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Abstract:

Industrial growth and international trade are facilitated by good governance, as this paper demonstrates by empirically analysing the impact of country governance on the apparel industry performance. This paper contributes to the neo-institutional theory by adding cases based on emerging markets. The trade gravity model is employed to quantitatively analyse the impact of governance on the apparel industry performance. Drawing on the findings, this paper concludes that good governance facilitates performance of apparel trade at macro-level. However, the study also finds evidences of state capture and elite influence when good governance is achieved through non-democratic means. At empirical level the paper establishes the worldwide governance indicator (WGI) as applicable measure of the perception of governance when applied as explanatory variables. The paper also informs the trade policy bodies on sustainable performance initiatives.

Keywords: Country Governance, Apparel Trade, International Trade Performance

Word Count (6025)

Track: Performance management

**Impact of country governance on international trade performance: An apparel industry case study.**

1. Introduction

Growth and governance are positively related; there is substantial evidence that industrial growth and international trade are facilitated by good governance, as this paper will try to demonstrate by empirically analysing the impact of country governance on the apparel industry. From a theoretical point of view, apparel manufacturing is the first step of an emerging economy, due to its labour intensity factor and low skill requirements (Keane and Willem Te Velde, 2008). Moreover, the phasing out of the MFA (multi-fibre agreement) treaty and a growing global demand for affordable fashion contributed to the sector’s expansion (Kowalski and Molnar, 2009; Gelb, 2005; Francois and Spinanger, 2005). However, the available literature on process-based manufacturing is generally micro-level studies, and almost no empirical study in the field of apparel has tested the impact of country governance on trade performance. Therefore, in this paper, we envisage to investigate the extent of country governance impact on apparel trade. Our dependent variable is the apparel trade data from Bangladesh given the country’s overwhelming reliance on apparel industry (Kathuria and Malouche, 2016). We also go further to empirically test this on both exporting and importing countries, by adopting extended trade gravity model.

The aim is at contributing to the neo-institutional theory by adding cases based on emerging markets. The empirical model developed here also adds to the flexibility arguments of the trade gravity model, which in turn offers food for thought to policy makers and industry practitioners.

The remainder of this paper is articulated as follows. In section 2 we present the theoretical framework upon which the foundation of the paper is laid. Our hypotheses development also takes place in section 2. We specify the empirical model for analysis which is based on the general trade gravity model in section 3. Section 4 outlines the analytical methods and results. In section 5 we infer on the analysis and comment on the larger meanings of country governance impact. In section 6 we outline the policy implication of country governance impact and subsequently draw conclusion in section 7.

2. Theoretical framework.

Francis Fukuyama (2013:3) defined governance ‘as the ability to make and enforce rule and to deliver services’. There are four measures for governance analysis, which are i) procedural ii) capacity iii) output and (iv) autonomy. Another working definition of governance comes from the World Bank, which regards governance as the institutional tradition through which political authority is exercised in a country. The World Bank includes the process of selection, monitoring and replacement of government by accounting for the capacity of government to formulate and implement sound policies, citizenship and the perception of the institutions governing the economic and social interactions of those citizens (The World Bank, 2017). Also, the World Bank uses six measures to scrutinise country governance, known as the worldwide governance indicators -WGI (Kaufmann, Kraay and Zoido-Lobato 1999a, b.), namely voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. These measures capture the perceptions of the nature and quality of country governance through which formal and regulatory institutions exercise authority within and beyond national borders. The WGI measures are developed by first clustering data drawn from 31 sources[[1]](#footnote-1) into six dimensions of governance mentioned above, and then applying the unobserved components model for statistical standardisation, aggregation and margin of error construction[[2]](#footnote-2). The WGI use of perception measure instead of the actual measure of governance has been critiqued in governance literature (Thomas, 2010). However, Kaufmann, Kraay and Mastruzzi (2010:18) defended the use of perception measure in the development of the WGI data set arguing that perceptions data have particular value in measurement of governance because the actions of agents are, by and large, based on their perceptions, impression and views. Also, there are hardly any alternative than to rely on perception data in measuring many areas of governance. Theoretically this paper is based on the neo-institutional theory. We measure the quality of country governance by the strength of its public institutions.

