Article

Determinants of Exports in SAARC Countries: An Empirical Evaluation

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Abstract

Given the importance of international trade and export performance in economic growth, this study attempts to examine the determinants of exports in SAARC Countries, using a pooled time-series and cross-section data over the period 2005-2018. The methodology employed is the export demand model specified with appropriate variables. The fixed effects (country-specific intercepts) model is used to estimate the relationship of exports with its potential determinants. The study finds a positive but insignificant impact of FDI on export growth. The effect of GDP, GDP growth, official development assistance, development expenditures, indirect taxes, labor force, and real exchange rate on exports is highly significant with a positive sign. Furthermore, the results show that an increase in savings significantly contributes to exports. Higher savings imply lower interest rates that promote investment opportunities. The study concludes that the factors determining the export supply need to be focused on for augmentation. Hence, it is suggested that the concerned governments must revisit the export policy and make the new policy in line with new realities to expand their export base.

JEL Classification: *C22, F10, F14, F35, F43.*

Keywords: *Exports, South Asia, Determinants, Fixed effect model*

Introduction

Trade, according to orthodox classical economists and modern liberals, is akin to an economic development engine. When a country specializes in a product that it can manufacture competitively, and as such its export promotion strategy is then frequently based on the idea of comparative advantage. The goods become more affordable to the rest of the world, thereby resulting in market expansion. Putting weight on export promotion will embark optimal allocation of world resources and, therefore, result in accelerating growth of exports. Exports promote improved resource allocation, an efficient management style, economies of scale, and production efficiency—all of which benefit economic growth. This is widely documented in the literature (Balassa, 1978; Bhagwati, 1982; Srinivasan, 1985; Awokuse, 2003). Furthermore, exports allow imports of critical raw materials and capital goods, increasing investment and output in the economy (Rana & Dowling,

1990). Following the argument for export-oriented growth, many developing nations, notably those in South Asia, shifted their development strategy from import substitution to export promotion throughout the 1990's. As a result, South Asian nations (Bangladesh, India, and Pakistan) have seen consistent increases in exports and economic growth throughout the last three decades. Several studies have found that export promotion tactics are beneficial in fostering better economic growth in Asian countries (Feldstein and Krugman, 1990; Dornbusch, 1992; Bhavan, 2016).

As exports are assumed to be the engine of economic growth, they aid in the process of economic development. With economic connections that enable the best deployment of available resources, the country may make friends. The country exports goods in accordance with the comparative advantage concept, which states that each country produces and exports goods that it can produce relatively cheaply. The benefits of trade are dependent on increasing exports and exploring new markets. Many factors influence a country's export performance. These variables can be divided into demand and supply side determinants. The demand side drivers include the capacity of trade partners, which is often approximated by the GDP of those economies, the prices of exportable goods, the prices of competing goods in the export market, and the exchange rate, among others. However, political or policy variables have a significant impact in this respect as well. Domestic production capacity, which is often assessed by GDP, exchange rate, relative pricing (price of exports compared to price of competitive goods), wage rate, and input imports, among other things, are supply side variables. On the demand side, global prices and income play a major influence in influencing export behaviour. Some scholarships put forward by Muscatelli, Stevenson and Montagna (1995) and Roy (2002), highlight the relevance of demand side drivers such as global demand and world pricing in understanding export behaviour, whilst others place a greater emphasis on supply side and other associated limitations. For example, Khan and Knight (1988) demonstrate that input imports have a large long-run impact on export performance. Others, such as Mohanan (2007), emphasize the importance of both demand and supply side variables in determining export behaviour. Hussain, Hussain, and Alam (2020) studied effects of supply-side issues on Pakistan's export performance propounding that key export categories respond differentially to changes in key export supply determinants in the long run. Roy (2020) investigated the factors of India's agricultural exports at the commodity level. The export determination models findings reveal the predominance of factors like lagged export, production and world

income in determining agricultural exports of India. Eckaus (2008) used regression analysis to examine the drivers of Chinese and Indian exports in order to determine the relative importance of impacts on supply and demand for Chinese and Indian exports. Exports are influenced by aggregate income levels of importing nations on the demand side. In influencing demand for Chinese and Indian exports, relative salaries have been more significant than exchange rates. Funke and Holly (1992) argue that the majority of the previous approaches have emphasised demand factors. Such models have generally been rather unsuccessful in explaining long run trends in export performance (Landesman and Snell, 1989). The study takes into account both supply side and demand side factor and applies the model to the West German manufacturing sector with findings suggesting that supply side factors are much more important for explaining export performance than demand side factors.

It appears from the above review that studies on export determinants are mostly based on country specific factors as export expansion schemes, subsidies, etc. There is scanty study that conducted panel data estimation on export determinants for a large number of developing countries. The present study aims to find out the internal and external determinants of export promotion in SAARC countries by employing panel data estimation procedure. The rest of the study is organised as follows: Section II throws light on literature review, section III explains the model and framework of analysis: Section IV introduces the data set and the construction of variables. Section V puts forward the main findings from empirical analysis. Section VI presents a summary result with some policy implications.

