Revisiting Economic Growth and Trade Openness: An Empirical Analysis of Major Trading Nations

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This paper considers 15 major trading nations from 1996-2018 to assess the relationship between economic growth and trade. This relationship has been governed by the nature of exports as well as the stage of development of a nation. In the present paper key macro-economic variables as identified from literature, including scale of foreign direct investment, domestic investment, exchange rates and labour productivity. The study provides unique insights as it indicates a positive relationship of all variables vis a vis economic growth of the countries except foreign direct investment. Granger causality test however indicates growth causes exports, FDI, and trade. Furthermore, there exists a bi-directional causality between labour productivity and growth as well as imports and growth. Therefore, the findings of this paper provide a reference for future economic planning and policy formulation of the selected countries.

Keywords: Trade, Economic Growth, Investment, Panel Data, Exports, Imports

Introduction

One of the key topics of interest in economics and international trade continues to be the relationships between economic growth and trade openness. Given the ongoing and pervasive variations in economic performance among nations, particularly among developing nations because of the development of international trade, this relationship has attracted even more attention in recent years. In the literature, it has been observed that growth of a nation leads to improvement in standard of living, development of human capital and trade openness (Acemoglu, 2012). In recent years, trade openness has gained importance in facilitating growth, providing easier market access for trade, ensuring efficient and effective allocation of resources and improving the total factor productivity through technology diffusion and knowledge dissemination (Barro et. al 1997). Trade Openness has a direct impact on economic growth as countries with higher trade openness will relatively outperform those with lower openness (Capolupo & Celi, 2008). In particular, in the case of developing countries, it has been noticed that trade barriers have a significant impact. It has also been noticed that the developing countries are likely to gain more by trading with the developed countries (Leamer, 1998). Due to these inherent advantages of trade openness international trade institutions and donor

governments recommend trade liberalization policies to the developing countries hoping that this while help to integrate them into the global market. The economies which become part of the global value chain (GVCs) by promoting both exports and imports have grown faster and have simultaneously reduced their external as well as internal vulnerabilities with improved economic performance (Chang, Kaltani & Loayza, 2009, Marelli, E., & Signorelli, 2011, Arora & Siddiqui, 2020).

Given the theoretical underpinnings of the advantages of trade and the mechanisms determining each country's growth performance, in this paper, we investigate and empirically test the relationship between trade openness and economic growth for 15 major trading nations for the period 1996-2018.

The main contribution of the paper is that it develops a framework for assessing the relationship between the key macroeconomic variables of a country. It also adds to the existing literature about a causal relationship between trade, growth, investment and foreign exchange. This will also help policy makers to design policies from other similar nations.

The structure of the paper is such that section-2 provides the review of literature and the theoretical background, while section-3 focuses on the methodology. Section-4 presents the finding of the analysis. Section-5 draws out the discussions and the policy implications of the study and finally section-6 provides the conclusion.

Theoretical Background

Since Adam Smith's ground-breaking investigation into the nature and causes of the wealth of nations (1776), the significance of international trade for a nation has been extensively established in the economics literature. This relationship's justification contends that economies must export commodities and services in order to generate revenue to pay for imported goods and services that cannot be produced domestically (Coutts and Godley, 1992; McCombie and Thirlwall, 1992).

The reasons for the disparities in growth rates and the benefits of trade liberalisation are still up for debate. In the theoretical growth literature, the benefits of trade openness to economic growth have been very thoroughly demonstrated. Most research back up the idea that openness has a favourable impact on growth in terms of the theoretical relationship between openness and growth. A number of authors, including Aghion and Howitt (1992), Romer (1993),

Grossman and Helpman (1991), and Barro and Sala-i-Martin (1995), contend that open economies are able to adapt to advanced technologies. According to Chang, Kaltani, and Loayza (2005), openness increases competition in both domestic and foreign markets, permits the spread of information and technical advancement, and promotes the efficient allocation of resources through comparative advantage. However, Rodrik & Rodriguez (2001) and Krugman (1994) question the impact of openness on growth.