To understand neo-institutionalism we first need to establish the definition of institution we adopted for this paper. Most cited definitions have come from the works of North (1990) and Scott (1995). North defined institution as constraints created by human beings to structure their own interactions with fellow members of the society (1990:3), while Scott’s (1995:33) embraced regulative, normative, and cognitive structures and activities as the basis for providing stability and meaning to social behaviour. Peng, Wang & Jiang(2008) categorised regulative, normative and cognitive pillars of institutions broadly as formal and informal emphasising that institutions govern transactions in politics, law and society. Formal institutions include law, regulations and rules; whereas informal institutions are comprised of norms, cultures and ethics. The fundamental role of institution is to reduce uncertainty for actors within the environment (Scott, 2008b) by creating the ruling norms of behaviours and defining boundaries of what is legitimate. Economists usually focus, (La Porta, Lopez-de-Silanes & Shleifer, 2008) on formal laws, rules and regulation, while sociologists are more attentive to culture, social norm and values (DiMaggio & Powell, 1983). In this paper formal institutions are understood through the nature and quality of country governance (Garrido et al, 2014), and measured using the six indicators of government gathered from the World Bank’s world governance indicators (WGI), as already done by and Oh and Oetzel (2011), Globerman and Shapiro (2003, 2002), Cuervo-Cazurra and Genc (2008). However, these works mostly used the WGI measures as control variables. Also, several studies have used the indicators as explanatory variables in similar fashion as ours, for example, Das and Andriamananjara (2006), Me´on and Sekkat (2005), Llamazares (2005), Apodaca (2004), Neumayer (2002). Other studies, including the developers of the WGI measures themselves, Kaufmann and Kraay (2002a); Dollar and Kraay (2003), Kaufmann and Kraay (2003), Naude, (2004); Globerman and Shapiro (2003; 2002); Cuervo-Cazurra and Genc (2008) used aggregation techniques or only one indicator out of six to measure quality of governance. It’s also noticeable that the users of the WGI measures are different in their preferences of using all the six measures or one aggregated measure. Scholars willing to test all the dimensions of governance generally used the six indicators without aggregation, whereas, scholars intending to investigate overall impact of governance favoured the aggregate measure as suggested by Kaufmann, Kraay, and Mastruzzi (2009). There are numerous studies on the construct and methodological validities of these measurements[[3]](#footnote-3), however, due to space constraint we do not intend to engage in the philosophical argument in this paper. We take all the six dimensions of the WGI measures to capture the nature of country governance through which formal and regulatory institutions exercise authority within and beyond national borders. We outline the dimensions, perceptions they measure and our coding of those measures in table 1.

*Table 1. The dimension of governance and measured perceptions*



*Source: Kaufmann, Kraay, and Mastruzzi (2011; 2009); Thomas (2010)*

The voice and accountability indicator captures the nature and extent of participation of the citizens of a country in selecting/electing political agents to govern their country. This indicator also takes freedom (of expression, association, and media) into consideration. Our hypothesis developed from this measure is:

*H1.*

*Democratic environment where the voice of the citizen and accountability of the government are upheld is beneficial to apparel trade. The better a country perform in voice and accountability the more it trades*

The political stability and absence of violence indicator measures the perception of political stability/volatility and politically motivated violence and terrorism and we hypothesise that

*H2.*

*The likelihood of non-democratic power shift and violent politics increase risk and trade cost. Political stability and absence of violence & terrorism positively impact apparel trade. Apparel trade is expected to thrive when politics is stable.*

The government effectiveness indicator measures the quality of public and civil services and how independent they are form political pressures. This indicator also captures the quality of policy formulation, implementation and commitment of the country’s government to those policies. Hypothesis formed from this is:

*H3. The governments’ ability to formulate and implement business friendly policies promote trade. Government’s effectiveness in policy making and effective implementation will increase the competitiveness of the industry.*

The impact of government policy in permitting and promoting private sectors’ development is measured by the regulatory quality indicator. Our hypothesis based on regulatory quality is:

*H4. Efficient regulatory environment ensures that businesses do not have to bear the burden of regulation to an extent that makes them less competitive. High regulatory quality in Bangladesh will increase apparel industry’s productivity.*

 The strengths and effectiveness of agencies to enforce contracts is measured through the rule of law indicator. This indicator also tests the confidence and boundaries of those agencies involved in law enforcement and social justice. We hypothesise that:

