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Impact of Globalization on Industrial Sector Growth in Pakistan

Muhammad Azhar Bhatti [1] and Snober Fazal[2]

Abstract

Globalization is a multidimensional concept that affects differently the economic growth of different countries and also different sectors of the economy. The main determination of the study was to examine the influence of globalization on the industrial sector growth because Pakistan is an agricultural country due to it heavily based on agriculture production. The study examines the long and short effects of globalization on the industrial sector of Pakistan's economy. Globalization (KOF) index is used for Globalization, time-series data for the years 1980 to 2018 is utilized. To check the stationarity Augmented Dickey-Fuller (ADF) test is used. Auto-Regressive Distributive Lag (ARDL) model has been applied to estimate the long and short-run association among industrial sector growth, globalization, and explanatory variables. After diagnostics, the error correction model evidenced the existence of long-run Co-Integration Exits among industrial sector growth and globalization. Globalization boosted the growth of the industrial sector in Pakistan. Also, globalization boosts economic development and industrial production by importing the new machinery that upsurge the agriculture production level and economic expansion. Regulatory authorities need to boost the globalization level by trade agreements.

Keywords: Globalization, KOF index, Economic Growth, ARDL, Industrial Growth.

JEL Codes: C22, F02, F43, O14.

[1] Ph. D. Scholar and Visiting Lecturer, Department of Economics, The Islamia University of Bahawalpur, Pakistan. Email: muhammadazhar_14@pide.edu.pk (Corresponding Author)

[2] Ph. D. Scholar, Department of Economics, The Islamia University of Bahawalpur, Pakistan. Email: snoberfazal44@yahoo.com

1 Introduction

Globalization is a multifaceted process. It has a connotation of economic, social, cultural, and political. Sometimes globalization is good for the economy and the effects of positive economic growth, but sometimes she nefarious effects. The best side of globalization is the effectiveness and opportunity of the creation of the free market. A company can interconnect efficiently with customers, suppliers and partners and enhancing their distribution, inventory, and systems. With the same ease and speed, local producers can sell their products at home in a market. The advantages of globalization lie in free credit and rising leverage because currencies tend to cross-national and local borders, creditors cannot distinguish between bad assets and bad borrowers, increase aggregate demand, growth of work and transform the world economy into a circle of income virtuous. And informal credit financial bubble and indebted fuels, which fuels happiness, the continuation of a virtuous circle. The high degree of integration is the negative side of globalization of local and national markets, fluctuations in prices and profits, increased competition, new risks, and uncertainties that arise from companies and the products and high levels of imitation.

Globalization has also hit Pakistan's economy. Pakistan is a mixed economy, with the public sector dominating the main sectors of the economy, which is rapidly changing under the agenda of the freest WTO market. The government grants a minimum role under the politics of globalization under the guidance of the countries of the world. Pakistan has taken its economic liberalization as a portion of the structural modification of the World Bank loans and IMF plan. The expansion of Pakistani trade has not been as convincing as rapid globalization. Pakistani exports have not kept pace with the rest of the world.

Globalization has allowed Pakistan to use its cotton production and its rich manpower to produce value-added fabrics more than its population and export them to all parts of the world. The foreign currency obtained allowed Pakistan to pay other parts of its industrial production and to import the inputs for construction and services. Globalization has also hit Pakistan's industrial and service sectors.

1.1 Industrial Sector of Pakistan

The industry refers to the economic sector linked with the production and production of several products. It is a historical reality that due to strong industrial sector in countries show greater economic growth. For the development of economic sector economic growth has great importance in the country. Raise the national income, promote the living standard of the population. Accounting for 24% of gross domestic product this sector is the second-largest individual sector in the economy. In developing countries, Pakistan's manufacturing sector is one of the highly protected sectors, characterized by a combination of external tariff structures and quantitative constraints. The level and dispersion of tariff rates are too high in history. Reforms in recent years have significantly compact the average and highest tax rates, constricted the decentralization & elimination of quantitative restrictions, reduced export bias, encouraged investment, efficient industries and promoted competition in sectors of comparative advantage in Pakistan (Hussain, 2005). Through globalization FDI increase. Foreigners want to invest in the country. With the establishment of industries, the industrial growth of the economy increases. Through globalization availability of raw material increases which is the basic need of any industry for production.

