On Exports and Economic Growth-Multifarious Economies Perspective

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Abstract: **Early studies on economic growth generally concluded that most economies are driven by exports hence forming the basis of the exports-led growth hypothesis (ELG). Thus by implication, previous studies document a positive relationship between exports and economic growth and major institutions such as the World Bank have supported the idea of promoting exports in Less Developed Countries (LDC's) in their industrialization and economic transformation attempts. The glitch with the extant literature is that most empirical analysis usually focuses on a single economy without considering a broader data range and multifarious economies. This study uses data on GDP and income accrued from exports from 1960-2013 for 13 different economies. The results of the cointegration test show that there is a positive long run relationship between exports income and GDP for Brazil, Colombia, Costa Rica, Bangladesh, Burkina Faso, Nigeria, Australia and Norway. However, the causality test results astonishingly show that Argentina and Bangladesh are the only economies which are exports-driven hence opposing early claims that most countries follow the exports-led growth hypothesis**.

Keywords: **exports; Gross Domestic Product; exports-led growth; economic diversification.**

1. INTRODUCTION

Since the early 1960's policy makers and central banks have developed great interest in the possible relationship between exports and economic growth. Following Konya (2006) the exports-led growth hypothesis postulates that exports lead economic growth. The growth-driven exports hypothesis on the other hand proposes that economic growth Granger causes exports. While most studies do not focus on diversification, Klinger & Lederman (2011) held that economic diversification raises economic growth but only up to a point. Market failures have been found to reduce private investments in exports production thus hampering the infant stages of the production process. Evidence bought forth by Klinger & Lederman (2011) has shown that exports discoveries are correlated with the course of economic development. However, countries are generally not forward in terms of economic diversification because there are possibilities of imitation which can drastically affect exports sales. While most economies which export minerals such as Botswana have focused on economic diversification and escaping the natural resource curse repercussions, Imbs & Wacziarg (2003) verified that economic development should also encompass the diversification of employment across industries.

It is nonetheless vital for central banks to have an accurate and timely assessment of GDP growth rate. This is critical for providing a reliable and early analysis of current economic performance rates (Antipa et al 2012). In Asia, economic growth has been robust considering economies like India and China. The Asian region key to such vigorous economic transformation is that most of the economies promoted exports to propel economic growth. Countries which used this fundamental were Korea, Taiwan, Hong Kong, Singapore, Malaysia, Thailand, and more recently economic giants of China and India. This robust economic success was later promoted by the World Bank (1987). The World Bank (1987) addressed that exports promotion strategy was the best option for Less Developing Countries (LDC's) attempting to industrialize and transform into advanced economies. It is however important to note that even though exports promotion has some benefits Tang et al (2015) reported that economies which are overly dependent on exports for growth and development are highly vulnerable to financial crisis handicaps. The situation worsens for economies

which are mineral exporters such as Botswana. During the 2007-2008 global financial crises, Botswana's mineral exports sales particularly diamonds hit rock bottom sales creating social and economic ills such as unemployment for the government to address.

This paper is an extension to the extant literature by focusing on exports income and GDP dynamics for 13 different economies which are Argentina, Brazil, Colombia, Costa-Rica, Bangladesh, Botswana, Burkina Faso, Nigeria, India, Japan, Australia, Norway and Chile. The glitch with previous studies is that they generally focused on a single economy and do not examine a broader data set. This paper extends Konya (2006) and covers the period 1960-2013 to examine long run statistical drifts between exports income and GDP for the economies under examination.