*H5. Existence of Rule of Law brings fairness in the system and provides confidence for economic transactions. The condition of Rule of Law will promote the apparel industry in global market.*

The control of corruption indicator accounts whether institutional power is exercised for private gain. Our hypothesis to test how corruption impacts apparel trade is:

*H6.Corruption increase transaction cost and results in collective losses. Trading countries’ success in controlling corruption will result in reduced transaction cost for apparel industry.*

We empirically analyse apparel industry for this study and understanding the dynamics of global apparel industry is necessary in this case. The apparel industry is a buyer driven industry and suppliers have the least bargaining power.  Presence of buyer-driven value chains is usually noticed in industries where production is labour intensive, non-specialised and requires low fixed cost. Manufacturers are in constant pressure to gain production efficiency and achieve low cost advantages which influences the shifting of production toward increasingly low labour cost locations. Therefore, we hypothesise that:

*H7. Low labour cost offers competitive advantage in apparel industry. Countries with this cost advantage will be competitive in global apparel manufacturing.*

The World Trade Organisation (WTO) and other international institutions play an important role in shaping the global apparel industry through various trade agreements. The Multi-Fibre Arrangement (MFA) worked as a control mechanism with its quota system to incentivise manufacturing in low-income countries, though this was later replaced by the WTO Agreement on Textiles and Clothing (WTO, 2014). Similar to the MFA, the generalised scheme of preferences (GSP) from industrialised economies helped the apparel industry to increase its scale, scope and growth (Gelb, 2005; Francois and Spinanger, 2005). The GSP offers tariff reduction to developing countries to promote export trade (Panagarya, 2002; The European Commission 2014; USTR.Gov 2014). Therefore, we hypothesise:

*H8. Preferential trade agreements increase bilateral trade between trading nations and provides apparel exporters with cost competitiveness and increase apparel export.*

Recently there has been a renewed interest in investigating the cost of geographic distance in international trade. Distance studies prove that although geographic distance related costs have reduced significantly over the years, such costs still matters (Hutzschenreuter, Kleindienst, and Lange, 2015: Disdier and Head, 2008). We hypothesise that:

*H9. Cost of apparel trading increases with the geographic distance, hence, distance has a diminishing effect on trade. Apparel traders will look for trading partners closer to their political borders.*

The hypotheses drawn from the literature can be grouped as the i) structural variable based hypotheses that test the impact of the trade gravity in terms of the economic performances (GDP per capita) of the trading countries and the geographic distance between trade partners; ii) institutional variable based hypotheses to test the impact of country governance (six governance indicators) on trade; and finally iii) Control variable based hypotheses to test the impact of preferential trade agreements on bilateral trade.

**3. Model Specification**

To quantitatively analyse the impact of governance on apparel trade the trade gravity model is used which states that the trade between any two countries is proportional to the product of their GDP and diminishes with distance when other things are equal A general gravity model is estimated in the following equation:

|  |  |
| --- | --- |
|  | *………………* (i) |

where G is a constant term, *Fi j*  is the value of trade between country *i* and country *j, Mi* is the GDP of country *i* and M*j* is the GDP of country *j* and *Di j* is the distance between. This means, the value of trade between two countries is directly proportional, other things equal, to the product of the two countries’ GDP, and inversely related to the distance between the two countries. The gravity model is based on the Newtonian physical law of gravity and first applied to analyse trade flow by Tinbergen (1962) and since then the model provided the closest fit to overserved trade flow. However, mainstream economists were reluctant earlier to apply the model due to lack of theoretical foundation. Over the years, however, the model has evolved to be consistent with the theoretical structures of mainstream economics and a proliferation of gravity model based trade analysis is observed in the international trade scholarship (Andersen, 1979, 2016). The popularity of the model is aptly captured by Head and Mayer (2014) as the workhorse, toolkit, and cookbook for international economics studies.