The relationship and the direction of causality between openness and economic growth have been the subject of numerous econometric research. Most of the studies conclude that trade openness is a significant explanatory factor for economic growth (Dollar (1992; Edwards, 1998); Harrison, 1996); Easterly and Levine, 2001) and Dollar and Kraay, 2002; 2004). Studies applying Granger Causality indicate unidirectional causality from exports to growth. In his analysis of eight industrialised nations (Jung and Marshall, 1985; Chow, 1987). For Asian nations, there is unidirectional causality between growth and exports (Hsiao 1987). African nations reveal no connection between the two indicators (Ahmad and Kwan 1991) while mixed causality effects have also been observed (Oskooee 1991).

in terms of short and long-term dynamics of openness and growth, it is seen that there exists bidirectional as well as unidirectional causality (Islam, 1998; Liu et al., 2002; Bouoiyour, 2003).

Awokuse (2007) investigates how growth in three transition economies is affected at the national level by export and import expansion. The findings indicate that exports and growth are correlated in Bulgaria in a bidirectional manner, in the Czech Republic in a unidirectional manner, and in Poland only the import-led growth hypothesis can be accepted. The gap in these studies is the lack of a comprehensive analysis of the relationship between openness and economic growth on a cross-country level.

Therefore, this study intends to resolve this issue and revisit the question of causal relationships between trade openness and growth for a panel of 15 countries from 1996 to 2018. With the use of this methodological approach, we examine whether openness and GDP are causally related in both directions. In other words, establishing a long-term positive causation between trade and growth would demonstrate the long-term advantages of global integration.

In the evolving context of changing economic architecture globally, this study is important to understand the interlinkages between economic growth and trade openness. However, it has also been thought that market flaws and economies of scale play a significant role in deciding such benefits. Asymmetric trading partners imply significant variations in production functions, technology, and endowments, which may have a negative impact on trade openness for nations with less advanced technological capabilities, according to theoretical arguments and the endogenous growth hypothesis. The proportional importance of a country's external sector fluctuates based on the size, income, and geographic location of the country.

In case of Morocco, there is an absence of long run causality between trade openness and economic growth (Bouoiyour 2003). While for poor countries there is no relation between the two indicators, however for rich nations there is a positive impact of trade on growth (Calderon et al. 2004). For India, there is a negative impact of trade openness on growth (Sarkar 2008).

It has been validated in literature that trade openness and economic growth are positively and significantly related (Ulaşan 2012). In case of major developed and developing nations, bidirectional causality exists between the two variables (Rahman et al. 2017). Similar impact was seen for South east European nations (Fetahi-Vehapi et al. 2015). In a few studies, positive impact wase examined between trade openness on economic growth in the long run (Tahir et al., 2014; Musila and Yiheyis, 2015).

Accordingly, the present study focuses on identifying whether trade leads to economic growth in major trading nations or not. These trading nations are found to be a combination of developed and developing nations. The findings in the academic literature establish empirical relationships between trade and economic growth.

Methodology

The empirical analysis uses the variables on economic growth, exports, imports, trade, domestic investment, foreign direct investment and exchange rates of the selected trading nations. These variables are derived from theoretical foundations of growth and trade studies, which conclude that (a) economic growth in nations is the outcome of the exporting and importing goods and services and (b) the capability to export and willingness to import arises from increase in levels of investment whether domestic or foreign.

Variables Selected

Economic Growth is the gross domestic product at current prices for the selected countries and is the dependent variable. The explanatory variables used in the model are related to exports and imports of selected countries and investment is proxied by the gross fixed capital formation and foreign direct investment. The labour productivity of nations is indicated by the labour force available in the country. Exchange rates are used to indicate the financial strength of the nations. Table-1 depicts the variables and their sources along with the expected signs of results.

Table-1
Variables selected for the model and expected signs

Variable	Definition	Expected Sign
Growth	GDP (current US$)	NA
TR	Net trade in goods (BoP, current US$)	+
EXP	Exports of goods and services (current US$)	+
IMP	Imports of goods and services (current US$)	+
FDI	Foreign direct investment, net (BoP, current US$)	+/-
DI	Gross fixed capital formation (current US$)	+
EXC	Real effective exchange rate index (2010 = 100)	+/-
LAB	Total Labour Force	+

Source: Adopted from World Development Indicators, World Bank

Data Analysis

Data for the selected variables is collected from World Development Indicators, World Bank database. The study used a dataset of 15 trading countries based on total trade values taken from World Bank's World Development Indicators. These countries provide a comparative perspective of growth and the variables identified.