2. Literature Review

Several studies have been conducted by different people to analyse the determinants of exports and to analyse their impact on export performance. Most of them have used single equation approach to exports model, incorporating both the demand and supply side determinants. Many others have relied on simultaneous equation approach, in which the demand and supply side functions are specified with appropriate variables and estimated in simultaneous equation framework. The consensus views about the demand and supply side influences vary among the researchers. Some studies establish the importance of demand side determinants while other attributes importance to the supply side factors. Reidel (1988) and Authokoral and Reidel (1994) have suggested insignificant income elasticity of export demand but significant and infinite price elasticity of export demand for

LDC's, exports. This supports the small country hypothesis that developing countries are price takers at world market.

2.1. Gross Domestic Product, Economic Growth and Exports:

Several studies address the importance of economic growth on export expansion, on one hand, and export expansion on economic growth on the other. Indeed, the higher level of production is one of the main causes of export expansion, because surplus of output can be exhausted in international markets. In empirical literature, Kumar (1998) confirms the positive impact of GDP on exports. In another study, Fugazza (2004) empirically examines the impact of real GDP and other factors on real exports. The results show that GDP has a positive and statistically significant impact on export performance. Growth is more valid determinant of exports as compare to GDP because it measures the sustainability of output levels. Ahdi, et al., (2013) analyze the dynamic causal relationship between economic growth and exports using linear and nonlinear Granger causality tests for South Africa for the 1911-2011 period. The linear Granger causality result shows no evidence of significant causality between exports and GDP. For the nonlinear methods, using nonlinear Granger causality tests, reveal that there is a unidirectional causality from GDP to exports, and significant bidirectional causality as well (Diks & Panchenko, 2005). In another study, Sharma & Dhakal (1994) examine the causal relationship between exports and output growth in 30 developing countries over the 1960-1988 period. The results of the paper show that there is feedback causal relationship between exports and output growth in five countries. The paper also reveals that export growth causes output growth in six countries; output growth causes export growth in eight countries; and no causal relationship is observed between export growth and output growth in the remaining 11 countries. A feedback causal relationship between exports and economic growth is also observed by Ghartey (1993) for Japan. Similarly, Kalaitzi (2013) examines the causal relationship between economic growth and exports in the United Arab Emirates over the 1980- 2010 period, applying vector autoregression (VAR) model. The Granger causality test for the study reveals unidirectional causality between manufactured exports and economic growth. A unidirectional causation from exports to output also is observed by Foul (2006) for Jordan and Awokuse (2003) for Canada. Khaliq, Shatha,and Shihab (2014) also find that there is a causal relationship going from the economic growth to export for Jordan. In the same vein, Shan & Sun (1998), while applying a procedure developed by Toda & Yamamoto (1995) in a VAR model find evidence of a one-

way Granger causality running from manufacturing growth to exports growth for Australia. The one-way Granger causality running from GDP to exports also is revealed by Shan & Tian (1998) for Shanghai. Like Shan & Sun (1998)'s study, Shan & Tian (1998) also examined the Granger no-causality procedure developed by Toda & Yamamoto (1995) in a VAR model.

2.2. Trade Liberalization, Indirect Taxes and Exports

There are many studies which analyse the impact of trade liberalization on export performance in developing countries. The argument for analysing the relationship between trade liberalization and exports is that the removal or reduction of barriers to trade such as import tariffs, export duties and quantitative restrictions stimulates the growth of exports and imports. Some of previous studies such as Thomas, Nash and Edwardsm (1991); Weiss (1992); Joshi & Little (1996); Helleiner (1994); and Ahmed (2000) confirm that countries that embark on liberalization programmes improve their export performance. Indeed, the study by Paulino (2000) on the impact of trade liberalization on export performance for a sample of developing economies concludes that trade liberalization is a fundamental determinant of export growth in all the countries in the sample. Other studies such as Agosín (1991), Clarke & Kirkpatrick (1992), Greenaway & Sapsford (1994), Shafaeddin (1994), and Jenkins (1996), however, reveal little or no evidence of any favourable impact of trade liberalization on export performance. However, lack of evidence on the impact of trade liberalization on export performance may be due to the fact that average tariff rates are not directly related to exports. The bases of this controversy have been due to a number of factors including the importance of economic reforms, stage of development before opening up to trade, sequence and degree of liberalization as well as methodological and measurement issues among others (Utkulu, Seymmen and Ari, 2004; UNCTAD, 2005; and Morrissey & Mold, 2006). Utkulu (2004) argues that strong influence of liberalization on export performance has remained largely unresolved in the literature. Hence, studies on whether trade liberalization leads to positive or negative export performance can be examined by taking into consideration the effects of trade reform, which consists of measures to reduce anti-export bias in addition to traditional model of export supply with explanatory variables such as export prices, domestic and foreign costs, and productive capacity. Bader (2006) examined the relationship between Imports of Inputs and exports of Pakistan, by employing ordinary least square, and all the variables carried their expected sign and reasonable magnitudes. Mohanan (2007) has employed the three stage least square to estimate the demand and supply side exports

equations in a simultaneous equation frame-work for India. The price of exports and skilled labour on the supply side were found to be correctly signed with plausible magnitudes. The findings suggest importance of all demand side factors for exports performance. On the supply side, the variables produced mix results in terms of significance and some variables like world GDP and exports volume turned out to be insignificant for textile and iron-steel exports respectively.

