

An Empirical Relationship between Trade Liberalization and Industrial Growth in Bangladesh

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This research paper empirically investigated the cointegration and causal relationship between trade openness and industrial growth in Bangladesh economy using annual data from 1980 to 2016. Trade normally defined as the buying and selling of goods and services and when there is trade, it acts as a growth for many countries in developing industries. As there have been many studies relating to this topic, maximum studies showed that there is a causal relationship between trade and industrial growth. To check the causal relationship in the context of Bangladesh, the main variables that have been taken are- Industrial growth, Capital, Labor and Trade. By employing the cointegration and Error Correction Model approaches (ECM), the empirical results suggest that there is an existence of a unique long run relationship. The hypothesis of this research is, 'Trade liberalization leads to rise in industrial growth. The Augmented Dickey Fuller (ADF) test has been used to check if the variables are stationary. Next, to check the robustness of the relationship among the variables, the Johansen cointegration method has been applied followed by the Vector Error Correction Model (VECM) which also have estimated in order to determine the short-run dynamics behavior and lastly Granger causality test has been applied to check the long run behavior. The results show that bidirectional causality exists in short run and unidirectional causality exists between trade and industrial growth in the long run. Therefore, this proves the support of the hypothesis of this research paper for the economy of Bangladesh.

Field of Research: Economics

1. Introduction

Trade acts as an important engine of growth for many countries in developing industries. Trade not only helps to achieve efficient allocation of resource within countries but also transmit the growth to attain static and dynamic gains between countries. Openness in trade mainly started when the General Agreement on Tariff and Trade (GATT) was established after the WWII in 1947. The purpose of GATT was to decrease the barriers of trade but in 1994 it was changed by the World Trade Organization (WTO).

Industrialization is a system where countries and societies transform from agricultural society to industrial society depending on the manufacturing goods and services. In the history of industrialization of Bangladesh, the process of growth of industries mainly came from the British during the British period of their colonial rule.

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Bangladesh industrial capitalism grew before the 20th century by the Jamidars. However, it did not make the country to evolve the industries as it normally did in other countries in the west. In 1947, after the partition of Bengal, East Pakistan inherited a small share of industries in Bengal. The central government of Pakistan had the control over all the industries in East Pakistan and West Pakistan including the pricing policies. Before the liberation war, Bangladesh always had an inward oriented economy because of high tariff barriers. During the liberalization war in 1971, the industrial sector was severely damaged. The cost of replacement and rehabilitation of industries estimated at BDT 291 million. After many adjustments in the state policies, when Bangladesh started trading, it maintained a highly restricted trade regime strategy as it was the most crucial reform. During the early 1990s, as international trade in Bangladesh was extremely compact compared to the size of the population, there was an immense openness in trade enforced by the government which resulted in experiencing accelerated industrial growth.

Trade liberalization and industrial growth has been a contentious issue for many decades. Number of competing theories and empirical studies has been on trade liberalization and industrial growth but many resulted in an unambiguous conclusion in boosting economic growth and industrial growth. The linkage between trade liberalization and industrial growth led to many channels through which trade liberalization could influence the labor market directly and indirectly. The researchers had put particular emphasis on trade, as export and import promotion policies seem to have established a superior development strategy for Bangladesh i.e. openness in trade have given positive externalities, which would result in greater competition in world markets, greater efficiency in resource allocation, economies of scale and technological spillovers.

The relationship between trade and industrial growth has been vastly studied internationally in development economics. For example, Worku(2008) studied the relationship in the context of Ethiopia; Dutta and Ahmed(2006) studied in the context of Pakistan, and Kingu(2014) studied in the context of Korea. However, these studies have used variables such as trade liberalization, industrial growth, endogenous growth, cointegration, error correction model, which has been discussed in the literature review section.

This research paper investigates whether trade liberalization opens up the globalization which affect imports and exports, and whether it results in increase in demand for both foreign and domestic goods and services. The hypothesis of this research paper is whether openness in trade causes industrial growth. This research paper allows us to check the impact of industrial growth due to openness in trade and to estimate the aggregate export model for Bangladesh to the world using the recently developed cointegration and error correction techniques. The variables of this paper are trade openness, industrial growth, labor and capital. Hence, the relation of trade openness and industrial growth is inspected in an empirical model.