The empirical literature has shown that globalization is positive for the growth of countries. Countries that have become more globalized have experienced greater growth (Dreher, 2006). Dutta and Ahmed (2004) analyzed the association amid trade policies and growth of the industrial sector in Pakistan. Ilyas, Ahmad, Afzal, and Mahmood (2010) explored the causes of value added in production in Pakistan. The price level of the total productivity of investment factors and commercial openness have been used as determinants of the added value of the manufacturing industry. The commercial opening was insignificant. Naseem, Rustam, Khan, and Bibi (2012) observed the effect of globalization on Pakistani exports. The effects of pre- and post-export globalization in Pakistan were analyzed. Globalization shows an optimistic influence on Pakistani exports, but along with this globalization, the government should implement viable trade policies. Globalization has hit the telecommunications sector in Pakistan. The analysis used the past statistics of the

telecommunications sector. Globalization has led to a rise in unemployment and GDP. The telecommunications sector is the sector that is very influenced by globalization (Choudhury, Panda, & Singh, 2012). Umer and Alam (2013) investigated the outcome of trade liberalization on the industrial growth in Pakistan. Nazish, Iqbal, and Ramzan (2013) studied the effect of the services, manufacturing and agricultural sectors on the annual gross national development of Pakistan. Singh and Kaur (2014) examined in the Indian economy the service sector growth. So, after the agriculture sector the industrial sector in the backbone of the economy which comprised in the above literature. So to achieve the high-level industrial growth its necessary to implement high-performance macroeconomic policies like to ensure the supply of good quality raw material with specialized and skilled labour which can be easily attained by the globalization because globalization creates the labour and material mobility from the comparative advantage country too because labour or that required material is cheap in that nation towards that nation where the quantity of labour is less or quality of the material is not good. So, globalization helps that industrial sector and other important effects of globalization is that it creates attention to the policy of trade liberalization. So, in this paper we want to study the real impact of globalization to the industrial growth of Pakistan.

2 Literature Review

Countries with open economies correspondingly have the maximum per capita growth discussed in some empirical studies (Frankel & Romer, 1999). Whereas economic growth affects the incidence of armed conflict. Collier, Hoeffler, and Collier (2002) also approve that upsurge the occurrence of the fight due to the small growth proportions. Pingali (2007) examined the impact of globalization on the agriculture and economic expansion in Pakistan. Due to this determination, they analyzed FDI, Trade openness, Agriculture growth and globalization from 2008 to 2013. And they found that the resultant changes in agri-food systems, the procedure of globalization, marginalize excluded countries or will further suggest new chances for agriculture-led growth. And they suggested that government and policymakers

minimize the cost of globalization that boosts the agriculture system that ultimately boosts the country's economic development.

Uz-Zaman and Aman (2007) considered the influence of globalization on economic expansion in Pakistan for the period 1970-2006. Data were taken from the IFS (International Financial Statistics) and the model is examined by the ECM (Error Correction Model). Outcomes indicate that globalization boosts the level of economic development and suggested that Pakistan must attract direct foreign investment, focus further on exports, and also sustain political stability in the region. Afzal (2007) studied the impact of globalization on the economic growth in Pakistan. They used the 45 years of data ranging from 1960 to 2005. Real per capita GDP use to measure economic growth, gross investment for capital, further they divided the capital into two groups' public and private sector investment, trade is peroxide by the sum of exports and imports as the percentage of GDP. Official aid and FDI (foreign direct investment) also used in this study. The model is estimated by the Ordinary Least Square method (OLS), impact of globalization varies from the nation to nation and region to region because it depends upon on the political, economic and social development and for instance the macroeconomic policies. Underdeveloped countries suffer from globalization because it has an adverse influence on the development of the economic sector.

Fatima, Javed, Hassan, and Sehar (2007) observed the impression of globalization on agricultural production which is the commencement of WTO (World Trade Organization), Pakistan with rest of the world is the member of WTO and endorsed the AOA (agreement on agriculture), taking agriculture into the purview of the global transaction system. Due to that contract affiliate, nations accept precise commitments in market contact with tariff-cation of measurable limitations of exports and imports, a decrease of export subsidies and lessening of domestic support to agriculture. This study examined this question through the resource use efficiency and assessment of operational inducements in rice-wheat farming in Pakistan with an active domestic resource cost and protection rate. Outcomes confirmed

that due to that unrestricted trade Pakistan can get gain and benefit through the imports of wheat and exports of rice.