Recently, the influence of indirect taxes on exports has been studied. Desai and Hines (2005) investigate the effect of VAT on exports. The study's findings for high-income nations, on the other hand, indicate rather varied results. On one hand, when there are fixed effects, a simple dummy indicating the existence or absence of a VAT has no influence on export. The percentage of VAT in overall tax revenue, on the other hand, has a considerable and negative impact on export. In another research, Razin and Slemrod (2004) discovers a substantial positive relationship between company tax receipts relative to GDP and trade intensity for around 100 nations at various income levels. In general, the influence of indirect domestic taxes on export performance has become increasingly contentious. According to studies, a fully expected rise in the rate of VAT, for example, has consequences similar to an increase in the rate of residence-based taxes, because it reduces the actual return to saving. Consumers are predicted to shift consumption ahead to avoid the higher tax in the second period, resulting in a fall in net exports in the first period and an increase in the second. According to Feldstein and Krugman (1990) and Keen and Syed (2006), VAT tends to diminish the size of the tradable sector and therefore export intensity. This is owing to the fact that non-tradables, such as food, are taxed at a low rate or are exempted on equity grounds. As a result, production and consumption move away from tradable goods and toward non-tradable goods.

2.3. Real Exchange Rate, Official Development Assistance, Indirect Taxes, Inflation and Exports

Government officials, policy makers and academics across the world are concerned about severe consequences of a currency appreciation on exports and domestic production (Yi Lu and Zhou, 2013). Rise in real exchange rate means domestic products are more expensive compared to those sold overseas, and are therefore less competitive. Specifically, an appreciation of domestic currency, other things remaining the same, will lift domestic real exchange rate, thereby lowering competitiveness and eventually affect export volumes. In addition, a rise in the exchange rate will affect exporters' returns, making exports less profitable, and this too may affect export volumes if firms cut back on, or even stop,

exporting. Balogun (2007) analyses the impact of exchange rate policies of the West African Monetary Zone (WAMZ) countries on export supply. The findings reveal that exchange rates have a positive and statistically significant impact on export performance. Contrary to the aggregate pooled results, the results show that export performance of Ghana and Guinea is unaffected by exchange rate changes. Studies that find positive and significant effect of real exchange rate on export performance, their argument has been that real undervaluation or depreciation increases the profitability of the tradable sector, and leads to an expansion of the share of tradable in domestic value added (Rodrik, 2009), while real appreciation or overvaluation hampers exports and leads to a fall in economic growth (Johnson, Ostry, and Subramanian 2007; Gupta, Raychaudhuri, and Haldar, 2015; Bhavan, 2016; Epaphra, 2016; Rangarajan and Kannan, 2017; Uysal and Mohamoud, 2018; Irshad and Anwar, 2019).

Official development aid (ODA) is a major source of external finance for some developing countries. Moyo (2010) view official aid as creating dependency, fostering corruption, and encouraging currency overvaluation. Studies show that where aid is volatile or unpredictable, recipient governments are less able to plan expenditures effectively. This raises the costs of financial management and can worsen the composition of government spending. Furthermore, previous studies, including Van Wijnbergen (1986); Younger (1992); White & Wignaraja (1992); and Elbadawi (1999) show that foreign aid can harm export performance of an economy through real exchange rate appreciation. This is due to the fact that; because foreign aid raises the domestic demand for goods and services, it drives up prices in the non-traded sector and causes the real exchange rate to appreciate. Thus, aid inflows indirectly erode the export competitiveness of developing countries by causing real exchange rate appreciation. However, Arvin (1999) argues that the relationship between export performance and foreign aid of a country depends upon several factors such as investment and improvements in trade facilitating infrastructure such as roads, ports, and telecommunications. Indeed, previous research finds that aid is most effective in those countries with strong policies and institutions.

Despite the attention that export performance has received in the literature, it has remained one of the world economy's least understood topics. The focus of the debate has been on the need of complementing reforms, the level of development before opening up to trade, the sequencing and degree of liberalization. These studies show that in order to increase export capacity, governments must implement proper

policies and strategies that address supply side restrictions. Most research to date on the drivers of export success have dealt with either supply or demand side issues individually, using regression analysis technique. Unfortunately, cross-national research depicts varied results that lack generalizability. They fail to explain why a handful of rare situations occurred. A country-specific research can help to explain these. This study aims to fill a methodological gap that has been identified in earlier investigations.

3. Methodology

In this section, a framework of analysis is depicted to determine the effects of various factors on exports in developing countries, which is taken as sample. The underlying objective is to explain the rationale behind exports. In the export function we consider all those factors that can potentially play a meaningful role in the determination of exports in the developing countries. Export promotion strategies have a great deal in trade liberalization regime. On one hand, developing countries are facing twin deficits, namely, fiscal deficit and trade deficit. On the other hand, external debt crises create further financial problems. In such sorry state of financial crises, the sole of FDI inflow is not sufficient. But the expansion of export sector for the improvement of financial disturbance also needs to be addressed. In this respect, we identify various determinants of exports. Export growth is basically determined by external factors, for this we employ two variables FDI and real exchange rate. However, exports are also affected by domestic factors. In this respect we incorporate GDP, GDP growth rate, indirect taxes, savings, labour force and official development assistance. Specified equation for export promotion is as follow.

$$EX_{it} = f(FDI_{it}\ GDP_{it}\ GROW_{it}\ SAV_{it}\ OD_{it}\ IT_{it}\ EXCH_{it}\ LF_{it}), \ldots (2)$$

where the subscript i (=1,...n) represents country and t (= 1,...T) the period of time (years). The variables appearing in the equation are defined as follows.