2. LITERATURE REVIEW

Previous studies on economic growth generally hold that most economies are exports-driven. Thus Konya (2006) proposed that under the exports-led growth (ELG), exports lead economic growth. Konya (2006) investigated the possibility of Granger causality between the logarithms of real exports and real GDP for 24 selected OECD countries from 1960-1997. The scholar introduced a new panel data approach which is based on SAR systems of equations and Wald test with country-specific bootstrap critical values. In the analysis two dynamic models were applied. Konya (2006) further used the bivariate (GDP-exports) model and a trivariate (GDP-exports-openness) model with and without linear trend. In general, the analysis focused on one period causal relation between exports and GDP. The results were not consistent as they revealed one-way causality from exports to GDP in Belgium, Denmark, Iceland, Italy, New Zealand, Spain, and Sweden. There was also one-way causality running from GDP to exports in Austria, France, Greece, Japan, and Mexico Norway, and Portugal. However, there was two-way causality between exports and economic growth in Canada, Finland, and the Netherlands. While in the case of Australia, Luxembourg, Switzerland, the UK and USA there was no evidence of causality in either direction. The diversity of these results has made policy makers and scholars to show greater interest in the dynamic relationship between exports and economic growth. The dilemma is, should countries then promote exports to propel economic growth or should they focus on economic growth with the hope that it will propel export production? Following Konya (2006) the inconsistent results present a challenge for policy makers and central banks. However, increased exports promotion may possibly promote the importation of high quality products and technologies which in turn may have positive impact on technological change, labor productivity, and eventually the nation's overall production. However if we let economic growth propel exports production, we will be following the growth-driven exports hypothesis which is founded on the idea that economic growth induces trade flows. Following Konya (2006), the GDE hypothesis has several economic benefits such as the creation of comparative advantage in certain areas leading to further specialization and production of exports.

Konya (2006) however cautioned that it is possible to witness no relations at all between economic growth and exports. In addition to the literature, Chaudhry & Bukhari (2013) highlighted that trade is a crucial component of Pakistan's economy and trade as a percentage of the GDP has risen from approximately 26% in 1999 -2000 to approximately 33% in 2010-2011. Nonetheless, a crucial component of the Pakistan economy is the heavy reliance on the exportation of textiles. It has been noted well that between 60 and 70% of Pakistan's merchandise exports are accounted for by the textile and garment industry which also accounts for about 8.5% of the GDP and 38% of the total employed force. On this notation, Chaudhry & Bukhari (2013), created a structural vector autoregressive model which looks at macroeconomic factors that impact the exportation of finished and unfinished Pakistani textiles between 1980 and 2011. The analysis was unique because it segregated finished textile exports from unfinished exports. The study found out that unfinished or low value added Pakistani textile exports were positively impacted by aggregate consumption of trading partners. Consequently, a real depreciation of Pakistan's exchange rates was found to induce temporary increases in unfinished textile exports. Nonetheless, positive shocks in textile exports of competitor countries were found to induce temporary increases in unfinished textile exports.

Notably He & Zhang (2010) reported that after 30 years of economic transformation, China has emerged as one of the world's major trading economies. Critically, even though there is a large body of literature pertaining to the rise of China as an economic giant, He & Zhang (2010) noted that there has been little analysis done on the relationship between foreign trade functions and China's domestic economy. Comparatively, many studies held that China's economic growth pattern has been unbalanced and the economy has become too export-dependent and hence increased vulnerability to business cycle fluctuations. Lardy (2007) revealed that excessive reliance on net exports has been an important factor propelling the Chinese government to switch to a more consumption-driven growth pattern. On this

backdrop, He & Zhang (2010) studied the interaction between foreign trade and domestic demand and supply on China's economic transformation. The paper conducted econometric analysis on provincial Chinese data to determine causality between growth of foreign trade and components of domestic. The results implied that Chinese exports dependency is significantly lower than implied by the headline–exports to GDP ratio. He & Zhang (2010) argued that the contribution of exports to economic growth in China came mainly from its impact on total factor productivity rather than from the multiplier effect from a demand perspective. In contribution to the extant literature, Limaei et al (2011) considered the import and export of wood in Iran and linked it with major macroeconomic variables such as population, GDP, world oil and the amount of domestic wood production using multivariable regression analysis.