Our model is an extension of the trade gravity model. Previous studies conducted by Lee, Karpova and Lee (2014), Chi and Kilduff (2010), Eve and Au (2006) employed gravity model based empirical foundation to explain apparel trade. We extend the model by adding the country governance variables to the general gravity model. The institutional factors of governance is assumed here as endogenous in the process of international trade theory development (Parrinello, 2002). We also recognise that there are a few challenges of gravity model based trade analysis. Selecting fixed or random effects models is a priority while using panel data. Ülengin et al (2015) suggest that the characteristics of trade flows between pre-selected trading partners are better identified by the fixed effect model. On the contrary, Paladini & Cheng (2015) advised in favour of the random effect model when appropriate tests signal the presence of random effects. Their appropriate tests consists of Weighted least squares (WLS) panel data model and Poisson model. They discouraged ordinary least square (OLS) model with log-linearized parameters as Anderson & van Wincoop (2003) did earlier due to its tendency of generating biased results. Moreover, Silva & Tenreyro (2006) suggest that the gravity model should be applied in multiplicative form to offset heteroskedasticity and zero trade problem in addressing biases arise from OLS estimation. Heteroskedasticity refers to a situation where there is unequal variance in the error term. Gujarati (2014:96) stated that heteroscedasticity occurs due to the presence of outliers, the use of incorrect functional form of the regression model, data transformation errors and mixing observations with different measures of scale. To steer clear from heteroskedacity and zero trade related biases Silva & Tenreyro (2006) adopted a pseudo maximum likelihood (PML) estimators. The discovery of zero trade flow between any country pair is also common in the event of trade analysis. It is appropriate to assume that the empirical evidence of zero trade flow can be traced as far back as Linnemann’s work (1966) where he evidenced that almost half of all bilateral trade flows were zero. Existence of zero trade values in the data set while applying gravity model also generate estimation biases. We discovered zero trade flows in our data set too and adopted sampling technique discussed in detail in the data section to avoid dependent variables equals to zero.

Another issue that arise from the OLS estimation based gravity model is the multicollinearity problem which occurs due to the presence of high inter-correlations among the independent variables. Moreover, in order to avoid multicollinearity, independent variables need to be chosen carefully. Here we have used GDP per capita as the measure for the economic size of trading countries to avoid multicollinearity problem (Walsh, 2011), a variable that serves as the proxy of labour cost in the absence of industry specific labour cost data for Bangladesh. We discuss this intuitive proxy data in section 4.

To scrutinise the apparel trade performance this study has first adopted the overall trade value that accounts for both export and import trade as the base model (Helpman, Melitz. and Rubinstein, 2008). The interaction of trade with GDP has been taken for the third model to test the size adjusted trade, while the export trade as the dependent variable has been adopted for the third model, as follows:

Tijt = α0+ GDP per cap + PTA+ ∑(country governance)+distance + εijt -----(i)

Adj. Tijt = α0+ GDP per cap + PTA+ ∑(country governance)+distance + εijt -----(ii)

Exp. Tijt = α0+ GDP per cap + PTA+ ∑(country governance)+distance + εij--(iii)

The impacts of the independent and the control variable may have a cyclic impact on the dependent variable and to answer for that a one year lag on the governance, PTA and economic indicator is applied as the fourth model.

Tijt =  α0+ GDP per capt-1 + PTAt-1+ ∑(country governance)t-1+distance + εijt-1 (v)