EX = Exports as a percentage of GDP,

GDP = Gross domestic production in constant prices of 2011,

GROW = Annual percentage growth rate of GDP,

SAV = National savings as a percentage of GDP,

OD = Official development assistance as a percentage of GDP,

IT = Indirect taxes as a percentage of GDP,

EXCH = Real exchange rate. It is obtained by multiplying the nominal exchange rate by US CPI and divided by domestic CPI,

LF = Total labour force.

3.2. Operationalization of Variables

Variable	Definition	Measurement	Expected sign
Production Level (GDP)	It is the supply side determinant of exports.	Gross domestic production in constant prices of 2011. For each variable expressed in terms of ratios to GDP, both the level of the variable and the GDP are measured in US dollar at current prices.	+
Production Growth (GROW)	Growth of the GDP is an indicator of future potential and sustainability of production level.	Annual percentage growth rate of GDP	+
Real Exchange Rate (EXCH)	The real exchange rate (RER) between two currencies is the product of the nominal exchange rate (the dollar cost of a euro, for example) and the ratio of prices between the two countries.	It is obtained by multiplying the nominal exchange rate by US CPI and divided by domestic CPI. Official exchange rate is measured as the period average of the number of local currency units per US$.	+
Indirect Taxes (IT)	An indirect tax is collected by one entity in the supply chain (usually a producer or retailer) and paid to the government.	Indirect taxes as a percentage of GDP. Net indirect taxes are measured as percentage of GDP. These taxes are the sum of indirect taxes less subsidies. Indirect taxes are those taxes payable by producers that relate to the production, sale, purchase or use of the goods and services.	_
Official Development Assistance (ODA)	ODA is a measure of donor effort in terms of grants, loans and other flows. Official development assistance and net official aid record the actual international transfer by the donor of financial resources or of goods or services valued at the cost to the donor, less any repayments of loan principal during the same period.	Official development assistance as a percentage of GDP. Aid dependency ratios are computed using values in U.S. dollars converted at official exchange rates.	+
Savings (SAV)	Money that a person has left over after they subtract out their consumer spending from their disposable income.	National savings as a percentage of GDP. Gross national savings, defined as gross domestic savings plus net income and net current transfers from abroad, are measured as percentage of GDP.	+
Labour Force (LF)	The labor force participation rate is a measure of an economy's active workforce.	Total labour force comprises people who meet the *International Labour Organisation (ILO)* definition of the economically active population: all people who supply labour for the production of goods and services during a specified period. It includes both the employed and the unemployed members of labour force.	+
Foreign Direct Investment (FDI)	Investment made by a firm or individual in one country into business interests located in another country.	Foreign Direct Investment as a percentage of GDP. Gross foreign direct investment is measured as percentage of GDP. Gross foreign direct investment is inflows of foreign direct investment recorded in the balance of payments financial account.	+

3.3. Data and Estimation Procedure

The data for this study have been taken from *World Development Indicators (WDI) 2019*. Originally all the SAARC countries were selected but after screening process 5 countries (Afghanistan, Bangladesh, India, Pakistan and Srilanka) were chosen for which data on most of the variables were available for at least 14 years. For the estimation procedure, the model employed the use of pooled time-series and cross-section data. The efficiency in using large sample data set is expected to yield efficient parameter estimates. Since political, structural and institutional characteristics vary from country to country, imposing a single relationship to all units is likely to suppress information. In order to overcome this problem, the approach of uniform shifts is exercised The econometric literature suggests two approaches for uniform shifts namely fixed effects and random effects model (Greenaway and Sapsford, 1997; Kmenta, 1986; and Maddla, 1986). The present study envisages fixed effects model.

4. Empirical Results and Interpretation

In this section we report the empirical results based on pooled data for 5 SAARC countries over the period 2005-2019. We select a large set of developing countries for empirical investigation. The panel data model is estimated by allowing the deterministic shifts across the countries. Since the model uses panel data, it is likely to suffer from autocorrelation as well as heteroscedasticity. Both are removed by applying appropriate econometric techniques. The results of estimation are presented in Tables 1 and Table 2 respectively.

Table 1: Parameter Estimates of the Fixed Effects Model

Variables	Fixed Effects	Variables	Fixed Effects
FDI	0.000271 (1.3845)	**EXCH**	3.14E-04 (14.37)*
GDP	8.35E-20 (4.91)*	**LF**	0.000298 (5.23)*
Grow	0.021323 (4.05)*	**OD**	0.153712 (7.27)*
SAV	0.378692 (15.66)*	**IT**	0.036623 (2.08)*
R^2	.915	**AR (1)**	0.697156 (37.21)*
		A.R^2	.897
DW	1.67	**F**	433

Note: The numbers in parentheses are the computed t-values. The statistics significant at 5 percent level are indicated by *.
Source: Data output through E-Views 12.0

Table 2: Country-specific Intercepts of the Fixed Effects Model

Countries	Fixed Effects
Afghanistan	0.0212(1.27)
Bangladesh	0.0421(1.29)
India	–0.1821 (–2.39)*
Pakistan	–0.0813 (–2.41)*
Srilanka	0.0297(1.33)

*Note: The numbers in parentheses are the computed t-values. The statistics significant at 5 percent level are indicated by *.*
Source: Data output through E-Views 12.0

