



Food Export and Economic Growth of Pakistan

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ARTICLE DETAILS	ABSTRACT
History	This paper tries to examine the relationship among the food export and the economic growth of the Pakistan. By applying Ordinary Least Square (OLS) method for the period 1980-2017, the main findings of the study reveal that food export is statistically significant and has positive impact on the economy of the Pakistan. Similarly, domestic investment has positive impact on the GDP of Pakistan. While inflation has negative impact on the economy of the country. The findings of the study suggest, Pakistan is agrarian country, so there is still a need to improve the technology and adopt the modern methods to cultivate the land through which country could become the self-reliance on those crops that it could export and increase the earnings.
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1 Introduction

The important and essential aim of the developing countries is to achieve the high level of economic growth and exports are usually supposed as an engine for economic growth of a country. The mostly exports of Pakistan are rely on agricultural sector. One of the main reasons of food export is that most of the population of the world remain under the poverty line and the consumption of food per head is very high.

Food exports play important role in the earnings of receipts and give the boost in the domestic investment of the economy that increase the employment opportunities because the Pakistan is a labor-intensive country. Pakistan earnings from the rice 224739.5 million rupees, Fish and Fish preparation 49755.5 million rupees, Fruits and vegetables 70562.2 million rupees (Pakistan Statistics Bureau 17-18).

Pakistan is an agricultural country but the share of this sector in GDP decreased day by day. Its main reason is the shortage of electricity, lack of new machinery, unavailability of agricultural loans. Due to these reasons, productive capacity is not fulfill targeted level of exports. The four major crops like, cotton, rice, wheat, and sugarcane add up 28% in agricultural growth and 5.9% share in GDP, (Kiani, Ijaz & Siddique, 2016).

Subsistence heterogeneity exist between agri-food exporters and production of agri-food in international markets. With the policy implications we argue that agricultural natural factor bequest with lands large quantity and a large number of exported products are important to driving the forces of agri-food export for longer duration. The increase in global agri-food exports has move toward from both underdeveloped and developed countries, (Bojnec&Ferto, 2016).

There is a growing interest in the connection between export and economic growth. Hypothetically, it has been argued that modify in export rates could change output. In export growth, therefore, is often measured as a main element of the construction and employment rate of a country which is exposed in Gross Domestic Product (GDP) growth (Gilbert, Linyong & Divine, 2013).

Lehtinen and Lu (2016) after taking the international experience in the long run, food companies may be achieve the better target which is more far-away markets. However, the business opportunities in faraway markets may needmore resources like assets, capabilities and technology of the firm to realize its strategies.

The aim is to expand and approximation an integrated pragmatic model of export presentation. We cannottheories openly about export performance, but rather than we adopta diverse approach, which synthesizes the literature to recognize key element. The measurement models are particular for each construct and a path model is then developed to discover interdependencies among them (Mavrogiannis, Bourlakis, Dawson & Ness, 2008).

2 Literature Review

Trade is a significant part of economic growth for any economy. Its play a vital role for the provision of basic goods and services in a country. Agriculture sector is considered as a back bone for the economy of Pakistan, which has major contribution in GDP and in employment opportunities. It is also playing an important role in industrial sector by the provision of raw material. One of the main reasons of food export is that most of the population of the world remain under the poverty line and the consumption of food per head is very high.

Japan developed as a high savings, high capital country and having modern technology. But Pakistan has lack of savings and modern technology and import technology form Japan. Furthermore, Pakistan is agriculture country but still imports basic food items and only export raw material, (Chaudhary & Abe, 2000).

Mavrogiannis, Bourlakis, Dawson and Ness (2008) examined the determinants of exportperformance. Results show that the major determinants of export are the export problems and barriers on trade. On the other hand, export market attractiveness, export competencies, and organization export are determined by export markets. Our aim is to expand the integrated empirical export performance to enhance the economic growth.

Abdullah and Kalim (2009) concluded the determinants of food price inflation in Pakistan. Results of the study explain that inflation has leading role in determining food price inflation in Pakistan. Observed results of this study show that growth in money supply does not have any significantly influence on food price inflation in Pakistan.

Faridi (2012) depicted the impact of Agricultural Exports to Economic Growth. The result of the study shows that agricultural exports have negative but significant impact on GDP while, the capacity of agricultural export is 0.58. Findings explore that agricultural exports have bidirectional causality relationship with economic growth in Pakistan. The aim of every developing country is to promote exports and by this increase the level of economic growth because exports are considered as an engine for GDP.

Gilbert, Linyong and Divine (2013) explore the impact of agricultural export on economic growth. The findings of the study explain that there is mixed effect of agricultural exports on economic growth. Coffee and banana is the major exports and it has a positive and significant effect on economic growth but, cocoa export have a negative and insignificant effect on economic growth in Cameroon. Finding shows that the increase in production and better quality is the major sign of exports and its positive impact on economic growth.