To the best of our knowledge, no other papers had been done regarding trade liberalization and industrial growth in the context of Bangladesh. Hence, main objective of this research paper is to answer the following questions:

1. Is there any causality between trade liberalization and industrial growth in Bangladesh?

2. From which direction does the causality run?

The rest of the paper is organized as follows: We have already been discussed the first section i.e. the introduction. The second section discusses the review of previous theoretical and empirical literature. Third section will discuss the general overview of Bangladesh. The Fourth section will explain the methodology. Fifth section talks about the economic results and the last section will conclude by policy recommendation.

A summary of some recent studies based on trade liberalization and industrial growth has been provided in the Appendix.

2. Literature Review

The empirical and theoretical work examined the concerns related to trade openness and industrial growth. There have been a number of national and international contributions by recent development economists and the results are outlined below.

Kingu (2014) has used time series of 1970 to 2010 to explore the impact of trade liberalization on export performance of Tanzania. This paper focuses in both econometric and non-parametric techniques to estimate the study. Cointegration technique, error correction modeling approach and trend analysis is applied in cointegration technique. The models which have been used are: Unit root test, Augmented Dickey Fuller Test (ADF) test, Engle–Granger test and Johansen test. As a result, it shows that, trade liberalization has improved the export of Tanzania by 22%.

Kim et al (2009) has showed the relationship of trade liberalization, economic growth and industrial growth of Korea during the period 1980-2003. The empirical results suggested the existence of Granger causality, a vector error correction model (VECM) and Johansen's cointegration test. This analysis was carried out by the ADF test, Phillips-Peron (PP) test, and Kwiatkowski, Phillips, Schmidt and Shin (KPSS, 1992) unit root tests. This study differed from earlier studies, we knew that exports enhance productivity growth because firms exposed to international competition. However, this study resulted in higher import would be more beneficial for Korea than export.

Umoru and Eborieme (2013) has analyzed the relationship between trade liberalization and industrial growth of Nigeria through an expressive annual budget from 1962-2013. This empirical study investigated industrial output growth of Nigeria by utilizing cointegration and Error Correction Model (ECM) approaches. To determine the short run dynamic relationship, ECM model is estimated. The methods that were used: CUSUM and CUSMSQ test, unit root test, Dickey Fuller test (DF) test ADF test, PP test and Johansen test. The findings showed that a positive relationship between trade liberalization and industrial growth and government should start and implement a policy to sustain the industrial growth.

Njikam (2009) has examined the effect of development of industrial productivity and trade liberalization in Cameroon. The paper also tried to monitor the relationship between infrastructure and industrial performance by using the sample of 29 industrial sectors and data before trade (1986-1994) and after trade (1995-2003).

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Panel data have been used to evaluate the technique of this study. Therefore, as a result there was a conferment of openness in trade, and there have been a development and growth in infrastructure which increased the productivity of industries of Cameroon.

Worku (2008) has explored the relationship between the trade openness and industrial growth using the data of the poor performing economy, Africa. This empirical study covered investigation of the aggregate industrial growth of Ethiopia in the period of 1971 to 2005. Before the cointegration and ECM test analysis, the test for stationary using DF, ADF and also PP test were used in this paper to test the variables. The cointegration and ECM was applied to measure the long run and short run industrial value. The results confirmed that in the long run, the relationship between the industries and human capital, real export and import, and short run has been estimated by dynamic rules. The study revealed that Ethiopia to continue the trade liberalization process because, it would accelerate the industrial growth and sustain economic growth.

Hosseini and Leelavathi (2013) has examined the relationship openness in trade and industrial and economic growth of India, using the data of 1970-2010. The study shows the theory of the human capital model of endogenous growth, developed by Lucas 1998 to find out the empirical evidence between trade liberalization and industrial growth of India. Cointegration and Error Correction Model ((ECM) have been applied in the empirical investigation where cointegral relation between industrial value-added function and its major determinant of labor force, real export and import tariff rate has been found. The short run has estimated by the ECM. The unit root test, stationary test using DF, ADF test and also PP test were used in this paper to test the variables. The results conclude that statistically, industrial growth and trade has a relationship.

Dutta and Ahmed (2004) has scrutinized the connection between the trading policies and industrial growth of Pakistan, taking the data of the period 1973-1995. In the long run, there have been an existence of aggregate growth function of industrial value added and determinants of real capital, export, labor force and import, and in the short run, the dynamic behavior of Pakistan's growth function of industrial value have estimated an ECM. The approach that have been applied: the cointegration and error correction model. To test the variables of this paper united root test, DF test and ADF test and PP test have been applied. Therefore, this paper has explained the importance of the developing Pakistan and showed that development and acceleration of industrial and economic growth could only be achieved by opening the trade.

