competitiveness score of 2.58 tells us COMESA member countries scored very low in competitive position while the maximum value of competitiveness score of 4.83 confirms us the member country was strong in its competitiveness position from 2004 to 2017. In the same period, the GDP per capita in the entire COMESA countries was 564.731US \$.

The Panel Models Econometric Results:

The study model has a non-linear structure which was by estimated panel Tobit RE and liner panel model estimated by transformed OLS methods. The paper presents the robust panel-transformed OLS data models due to the faced problem of heteroscedasticity.

The Random-Effects (RE) Tobit Regression Results

Table 2 gives us the details of the random effect Tobit regression result. We can understand that the Chi-Square test is 54.08. In the same manner, the log-likelihood of the fitted model and the combined layout Prob> chi2 are 49.715629 and 0.0000 respectively. Thus, all explanatory variables are jointly statistically significant and adequate enough to explain the change in competitiveness from 2004-2017.

Table 2

The Econometric Result for Random Effect Tobit Model

cpx	coef.	Std. Err.	 z 	P> z 	[95% Conf. Interval]	
dva	.0000917	.0001335	0.69	0.492	-.0001698	.0003533
gap	.0114965	.0081124	1.42	0.156	-.0044036	.0273965
exp	5.86e-06	2.98e-06	1.97	0.049	1.60e-08	.0000117
trb	-5.74e-06	2.60e-06	2.21	0.027	-.0000108	-6.41e-07
uem	-.0195637	.0095024	2.06	0.040	-.0381881	-.0009392
goe	.3083361	.1003898	3.07	0.002	.1115757	.5050965
rol	.037108	.0987089	0.38	0.707	-.156358	.2305739
cons	3.846614	.1190739	32.30	0.000	3.613234	4.079995
sigma_u	.2687692	.0685806	3.92	0.000	.1343536	.4031847
sigma_e	.1575295	.0090838	17.34	0.000	.1397255	.1753334
rho	.7443079					

Source: Regression result based on panel Tobit RE model using STATA

From Table 2, currency devaluation, GDP per capita and rule of law are statistically insignificant with positive coefficients at 5 and 1 percent of levels of significance. On the contrary, exports of goods and services, net trade balance, unemployment (% total labour), and governance effectiveness are statistically significant. And so, a percentage increase in export and governance effectiveness can positively raise the competitiveness of COMESA countries while the percentage increment in the unemployment rate and non-improved trade balance can leads to protect COMESA country's competitiveness. Mathematically, the estimated equation of the competitiveness composite indices of the COMESA countries can be written as:

$$cpx = 5.86e-06exp - 5.74e-06trb + 0.3083361goe - 0.0195637uem + \epsilon_i \dots\dots\dots(5)$$

Thus, therefore from (5) we have observed that in the COMESA countries trade balance, and unemployment rate has negative coefficients. Export and governance effectiveness in COMESA member countries has positive estimated coefficient. And hence, the variables which have a

negative coefficient imply that they are constraints of the COMESA countries regional competitiveness while the positives are the producers.

The OLS Model Econometric Results

The transformed OLS model is affected by the problem of heteroskedastic, but Table 3 presents the robust regression results. The result revealed that all variables are statistically jointly significant at a 5 percent of level of significance. Moreover, the number of variances of the composite competitiveness index of the COMESA countries explained by the predictor variables of the study is 66.02 percent which is indicated by the R-square of the model, and the model is good to fit the study dataset of the COMESA countries.

Table 3

The Robust OLS Econometric Results

cpx	coef.	std. err	t	P> t	[95% conf.	interval]
dva	.0008776	.0025151	0.35	0.728	-.0040894	.0058447
gap	.045558	.007445	6.12	0.000	.0308548	.0602613
exp	.0310395	.0046315	6.70	0.000	.0218928	.0401862
trb	-.0000468	.0000165	2.83	0.005	-.0000795	-.0000141
uem	-.0317697	.009165	3.47	0.001	-.0498696	-.0136698
goe	-.092712	.0252746	3.67	0.000	-.1426268	-.0427972
rol	-.024932	.01545	1.61	0.109	-.0554442	.0055802
_cons	.7634991	.0544507	14.02	0.000	.6559643	.8710338

Source: Own computation using STATA

From Table 3 we have observed that the domestic currency devaluation and rule of law insignificantly determine the COMESA country's competitiveness. On contradictory, a change in GDP per capita and a change in the total volume of exports of goods and services can potentially produce COMESA country's competitiveness around the globe. And also, the change in unemployment (% total labour), the change in government effectiveness, and a change in the net trade balance can negatively determine the global competitiveness of COMESA countries. Hence,

therefore, the composite competitiveness indices model of the COMESA countries estimated by the transformed OLS model is mathematically summarized as:

$$\text{cpx} = -0.0000468 \text{trb} + 0.045558 \text{gap} - 0.092712 \text{goe} + 0.0310395 \text{exp} - 0.0317697 \text{uem} + \varepsilon_i \dots \dots \dots (6)$$