Based on the collection of data, the data set is a cross section cum time series dataset, thus pointing towards panel data set. The data collected is checked for descriptive statistics which indicates whether the data is normally distributed or not. To analyse the linkage and impact of the variables on each other, this is an important step as otherwise the results may turn out to be spurious. Next, we check the correlation as it indicates whether the variables have a linkage or not. The next step is to test for stationarity using Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square and PP - Fisher Chi-square test. The variables are then checked for presence of unit root at level. In case the variables are stationary at first difference level, cointegration at level is checked. Variables stationary at first difference level and cointegrated can be tested through regression. Panel data regression is run for twenty-two years, from 1996 to 2018 to derive inferences from learning variables which may impact the growth of trading nations.

The dataset comprises of time and spatial components reflecting a panel data structure. Based on the above theoretical discussion, the model can be written as:

$Growth_{it} = \beta_0 + \beta_1 EXP_{it} + \beta_2 IMP_{it} + \beta_3 TR_{it} + \beta_4 FDI_{it} + \beta_5 DI_{it} + \beta_6 EXC_{it} + \beta_7 LAB_{it} + \varepsilon_{it}$ …….. (Equation 1)

As per the description of variables mentioned in Table-1, i is the country and t is the year. Growth refers to GDP at current prices, EXP is exports, IMP is imports, TR refers to Trade, FDI is the Foreign Direct Investment, DI is Gross fixed capital formation, EXC is the exchange rate and LAB is the labour force available. ε_{it} are the errors of the regression equation.

Multicollinearity has to be tested as the variables are related to each other. A test which quantifies the extent of inflation of variance is the Variation Inflation Factor (VIF) test. This helps in detecting multicollinearity and is as represented in equation (2).

$VIF_k = 1/1 - R_k^2$…….. (Equation 2),

Where VIF_k estimates the inflation factor for the variance of estimated coefficient Rk. It is accepted that severe multicollinearity issues exist if VIF is greater than 8.

Granger causality is also checked for examining the cause and effect of the selected variables.

Findings

To assess the reliability of the variables, descriptive statistics are checked as depicted in Table-2. The descriptive statistics indicate that the variables are normally distributed and there is no major deviation amongst the variables.

Table-2
Descriptive Statistics

	Mean	Standard Error	Median	Standard Deviation	Kurtosis	Skewness
Growth	12.162	0.025	12.162	0.471	-0.186	0.213
Trade	11.981	0.017	11.962	0.318	0.009	0.173
Export	11.688	0.017	11.674	0.308	-0.08	0.165
Import	11.669	0.018	11.653	0.33	0.192	0.159
Exchange Rate	2.004	0.004	2	0.067	2.965	-0.28
FDI	10.269	0.041	10.295	0.601	1.142	-0.857
Domestic Investment	11.517	0.026	11.507	0.488	-0.094	0.322
Labour Productivity	7.5	0.03	7.459	0.56	0.622	0.543

From the descriptive statistics it can be inferred that the data is normally distributed with similar variance across variables. As the model has multiple variables, Pearson product-moment correlation coefficient is depicted in Table-3. The relationship and its strength is measured by the correlation coefficient between any two continuous variables. The variables are positively correlated as the sign of the Pearson correlation coefficients is positive. This indicates that higher values of these variables are associated with lower levels of growth except for exchange rates. This holds for all the years under consideration from 1996 to 2018.

Table-3
Correlation Matrix

	EX	EXC	FDI	DI	Growth	IM	LAB	TR
EX	1.000							
EXC	0.093	1.000						
FDI	0.522	0.104	1.000					
DI	0.742	0.090	0.478	1.000				
Growth	0.767	0.039	0.479	0.986	1.000			
IM	0.978	0.137	0.547	0.769	0.787	1.000		
LAB	0.498	-0.084	0.255	0.854	0.858	0.482	1.000	
TR	0.994	0.114	0.537	0.761	0.783	0.995	0.496	1.000

Testing for stationarity in panel data models is important as it has a component of time series. Unit root test is required for testing stationarity in panel data as results will be spurious if data doesn't satisfy the stationarity assumption implicit in most tests. Tests such as Levin-Lin-Chu test which is considered to be the ADF equivalent for panel data can be used. From the unit root tests the results are presented in Table-4.