Paus et al (2003) has tried to find out the connection between openness in trade, industrial growth and productivity growth by using the data from 1970 to 1998 of seven Latin American countries. To estimate the effect Arellano–Bond GMM estimator have been used. The results show that import growth and export growth have been positively and significantly correlated with productivity growth which shows by the panel data. Granger casualty test also suggested two ways of casualties between productivity growth and export growth., Because of the trade liberalization, Latin America tend to rise in international investment and rapid global technological progress which has resulted in greater industrial growth, productivity growth and more employment opportunities.

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Ahmed (2000) has investigated the responses of Bangladesh's aggregate merchandise exports to real exchange rate which has been based on trade liberalization. This study covers the data from 1974-1995. In the long run, a unique relationship between real quantities of export and export price, export weight, and exchange rate exists. In this empirical study, cointegration and ECM have been applied. As ECM diagnosed the test and have found to be robust. This modeling strategy determined three steps: ADF test and PP test, unit-root tests, the test for cointegration by applying the Johansen Juselius (1990) approach and an ECM. The study has pointed out a straightforward policy i.e. for a rapid expansion of export, openness in trade were needed and also exchange rate which has been based on trade liberalization helped to decrease anti-export bias.

Hay (2001) has used 348 large manufacturing industries of Brazil to examine whether trade liberalization have been involved in the increase of industrial growth, factor productivity and market share and profit from 1986-1994. Using the panel data, it indicates that a productivity gain which has accompanied by a large decline in market share and profit.

3. Overview of Trade and Industrial Growth in Bangladesh

The developments of the manufacturing sectors have been closely based on readymade garments (RMG). After China, Bangladesh has become second largest garments exporters and this sector constitutes 82% of exports. In 1st June 2017, World Bank have financed \$100 million to helped Bangladesh to diversify its exports in industries such as fish and seafood, leather tanning, footwear plastic and light engineering have also been contributing to the growth of Bangladesh. Some industries have been making improvement by importing products i.e. pharmaceutical, indigenous cigarettes, job-printing and rolling mills.

When Bangladesh became liberalized as a new nation in 1971, it awfully became weak, as minimal minerals and natural resources were scarce which led to massive starving population. However, with a great strategy and little luck, Bangladesh has transformed from agrarian-based society to export and industrial-oriented society. Most of the internal development of countries have been based on the development of industrial sector. Although international trade in Bangladesh has been immensely small compared to the size of the population and other countries, still it has experienced accelerated industrial growth rate over the last few decades. This trend has intensified the growth of industries and development of Bangladesh as it has been striving to become a middle-income in the upcoming years. When the trade liberalization fully stabilized, few countries has come into a partnership with Bangladesh such as United States, Germany, United Kingdom, France, Italy, India, Netherlands, Belgium and Japan.

From 2014 the current trend has been the textile industry, the growth of readymade garments sector in Bangladesh has earned more than 80% of total export of the country. This industry has earned \$19 billion in 2012. But, there have been some issues that alerted the current trending very recently i.e. lower growth in agriculture, global recession, unfavorable trading policies, higher cost of production due to energy cost and internal security concerns. As Bangladesh stands out in many development indicators such as poverty, inequality, life expectancy, infant mortality,

this rapid development not only made good progress in financial inclusion and reduction in poverty but also acted as a catalyst for the women empowerment.

4. Methodology

To check the stationary of the variables the existence of the unit root is needed to test. For Cointegration, time series have been needed in the system to be non-stationary in the level. As it has been essential to know that equation of the co integration has the same order as integration. We have executed the Augmented Dickey Fuller (ADF) test for stationary. Once all non-stationary variables have regressed to stationary, cointegration test have been possible to run to find out the linear combination of the stationary variables. Once I got the confirmation of the cointegration, I have used Granger Causality test to determine the direction of possible causality between all the variables. Testing the time series data for stationary, the time series data for non-stationary leads to spurious regression unless there has been an existence of at least one cointegrating relationship. It has been more imperative to mention that unit root test tended to have non-standard and non-normal asymptotic distribution that have been highly affected the time trend. After conducting the unit root test, I have used software EViews in the paper which automatically helped to choose the appropriate lag length based on the Schwartz Information Criterion (SIC). Furthermore, Johansen procedure has been applied to test for cointegration. Thus, this method has been known to provide a unified framework for estimation and testing the cointegration relations in the context of Vector Autoregressive (VAR) error correction models. For this technique, one has estimated an Unrestricted Vector of Autocorrelation of the form:

$$\Delta x_t = \alpha + \theta_1 \Delta x_{t-1} + \theta_2 \Delta x_{t-2} + \theta_3 \Delta x_{t-3} + \dots + \theta_{k-1} \Delta x_{t-k+1} + \theta_k \Delta x_{t-k} + u_t$$