In literature the first and foremost determinant of exports is FDI. However, in empirical literature the effects of FDI on exports are controversial. Our study finds positive but insignificant impact of FDI on export growth. The success stories of South Asian countries suggest that FDI is a powerful tool of export promotion because multinational companies (MNCs) through which most FDI is undertaken have the well-established contacts and the up-to-date information about foreign markets. However, the experience of these countries cannot be generalised to all developing countries given the lower level of infrastructure, fragility and the rigidity in both the factor as well as commodity markets across countries. Furthermore, the role of FDI in exports promotion in developing countries remains controversial and depends crucially on the motive for such investment. If the motive behind FDI is to capture domestic market (tariff-jumping type investment), it may not contribute to export growth. On the other hand, if the motive is top tap exports markets by taking advantage of the country's comparative advantage, then FDI may contribute to export growth to the extent permissible under the prevailing policy regime. By now it is well known that an outward oriented regime encourages export-oriented FDI while an inward-oriented policy regime attracts FDI mainly to capture domestic rather than exports markets. The effect of GDP and GDP growth on exports is highly significant with positive sign. The level of production can be utilised at domestic and international level at the same time. The developing countries have relative advantages for agriculture goods. They can exhaust benefits of lower cost production by export growth policies. Moreover, large size of GDP creates environments for investment decisions.

According to the regression results real exchange rate positively affects export. It turned out to be the most significant variable affecting export. As expected, the effect of labour force on exports growth is positively significant. The results are consistent with the findings in Pfaffermayr (1996). The effect of official development assistance variable is also positively significant. This variable reflects the

development phenomena. Exports are favourably affected by development expenditures. Because it is the sign of government positive behaviour and the future expectations of exporters that export facilities would become stronger. Indirect taxes are also positively associated with exports. The proportion of indirect taxes varies for different goods. So it is not necessary that indirect tax is high for exportable goods. Furthermore, government provides tax exemptions to exporters. These are the reasons that this variable does not adversely affect exports. The results show that increase in savings significantly contributes to exports. Higher savings imply lower interest rates that promote investment opportunities. The investment is the key channel for export growth. In developing countries government provide many incentives for export promotion strategies. The domestic investment take place in different sectors but it is much responsive in trade sector to incentives provided by government. After the activism of WTO developing countries are enhancing export oriented investment schemes. These are the arguments that support our hypotheses of investment led export growth. The empirical results also support our hypotheses. Over and above, savings are the source of removal of internal and external gaps in developing countries. As two-gap theory explains saving-investment and exports-imports gaps in developing countries, large savings are the source of removal of domestic gap that in turn remove external gap by enhancing export growth. The industrialisation variable is highly significant in explaining export growth. The importance of industrialisation for developing countries is obvious because production levels in agricultural remains unstable due to uncertainty of weather conditions and pest attacks and, hence, on the basis of agricultural output alone a country cannot expand its exports potential. The results signify the importance of industrialization as means of sustained exports growth.

4.2. Discussion

This paper has analyzed the role played by country-specific factors in the determination of exports. We were particularly motivated by the fact that earlier studies presented single country analysis. A panel dataset of countries to identify country-specific factors driving changes in exports in SAARC context was scanty. Specifically, we analyzed the effect of production level, production growth, *official development assistance*, savings, labor force, inflow of foreign direct investment, net indirect taxes and official exchange rate on export performance. The empirical findings of fixed effects model shows that all factors are positively and significantly associated with export performance. The findings justify the

vitality of determinants in enhancing diversification of exports. In literature the first and foremost determinant of exports is FDI. However, in empirical literature the effects of FDI on exports are controversial. Our study finds positive but insignificant impact of FDI on export growth. Our results match with the findings of Dunning, 1993; Pfaffermayr, 1996; Nath, 2009; Kersan-Skabic and Zubin, 2009; Tekin, 2012; Mahmoodi and Mahmoodi, 2016; Jana, Sahu and Pandey, 2020, regarding positive effect of FDI on exports. The main reason is the export-oriented MNCs. Since the government provides facilities for export promotion, such facilities also attract foreign investors. In order to promote exports, governments can adopt FDI-led export growth strategies with twin objectives of capturing the benefits of both FDI inflow and export growth. Defining production level as the supply side determinant of exports, the higher level of production is the main cause of export expansion, because surplus of output can be exhausted in international markets. In a close economy surplus of production leads to fall in prices, which, in turn, creates pessimism among producers. In an open economy such surpluses create foreign reserves by exporting production. So as expected, the study found the positive impact of GDP on exports growth confirming the proximity with the empirical findings of Kumar (1998). As growth of the GDP is an indicator of future potential and sustainability of production level. Since, growth is a valid determinant of exports as compare to GDP because it measures the sustainability of output levels. The results portray positive impact of GDP growth on exports expansion. The large size of official development assistance implied is likely to facilitate growth of infrastructure, which in turn favorably affect the investment climate. The study found the positive effect of ODA on export growth confirming the results associated with other studies (Munemo, 2007; Moyo, 2010; WTO, 2013). Generally, in developing countries the proportion of savings used for non-productive factors, for example purchasing of jewellery, property, etc., is larger. Therefore, higher savings result in a large volume of goods being made available for exports. So the results suggested a positive impact on exports. *As labour force is an important dimension in defining the flow of exports. Since the* optimum utilization of resources depends upon the labour force, reflecting that labour force positively determines production levels. In developing countries, a large volume of labour force in the agriculture sector can be transferred to the industrial sector without affecting the output of the agriculture sector, because this sector is confronted with the problem of disguised unemployment. Such a labour force can be properly utilized in the industrial sector, that in turn expands the export sector. In findings labor force has positive impact on exports supporting the empirical literature of Pfaffermayr (1996). Net indirect taxes also