As can be seen, the variables are stationary at first difference level. Thus, the variables are checked for co-integration. The co-integration results are depicted in Table-5 and indicate that the variables are co-integrated and thus now fixed or random effect model of panel regression maybe applied.

The tests enumerated in Table 4, 5 and 6 are carried-out in order to check the nature of data and hence apply the best possible econometric technique. As per econometrics, the first step is to check data for stationarity, in case the variables are stationarity at level, regression can be applied. In case the variables are non-stationary, co-integration is checked in order to avoid spurious results. In case the variables are co-integrated at first difference level, regression can be easily applied. Hausman test is applied to infer the type of regression to be applied to the data set.

Considering equation 1 as the base, after cleaning the data and checking its quality and getting a strong impression of presence of fixed and/or random effects, the Hausman specification test (Hausman, 1978) is used. In our case the model favours fixed effects model. The cross-sectional dependence is one of the most important diagnostics that a researcher should investigate before performing a panel data analysis. In this context, the Breusch and Pagan (1980) LM test and Pesaran (2004) CD test, are utilized. Findings in Table-6 illustrate that there is no cross-sectional dependence even at 1% level of significance. Therefore, there is no need to proceed with tests and estimation techniques that can take account of cross-sectional dependence.

Table-4
Unit Root Tests

		Levin, Lin & Chu t*	**Im, Pesaran and Shin W-stat**	**ADF - Fisher Chi-square**	**PP - Fisher Chi-square**
Growth	Level	-1.03	1.66	17.28	23.09
		(0.15)	(0.95)	(0.97)	(0.81)
	First Diff	-9.23	-7.46	112.61	121.91
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
FDI	Level	-6.51	-3.39	43.36	64.69
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
	First Diff	3.22	-2.69	49.94	178.81
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
GFCF	Level	-1.71	0.30	25.60	24.99
		(0.04)	(0.62)	(0.70)	(0.73)
	First Diff	-9.73	-8.29	129.02	134.09
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
LAB	Level	-2.62	1.22	26.20	56.97
		(0.00)	(0.89)	(0.67)	(0.00)
	First Diff	-3.38	-4.54	78.79	126.22
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
EXC	Level	-0.58	-0.58	27.99	28.28
		(0.28)	(0.28)	(0.57)	(0.56)
	First Diff	-9.16	-7.11	105.65	140.14
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
TRADE	Level	-2.45	1.62	12.19	18.42
		(0.01)	(0.95)	(1.00)	(0.95)
	First Diff	-9.83	-8.55	127.18	170.35
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
EXP	Level	-2.16	1.87	11.17	15.49
		(0.02)	(0.97)	(1.00)	(0.99)
	First Diff	-9.90	-8.37	124.61	167.01
		(0.00**)	(0.00**)	(0.00**)	(0.00**)
IMP	Level	-2.65	1.35	14.18	22.86
		(0.00)	(0.91)	(0.99)	(0.82)
	First Diff	-10.08	-8.71	129.55	166.37
		(0.00**)	(0.00**)	(0.00**)	(0.00**)

Note: T-statistics and values in parenthesis ( ) are the p values
** 1% level of significance

Table-5
Cointegration results

Hypothesized No. of CE(s)	**Fisher Stat.*** (from trace test)	Prob.	**Fisher Stat.*** (from max-eigen test)	Prob.
None	39.12	0.0000	20.05	0.0027
At most 1	61.45	0.0000	26.03	0.0002
At most 2	90.53	0.0000	59.09	0.0000
At most 3	66.07	0.0000	44.86	0.0000
At most 4	30.40	0.0000	24.17	0.0005
At most 5	17.12	0.0089	17.12	0.0089

Table-6
Hausman and Cross Section Dependence test

Test	**Prob.**
Hausman Test	0.00
Breusch-Pagan LM	1.00
Pesaran CD	0.4452

The most appropriate and classic model of OLS regression with fixed effects is considered through E-Views. Thus, the findings of four models tested are depicted in Table-7.
The models are formulated with the explanatory variables of FDI, domestic investment, labour productivity and exchange rates and with options of export, import and trade. The findings suggest a synergistic relationship between the opportunities for growth and most of the variables except FDI. The results indicate a positive and significant relationship between domestic investment, labour productivity and exchange rates. In terms of exports, it is seen that exports across the selected countries also exert a positive and significant impact on growth and similarly for trade. It is only imports which indicate differential results across models and thus it can be said that imports may have a role in enhancing trade which leads to growth. Imports may not have a significant role in enhancing growth of the selected nations but maybe instrumental in enhancing investments, production and thus exports leading to significant impact of trade and exports on growth. This is in line with studies such as Esfahani, (1991); Riezman et al., (1996); Thangavelu and Rajaguru, (2004).