Muhammad and Butt (2013) examined in the case of Pakistan the impact of financial growth on the growth of the agricultural sector. For this purpose, they used the Cobb Douglas production function within the presence of financial development. They used the period over 1971-2011, in addition, the model is estimated by the Auto Regressive Distributive Lag (ARDL) model. Results confirmed that there exits the long-run association among the model. And further confirms that financial development, capital and labour helps to boosts the agriculture production level in Pakistan.

Saqib, Masnoon, and Rafique (2013) investigated the impression of FDI on economic expansion in Pakistan. They used FDI with other supporting indicators are domestic investment, trade and debt, and data are taken from the period from 1981-2010 from WDI. OLS is used to examine the effect of FDI on economic growth in Pakistan. Outcomes specify that economic performance in Pakistan is adversely influencing due to foreign investment whereas its internal investment has promoted its economy. Furthermore, the nation's inflation, trade and debt have established to hurt its GDP.

Shah, Haq, and Farooq (2015) analyzed the impression of agriculture trades macroeconomic presentation of Pakistan. For this purpose, they used the GDP (gross domestic product) with agriculture and non- agriculture exports for Pakistan from 1972 to 2008. Model is estimated by the Johansen co-integration econometrics model and results indicate that agriculture exports have negative while non- agriculture exports have an optimistic impression on the growth of the economic sector in Pakistan. Results recommended that Pakistan basic to do structural fluctuations in the agriculture sector by converting into the value-added products. Firstly, according to the Keynesian argument, exports growth increased by the help exchange multiplier in the short run. Secondly, a higher level of foreign exchange obtained from boosts the level of exports. Thirdly, the export sector creates positive externalities, like efficient management, improved production techniques, boosts the level of technical skills and improve product design that leads to improving economic

development. The status of agricultural exports in the expansion of Pakistan is essential, an enormous figure of literature is present on the role of exports in economic expansion. Either cross-sectional or time-series data used in these studies with different conclusions. The previous work for instance, (Balassa, 1978; Kormendi & Meguire, 1985; Michaely, 1977) investigated the association among exports and economic development by employing a simple correlation coefficient procedure. The work of these research shows that exports growth positively interrelated with economic expansion. On the other side (Balassa, 1978; Ram, 1987; Vohra, 2001) explored the association between economic evolution and growth of exports by employing the regression techniques. The experimental outcomes of these studies designate that exports have a significant and optimistic impression on the development of the economic sector.

Gilani (2015) analyzed the effect of exports and imports on cultivated production in Pakistan. To examine the influence of imports and exports secondary data is used on agricultural production for 30 years for the period 1980-2010 taken from the economic survey of Pakistan. Granger causality results indicate that there exits the causality in the model. Further, they confirmed that an increase in the productivity that leads to boosts the level of exports.

Ahmad (2015) examined the pre- and post-globalization effect on the agriculture performance in case of Pakistan. Agriculture data is taken from the Organization of food (FAO) and the globalization is taken from the KOF index and other is taken from the WDI (World Bank) indicators from 1961 to 2010. Globalization has effects on every segment of the country fabricating, rural, and monetary and so forth. The effects of the study discovered that there is a significant alteration in agriculture production previously, then after the fact the period of globalization. Pakistan's Agriculture division has touched towards globalization and important contrasts were acquired between the normal estimations of agriculture production pre- and post-1990. However, an extremely tremendous measure of contrast between the agribusiness imports was found prior and then afterwards the 1990's. Despite, the way that the agriculture production is being

expanded legitimately yet exports is not being expanded yet, and an opponent to that import is being expanded consistently.