Sattar, Kroeze and Strokal (2014) claim that the increasing impact of food production on nutrient export. The result of study indicates that how environmental events for the agricultural sector may decrease nutrient masses in the prospect. In a descriptive situation, the nutrient inputs to the Bay of Bengal are 20– 35% less than the bottom-line.

Lehtinen and Lu, (2016) described the role of food export in Finland. Results show the export intermediaries are particular service firms whose mission is to overcome the gap between domestic and foreign consumers. The result of the study describe that the exporters services play a vital role in the global activities of small food agencies. The study also shows that exports are the link between domestic and foreign customers.

Kiani, Ijaz and Siddique (2016) cited the determinants of agricultural export. Empirical results show that the mostly exports of Pakistan are positively affected through production and GDP of neighborcountries. The results prove that the high distance has negative effect on exports and as well as on GDP. The findings also suggest that higher trade flows are positively affect the level of GDP of both partner countries.

Result shows that there are no significant facts that the economic crisis has had a negative impact on relative benefit in the long run. The results also propose the three is subsistence heterogeneity between agri- food exporters and production of agri-food in international markets. With the policy implications we argue that agricultural natural factor bequest with lands large quantity and a large number of exported products are important to driving the forces of agri-food export for longer duration (Bojnec&Ferto, 2016).

Pascucci (2018) explain the export competitiveness of Italian coffee industry. The evolution exports creating new opportunities of employment and profitability and create a competitor's sense but, it's a big challenge for Italian industry of coffee. On the other hand, this competition creates a potential of exports rather than imports but, the main issue in this export is the lack of innovations. A combine effect of external and internal factors makes clear this lack of innovation.

3 Model, Data and Methodology:

The data used from 1980 to 2017 in this study and data collection source is World Bank. Ordinary Least Square (OLS) method is used for the data analysis. A wide range of studies were carried out to investigate the impact of exports on economic growth. This study focused on the food exports of Pakistan by using secondary based data.

Model:

$GDP = \alpha_0 + \alpha_1 FE + \alpha_2 DI + \alpha_3 INF + \alpha_4 LF + \varepsilon$ Where:

GDP = Gross Domestic Product

FE = Food export

DI = Domestic Investment

LF = Labor Force

INF = Inflation ε

= Error Term

Table: Variables Measurement Variables Measurement

Dependent Variable	
Gross Domestic Product	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not include in the value of products.
Independent Variables	
Domestic Investment	Gross domestic investment consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.
Food Export	Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels).
Labor Force	Labor force participation rate for ages 15-24 is the proportion of the population ages 1524 that is economically active all people who supply labor for the production of goods and services during a specified period.
Inflation	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services.

Source: World Bank, 2017

4 Theory

Endogenous growth theory:

Romer (1986) and Lucas (1988), presented the endogenous growth theory which has led to a welcome renaissance of interesting the elements of long-term growth. The main contribution of endogenous growth theory has been to investigate the determinants of long-term economic growth.

5 Empirical Results and Discussion:

Descriptive statistics show that standard deviation of the GDP is 2.098667. Mean value of food export is 14.92629 and standard deviation is 4.69601. Skewness is used to measure the point away from symmetry. Empirical results of current study show GDP, FOODE, INF and LF is positively skewed while DI is only negatively skewed. Kurtosis used to measure either the data is normally distributed or not. Values of GDP, FOODE, DI and LF show that these variables are platokurtic but INF is leptokurtic. A variable exists in the normal distribution or not it is mutually determined through the Skewness and Kurtosis.

Table: 1 Descriptive Statistics

	GDP	FOODE	DI	INF	LF
Mean	4.899692	14.92629	17.7153	8.219008	42.05345
Median	4.846451	13.6162	18.29535	7.766884	39.625
Maximum	10.2157	26.75081	20.81826	20.28612	69.95
Minimum	1.014396	8.981018	14.12063	2.539516	23.11469
Std. Dev.	2.098667	4.696015	1.708522	3.840422	13.89873
Skewness	0.200609	0.577929	-0.48172	0.71582	0.522113
Kurtosis	2.693761	2.318105	2.173182	3.740805	2.011727
Jarque-Bera	0.403367	2.851564	2.552093	4.114109	3.272896

Probability	0.817353	0.24032	0.279139	0.12783	0.19467
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Source: Software E-Views 9

Table: 2 Correlation Matrix

	GDP	FOODE	DI	INF	LF
GDP	1				
FOODE	0.294691	1			
DI	0.253795	-0.30837	1		
INF	-0.18423	0.069572	0.258432	1	
LF	-0.36431	0.133257	-0.74221	-0.00992	1

Source: Software E-Views 9

Source: Software E-Views 9

The correlation matrix is used to check the statistical link between the variables and that link may be positive or negative. If one variable is increasing and other variable is decreasing that show variables has negative relationship. If both variables are increasing or decreasing that show variables has positive relationship. GDP is positively correlated with the FOODE and DI while negatively correlated with the INF and LF. FOODE is positively correlated with INF and LF while negatively correlated with DI. DI is positively correlated with INF but negatively correlated with LF. INF is negatively correlated with LF.