Table-7
Regression Results

	Model 1	**Model 2**	**Model 3**	**Model 4**
FDI	0.666	0.496	0.649	0.492
	[0.003]	[0.003]	[0.003]	[0.003]
	(0.001)	(0.002)	(0.002)	(0.002)
DI	0.000**	0.000**	0.000**	0.000**
	[0.025]	[0.021]	[0.031]	[0.029]
	(0.411)	(0.472)	(0.374)	(0.475)
LAB	0.000**	0.001**	0.000**	0.001**
	[0.079]	[0.076]	[0.086]	[0.078]
	(0.355)	(0.271)	(0.517)	(0.269)
EXC	0.000**	0.000**	0.000**	0.000**
	[0.041]	[0.036]	[0.048]	[0.042]
	(0.416)	(0.357)	(0.433)	(0.355)
TR	0.000**			
	[0.022]			
	(0.426)			
EXP		0.000**		0.000**
		[0.019]		[0.046]
		(0.397)		(0.402)
IMP			0.000**	0.903
			[0.026]	[0.053]
			(0.420)	(-0.007)
Constant	0.017	0.158	0.001	0.170
	[0.475]	[0.456]	[0.527]	[0.463]
	(-1.146)	(-0.648)	(-1.751)	(-0.639)
Adj R squared	0.998	0.998	0.997	0.998

Note: The table indicates p values and standard errors in [ ] while coefficients in ( )
** 1% level of significance

The country effects across models are depicted in Table-8. It is seen that across models, the impact of variables on growth is different. Canada, France, Italy, Japan, Spain and UK indicate a positive relationship while China, Germany, Hong Kong, Korea, Mexico and Russia indicate a negative relationship between growth and selected variables. In case of Belgium, Netherlands and USA, the country effects are mixed. For Belgium, Model 2 and 4 indicate negative effects with growth. In case of Netherlands only Model 3 has positive results while for USA, all models indicate positive results except Model 3. In terms of coefficients, China, Hong Kong, Korea and USA dominate the results. These countries effects highlight the differences in policy orientation, institutional mechanisms and the ability to trade with other countries so as to gain in the maximum possible way from the existing comparative advantage.

Table-8
Country effects

COUNTRY	Model 1	Model 2	Model 3	Model 4
Belgium	0.006	-0.027	0.103	-0.028
Canada	0.056	0.044	0.077	0.043
China	-0.434	-0.363	-0.620	-0.362
France	0.038	0.037	0.034	0.037
Germany	-0.037	-0.033	-0.049	-0.033
Hong Kong	-0.182	-0.203	-0.077	-0.203
Italy	0.087	0.082	0.094	0.081
Japan	0.086	0.086	0.044	0.086
Korea	-0.163	-0.162	-0.160	-0.162
Mexico	-0.125	-0.091	-0.182	-0.091
Netherlands	-0.005	-0.032	0.066	-0.032
Russia	-0.102	-0.088	-0.150	-0.087
Spain	0.023	0.023	0.025	0.023
UK	0.041	0.058	0.023	0.059
USA	0.046	0.100	-0.066	0.101

In addition to the above stated techniques, granger causality test is also applied to see the cause-effect relationship as depicted in Table-9.