The results showed that there is a significant relation between GDP and the amount of domestic wood production. While Limaei et al (2011) focused on a single country, Tang et al (2015) focused on re-examining the exports-led growth hypothesis for Asia's Four Little Dragons (Hong Kong, South Korea, Taiwan and Singapore). Employing both bivariate and trivariate models, the study revealed that exports and GDP were cointegrated for all the four economies thus implying a long run relationship between the variables. Tang et al (2015) warned that instead of focusing intently on exports promotion, policy makers should search for alternative catalysts to economic growth in order to experience continuous economic growth. Whereas most studies generally focused on the relationship between exports and GDP many developing economies have been noticed to be dependent heavily on primary exports as their main drivers of income even though evidence provided by economists suggests that developing countries could earn higher returns by exporting manufacturing goods (Sheridan, 2014). Recent evidence by Sheridan (2014) suggests that although increasing manufacturing exports is important for sustained economic growth, this relationship only holds once a threshold level of development is reached. Sheridan (2014) used an endogenous sample splitting technique known better as regression tree analysis to identify possible economic development thresholds.

In summation of the literatures review, previous studies on exports and economic growth generally document a positive relationship as evidenced by earlier studies (Balassa, 1978; and Edwards, 1993). However there are incongruences over whether exports drive economic growth or GDP propels exports drawing dorm the findings of Konya (2006) and He & Zhang (2010). This paper follows Konya (2006) and attempts to determine the validity of the positive relationship between exports and GDP in 13 different economies which are: Argentina, Brazil, Colombia, Costa-Rica, Bangladesh, Botswana, Burkina Faso, Nigeria, India, Japan, Australia, and Norway and Chile.

3. RESEARCH HYPOTHESES

Drawing from the extant literature, the proposition is that there is a positive relationship between exports and economic growth (Konya, 2006; Lardy, 2007; Limaei et al 2011; Tang et al, 2015, and Sheridan, 2014). However, evidence from previous studies provides varying causality between exports and economic growth. The World Bank (1987) supported the idea of exports promotion strategy as the optimal option for Less Developing Countries (LDC's). Comparatively, it has been ruled that economies that relied on exports to drive their economies have achieved considerable success in propelling economic growth. From this premise it is hypothesized that:

H1 each country's GDP will trend positively with total income from exports in the long run;

H2 Income from exports drives economic growth implying the exports-led growth hypothesis.

4. DATA DESCRIPTION

This study uses data from 1960-2013 and examines the relationship between exports income and GDP in a long run framework. The data was obtained from the World Bank Development Indicators issues and Botswana Financial Statistics which are monthly central bank (Bank of Botswana) publications on economic performance. The countries under examination were not segregated in terms of economic advancement. These economies are Argentina, (1962-2013); Brazil, (1960-2013); Colombia, (1960-2013); Costa Rica, (1960-2013); Bangladesh (1960-2013); Botswana (1960-2013); Burkina Faso (1960-2012); Nigeria (1960-2012); India (1960-2011); Japan (1960-2011); Australia (1960-2013); Norway (1960-2011) and Chile (1960-2012). Table 1 and 2 is a presentation of descriptive statistics of the data set as from 1960 to 2013. All figures are in US Billion dollars. From the descriptive statistics, the data set

showed variations in skewness and kurtosis coefficients implying a deviation from normal distribution properties. The number in the brackets shows exports income for the period under examination while the other figure represents the country's Gross Domestic Product (GDP).

Table 1: Descriptive Statistics of The Data Set as from 1960-2013

STAT.	ARGENTINA	BRAZIL	COLOMBIA	COSTA-RICA	BANGLADESH	BOTSWANA	BURKINA FASO
Span	1962-2013	1960-2013	1960-2013	1960-2013	1960-2013	1960-2013	1960-2012
Mean	181.51	536.89	77.64	10.57	33.76	3.87	2.67
	(23.01)	(59.94)	(12.96)	(4.22)	(4.95)	(1.93)	(0.34)
Median	111.02	287.88	38.85	5.66	22.70	1.68	1.93
	(10.19)	(28.07)	(6.28)	(1.52)	(1.22)	(1.22)	(0.18)
Max.	611.76	2,476.69	378.15	49.26	129.86	15.29	10.73
	(1.15)	(294.46)	(67.61)	(17.44)	(29.66)	(8.15)	(2.95)
Min.	162.80	15.17	4.04	0.48	4.27	0.03	0.33
	(27.15)	(0.77)	(0.58)	(0.11)	(0.36)	(0.01)	(0.01)
Skewness	1.02	1.70	1.80	1.58	1.43	1.17	1.65
	(1.47)	(1.77)	(1.97)	(1.22)	(2.03)	(1.09)	(3.30)
Kurtosis	3.13	5.07	5.51	4.89	4.48	3.28	4.97
	(4.12)	(5.08)	(6.22)	(3.30)	(6.41)	(3.28)	(14.59)
Prob.	0.010	0.00	0.00	0.00	0.00	0.02	0.00
	(0.002)	(0.00)	(0.00)	(0.001)	(0.00)	(0.00)	(0.00)