In (equation 6) we have observed that some variables show positive and some others are negative coefficients. And the negative coefficient indicates that the international competitiveness of COMESA countries was protected by the amounts (take the magnitude of the coefficients) of the corresponding independent variable. On the contrary, the positive sign indicates that the corresponding variable was derived from the competitiveness positions by the indicated magnitudes of the coefficient. The P-value indicates at what percentage or precession level of each variable was significant. And then, the study variables are interpreted in COMESA country's regional competitiveness model according to their statistical and substantive significances as follows.

Which One Do We Choose? Panel Tobit RE or Transformed OLS?

So far of the two-panel models' researchers did not put clear literature on which method must be chosen. Some prefer Panel Tobit; others use the transformed panel linear OLS model. From the two regression results, we have observed that currency devaluation and rule of law are statistically insignificant in both models. To make the conclusion on the other study variables the paper considers different theoretical frameworks and is supported by the researcher's major research findings. And hence, in this study, the transformed panel linear regression model estimated by the OLS result on the study dataset is better in line with the facts than the panel Tobit RE model. However, Porter (1990), Barney, J. (1991), Zerayehu (2014), Taras (2015), ECA (2016), and GCR (2017) have also shown their superior quality.

5.6 Other Diagnostics Tests of the Regression Results

In order to drown a logical conclusion, we first validate all the estimation results by considering various ranges of diagnostic tests. Based on the researcher's expectation, in both Panel Tobit and OLS model's normality, autocorrelation, and multicollinearity problems were tested. While margins in panel Tobit and Heteroscedasticity problems in the OLS model was also tested out. Indeed, the marginal effect of the independent variables in the panel Tobit RE model revealed the

same result as the panel Tobit RE model econometric regression result. On top of this, the panel Tobit RE model was validating through testing contrast, pairwise comparison, and parameter tests. All tests result revealed the same result as the model. However, the estimation result of the transformed least square is suffered from heteroscedascity problems, and it's corrected by the alternative robust regression. The dataset is normally distributed in both panel models. And also, the panel models were free from the multicollinearity and autocorrelation problems.

Econometric Result Analysis and Discussions

Domestic currency devaluations (dva): Indeed, currency policy, in particular, currency devaluation is a one determinant economic factor of productivity, and an overall indicator of the competitiveness of the economy, however in both econometric model's devaluation has no significant role in the competitiveness of COMESA member countries. And this is due to many economic, political, institutional, technical, and some other factor such as the export of poorly diversified goods and services. The techniques used to control monetary policy effectiveness include the rate at which exchange domestic by foreign currencies, a country is following has a crucial role in the country's trade balance, international capital flow, export performance, assets, globality, the factor of production, and other macroeconomic and political developments. Even if currency devaluation is expected to promote the COMESA country's export to the rest of the world, still the export is poorly diversified and dominated by primary commodities (ECA, 2016/17).

According to the Prebisch-Singer hypothesis, the primary goods have diminishing returns to scale. The region also has a negative trade balance since imports price is expensive manufactured goods as compared to the exported items of the region. Moreover, in east African countries including the COMESA countries member economies and their domestic plus foreign capitals were largely lost because of the poor quality of governance practiced in the region (Zerayehu, 2014). On the other hand, even if, the region does well in some basic pillars of competitiveness, but, because of falling in the domestic currency of the region with the weak access to financial institutions, suffers from persistent infrastructure deficits, low investment in technological readiness, and innovation, inappropriate public policies, and poor governance qualities were persisted stagnantly the overall competitiveness of the region (ACR, 2012).

And therefore, according to different scholars such as Aristomène, Varoudakis, and Thierry, L. (1997); and Manel, M. and Faika, C. (2013), the overall indicator of the economic competitiveness

in the COMESA country's domestic exchange rate devaluations implies that statistical insignificance result under the study period. And it is not a surprising result of the study because at the beginning currency, devaluation has misplaced its initial and economic purpose in this region. The foreign currency is not able to boost export, shirking the trade deficit, and reduce the public debt whether it is devaluated or not. In the region, foreign currency was more consumed only by a few nonproductive and political consumers rather economic actors and factors. In other ways, according to Taras (2013) GDP per capita, trade balance and export are to some extent determining the international competitiveness of the economy, and the details are presented turn by turn.