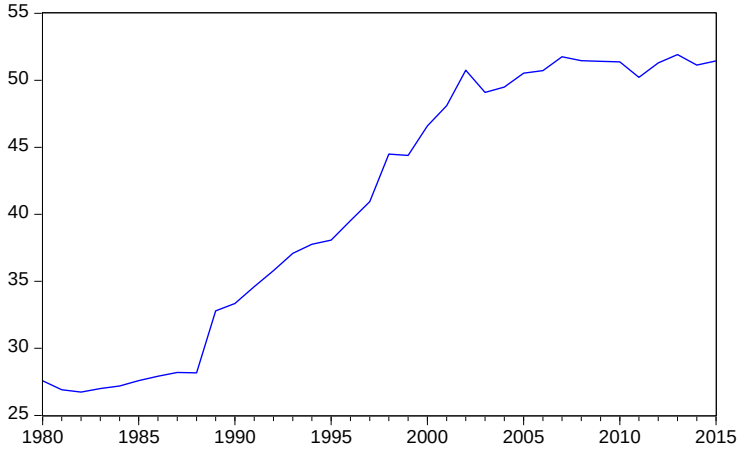
Malik (2015) examined that influence of FDI on the economic expansion of Pakistan from 2008 to 2013. FDI, Trade and Domestic capital boosts the economic growth in Pakistan. And they further suggested that the Government should shield industries that would advantage the country's economic situation and take compact steps to upsurge domestic investment and FDI. For the sake of higher profits, the government should take actions to stabilize the exchange rate that may invite more investors. More educated labour fetching due to higher FDI inflows and substitute the outdated technology.

3 Theoretical framework and Methodology

3.1 Globalization Index (KOF)

The KOF index was provided by the German research institute. The KOF index measures three main aspects of globalization i.e., economic, social, and political, in addition to the three indices measuring these dimensions, calculate the general index and the sub-index of globalization, referring to the economic restrictions on real economic flows, information flow, personal contact data, and cultural proximity data.

Figure 1
Globalization Trend



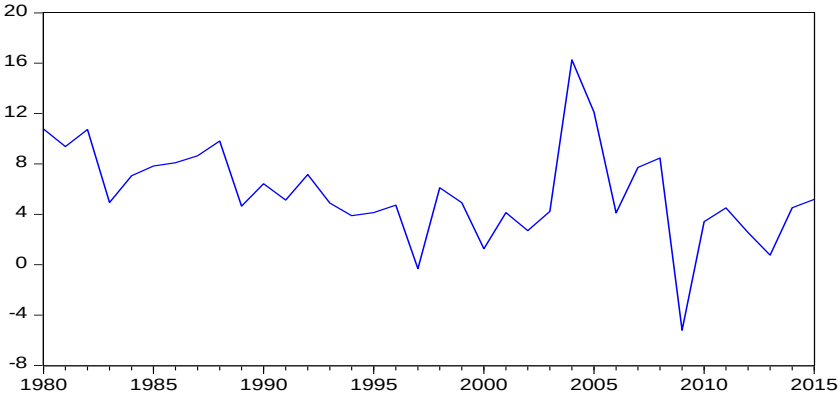
KOF index used for the Economic Globalization index for Pakistan, according to figure 1 from 1980 to 1988 there is not

much increase in the Globalization in Pakistan. From 1988 to 2004 there is an increasing trend and Pakistan's economy boost at an increasing rate. After that, the speed of Globalization is increasing at a decreasing rate so, according to the graph, there is a boost in Globalization from 1988 to 2004.

3.2 Industrial Value added

After subtracting intermediate inputs and the increase of all outputs, industrial value-added is the net result of the sector. The amortization of the counterfeit goods or degradation and depletion of usual assets are not subtracted from the calculation.
"Annual growth rate for industrial value added based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3.

Figure 2
Industrial Growth Trend



Findings show the industrial growth rate; according to figure 2 in the year 2004 to 2005, industrial sector expansion in Pakistan is at the maximum level which shows Pakistan industrial

sector at boom level in the year 2004 to 2005 after 2006 Pakistan agriculture sector at its minimum level from the time spam 1980 to 2015.

3.3 GDP Growth

GDP growth rate is the annual percentage change in GDP measured in local currency at 2010 constant prices. GDP is the sum of the total value of all the inhabitants of the economy, plus any tax on the product, minus any subsidies not included in the value of the product. The depreciation of manufactured goods or the depletion and degradation of natural resources are not deducted from the calculation.