Where Δ is the difference operator; x_t is a $(n \times 1)$ vector of non-stationary variables (in levels); u_t is the $(n \times 1)$ vector of random errors. The matrix θ_k suppresses the information on long run relationship between variables. On the other hand, If the rank of $\theta_k = 0$, the variables are not cointegrated. Thus, if the rank (usually denoted by r) is equal to 1, there has been an existent of one cointegrating vector and finally if $1 < r < n$ there are multiple cointegrating vectors. Two tests derived by Johansen and Juselius (1990) for cointegration i.e. the trace test statistic that shows the null hypothesis that is at most r cointegrating vectors and the maximum Eigen value test shows the null hypothesis that there is exactly r cointegrating vectors in x_t . According to cointegration analysis, when two variables cointegrated then there is at least one regulation of causality.

Granger-causality has been known to be one of the most important tests in developing economics. This test was introduced by Granger (1969, 1980, and 1988). Engle and Granger (1987) has indicated the presence of non-stationary could lead to be to ambiguous or misleading conclusions in the Granger causality tests. The only possibility to deduce a causal long run relationship between nonstationary time series, i.e. when the variables are cointegrated. If y and x is considered to be the variables of interest, then the Granger causality test (Granger, 1969) determines whether past values of y add to the explanation of current values of x as provided by information in past values of x itself. If the antecedent changes in y do not help to

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clear out current changes in x , then y does not Granger cause x . In a similar way, we can check if x Granger causes y by interchanging them and carrying out this process again. There could be four possible outcomes: (i) x Granger causes y but not otherwise (ii) y Granger causes x but not otherwise (iii) Both x and y Granger causes the other and (iv) Neither variable Granger causes the other. In this research paper, the causality test would be conducted among the potential variables i.e. trade and industrial growth. For this, two sets of equation are estimated:

$$\begin{aligned} x_t &= \alpha_0 + \alpha_1 x_{t-1} + \dots + \alpha_l x_{t-l} + \beta_1 y_{t-1} + \dots + \beta_l y_{t-l} + u_t \\ y_t &= \alpha_0 + \alpha_1 y_{t-1} + \dots + \alpha_l y_{t-l} + \beta_1 x_{t-1} + \dots + \beta_l x_{t-l} + v_t \end{aligned}$$

In the above sets of equation, we have scrutinized all possible pairs of (x, y) series in the group. The F-statistics that is reported are the Wald statistics for the joint hypothesis

$$\beta_1 = \beta_2 = \beta_3 = \dots = \beta_l = 0$$

This research paper examined the long run relationship and the direction of causality between trade and industrial growth of Bangladesh. Here, the measurement of the real GDP is considered as the indicator of economic development of Bangladesh. To check all the econometric tests Eviews 5.0 have been used as statistical software. It should be mentioned that data which is used in this research paper were collected from World Development Index (WDI) from 1980-2016. All the econometrics results are given on request.

The vector error correction model (VECM) has been an appropriate method to show long run and short run dynamics model along with the variables. This famous method is shown by Engle and Granger (1987). The following VECM equation estimated the parameter from the Causality in multi-variant framework.

$$\begin{aligned} \Delta Y &= \alpha + \sum_{i=1}^m \beta_i \Delta Y_{t-i} + \sum_{j=1}^n \gamma_j \Delta X_{t-j} + \sum_{k=1}^0 \delta \Delta M^s + \sum_{l=1}^p \zeta \Delta N + \theta Z_{t-1} + \varepsilon \quad (i) \\ \Delta X &= a + \sum_{i=1}^m b_i \Delta Y + \sum_{j=1}^n c_j \Delta X_{t-j} + \sum_{k=1}^0 d \Delta M^s + \sum_{l=1}^p e \Delta N + f Z_{t-1} + \xi \quad (ii) \end{aligned}$$