GDP per capita (gap): GDP per capita is one major positive determinant of COMESA member country's competitiveness. It is a basic indicator for the COMESA countries which are clustered under the stage of efficiency enhancers. Accordingly, a one percent increase in GDP per capita to the COMESA member countries leads to a 4.5558% increase the COMESA competitiveness. This implies that the member countries of COMESA increase their factor of production, which in turn positively upgrades the GDP per capita, and changes the stage of development of competitiveness. By the same token exports of goods and services (exp) in COMESA countries can produce the global competitiveness of the regions. For instance, a one percent increase in exports of goods and services in COMESA countries can lead a 3.10395% deriving in regional competitiveness to the globe. COMESA country's export is heavily relay on primary goods with a small share in GDP, but in order to improve the level of competitiveness in COMESA should change export patterns from primary to manufactured goods and add economic values on the export items.

On the contrary net trade balance (trb) was protecting the COMESA country's competitiveness because of almost all of the member countries of COMESA were net importer, and it's statistically negatively significant with the constrain competitiveness level. For instance, a one percent decrease in the trade balance of goods and services in COMESA countries can lead to -0.00468% constrains regional competitiveness. In the same token, unemployment of labour (uem) was also protecting the COMESA country's competitiveness level and this is because of COMESA countries labour cannot freely move across everywhere, and it's resulted statistically negatively significance.

In particular, a one percent increase in unemployment of labour across the COMESA countries can lead to -3.17697% constrains the competitiveness level of COMESA countries. However, the region wants to improve its competitiveness level by making cooperation between the private sector and the government in order to minimize productive and skilled labour unemployment rates. Finally, governance effectiveness (goe) was protecting the competitiveness level of COMESA countries. In COMESA countries governance does not effective and is poorly qualified, and it's statistically negatively significant. In particular, a one percent decrease in governance effectiveness within the COMESA countries can lead to -9.2712% constrains regional competitiveness.

Conclusion and Policy Implications

Domestic currency (devaluation) is the overall indicator of the competitiveness position of the economy. On the other hand, partially economic and non-economic variables measured the competitiveness position of the economy. Currently, domestic currency devaluation is the daily home work of the COMESA member countries in order to stimulate a competitive economy. However, the region is still competitive stagnantly. Thus, therefore, the underlying principle of this study is “is devaluation has a significant role on COMESA member country's competitiveness?” Besides this, investigating other factors including economic and non-economic factors, and defining the competitive level of the region is the specific task. To do so, the study uses a balanced macro panel dataset that sampling out of the twelve COMESA member countries from secondary data sources in 2004–2017.

The dependent variable of the study, the competitiveness composite index was composed of the twelve pillars of the competitiveness of COMESA countries and censored on [0, 7]. However, there is no sample observation that falling exactly on the lower or upper censoring limits and which appreciates and helps to use the transformed OLS estimation methods. The descriptive statistics of the dataset confirmed us the COMESA countries were clustered under the middle competent region.

Moreover, econometric result analysis of the study panel models were specified and developed through the methodological and computational methods of the Global competitiveness report and further supported by different researcher study methodologies. The paper utilizes the panel Tobit RE model and the transformed OLS model by validating through a wide range of the diagnostic

test. Based on the existing theoretical debates and empirical evidences the transformed OLS panel model was selected. However, the major findings of the study revealed that the rule of law and devaluation of the local currency does not generate a competitive economy in COMESA countries in the study period. This insignificance was directly derived from many economic and non-economic factors, institutional capacities and labour abilities. On the other hand, governance effectiveness, trade balance, and maximum number of unemployment of productive labour are negatively, while GDP per capita and exports are positively determined by the COMESA countries competitiveness.

Thus, therefore, for generating a competitive economy, policymakers and stakeholders of the COMESA countries ought to give more emphasis on economic and non-economic variables because only making domestic currency devaluation does poorly generate competitiveness. Looking internally such as using a common and harmonized monetary policy, change their trade patterns and export items, and then currency playing its role in boosting the changed export items, reducing public debt, and able to improve the trade balance through the entire member countries of COMESA region.

Allowed freely mobile labors across the region in order to minimize the unemployment rate and reduce youth and productive human resources from the infection of chronic disease, which foster productivity of the region, and competitiveness. And also should strengthen their financial institutions which have the ability to carry out currency fluctuations and look at trade patterns to create a healthy trade balance. Stabilizing the political situation and eliminate corruption in the region are the driving licenses to create the safe economic environment and drive the competitiveness factors. Private sectors and government, universities, and firms should cooperatively work for reducing the number of youth unemployment which negatively affects the competitiveness of the COMESA countries. Politically stable and good governance ought to practice in the region if they want to become an internationally competitive economy.

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