Figure 3
Economics Growth Trend

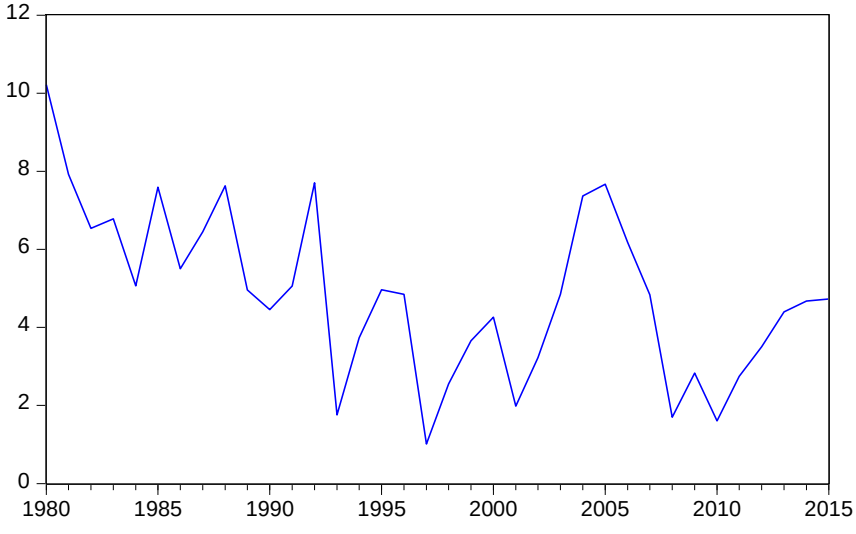


Figure 3 shows the growth of GDP of Pakistan from the time 1980-2015, the boob period GDP growth from 2004 to 2005, and agriculture growth also at in boom condition from 2004 to 2005. This indicates that agriculture development shows a vital role in the GDP growth in Pakistan from 2004 to 2005. Hence, concluded that GDP of the agriculture sector has major contributing and significant role in the gross domestic product.

3.4 External debt stocks

Total external debt is gross national income. Total external debt is debt with currencies, non-resident goods or services. Total external debt is the sum of long-term public and private unsecured public debt, the use of IMF credit and short-term debt. Short-term debt includes all payables, which initially expire for a year or less, and interest is not amortized over long-term debt. Gross national income (GNP) is the sum of the added value of all resident producers, combined with the product derived from abroad plus any tax on products (reduced subsidies) that are not covered by net income (compensation for employee income and properties).

3.5 Remittances

Personal remittances comprise personal transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in-kind made or received by resident households to or from nonresident households. Personal transfers thus include all current transfers between resident and nonresident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by nonresident entities. Data are the sum of two items defined in the sixth edition of the IMF's Balance of Payments Manual i.e., personal transfers and compensation of employees.

4. Econometric Methodology

4.1 Unit Root Test

The consistency of the statistical implication be influenced on the difference amid the stability of the time series data and the non-stationary degree. The impact on a fixed timeline is instantaneous due to the endless average and changes with the passage of time. In contrast, the non-stationary time series have a time reliant average (the average value is not 0) and the variance gives rise (not constant over time) to the impact of permanent fluctuations. When considering the time series importance, it is essential to use root tests of the appropriate units to verify the stationary properties of the variables. And use the improved rooster to perform more thorough tests.

4.2 Co-integration Test

To study the long-term cointegration connection amongst variables, various econometric techniques are proposed. Engle and Granger (1987) and have completely modified the rescue program (Hansen & Phillips, 1990). Søren Johansen (1988); Søren Johansen and Juselius (1990) complete info on extreme likelihood programs has been extensively employ in empirical investigation. Johansen cointegration technology is preferable as compare to other technologies because it is not just a multivariate method but also provides other than one cointegration relationship, overcoming small sampling errors. However, what these collaborative integration technologies require is that they require all variables integration in the similar order. If the variables do not have the same level of integration, then the model of delay of the autoregressive distribution (ARDL) also deals with a single cointegration analysis and introduces (Pesaran, Shin, & Smith, 2001), originally extended by (Pesaran & Smith, 1995). But if the order of integration of variables is same, then the best model is ECM because this method has an econometric advantage for another is that it estimates the long and short-term factors of the model are estimated at the same time. Thus, we apply the ARDL[3], First, check the stationarity of the variables. If integration order of variables is mix, then ARDL will apply.