experience positive impact on exports. As government provides tax exemptions to exporters, resulting in export growth structure, confirming its positive impact on exports. Furthermore, the results show that increase in savings significantly contributes to exports. Higher savings imply lower interest rates that promote investment opportunities. The investment is the key channel for export growth. In developing countries government provide many incentives for export promotion strategies. The domestic investment take place in different sectors but it is much responsive in trade sector to incentives provided by government. After the activism of WTO developing countries are enhancing export-oriented investment schemes. These are the arguments that support our hypotheses of investment led export growth. The empirical results also support our hypotheses. Over and above, savings are the source of removal of internal and external gaps in developing countries. As two-gap theory explains saving-investment and exports-imports gaps in developing countries, large savings are the source of removal of domestic gap that in turn remove external gap by enhancing export growth. The industrialization variable is highly significant in explaining export growth. The importance of industrialization for developing countries is obvious because production levels in agricultural remains unstable due to uncertainty of weather conditions and pest attacks and, hence, on the basis of agricultural output alone a country cannot expand its exports potential. The results signify the importance of industrialization as means of sustained exports growth. The empirical findings further suggest that the real depreciation of national currencies is profitable as it strengthens competitiveness required for export diversification. According to the regression results real exchange rate positively affects export. It turned out to be the most significant variable affecting export. Our empirical estimates are consistent with theory as well as empirical evidence found in other studies (Sharma; 2001).

5. Conclusion

The objective of this study has been to find out the main factors that are important in the determination of exports in developing countries. For this purpose, the study used a fairly large sample of panel observations for 5 developing countries over the period 2005-2019. The data are derived from the *World Development Indicators (WDI) 2019*. Fixed effects (country specific intercepts) model is employed for the estimation of the relationship of exports with its potential determinants based on the panel data. It is of critical importance to maintain a high and sustainable economic growth rate. Evidence has shown that a sustainable growth pattern promotes exports. A stable exchange rate policy has to be

ensured in order to avoid the exchange-rate risks associated with the assets, import prices and profit considerations of direct investor in developing countries. Stabilize domestic currencies as well as inflation to gain competitive strength in international markets for attaining the objective of export diversification. There is need to attract FDI by providing appropriate incentives and policies aimed at simplifying tax structure, flexible labour markets, and improved infrastructure. It is further recommended that developing countries need to replace agriculture exports by the industrial exports, which command reasonable and stable prices in the world markets. Moreover, the industrialization will reduce dependence on imports by initiating the process of import substitution.

References

Afia (2004) “Demand for Textile and Clothings of Pakistan”, prospect of Pakistani textile and clothing Exports of Pakistan,

Agosín, M.R., (1991). Trade policy reform and economic performance: a review of the issues and some preliminary Evidence’, UNCTAD Discussion Papers, 41, UNCTAD, Geneva.

Ahdi, N.A., Aye, G.C., Balcilar, M., & Gupta, R. (2013). Causality between exports and economic growth in South Africa: evidence from linear and nonlinear tests, *University of Pretoria,* Department of Economics, Working Papers, No. 201339.

Ahmed, N.U. (2000). Export responses to trade liberalisation in Bangladesh: a cointegration analysis’, *Applied Economics*, 32(8), 1077-1084.

Arvin, M. (1999). Assessing Aid: What Works, What Doesn't, and Why. *The Journal of Development Studies*, *35*(6), 162.

Athukorala, P., & Riedel, J. (1994). Demand and supply factors in the determination of NIE exports: a simultaneous error-correction model for Hong Kong: a comment. *The Economic Journal*, 104 (427), 1411-1414.

Awokuse, T.O. (2003). Is the export-led growth hypothesis valid for Canada? *Canadian Journal of Economics*, 36(1), 126-136.

Bader, S. (2006), Determining import intensity of exports for Pakistan", *SBP Research Bulletin*, Vol. II, No. 2.

Balassa, B. (1978). Exports and economic growth: further evidence.’ *Journal of Development Economics* 5(2): 181–89.

Balogun, E.D. (2007). Effects of exchange rate policy on bilateral exports trade of WAMZ countries, MPRA Working Paper, No. 6234.

Bhagwati, J.N. (1982). Introduction to import competition and response. In *Import Competition and Response*, University of Chicago Press, 1–8.

Bhavan, T. (2016). The determinants of export performance: the case of Sri Lanka. *International Research Journal of Social Sciences*, *5*(8), 8-13.

Clarke, R., & Kirkpatrick, C. (1992). Trade policy reform and economic performance in developing countries: assessing the empirical evidence', in Industrial and Trade Policy Reform in Development Countries.

Desai, M.A., & Hines, J.A. (2005). Value-added taxes and international trade: the evidence. Mimeo, University of Michigan.

Diks, C., & Panchenko, V. (2005). A note on the Hiemstra-Jones test for Granger non-causality, *Studies in Nonlinear Dynamics and Econometrics*, 9(2). 1-9.

Dornbusch, R. (1992). The case for trade liberalization in developing countries. *The Journal of Economic Perspectives*, 6(1): 69–85.

Dunning, J. H. (1993) Multinational Enterprises and the Global Economy. *Working-ham*: Addison-Wesley.