4. Data analysis

Data from the World Bank, Comtrade, and the CEPII databases are merged into a panel dataset of 16 years 2000-2015, including 30878 observations that capture both export and import trade of apparels (HS 96)[[4]](#footnote-4) for all trade partners. We used Harmonized Commodity Description and Coding Systems (HS) 1996, an international nomenclature for commodity classification, to gather our dependent variable data sample. With the Harmonized System, trading countries classify traded goods on a common basis for customs purposes. The classification is based on a six-digit code system. Data sampling has been conducted using the HS 96 coding system to capture data for years 2000-2015. Since this study intended to examine the impact of country governance on trade performance within the apparel sector, it seemed justified to sample data on a country for which apparel trading is the most value adding industry in the net export income. Our research suggested that the industry accounts for 81% of the total export revenue for Bangladesh and that more than 4 million people is directly linked with this industry (BGMEA, 2017; Kathuria and Malouche, 2016). Initial data search is conducted using Bangladesh as the reporting country and rest of the world as partner countries with free on board (FOB) values. However, Bangladesh reported data up to the year 2011 and there is a 4-year-lag in reporting[[5]](#footnote-5). To address this issue, alternatives are suggested to ensure that data availability issue does not discourage emerging market research (Gleditsch, 2002). Our alternative here is to use CIF values (cost insurance and freight) instead of FOB values[[6]](#footnote-6). The data set with CIF values contains around 54000 data point. Due to large spread and abnormality in the distribution, sampling method has been implemented in order to reduce outliers, and filter of ≥$50000 applied on the trade values reduced the data set to 30878. To test the difference between FOB and CIF values, the mean for both values for the year of 2011 have been compared, in what has been defined as ‘fobisation’ technique by Gaulier and Zignago (2010:12)[[7]](#footnote-7). CIF and FOB are mirror values, since CIF is FOB plus Insurance and Freight costs. Nonetheless, significant discrepancies do exist (Hummels and Lugovskyy 2006); Gaulier et al, 2008; De Benedictis and Taglioni, 2011), suggesting the use of either CIF or FOB within the dataset for consistence. Also, this sampling technique allowed us to create a dataset without observation of zero trade flows hence reduce possible biases as mentioned earlier. In the second model, the dependant variable is the size-adjusted trade value, tested against all the independent variables. The adjusted data is given by the ratio of trade and GDP.

Economic mass (GDP per capita), and geographic distance are the two typical independent variables of gravity models. In the present study, they both appear to be highly relevant in terms of economic performance relation and associated differences among trade partners. In this case GDP per capita also serves as an intuitive proxy for industry specific labour cost. The apparel is the biggest industrial sector accounts for $25 bn export revenue in 2015 which is 14% of the entire GDP of Bangladesh (CIA.gov, 2017) and we take the variable GDP per capita as a proxy for the labour cost given the country’s overwhelming reliance on this industry (Salam and McLean, 2013). The garment industry value chain suggests that labour cost is one of the most important factors in apparel industry’s performance which is determined by the cost competencies of manufacturing countries. The garment industry value chain suggests that labour cost is one of the most important factors in apparel industry’s performance. It’s a buyer driven industry and labour wage is determined to a large extent by the cost competencies of manufacturing countries. Analytic labour costs for Bangladesh garment industry are not available as in the case of OECD countries, therefore data have been estimated from International Labour Organisation (ILO)’s literature and the economic relationship between wage earning and per capita income. GDP per capita data for years 2000-2015 have been retrieved from the World Bank’s WDI database, in current U.S dollars. Use of proxy to address actual data unavailability is common practice as we see that night-light is used in Henderson, Storeygard and Weil, (2012) as proxy for comparative slow economic growth in sub-Saharan Africa. We use current instead of constant U.S. dollars GDP per capita data to be consistent with our dependent variable data which is in current U.S. dollar. The geographic distance data (in km) comes from the CEPII database, while the measures of pair distances were calculated between the capital city of Bangladesh (Dhaka) and partners’ capital cities. Whenever CEPII data were not available, Google Map has been used, controlling for discrepancies between the two with a random sample taken from the 214 available distances in the CEPII database.

The governance indicators (WGI) used here are in estimated scores. The higher a country scores, the better it performs across the above-mentioned six indicators. Methodologically these indicators are prone to margin of errors and this is taken into consideration in analysis. The estimations data are used in stages to identify any difference in analysis outcome. The range of the estimation is between -2.5 to 2.5 and, in order to avoid negative figures, 2.5 has been added (Oh and Oetzel, 2011), to convert the estimating values between 0 and 5. WGI measures are very useful tool for comparison and evaluation of broad trends over a time period but they have limitations in capturing the impacts of reforms and evolutionary progresses. It is understood that given the data collection techniques and methodology applied by WGI there are high pairwise correlation among these six indicators. Therefore, models are run in stages where all WGI indicators are included at the first stage and subsequent stages only include one indicator at a time (Oh and Oetzel, 2011). Preferential trade agreement (PTA) is taken as control variable, with the generalised scheme of preference (GSP) taken as proxy for PTAs within apparel industry and used as dummy variable.

The resulting panel dataset is unbalanced, since there are missing data for the dependent and independent variables for some countries for some years (Greenaway, Mahabir and Milner, 2008:13). To avoid endogeneity problems[[8]](#footnote-8) a one-year lagged model is also used.