4.3 Econometric Model

$$
\begin{aligned}
&IND_t \\
&= \alpha_o + \sum_{i=1}^{p} \alpha_1 \Delta IND_{t-1} + \sum_{i=0}^{p} \alpha_2 \Delta KOF_{t-1} + \sum_{i=0}^{p} \alpha_3 \Delta EDEBT_{t-1} \\
&+ \sum_{i=0}^{p} \alpha_4 \Delta GDPG_{t-1} + \sum_{i=0}^{p} \alpha_5 \Delta TRADE_{t-1} + \sum_{i=0}^{p} \alpha_6 \Delta REM_{t-1} + \alpha_7 IND_{t-1} \\
&+ \alpha_8 KOF_{t-1} + \alpha_9 EDEBT_{t-1} + \alpha_9 GDPG_{t-1} + \alpha_{10} \Delta TRADE_{t-1} \\
&+ \alpha_{11} REM_{t-1} \qquad (1)
\end{aligned}
$$

5 Results and Discussion

The study applied the yearly time series data for the time 1980 to 2015. The index of KOF used as a measure of globalization based on three leading measurements as political,

[3] Auto Regressive Distributive lags

social and economic. Industrial Value-added growth rate, External Debt Stocks, GDP growth rate, Trade % of GDP and Personal Remittances received, which briefly discussed in table 1.

Table 1
Variable Description and Measurement

Variables	Description	Measurement
EDEBT	External debt stocks	(% of GNI)
GDP	GDP growth	annual %
KOF	Globalization	Index
TRADE	Trade	% of GDP
REM	Personal remittances received	% of GDP
IND	Industry, value-added	annual % growth

5.1 Unit Root

According to Table 2, some variables are stationary at the level which is industrial value-added GDP growth rate some are stationary at first difference which are External Debt, Globalization Index, Trade and Remittances. According to theoretical literature that explains that if there exits the mixture order of integration in the model then the model is estimated by the Auto Regressive Distributive Lag Model (ARDL). It has some benefits over other methodologies like it gives the long as well as short run estimation at the same period. And most importantly it gives the model speed of adjustment.

Table 2
Augment Dickey-Fuller Test

Variables	Level	1st Difference	Results
EDEBT	0.7223	0.0008***	I(1)
GDP Growth	0.0276**		I(0)
KOF	0.9887	0.0018***	I(1)
TRADE	0.2040	0.0000***	I(1)
REM	0.8505	0.0001***	I(1)
IND	0.0018**		I(0)

Note: *** indicates significance level 1%, ** indicates significance level 5%, and * indicated significance level 1%

Which is it informing that if the model comes to disequilibrium condition then it tells in how much time the model

will come to its equilibrium condition. Then used the ARDL-bond test to verify the long-term association in the model which are represented in table 3.

Table 3
ARDL bound test

Test Statistic	Value	K
F-statistic	7.401	5
Critical Value Bounds		
Significance	I_0 Bound	I_1 Bound
5%	3.12	4.25
1%	3.93	5.23

Table 4
ARDL short-run estimates

Variable	Coefficient	Stdev	t-Stats	Prob.
D(IND(-1))	1.014**	0.385	2.635	0.020
D(IND(-2))	0.225	0.229	0.983	0.342
D(EDEBT)	0.203	0.200	1.014	0.328
D(EDEBT(-1))	-0.057	0.281	-0.202	0.843
D(EDEBT(-2))	-0.327*	0.163	-2.010	0.064
D(GDPG)	1.051**	0.369	2.847	0.013
D(GDPG(-1))	-1.923***	0.463	-4.155	0.001
D(GDPG(-2))	-0.813*	0.438	-1.855	0.085
D(REM)	-2.197	0.659	-3.331	0.005
D(REM(-1))	-1.156	1.079	-1.071	0.302
D(REM(-2))	-0.789	0.765	-1.032	0.320
D(KOF)	1.629*	0.776	2.098	0.055
D(KOF(-1))	-1.461**	0.673	-2.171	0.048
D(TRADE)	-0.091	0.226	-0.400	0.695
D(@TREND())	-1.225**	0.312	-3.928	0.002

Note: *** indicates significance level 1%, ** indicates significance level 5%, and * indicated significance level 1%

ARDL bound test indicates that there exits the long-run affiliation amongst the model because the test stats considered value is greater than the 1 and 5 % significance level that means we accept the substitute hypothesis and reject the null hypothesis,

and which is there exists the long-run association amid globalization and industrial value-added with other supporting indicators. Further, the short-run estimates are representing in table 4 and long-run estimates are representing in table 5 respectively.