Table: 3 Auto Correlation

<u>Breusch-Godfrey Serial Correlation LM Test:</u>			
F-statistic	1.358851	P.Value	0.2718

Source: Software E-Views 9

Results of the table 3 show that auto correlation is not exist in the data of the current study because the p- value is greater than 5%.

Table: 4 Heteroskedasticity Test

<u>Heteroskedasticity Test: Breusch-Pagan-Godfrey</u>			
F-statistic	0.703382	P.Value	0.5953

Source: Software E-Views 9

Results of the table 4 show that hetro is not exist in the data of the current study because the p-value is greater than 5%.

Table: 5 Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOODE	0.079223	0.046622	1.699265	

				0.099***
DI	0.189364	0.067963	2.786278	0.0089**
INF	-0.14954	0.06226	-2.40186	0.0223**
LF	-0.00657	0.01548	-0.42459	0.674
R-squared	0.786757	Adjusted R- squared	0.810101	
Durbin-Watson stat	2.088327			

Source: Software E-Views 9

Note: FOODE (Food Export), DI (Domestic Investment), INF (Inflation), LF (Labor Force); “**” and “***” show the significance level at 5% and 10% respectively.

Table 5 show the main results of the recent study. The p-value of the FOODE is 0.099 and its coefficient value is 0.079223 that show Food Export is statistically significant and has positive effect on the economic growth of the Pakistan. The p-value of DI is 0.0089 and its coefficient value is 0.189364 that show Domestic Investment is significant and positively affect the economy of the Pakistan. The p-value of INF is 0.0223 and its coefficient value is -0.14954 that show Inflation is significant and negatively affect the economy of the country. LF is insignificant which means Labor Force is not taking the part in the economic growth of Pakistan. R-squared show that 78% of GDP dependent variable is explained by the independent variables which are FOODE, DI, INF and LF in the recent model. Value of the Durbin Watson Stat is 2.

6 Conclusion

This paper tries to examine the relationship among the food export and the economic growth of the Pakistan. The results of the study show by applying Ordinary Least Square (OLS) method for the period 1980-2017, food export is statistically significant and has positive impact on the economy of the Pakistan. Similarly, domestic investment has positive impact on the GDP of Pakistan. While inflation has negative impact on the economy of the country. Food exports play important role in the earnings of receipts and give the boost in the domestic investment of the economy that increase the employment opportunities because the Pakistan is a labor-intensive country. Pakistan earnings from the rice 224739.5 million rupees, Fish and Fish preparation 49755.5 million rupees, Fruits and vegetables 70562.2 million rupees (Pakistan Statistics Bureau). The findings of the study suggest, Pakistan is agrarian country, so there is still a need to improve the technology and adopt the modern methods to cultivate the land through which country could become the self-reliance on those crops that it could export and increase the earnings.

Summary

Pakistan's food export sector plays a vital role in promoting economic growth by generating foreign exchange earnings, supporting agricultural development, creating employment opportunities, and strengthening rural livelihoods. The country is a major exporter of products such as rice, fruits, vegetables, seafood, meat, spices, and processed food items, benefiting from its fertile agricultural land and favorable climatic conditions. Expanding food exports contributes to improvements in the balance of trade, increases farmers' incomes, and encourages investment in agricultural production, processing, packaging, and logistics. Furthermore, the sector supports value addition and industrial growth by integrating agriculture with food processing industries and global supply chains.

Despite its significant potential, Pakistan's food export industry faces several challenges, including low agricultural productivity, inadequate storage and cold-chain infrastructure, quality and safety compliance issues, water scarcity, climate change, fluctuating international commodity prices, and limited diversification of export markets. Addressing these constraints requires investments in modern farming technologies, improved irrigation systems, quality certification, food safety standards, export facilitation policies, and market diversification strategies. Strengthening public-private partnerships, promoting value-added food products, and adopting sustainable agricultural practices can further enhance Pakistan's export competitiveness. Overall, a well-managed food export sector can serve as a major driver of sustainable economic growth, increased foreign exchange earnings, improved food security, and long-term national development.

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