Table 2: Descriptive Statistics of The Data Set as from 1960-2013

STATISTIC	NIGERIA	INDIA	JAPAN	AUSTRALIA	NORWAY	CHILE
Span	1960-2013	1960-2011	1960-2013	1960-2013	1960-2011	1960-2013
Mean	70.94	405.96	2,419.18	341.06	135.39	59.58
	(21.32)	(65.50)	(297.45)	(63.92)	(55.75)	(20.06)
Median	30.03	244.97	2,017.05	189.72	84.83	24.49
	(9.07)	(13.14)	(227.66)	(27.32)	(28.74)	(6.30)
Max.	522.64	1,880.10	5,937.77	1,560.60	512.58	277.20
	(145.55)	(448.72)	(893.38)	(325.48)	(212.25)	(95.50)
Min.	4.20	37.68	44.31	18.61	5.16	4.21
	(0.39)	(1.65)	(4.75)	(2.41)	(1.87)	(0.57)
Skewness	2.69	1.85	0.20	1.74	1.46	1.66
	(2.42)	(2.24)	(0.67)	(1.84)	(61.98)	(1.62)
Kurtosis	9.45	5.64	1.42	5.36	1.31	4.83
	(8.08)	(6.96)	(2.37)	(5.65)	(1.32)	(4.32)
Prob.	0.000	0.00	0.05	0.00	0.00	0.00
	(0.00)	(0.00)	(0.08)	(0.00)	(0.00)	(0.00)

5. METHODOLOGY

Hypothesis 1 postulated that each economy under examination will trend positively with exports income in the long run. The Johansen cointegration test will be used to examine statistical drifts of the variables in the long run.. Drawing from Johansen (1988) the idea of using contegrating vectors in the study of non-stationary time series comes from the works of Granger, 1981; Granger & Weiss (1983); Engle & Granger (1987) and Granger and Engle (1985). In the process of testing for cointegration using the Johansen approach, consider m vector X_t of $I(1)$ variables. The underlying principle is that if they are cointegrated, there should statistically be $r\ (0 \leq r \leq m)$ linear combinations of such variations that are stationary (Mallory & Lence, 2012). The VECM of (X_t) with cointegrating rank $r(0 \leq r \leq m)$ will then be represented by

$$\Delta X_t = \Pi X_{t-k} + \sum_{i=1}^{k-1} \Gamma_i X_{t-1} + \phi D_t + \varepsilon_{it}$$

Allowing Π to be an $m \times m$ matrix denoting long run implications, Γ's will then be $m \times m$ lag parameter matrices and e_t m-vector of residuals (Mallory & Lence, 2012). By implication, if $r(0 \leq r \leq m)$ matrix Π can be expressed as $\Pi = \alpha\beta^T$. The trace test was computed as $-T\sum_{i=r+1}^{k} \log\left(1-\lambda_i\right)$ and the maximum eigen value test obtained from regressing ΔX_t and ΔX_{t-1} on $\Delta X_{t-1}, \cdots, \Delta X_{t-k+1}$ was computed as $-T\log\left(1-\lambda_{r+1}\right)$.