Table-9
Granger Causality

Null Hypothesis:	F-Statistic	Prob.
Growth does not Granger Cause Exports	2.954	0.054
Exports does not Granger Cause Growth	0.660	0.517
Growth does not Granger Cause ExchRates	0.816	0.443
ExchRates does not Granger Cause Growth	10.065	0.000**
Growth does not Granger Cause FDI	4.804	0.010
FDI does not Granger Cause Growth	0.024	0.976
Growth does not Granger Cause GFCF	0.553	0.576
GFCF does not Granger Cause Growth	1.375	0.255
Imports does not Granger Cause Growth	4.267	0.015**
Growth does not Granger Cause Imports	8.990	0.000**
Labour does not Granger Cause Growth	9.912	0.000**
Growth does not Granger Cause Labour	3.244	0.040*
Trade does not Granger Cause Growth	2.001	0.137
Growth does not Granger Cause Trade	6.020	0.003**

** 1% level of significance, *5% level of significance

The results indicate a unidirectional causality from growth to exports, growth to FDI, Growth to trade and Exchange rates to growth. There exists a bi-directional causality between labour productivity and growth as well as imports and growth.

Discussion and Implications

The results offer profound insights to the policymakers to both that of developed as well as developing countries. The policymakers can take cue from the results, which cross-validates the findings of many previous similar studies (Onafowora, O. A, et al, 1998; Almfraji, M. A, 2014).

Trade Openness and Economic Growth

The findings of this paper endorse the merits of trade liberalization, enhanced external engagements of both promoting exports and facilitating vital and essential imports (Sun P. & Heshmati A. (2010). This is particularly of high significance for developing countries which intend to anchor their economic growth story with enhanced exports and required essential imports by attracting foreign investments (Choong C.K, 2010).
Further, increased exports may generate foreign currency that enables rising import levels of intermediate products, which in turn may increase capital formation and promote output growth (Balassa, 1978; Esfahani, 1991). Many of the countries under study have been anchoring their economic growth story with high trade openness, Germany, China, Hong Kong, Italy, Japan, Korea etc. The aspect of trade openness and real exchange rate also display a significant positive increase in economic growth. Moreover, Haddad M. (2013) argues that trade openness reduces growth volatility when countries are well diversified in their economic development. The study offers observable and perceptible cognizance to avoid duality, duplicity and ambivalence in decision making of economic planners, policymakers, practicing academics and government officials to piously and vehemently pursue policy decision(s) aimed at enhanced external engagements whether through signing more Preferential and Free Trade Agreement(s), other kinds of economic partnerships, tariff liberalization and rationalizing the non-tariff measures. Non-tariff measures (NTMs) are "policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both". (UNCTAD, 2010). The paper enlightens us on merits of trade liberalization and its catalysing effects on the economic growth of both developing as well as developed countries. Another potential source of economic growth is the importation of technology from industrialised to emerging nations. Because they give domestic enterprises access to foreign technology and expertise, imports can be a channel for long-term economic growth, according to endogenous growth models (Grossman and Helpman, 1991; Coe and Helpman, 1995).

Investment

Additionally, the outcomes of positive and symbiotic relationship(s) and economic interlinkages of dependent and independent variables of this research paper instils the confidence among policymakers of both the developing and developed countries to pursue the policy instruments aimed at liberalization of foreign and domestic investments, utilizing productively the labour resources and ensuring the stability in exchange rates for orderly external economic engagements. The policymakers and officials of any Central Bank(s) can never underestimate the merits of stable and predictable exchange rates, achieved whether through 'free-float'; 'managed-float' or 'dirty-float' (Rodrik D, 2008). The exporting and

importing firms of any country undoubtedly benefit from a stable exchange rates in times of extreme exchange rates shocks (Papanikos GT, 2015; Janus T & Riera-Crichton D, 2015), for instance Sub-Prime Crisis (2008), European sovereign debt crisis (EU) (2009–2019), US Housing Bubble (2009-2014), and U.S.-China Trade War (2017-2019), COVID- 19 Pandemic (2020-21), and Russia-Ukraine War (2022). Similarly, the doses of foreign investment domestically as well as internationally has helped a developing country to sustain their growth momentum including transforming the socio-economic systems in the prime sectors of their economy (Anwar S, 2011 & Zhang, K. H., 2001).