The observation from the correlation matrix showed that the six country governance indicators mentioned above have strong positive correlation among themselves and also with per capita income. This is perhaps due to a very strong positive causal effect between better governance and per capita income. Better governance in a country results into economic growth, better distribution of wealth and increased per capita income for people within the country (Kaufmann and Kraay, 2002b). The matrix also demonstrated that control of corruption (*bdcorruption*), regulatory quality (*bdreg*), rule of law (*bdlaw*) and voice and accountability (*bdvoice*) indicators for Bangladesh country governance are negatively correlated with the overall country governance indicators. However, the strength of the correlation is low. Due to the pairwise correlations between the governance indicators the regression models do not include all these indicators at the same time. They are included one by one in six separate steps (Oh and Oetzel, 2011).

*Table 2: Descriptive statistics and the correlation matrix.*





5. Discussion of the regression results.

Table 3 presents the results of regressions as modelled above. The dependent variable for the base model is the trade value which counts for both export and import trade. The Ordinary least square (OLS), Random effect (RE) and Poisson estimators at 95% confidence level are applied for all four models. The OLS as baseline estimator has been subject to criticism both from theoretical and econometric point of views when it comes to gravity model based trade analysis (UNESCAP, nd). To steer away from this criticism Random effect and Poisson estimators are applied (Paladini & Cheng, 2015). However, the R2 values from the Random Effect model and Poisson estimators are small and close to the OLS estimated results, even though this does not necessarily mean that the models are not significant and unworthy of interpretations. The effect size is small in the models but the economic significance deserves full attention. This study explores how the institutional factors influence trade performance, and the results demonstrate reliable relationships between the trade performance and institutional qualities. Columns 1-6 presents the coefficients and standard errors at 95% confidence level for the independent variables while taking the country variables one by one in six steps. The results demonstrate that performance at country’s governance level positively influence trade. Per capita income of trading countries and distance between country pairs are the two structural variables of the gravity model and the results produced here supports the theory. The signs of the coefficients are all positive for per capita income variables except for the case of holding government effectiveness indicator. Here, the results from the OLS and the RE estimators show negative impacts on trade although the magnitudes are small. The Poisson estimator has not produced any significant result in this case. Per capita income is used as a proxy for labour cost in a given country, which is the biggest attribute of manufacturing cost in a low skill industry. Cost of manufacturing is identified as one of the most important criterion in manufacturing base selection for this industry and it’s perceived that with the rise of labour cost manufacturing base shifts. Therefore, it’s possible to find a negative impact of rising per capita income on export performance in low skill industry (Kathuria and Malouche, 2016). This result somehow contradicts the general understanding of the virtuous circle where good governance leads to trade growth, also noted by Kaufmann and Kraay (2002b:25), who speculated about the possible impact of ‘elite influence’ and ‘state capture’ and the way they explain the negative effect of per capita income on governance. Another interesting point identified in the results is that only the political stability indicator showed significance when country governance within Bangladesh is considered. The results for generalised scheme of preference (GSP) dummy demonstrated positive impact of preferential trade agreement on bilateral trade as expected.

In terms of comparison among models, the size adjusted trade model produced similar results (Table 4) as the base model. However, the impact of the distance variable is not visible as strongly as it is in the base model. The adjusted trade model does not show any significance of the quality of country governance within Bangladesh. To check the impact of the independent variable a third model is run with export trade value as the dependent variable. The results are presented in Table 5. This model also has not produced any significance of the quality of country governance within Bangladesh. In this model the distance variable is not significant in most estimations. A lag model has been run with one-year lagged explanatory variables to identify the possible impact of the independent variables. This procedure also control for any possible endogeneity problems. The results are presented in Table 6. This lag model has produced results where the significance of the quality of country governance within Bangladesh is more vividly present. This explains that the negative impact of poor governance is more widely observed in the subsequent years after a period of political disruption and bad governance. Among the structural variables the per capita income of Bangladesh shows persistence in terms of significance across all models. The voice and accountability indicator of country governance appear as the least persistent among the six governance indicators. The control of corruption, government effectiveness, political stability, regulatory quality indicators are the most significant and persistent.