Hypothesis 2 postulated that exports income drives economic growth of the countries under examination. The Granger causality test will be applied to determine leading or lagging relations. If I allow GDP_t and EXP_t to be any of the country's GDP and total exports income at the time "t", then following Granger (1969) if the two variables (GDP_t, EXP_t) are strictly stationary , GDP_t will Granger cause EXP_t if past and current values of GDP_t contain extra information on the future values of EXP_t. The reverse causality will therefore hold if EXP_t contains additional information on the future values of GDP_t. Following Granger (1969) if cointegration exists between GDP_t and EXP_t the error correction models for testing causality will then be

$$\Delta GDP_t = \alpha_0 + \delta_1(GDP_{t-1} - \gamma EXP_{t-1}) + \sum_{i=1}^{k} \alpha_{1t}\Delta GDP_{t-i} + \sum_{i=1}^{k} \alpha_{2i}\Delta EXP_{t-i} + \varepsilon_{1t}$$

$$\Delta EXP_t = \beta_0 + \delta_2(GDP_{t-1} - \gamma EXP_{t-1}) + \sum_{i=1}^{k} \beta_{1t}\Delta GDP_{t-i} + \sum_{i=1}^{k} \beta_{2i}\Delta EXP_{t-i} + \varepsilon_{2t}$$

6. HYPOTHESES TEST RESULTS

Hypothesis 1 proposed that each country's GDP will trend positively with income from exports in the long run. The trace test affirmed the positive relation between exports income and GDP for Brazil, Colombia, and Costa Rica. The countries registered ρ-values less than the critical level of 0.05 thus affirming the long run affiliation between exports income and GDP. Other economies which revealed long run comovement between exports income and GDP were Bangladesh, Burkina Faso, Nigeria, Australia Norway and Chile. The results were consequently the same with those of the maximum eigen value test. Table 3 and 4 show results of the trace test and the maximum eigen value test. Argentina, India, Japan, and Botswana registered no cointegration at a critical level of 0.05 in both tests.

Table 3: Trace Test Results

Coint. Vectors	Eigenvalue	Trace Statistic	Critical Value[1]	ρ-values[2]
		Argentina (1962-2013)		
$r = 0$	0.14	7.95	15.50	(0.47)
$r \leq 1$	0.0097	0.49	3.84	(0.49)
		Brazil (1960-2013)		
$r = 0$	0.37	27.07	15.50	(0.0006)**
$r \leq 1$	0.053	2.82	3.84	(0.09)
		Colombia (1960-2013)		
$r = 0$	0.34	30.99	15.50	(0.0001)**
$r \leq 1$	0.17	9.76	3.84	(0.0018)**
		Costa Rica (1960-2013)		
$r = 0$	0.407	28.88	15.50	(0.0003)**
$r \leq 1$	0.032	1.67	3.84	(0.197)
		Bangladesh (1960-2013)		
$r = 0$	0.57	46.78	15.50	(0.000)**
$r \leq 1$	0.057	3.04	3.84	(0.0814)
		Botswana (1960-2013)		
$r = 0$	0.22	15.49	15.50	(0.050)
$r \leq 1$	0.043	2.294	3.84	(0.1299)
		Burkina Faso (1960-2012)		
$r = 0$	0.309	29.097	15.50	(0.0003)**
$r \leq 1$	0.1817	10.22	3.84	(0.0014)**
		Nigeria (1960-2013)		
$r = 0$	0.65	59.47	15.50	(0.000)**
$r \leq 1$	0.091	4.984	3.84	(0.0256)**
		India (1960-2011)		
$r = 0$	0.22	15.49	15.50	(0.050)
$r \leq 1$	0.043	2.294	3.84	(0.130)
		Japan (1960-2013)		
$r = 0$	0.068	5.458	15.50	(0.758)
$r \leq 1$	0.035	1.832	3.84	(0.176)
		Australia (1960-2013)		
$r = 0$	0.33	26.37	15.50	(0.001)**
$r \leq 1$	0.079	4.397	3.84	(0.036)**
		Norway (1960-2011)		
$r = 0$	0.3678	26.92	15.50	(0.001)**
$r \leq 1$	0.058	3.07	3.84	(0.079)
		Chile (1960-2012)		
$r = 0$	0.307	19.90	15.50	(0.0102)**
$r \leq 1$	0.015	0.788	3.84	(0.374)