Labour Productivity

Labour resources are leveraged by countries to attract foreign investment and manufacture high value and low-priced goods which are attractive and competitive in international markets. Learning from economic success of leveraging exports in promoting the economic growth, employments and socio-economic advancement of countries like China vindicates that the countries in other part of world can also use cheap and productive labour to engage internationally on better terms of trade (Wu Y., 2004). China's economic success as champion of export is credited to its successful leveraging of cheap labour in its manufacturing sector (Ram Singh, 2020). On top of it, Jajri I, (2010) argued that the effective labour indeed play a positive role in determining economic growth while investigating the Malaysian economy. The skilling of labour especially in the developing countries can fuel a cycle of events like promoting and nurturing innovation, investment, economic diversification and export competitiveness. It also improves the social and occupational mobility; thus creating more and more employment opportunities and also rewarding individuals to seek better, productive and remunerative employment opportunities elsewhere (Hitt, M. A., 1994). In nutshell, it can be concluded that "trade benefits all" and when leveraged with other associating dependent variables like foreign investments, labour productivity and stable exchange rates, the resultant catalysing effects of these measures will be far higher on promotion of economic country.

Conclusion

The study provides important insights into relationship of economic growth with trade openness of a country, exports, imports, net trade, foreign direct investments, gross fixed capital formation, real effective exchange rate and total labour force. The study provides different results for the countries selected indicating symbiotic and non-symbiotic relationship among the variables of trade openness on economic growth of nations studied. Considering the findings of the study, one can conclude and corroborate that nations can use export (Fosu, 1990, Sachs & Warner 1995, Popović et al 2020, Bakar & Mabrouki, 2017, Yanikkaya, 2003) as an engine for economic growth as results provide positive correlation between exports and economic growth of the selected countries. For imports, as results are varied, one need to delve further deep on policy planning and interventions to decide the nature of imports that a nation should pursue, for example capital goods imports aimed at capacity expansion and diversification (Lee 1995) should have an appropriate strategy for a developing country. Developed nations can leverage imports for demand-supply equilibrium, taming inflation, improving the living standard of people and as an instrument for long term economic planning and engagements with outside world factoring the areas of comparative advantages.

The study provides unique insights as it indicates a positive relationship of all variable's vis a vis economic growth of the countries except Foreign Direct Investment. The effects of foreign direct investments especially in the classical industries like power generation, railway, ports and refining are slower, spread over years due to variety of reasons (Thomas, 2016). The study

concludes that domestic investment, labour productivity and exchange rates have positive effect on economic growth of the country. The findings of the study can be a reference for future economic planning of a country; factoring all variables and how they contribute to economic well-being of nation and society.

Theoretical Implications

The fact that trade openness has a beneficial impact on various countries' economic growth has been the motive of this paper. With the underlying mechanism of influence relating to increases in economies of scale, technology transfer, knowledge-related externalities, as well as increased competition, contemporary trade theories incorporated in endogenous growth models suggest that trade may be advantageous to economic growth. The nation should change the composition of trade by shifting from exports of raw materials and semi-manufactured commodities to high valued-added items in order for the outward-oriented strategy to have a far stronger impact on economic growth. Additionally, trade policy should encourage investments in capital-intensive industries and the growth of human capital capable of absorbing technology from advanced nations. Under the Prebisch-Singer law of declining terms of trade, the reliance on foreign trade may be harmful to fiscal sustainability and economic growth. This is one aspect that needs to be carefully looked into as a country cannot consistently sustain a positive trade balance with a belief that nations should import items with a higher absolute cost disadvantage while still producing and exporting things with low cost benefits. Therefore, the results of this paper need support from the governments to encourage policies that facilitate trade including the cost of trade, logistics and supply chain disruptions. Sectoral policies promoting higher FDI and technology transfer are found to result in greater exports of a country.

Managerial Implications

The paper focuses on the cross-country relationship between exports growth and economic performance. The factors undertaken to establish this relation are measured by stacking up the data at the micro-level, that is at the firm-level. Therefore, the results of this paper have a bearing on the economic performance of the firms and enterprises. With the existing heterogeneity among firms, operating in both developed and developing countries, the focus should be to strengthen their participation in trade by improving the linkage between MNEs (Multi-National enterprises) and MSMEs (Micro, small and medium enterprises). This would facilitate in sharing of best practices, development of quality job creation, establishment of predictable and competitive markets and guard against international economic vulnerabilities. The domestic trade policies should also enable in the expansion into new geographies with new products, therefore presenting an opportunity for firm growth and value creation. The need for establishing and strengthening technological infrastructure of the global standard is also required which may require adequate funds for financing (Arora & Siddiqui, 2021, 2022).

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