The results from the base model (except for government effectiveness and Rule of Law stages- table 3, column 2 and 5), export trade model (table 5) and the lagged model (table 6) show positive impact of per capita income. This means that per capita income in the importing countries works as demand catalyst. These results also highlight the correlation between the importing countries per capita income increase and the per capita income of Bangladeshi people, in a virtuous circle of mutual growth in income and living standards. Given the significance of the apparel industry in Bangladeshi economy, a better performance will benefit the whole nation and its population.

Finally, the regression results of the base model (i) and the lagged model (iv) statistically produced the expected negative results for the distance variable. On the contrary, the adjusted trade model (ii) and the export only trade model (iii) have not produced significance for the distance indicator. It’s worth mentioning that gravity model predicts that bilateral trade diminishes with the increase of geographic distance which implies that countries geographically closer to each other trade more between themselves. However, we found form that descriptive statistics that almost all big trade partners of Bangladeshi apparel are not close to its political border and the average distance is approximately 5526.853 km which is exponential of the mean value 8.617377 (table 2). A study conducted earlier by Berthelon and Freund’s (2004) also identified that 75% of industries do not produce diminishing effect of distance when gravity model is applied for industry-level trade study. Therefore, it can be inferred that in the case of apparel industry the diminishing effect of distance is a rather statistical phenomenon.

*Table 3 OLS, RE and Poisson regression results for the base model.*



Table 4 *OLS, RE and Poisson regression results for the size adjusted trade model*



Table 5 *OLS, RE and Poisson regression results for the export trade*



Table 6 *OLS, RE and Poisson regression results for the one-year lagged model.*



6. Implications for Bangladeshi economic policy.

The negative results from the base model and the size adjusted trade model (table 3 and 4) can be interpreted in the sense that consumers with higher income are likely to demand higher value product and requiring high-end products imported from countries such as Italy. This implies that Bangladesh should strive to move its exports up in the value chain and diversify in range and scope. There are concerns in this area mainly in terms of production cost increase with the initiation of the minimum wage policy. Smaller manufacturers are going out of the business as they are not able to absorb increasing cost within the existing economy of scale and scope. The World Bank study cited earlier (Kathuria and Malouche, 2016:21) also indicated that performance of apparel industry in relation to per capita increase appear to be a bell shaped curve relation where performance keeps increasing until income reach $2000/year (income per capita in Bangladesh was $1200 in 2015) and after that it decreases if further value addition does not take place.

The process by which governments are selected, monitored, and replaced is important in creating and sustaining environment beneficial to businesses. This process is consisted of Voice & Accountability and Political Stability &Absence of Violence/Terrorism indicators. The Voice & Accountability indicator captures citizens’ participation in selecting their government the freedom of expression, association and media. The regression results do not completely support this hypothesis, and the expected positive result is only available in the adjusted trade model across all three estimators (table 4 column 4). The base model, export trade model and lagged model produced expected results mostly in one estimator. When the indicator is taken only for Bangladesh data is not significant. The Political Stability Indicator captures the likelihood of government instability and power shift through non-democratic and violent means. The political stability indicator shows significant across all the models, even though not with, the expected positive sign. The lagged model produced expected result when political stability in Bangladesh is counted for (table 6 column 3). The finding of the lagged model implies that regular political disruption and politically motivated street violence in Bangladesh may increase cost and lead time in the recent past when politics was violent. However, the stability may not always be democratically achieved. There are circumstances when politics is stabilised by means of brute force and only the socio political elites reap the benefit from the imposed stability. This probably explains the negative results in the models, and supports the notion of ‘elite influence’ and ‘state capture’ identified in Kaufmann and Kraay (2002b:25). This negative influence of imposed stability is voiced by the trade associations, which are believed to have close proximity to power and can influence policy.

The governments’ capacity to formulate and implement good policies is captured by the Government Effectiveness and the Regulatory Quality indicators. The Government Effectiveness indicates the qualities of public and civil services and the degree of autonomy they have from political pressure. This also indicates governments’ policy formulation capacity and commitment to implementation. The Regulatory quality indicates presence of benign regulatory environment that allow and endorse the development of private sector. The regression results across all models and estimators support these hypotheses. Regardless of what form of government was in power over the years they were all favourable to the industry. This has been possible due to the continuous dialogues between the trade associations and the government. High regulatory quality in Bangladesh will increase apparel industry’s productivity by reducing the burden of regulation.