[1]critical level of 0.05

[2]based on the MacKinnon-Haug-Michelis (1999) ρ-values

***represents trace test cointegration at 0.05 critical level*

Table 3: Maximum Eigenvalue Test Results

Coint. Vectors	Eigenvalue	Trace Statistic	Critical Value[1]	ρ-values[2]
		Argentina (1962-2013)		
$r = 0$	0.139	7.464	14.30	(0.436)
$r \leq 1$	0.0097	0.4817	3.84	(0.486)
		Brazil (1960-2013)		
$r = 0$	0.372	24.25	14.30	(0.001)**
$r \leq 1$	0.052	2.819	3.84	(0.093)
		Colombia (1960-2013)		
$r = 0$	0.33	21.23	14.30	(0.0034)**
$r \leq 1$	0.171	9.76	3.84	(0.0018)**
		Costa Rica (1960-2013)		
$r = 0$	0.407	27.22	14.30	(0.0003)**
$r \leq 1$	0.031	1.67	3.84	(0.1967)
		Bangladesh (1960-2013)		
$r = 0$	0.568	43.73	14.30	(0.0003)**
$r \leq 1$	0.057	3.03	3.84	(0.0814)
		Botswana (1960-2013)		
$r = 0$	0.224	13.98	14.30	(0.0732)
$r \leq 1$	0.043	2.294	3.84	(0.1299)
		Burkina Faso (1960-2012)		
$r = 0$	0.309	18.87	14.30	(0.0087)**
$r \leq 1$	0.1817	10.23	3.84	(0.0014)**
		Nigeria (1960-2013)		
$r = 0$	0.65	54.48	14.30	(0.000)**
$r \leq 1$	0.091	4.984	3.84	(0.0256)**
		India (1960-2011)		
$r = 0$	0.33	20.10	14.30	(0.0053)
$r \leq 1$	0.0316	1.61	3.84	(0.2050)
		Japan (1960-2013)		
$r = 0$	0.069	3.63	14.30	(0.896)
$r \leq 1$	0.035	1.83	3.84	(0.176)
		Australia (1960-2013)		
$r = 0$	0.34	21.97	14.30	(0.0025)**
$r \leq 1$	0.080	4.39	3.84	(0.0360)**
		Norway (1960-2011)		
$r = 0$	0.3677	23.84	14.30	(0.0012)**
$r \leq 1$	0.058	3.08	3.84	(0.079)
		Chile (1960-2012)		
$r = 0$	0.307	19.10	14.30	(0.0008)**
$r \leq 1$	0.015	0.788	3.84	(0.374)

[1]*critical level of 0.05*
[2]*based on the MacKinnon-Haug-Michelis (1999) ρ-values*
***represents maximum eigen value test cointegration a 0.05 critical level*

Hypothesis 2 postulated that exports income lead economic growth. The Granger causality test shows that for Argentina and Bangladesh, exports lead GDP hence supporting the hypothesis. However for Brazil, Botswana,

Nigeria, India, the causality registered runs from exports to GDP and from GDP to exports income as well. However Australia registered causality running from GDP to exports with a ρ-value of 0.0022. Table 5 shows results of the pairwise Granger causality test.

Table 5: Pairwise Granger Causality Test Results

Causality	Observations	F-Statistic	ρ-values[1]
	Argentina (1962-2013)		
EXP → GDP	50	3.71	(0.0320)**
GDP→ EXP	50	0.676	(0.5135)
	Brazil (1960-2013)		
EXP → GDP	52	4.157	(0.0219)**
GDP→ EXP	52	4.74	(0.0013)**
	Colombia (1960-2013)		
EXP → GDP	52	0.5719	(0.5683)
GDP→ EXP	52	9.32	(0.0004)**
	Costa Rica (1960-2013)		
EXP → GDP	52	0.25	(0.7799)
GDP→ EXP	52	1.6266	(0.2075)
	Bangladesh (1960-2013)		
EXP → GDP	52	7.72	(0.0013)**
GDP→ EXP	52	2.49	(0.0935)
	Botswana (1960-2013)		
EXP → GDP	52	19.56	(0.0007)**
GDP→ EXP	52	11.59	(0.0001)**
	Burkina Faso (1960-2012)		
EXP → GDP	51	3.116	(0.0540)
GDP→ EXP	51	1.148	(0.326)
	Nigeria (1960-2013)		
EXP → GDP	52	19.20	(0.000)**
GDP→ EXP	52	16.78	(0.000)**
	India (1960-2011)		
EXP → GDP	50	3.68	(0.033)**
GDP→ EXP	50	26.27	(0.000)**
	Japan (1960-2013)		
EXP → GDP	51	1.2067	(0.3085)
GDP→ EXP	51	0.4083	(0.6671)
	Australia (1960-2013)		
EXP → GDP	53	1.367	(0.2648)
GDP→ EXP	53	7.0	(0.0022)**
	Norway (1960-2011)		
EXP → GDP	52	5.27	(0.2165)
GDP→ EXP	52	0.704	(0.4994)
	Chile (1960-2012)		
EXP → GDP	52	1.523	(0.2285)
GDP→ EXP	52	0.1699	(0.8476)