Eckaus, R. S. (2008). An inquiry into the determinants of the exports of China and India. *China & World Economy*, *16*(5), 1-15.

Elbadawi, I. (1999). Can Africa export manufactures? the role of endowment, exchange rates, and transaction costs. World Bank Policy Research Working Paper, No. 2120.

Epaphra, M. (2016). Determinants of export performance in Tanzania. *Journal of Economics Library*, *3*(3), 470-487.

Feldstein, M., & Krugman , P. (1990). International trade effects of value-added tax, in: Razin, A., Slemrod, J. (Eds.), Taxation in the Global Economy. University of Chicago Press, pp.263-282.

Foul, B. (2004). Testing the export-led growth hypothesis: evidence from Jordan. *Applied Economics Letters*, 11(6),393-396.

Fugazza, M. (2004). Export performance and its determinants: supply and demand constraints. Policy Issues in International Trade and Commodities Study Series, No. 26, UNCTAD.

Funke, M. and S. Holly (1992) The Determinants of West German Exports of Manufactures: An Integrated Demand and Supply Approach. *Weltwirtschaftliches Archive,* 128:3, 498–512.

Ghartey, E.E. (1993). Causal relationship between exports and economic growth: some empirical evidence in Taiwan, Japan and the US, *Applied-Economics*. 25(9), 1145-1152.

Green, W. H. (1993) *Econometric Analysis.* Second Edition. New York: MacMillan.

Greenaway, D., & Sapsford D. (1997). Modelling growth (and liberalization) using smooth transitions analysis. *Economic Enquiry*, 35(4), 798-814.

Greenaway, D., & Sapsford, D. (1994). What does liberalization do f/. BN `or exports and growth, *Weltwirtschaftliches Archiv*, 130(1), 152-174.

Gupta, S. D., Raychaudhuri, A., & Haldar, S. K. (2015). Determinants of exports of information technology in India: An empirical analysis. *South Asia Economic Journal*, *16*(1), 64-81.

Helleiner, G.K. (1994). *Trade policy and industrialization in turbulent times*, Routledge, London and New York.

Hiemstra, C., & Jones, J.D. (1994). Testing for linear and nonlinear Granger causality in the stock price volume relation. *Journal of Finance*, 49(5), 1639-1664.

Hussain, S. I., Hussain, A., & Alam, M. M. (2020). Determinants of export supply in Pakistan: A sector wise disaggregated analysis. *Cogent Economics & Finance*, *8*(1), 1732072.

Irshad, M. S., & Anwar, S. (2019). The Determinants of Pakistan's Bilateral Trade and Trade Potential with World: A Gravity Model Approach. *European Online Journal of Natural and Social Sciences*.

Jana, S. S., Sahu, T. N., & Pandey, K. D. (2020). How far is FDI relevant to India's foreign trade growth? An empirical investigation. *Journal of Economic Structures*, *9*, 1-19.

Jenkins, R.O. (1996). Trade liberalization and export performance in Bolivia. Development and Change, 27(4), 693-716.

Johnson, S.H., Ostry, J., & Subramanian, A. (2007). The prospects for sustained growth in Africa: benchmarking the constraints. IMF Working Paper No. 07/52

Joshi, V., & Little, I.M.D. (1996). *India's economic reforms 1991-2001*, Oxford University Press, Oxford.

Kalaitzi, A. (2013). Exports and economic growth in the United Arab Emirates. Submitted to: *RIBM Doctoral Symposium*. Manchester Metropolitan University Business School.

Keen, M., & Syed, M. (2006). Domestic taxes and international evidence: some evidence. IMF Working Paper No. WP/06/47.

Kersan-Skabic, I., & Zubin, C. (2009). The influence of foreign direct investment on the growth of GDP, on employment and on export in Croatia. *Ekonomski Pregled*, 60, 119–151.

Khaliq, T., Shatha, S., & Shihab, R. (2014). The causal relationship between exports and economic growth in Jordan. *International Journal of Business and Social Science*, 5(3), 302-308.

Khan, M., & Knight, M. (1988). " Import compression and export performance in developing countries," The Review of Economics and Statistics, Vol: 70, pp: 315-321.

Kmenta, J. (1986) *Elements of Econometrics.* Second Edition. New York: MacMillan.

Krueger, A. (1998). Why trade liberalisation is good for growth? *The Economic Journal*, 108(450): 1513–22.

Krugman. P.R. ed. 1986. *Strategic Trade Policy and the New International Economics*. Cambridge, MA: MIT Press.

Kumar, N. (1998) Multinational Enterprises, Regional Economic Integration, and Export- Platform Production in the Host Countries: An Empirical Analysis for the US and Japanese Corporations. *eltwirtschaftliches Archiv* 134, 450–83.

Landesman, M., & Snell, A. (1989). The consequences of Mrs Thatcher for UK manufacturing exports. *The Economic Journal*, *99*(394), 1-27.

Maddala, G. S. (1986). Disequilibrium, self-selection, and switching models. *Handbook of econometrics*, *3*, 1633-1688

Mahmoodi, M., & Mahmoodi, E. (2016). Foreign direct investment, exports and economic growth: evidence from two panels of developing countries. *Economic research-Ekonomska istraživanja*, *29*(1), 938-949.

Mohanan, K. (2007), Determinants of the Indian machine tools exports, Jawaharlal Nehru University, India.