The Rule of Law captures the confidence the transacting agents have in a legal system that upholds contractual and property rights and in the fairness of the law enforcement and judicial systems. The control of corruption indicates the level of public power exercised for private gains, a hypothesis supported by the results from all the models (table 3, 4, 5 and 6 column 1). Corruption increase transaction cost and results in collective losses. Bangladesh’s success in controlling corruption will result in reduced transaction cost for apparel industry. The poor condition in this area in Bangladesh and in some of the importing countries may result in increased cost of trading and reduce the flow of trade. There is an urge within the business community to promote ethical standard. Also, practitioners think initiation of e-governance will reduce frontline corruptions and cost of doing business. It’s worth noting that strong links are observed among the three groups of institutional variables, complementary to each other and where a better performance in one area will increase performance in other areas too.

Preferential trade agreements are known to generally increase bilateral trade between trading nations and, in this specific case, through the GPS scheme, they have also allowed Bangladesh to build on cost competitiveness and increase its apparel export. The negative impact of GSP withdrawal by the U.S.A. has produced, as a matter of fact, negative effect on the Bangladeshi industry. Without the GSP scheme, its cost competitiveness may disappear and a sustained effort from the government is needed to ensure that Bangladesh keeps its GSP facilities.

7. Conclusions

The study has measured and discussed the implications of the good governance on trade performance, an area yet not sufficiently explored.

There is evidence here that the economic significance of country governance is high, however, the direct impact of the governance factors on the industry is subtle. The results also imply that the apparel trading nations need to pay attention to improving the quality of their country governance to stay competitive in highly dynamic production business. The low labour cost advantage may not be enough to sustain growth as labour cost will rise even in the lowest cost countries in parallel with the growth of their economics. Another important factor needs consideration here is the automation of the industries. A latest ILO publication predicts that by the year 2026 the large scale of robotic automation process will be cost effective (Chang, Rynhart and Huynh 2016). This will have substantive disruptive impact in the form of job displacement in apparel production bases. Incumbent governments need to create and implement policies to up-skill their labour force to stay relevant the age of automated production system worked by sew-bots, CADs and body-scanners. Improving on the governance will certainly equip governance in facing the challenges of fast moving technologies and high skill requirements.

This article has only used Bangladeshi apparel trade data, although generalisable given the stage of economic development most apparel manufacturing countries are, is a limitation of the research. Further research with a sample from ASEAN countries might extend and generalise the implications for country governance in the process driven manufacturing.

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Appendix 1 WGI Data sources:



Source: Table 1: WGI Data Sources, in Kaufmann, D., Kraay, A. and Mastruzzi, M., (2011:29)

1. Detail of the sources is available in Appendix 1 WGI Data sources. [↑](#footnote-ref-1)
2. A full detail of the methodology is available in Kaufmann, Kraay and Mastruzzi (2010). [↑](#footnote-ref-2)
3. See Worldwide Governance Indicators <http://info.worldbank.org/governance/wgi/#doc> for studies conducted on the methodological appropriateness. [↑](#footnote-ref-3)
4. See <https://unstats.un.org/unsd/tradekb/Knowledgebase/Harmonized-Commodity-Description-and-Coding-Systems-HS> for detail. [↑](#footnote-ref-4)
5. It is understood in emerging/developing country research that many countries statistical reporting system lags behind the OECD regions and most recent data is not always available. See Bangladesh statistical capacity for more detail http://data.worldbank.org/country/bangladesh. [↑](#footnote-ref-5)
6. To get the most recent CIF data set a second search is conducted using Bangladesh as partner and the rest of the world as reporter and thus data up to the year 2015 is found. It is also understood in trade research that cost insurance and freight (CIF) values are more correctly reported than free on board (FOB) values due to custom rules and reporting standard for FOB. [↑](#footnote-ref-6)
7. They used the ratio of CIF/FOB to identify any significant difference between the two reported values. They also said differences have to be large enough to have any sizable impact. [↑](#footnote-ref-7)
8. Endogeneity arises due omitted variables, simultaneity between a predictor and the outcome, and errors in regression covariates. See Terza, Basu and Rathouz (2008) and Oh and Oetzel (2011 [↑](#footnote-ref-8)