[1]*critical level of 0.05*

***represents a causal relation*

7. DISCUSSION

Hypothesis 1 postulated that each country's GDP will trend positively with income from exports in the long run. The trace test registered cointegration between the variables for Brazil, Colombia, Costa Rica, Bangladesh, Burkina Faso, Nigeria, Australia, Norway and Chile. Economies which did not register cointegration were Argentina, India, Japan, and Botswana. The results show inconsistences on the dynamic relationship between exports income and GDP. Konya (2006) investigated the possibility of Granger causality between the logarithms of real exports and real GDP in 24 OECD countries from 1960-1997 and the results showed disparities on the exports –GDP relationship. The results proved one-way causality running from exports to GDP in Belgium, Denmark, Iceland, Italy, New Zealand, Spain, and Sweden and one-way causality running from GDP to exports in Austria, France, Greece, Japan, Mexico, Norway and Portugal. There was a two way causality reported between exports and economic growth in Canada, Finland, and the Netherlands while economies such as Austria, Korea, Luxembourg, Switzerland, the UK and USA revealed no causality in either direction. Following the results of Konya (2006), the results of this study are plausible given varying causal relations. Perhaps the most important point brought forth by Konya (2006) is that it is possible to observe no statistically significant relation between exports and economic growth. The expectation as given by the hypothesis was that from 1960-2013, there should exist at least 1 cointegrating equation for all the economies under examination.

The results of this study are conceivable drawing from studies such as He & Zhang (2010). The general proposition by economists has been that the Chinese economy has experienced robust economic growth triggered by high exports dependency. However, He & Zhang (2010) proved that China's export dependency is significantly much lower than implied. Thus the contribution of exports to economic growth in China came mainly from its impact on total factor productivity growth rather than form its multiplier effect from a demand perspective. It is then plausible that countries such as Argentina, India, Japan, and Botswana may not be exports-dependent like China hence registering no long run affiliation between exports and GDP. Hypothesis 2 on the other hand held that exports income led economic growth. The results showed that the hypothesis only held in the case of Argentina. Economies such as Brazil, Botswana, Nigeria, and India registered bi-directional causality between exports and economic growth. Costa Rica, Japan, Norway, and Chile revealed no causality at all. This is no astonishment given the inconsistent causal relations witnessed by Konya (2006).

8. CONCLUSION

This paper is an extension to the extant literature on the dynamic relationship between exports and GDP. The cointegration test results are not consistent revealing disparities between exports and GDP relationship. This study concludes that most economies are not driven by exports as the general consensus holds. Following Sheridan (2014), it is advised that economies which are still developing should pay attention towards producing manufacturing exports in order to achieve vigorous economic transformation. The results of this study have some implications of course. Firstly, exports alone can no longer be considered to be the sole drivers of economic prosperity. Countries will have to focus on economic diversification to a great extent. Economies such as Botswana certainly have to speed up their economic diversification plans in order to avoid being trapped in the natural resource trap. In addition, business cycle fluctuations will have to be factored when considering the dynamic relation between exports and economic growth in future studies. This study has not factored macroeconomic factors such as interest rates, exchange rates, and inflation impacts on economic growth. In conclusion, majority of economies are not wholly exports-driven.

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