Morrissey, O., & Mold, A. (2006). Explaining Africa's export performance-taking a new look. Paper presented at the ninth annual conference of GTAP, Adiss Abbaba, Ethiopia, June 3-8.

Moyo, D. (2010). Dead aid: why aid makes things worse and how there is another way for Africa. London: Penguin Books.

Munemo, J., Bandyopaghya, S., & Basistha, A. (2007). Foreign aid and export performance: a panel data analysis of developing countries. Chapter 21, in: S. Lahiri, (Ed). Theory and Practice of Foreign Aid, 1,pp. 421-433, Elsevier, Amsterdam, Oxford.

Muscatelli, V. A., Stevenson, A. A., & Montagna, C. (1995). Modeling aggregate manufactured exports for some Asian newly industrialized economies. *The Review of Economics and Statistics*, 147-155.

Nath, H. K. (2009). Trade, foreign direct investment, and growth: Evidence from transition economies. *Comparative Economic Studies*, 51, 20–50.

OECD, WTO, (2013). Evaluating the effectiveness of aid for trade. In Aid for Trade at a Glance: Connecting to Value Chains, *OECD iLibrary*, 145-171.

Paulino, A.U. (2000). Trade liberalisation and export performance in selected developing countries. Department of Economics, Studies in Economics, No. 0012 *University of Kent, Canterbury.*

Pfaffermayr, M. (1996) Foreign outward Direct Investment and Exports in Austrian Manufacturing: Substitutes or Complements? *Weltwirtschaftliches Archive* 132(2): 501-522.

Rana, P.B., and J.M. Dowling. (1990). Foreign capital and Asian economic growth. *Asian Development Review*, 8(2): 77–102.

Rangarajan, C., & Kannan, R. (2017). Determinants of India's exports. *Journal of Quantitative Economics*, *15*(3), 629-646.

Riedel, J. (1988). The demand for LDC exports of manufactures: estimates from Hong Kong. *The Economic Journal*, *98*(389), 138-148.

Rodrik, D. (2009). The real exchange rate and economic growth, in Brookings Papers on Economic Activity, Fall 2008, D.W. Elmendorf, N.G. Mankiw, & L.H. Summers (Ed), 365-412. Washington, DC: Brookings Institution.

Roy, B. (2020). Determinants of agricultural exports of India: A commodity level analysis. *Parikalpana: KIIT Journal of Management*, *16*.

Shafaeddin, S.M. (1994). The impact of trade liberalization on export and GDP in least developed countries. *UNCTAD Discussion Papers*, No.85, UNCTAD, Geneva.

Shan, J., & Sun, F. (1998). On the export-led growth hypothesis: the econometric evidence from China. *Applied Economics*, 30(8), 1055-1065.

Shan, J., & Tian, G. G. (1998). Causality between exports and economic growth: the empirical evidence from Shanghai. *Australian Economic Papers*, *37*(2), 195-202.

Sharma, K. (2000) Export Growth in India: Has FDI Played a Role? at:http://www.econ.yale.edu/~egcenter/

Sharma, S.C., & Dhakal, D. (1994). Causal analysis between exports and economic growth in developing countries, *Applied Economics*, 26(12), 1145-1157.

Slemrod, J. (2004). Are corporate tax rates, or countries converging? Journal of Public Economics, 8(6), 1169-1186.

Srinivasan, T.N. (1998). India's export performance: a comparative analysis. In *India's Economic Reforms and Development Essay for Manmohan Singh,* edited by I.J. Ahluwalia and I.M.D. Little. New Delhi: Oxford University Press.

Tekin, R. B. (2012). Economic growth, exports and foreign direct investment in Least Developed Countries: A panel Granger causality analysis. Economic Modelling, 29, 868–878.

Thomas, V., Nash, J. & Edwardsm, S. (1991). *Best practices in trade policy reform*. Oxford University Press for the World Bank.

Toda, H.Y., & Yamamoto, T. (1995). Statistical inference in vector autoregressions with possibly integrated processes. *Journal of Econometrics*, 66(1-2), 225-250.

UNCTAD, (2005). Trade liberalization and economic reform in developing countries: structural change or de-industrialization? No. 179, April 2005. [Retrieved from]. UNCTAD, (1989). Trade and development report. UNCTAD, Geneva.

Utkulu, U., Seymen, D., & Ari, A. (2004). Export supply and trade reform: the Turkish evidence. International Conference on Policy Modelling, Paris June 30-July 2, 2004.

Uysal, O., & Mohamoud, A. S. (2018). Determinants of export performance in East Africa countries. *Chinese Business Review*, *17*(4), 168-178.

Van Wijnbergen, S. (1986). Aid, export promotion, and the real exchange rate: an African dlema. Center for Economic Policy Research. London

Weiss, J. (1992). Export response to trade-reforms: recent Mexican experience. Development Policy Review, 10(1), 43-60.

White, H., & Wignaraja (1992). Exchange rates, trade liberalization, and Aid: the Sri-Lankan experience. World Development, 20(10), 1471-1480.

World Bank, (2012). World development indicators. CD-Rom, Washington, DC, the World Bank.

Yi Lu, Q.L., & Zhou, Y. (2013). Do exports respond to exchange rate changes? inference from China's exchange rate reform. University of International Business and Economics, Beijing, China and National University of Singapore, Singapore.

Younger, S. (1992). Aid and the Dutch disease: macroeconomic management when everybody loves you. World Development, 20(11), 1587-1597.

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