Table 5
ARDL Long-run estimates

Variable	Coefficient	Stdev	t-Stats	Prob.
ECM(-1)	-2.714***	0.577	-4.703	0.000
EDEBT	0.300*	0.158	1.891	0.079
GDPG	1.792***	0.236	7.578	0.000
REM	0.778	0.512	1.518	0.151
KOF	0.947**	0.264	3.593	0.003
TRADE	-0.193**	0.078	-2.486	0.026
C	-46.331**	18.770	-2.468	0.027
@TREND	-0.451**	0.102	-4.430	0.001
Model Diagnostics				
R-squared				0.927
Adjusted R-squared				0.817
F-statistic				8.426
Prob(F-statistic)				0.000
Durbin-Watson				2.204
LM-test				0.491
Heteroskedasticity Test				0.838

Note: *** indicates significance level 1%, ** indicates significance level 5%, and * indicated significance level 1%

According to table 4, that represents the sort run results of ARDL. Results indicate that external debt, per capita GDP and globalization has a significant impression on the industrial growth of Pakistan with a negative coefficient. Which further explains that if they're in an increase in the level of external debt in Pakistan that leads to a decrease in the industrial growth of Pakistan. In the short run per capita GDP also decrease the level of industrial growth in Pakistan. And also the globalization initially herds the level of industrialization of Pakistan. Afzal (2007) impact of globalization varies from the nation to nation and region to region because it depends upon on the political, economic and social

development and policies of macroeconomic. Underdeveloped countries suffer from globalization because it has adverse influence of globalization on the development of economic sector. Further, the long-run results and association of the exogenous indicators are discussed in table 5.

Autoregressive Distributive (ARDL) applied to estimate the impact of the globalization and determinant of industrial sector growth of Pakistan. According to table 5 External debt (% of GDP), GDP (Annual Growth), Globalization, Remittances (% of GDP) all have a positive and significant impact in long-run analysis, while trade has an adverse effect over the industrial growth. Whereas the remittances have a positive but insignificant influence on the industrialization of Pakistan. The error correction term is also a negative and significant sign which shows the model will move to equilibrium with a speed of 2.714 which is almost 250%, so the model will move to its equilibrium in half of the year.

In the long run results, globalization has an optimistic influence on the growth of industrial sector, the implication is that the policies of globalization in Pakistan are in favor to increase the industrial sector growth (Dreher, 2006). Fatima et al. (2007); (Pingali, 2007) also confirmed that due to globalization the agriculture growth boosts Due to trade agreement the participant nations take on particular obligations in the area of market contact along with tariff-cation of quantitative limitations of exports and imports, (Ahmad, 2015) Pakistan's Agriculture division has touched towards globalization and important contrasts were acquired between the normal estimations of agriculture production.

When we are talking about in short-run dynamics trade has positive but has an insignificant impact over the industrial growth, which means that trade does not affect industrial growth while in the long term, trade has a negative impact over the industrial growth (Ilyas et al., 2010). Income has a strongly positive and significant linkage between the GDP and growth of industrial

sector which is as discussed by (Nazish et al., 2013; Singh & Kaur, 2014).

Remittances have an insignificant and positive impact over the industrial growth because leads to increase in the country income there is rise in the remittances which is due to that there should be an increase in the industrial development sector, so the overall effect is that there increase in the industrial growth due to increase in the remittances.

While we are talking about model diagnostics, we check R^2 and Adjusted R^2 values which is respectively almost 93% and 82%. This means that independent variables 97% explained the dependent variable which is good and according to Durbin Watson value is 2.20 which also specifies that the model is good because that is greater than 1.96.
For autocorrelation we applied the LM test which indicated that in the data there is no autocorrelation, and there is no Heteroscedasticity in the model according to the ARCH test, so according to these tests model is good.

The association of short and long run stability in models is perceived by employing the cumulative sum of recurring squared residues (CUSUMSQ) and cumulative sum of recursive residuals (CUSUM). If the cumulative total exceeds the area amongst the double dangerous lines, the test detects that the serious parameters are unstable. As it can be observed in Figure 4 and Figure 5, the accumulated and tested graphs do not exceed the critical limit (two red dashed lines). Therefore, without structural disruption we can determine that long-term estimates are stable.