z_{t-1} stand as the error correction that lags residual series of cointegrating vector. The measurement of the Error Correction Model (ECM) has been the deviation of the series from long run equilibrium n . For example, as shown in the equation (i) if the estimated coefficient in lagged value of X is jointly significant then the null hypothesis: X does not Granger-cause Y is rejected. As a result, the coefficient of lagged error-correction term becomes hypothetically significant where X appears in cointegrating relationship. For representing the short run causal impact, the Error-Correction term provides the adjustment of Y and X toward their respective long run equilibrium which interprets the changes in independent variables. Thus, the representation of the VECM have helped us to identify and distinguish the relationship between short run and long run dynamic model. One main thing that needed to be mentioned that to determine the short run causalities between the paired variable in the model, the Chi-square test static have been used.

5. Results

In order to determine the integration of each variables, unit root test have been conducted. Augmented Dickey Fuller(ADF) Unit Root test have been mainly applied to confirm whether the variables were stationary and non-stationary. In Table 2 the ADF unit root test has revealed the statistics and critical value of all variables in their level and in distinguished form. It has been distinct that the variables were non-stationary in their level and difference, as null hypothesis of the unit root in their level and difference have been at 90%, 95% and 100% confidence level, which could be rejected. The results of the variables might also have showed and produced spurious results if the variables were not cointegrated. Therefore, the results would allow measuring the next stage of cointegration testing.

Table 1: Augmented Dickey Fuller Unit Root Test for the Variables

Panel 1: Levels			
	ADF Statistics (Only Constant)	ADF Statistics (Constant & Trend)	Decision
RGDP	7.035	2.768	Stationary considering Only Constant; nonstationary considering both constant & constant and trend
Industrial growth	26.082	11.18228	Stationary
Capital	8.024071	5.295051	Stationary
Labor	2.54311	-1.082984	Non-Stationary
Trade	0.16	-3.072	Non-Stationary

Panel 2: First Differences			
	ADF Statistics (Only Constant)	ADF Statistics (Constant & Trend)	Decision
RGDP	-	-3.687	
Industrial growth	-	-	-
Capital	-	-	-
Labor	-3.865997	-4.12669	stationary
Trade	-3.381	-3.381	stationary

Note: ADF test is used to check whether our hypothesis is stationary or non-stationary. The hypothesis can be rejected if the t-statistic is less than critical value at 10% level of significance.

The result of the ADF test has showed that there has been an existence stationary variable at the first distinguished form. To see whether the variables were cointegrated or not, Johansen cointegrated test has been ran after ADF test.

Johansen approach have been then used to test the long run relationship between trade and industrial growth, by using capital, labor, trade and industrial growth as the main variables. The result of the Johansen's test is given in Table 3.

Table 3: Johansen Cointegration Test

		Eigen Value	Statistics	0.05 Critical Value	Conclusion
Trace	none	0.756756	100.6239	47.85613	2 Cointegrating equations
	At most 1	0.685332	52.55837	29.79707	
	At most 2	0.288274	13.24631	15.49471	
	At most 3	0.048328	1.684178	3.841466	
Maximun Eigen Value	none	0.756756	48.06549	27.58434	2 Cointegrating equations
	At most 1	0.685332	39.31207	21.13162	
	At most 2	0.288274	11.56213	14.2646	
	At most 3	0.048328	1.684178	3.841466	

In the above table, The Johansen approach has tried to reveal if there has been any existence of long run cointegrating relationship between openness is trade and industrial growth. As a result, in table 3 for both trace test and maximum eigen value test, it shows clearly that there has been two cointegrating long run relationship among variables.

After checking the relationship of cointegration and stationary of all the variables, Vector Error Correction Model test has been applied to check the direction of short run causalities between the variables. In table 4, the results of the test are shown.

Table 4: VECM Test Results (Lag = 2) (Short Run Causal Relationship)

Dependent Variable	Null Hypothesis	Chi-Square Statistic	Prob. Value	Conclusions
Causality Test Statistics between TA and IND				
Trade	IND does not cause TA	6.583378	0.0372	Bidirectional Causality from Trade to Industrial Growth
Industrial Growth	TA does not cause UNI	8.3125	0.0157	
Causality Test Statistics between K and IND				
Industrial Growth	K does not cause IND	5.992307	0.05	Bidirectional Causality from Capital to Industrial Growth
Capital	IND does not cause K	6.672217	0.0356	
Causality Test Statistics between L and IND				
Industrial Growth	L does not cause IND	4.833247	0.0892	Unidirectional Causality from Labour to Industrial Growth
Labour	IND does not cause L	1.372892	0.5034	

According to the findings, table 4 shows that there have been bidirectional causal relationships between industrial growth, trade openness and capital. Conversely, there has been an evidence of unidirectional causal relationship between industrial growth and labor.