Figure 4
CUSUM test

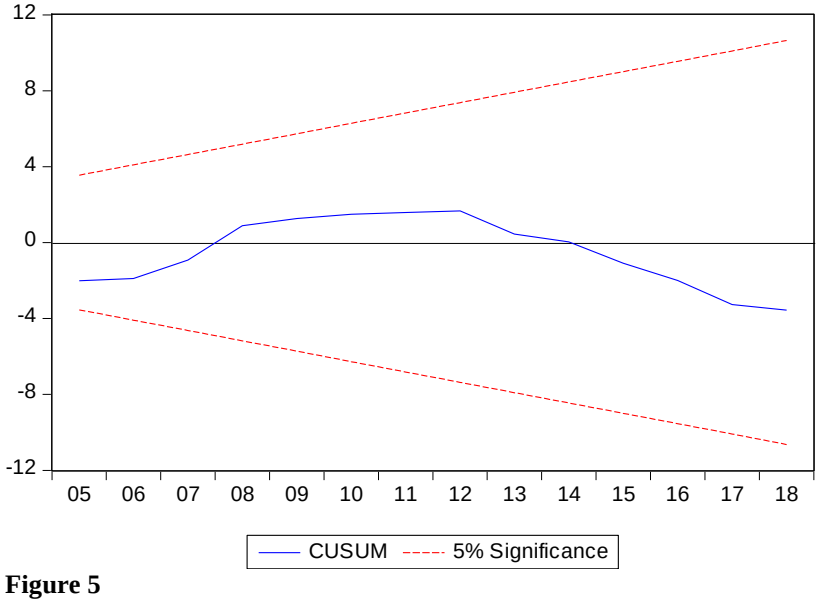
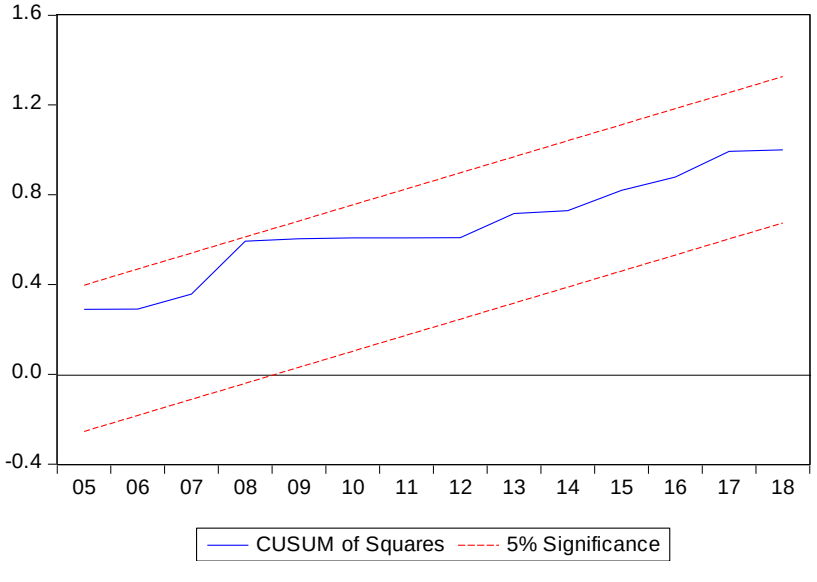


Figure 5
CUSUMSQ test



6 Conclusion

Globalization is defined and explained from different angles. There are many disagreements about the desirability of globalization, which simply means trade openness and the

integration of the domestic economy with other work to meet the necessities of the international economy. Due to the different political, economic, and social environments, the effects of globalization fluctuate between countries and regions. Globalization has also hit the Pakistani economy. Empirical studies explore the influence of globalization on industrial and services sector of Pakistan. Time series data from 1980 to 2018 is used. To check the stationarity ADF test is used, results indicate that some are stationary at the level and some are stationary at the first difference, so we apply the ARDL approach for short and long run estimation of the impact of globalization and determinants of the industrial sector growth in Pakistan. There exists a long-run connection among industrial variables, Globalization effects positively and significantly.

To achieve high industrial growth, it is necessary to implement meticulous macroeconomic policies to ensure the supply of raw materials, while also paying attention to the policy of trade liberalization. Pakistan should implement all aspects and policies of the WTO Agreement. In cutting-edge industrial, financial, trade, transportation and communication services, attention must be paid to improving the advanced technology and education of workers to cope with global demand and to absorb more labor.

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