To check the long run causal relationship, Granger Causality Test has been used to find the results.

Table 5: Granger Causality Test Results (Lag=2) (Long Run Causal Relationship)

Null Hypothesis	F Statistic	Prob. Value	Conclusions
Industrial Growth does Not Granger Cause Capital	0.43739	0.65	Unidirectional Causality between Industrial Growth to Capital
Capital does Not Granger Cause Industrial Growth	3.17709	0.057	
Industrial Growth Does not Granger Cause Trade	3.66715	0.038	Unidirectional Causality between Industrial Growth to Trade
Trade does Not Granger Cause Industrial Growth	1.25385	0.3	
Industrial Growth Does Not Granger Cause Labour	0.64108	0.534	No Causality between Industrial to Labour
Labour does Not Granger Cause Industrial Growth	1.58488	0.222	

In the above diagram, the results of the Granger Causality Test show that there have been a unidirectional causality running from trade openness to industrial growth and capital. However, no causal relationship showed between industrial growth and labor in the long run.

6. Conclusion

This empirical study has been mainly focused on the causal relationship between trade liberalization and industrial growth in Bangladesh by using the data from the period 1980 to 2016. In this paper, cointegration and error correction estimation approaches have been utilized in the aggregate function of industrial output growth in Bangladesh. A unique relation has been found between the descriptive variables and industries production. To determine the short-run dynamics around the equilibrium relationship, Error Correction Model have been estimated. And to determine the long run and casual relationship, ADF root test were used where the value showed that any reduction in industrial growth will negativity affect the openness in trade. The second test have been Johansen Cointegrating test, which reveals that only one cointegrating equation between the two variables exist. As it has been claimed by the third and fourth test i.e. Granger Causality test and VECM approach, it has explained clearly that both capital and industrial growth could cause openness in trade in long run and short run.

The findings that have found in this study: (i). Unidirectional long-run causality running from industrial growth to openness trade. (ii). Unidirectional long-run causality running from capital to trade openness. (iii). No causality running from labor to trade openness. Therefore, as per the statistics, the initial hypotheses have rejected which concludes the fact that both trade liberalization and industrial growth have a positive relationship in the context of Bangladesh.

Developing country like Bangladesh still has some structural deregulations which might be having positive impact on industrial growth in short-run. Bangladesh is also a labor-intensive country, for which few cases industrial production that responded insignificantly and negatively to capital formation. However, in the short run, the

statistics does not prove the significance of structural degradation and the formation of capital on industrial growth in Bangladesh.

The implication of the policy should be simple. Intervention of government is needed on the policies of trade liberalization in order to fasten up and sustain the industrial growth in Bangladesh. However, the policy implementation on the trade liberalization should be done slowly and carefully because excessive liberalization of trade could give disadvantages to industrial growth because openness in trade would allow more products in the market where it would also allow more substandard products. As a result, government should embark on structural deregulation so that there would be no chances for the substandard products to get into the market which could hamper Bangladesh economy in the short run. The anti-export bias trade policy, appreciation of taka in real terms against all major currencies including the US dollar, euro, rupee have come together to disappoint the export industries in general. So, policy should focus more on promoting export and correct the anti-export bias of trade policy. Other policies are concentrating on the reduction of cost of production by reducing the cost of doing business which is improving the infrastructure. These reforms not only will help to diversify the export-based goods such as leather, footwear, processed foods and electronics but also would create more job opportunities for citizen of Bangladesh.

One of the major limitations of the study is, in this research paper as because of the lack of relevant data, the sample size of this paper relatively small compared to the times series studies done in other countries. In addition, this controlled the variables within the model and limited the robustness of the accurate findings.

As for effective policies implication, there have been some issues and unambiguous conclusions of trade liberalization and industrial growth for many decades. Some researchers have investigated and tried to have developed strategies on the policies that could cause a positive outcome of industrial growth. Therefore, in order to prevent the issues like inefficient resource allocation, decline in economies of scale and technological spillover, it is very important for the government of Bangladesh to get involved in growth theory of trade liberalization and industries.

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