Bureaucratic Efficiency as Determinant of Trade Openness in SAARC Countries

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Abstract

The study explores how bureaucratic efficiency aeffects international trade in Bangladesh, Pakistan, India, and Sri Llanka. A composite indicator of government effectiveness is used to measure bureaucratic efficiency and the model is estimated by using the SYS-GMM. It is well recognized that bureaucratic efficiency is vital to the enhancement of trade, whereas the result shows that a negative relationship exists between bureaucratic efficiency and trade openness. Similarly, encouraging links exists between government size and international trade as the government provides different services to enhance the trade inat the international market.

Key Words
Bureaucratic Efficiency, Democracy, Government Size, Trade Openness

Introduction

Bureaucracy is an essential body of government. Most economists use the term bureaucracy for describing nonmarket organizations. Since the inception of this varies concept, bureaucrats and the policymakers have introduced a wide range of indicators to assess it and worked to measure its efficiency, all these efforts have been initiated due to lack of appropriate data set, (Brunetti, 1997). Its existence makes the convenient allocation of public resources to optimal ends. Pioneering work carried on during the late 80s emphasized that trade activities are enhanced through better functioning of bureaucratic activities, which is duly proactive in accelerating the economic growth process. A threshold level of bureaucratic efficiency is mandatory to formulate certain policies that encourage the movement of services and goods active across the borders. The efficient survival and effectiveness of bureaucratic efficiency catalyze the process of competition in international markets. Contrary to the scenario portrayed above, poor bureaucratic efficiency discourages the trade openness and causes delays in shipments and becomes responsible for the time cost for managers. Over time, there has been a consensus that the factors of economic growth are not policies, but the underlying institutions which are representatives of the bureaucracy. Institutional indicators such as bureaucrat's productivity have shown a major impact on international trade and development (Rodrik 1998). Literature center of attention is whether international openness has a major effect on bureaucratic efficiency. This link between trade openness and bureaucratic efficiency has been emphasized by Rodrik (1998). Studies addressed a question of whether countries with openness to international trade are highly bureaucratic efficient, after controlling for another country-specific and how trade openness and bureaucratic efficiency be measured**?** Beginning with Chan, (2002) who suggested that openness may boost up bureaucratic competence as the efficiency of bureaucracy also helps countries to devise such strategies which are fruitful. In addition, it also helps to gain the pace of development, particularly in the context of the poor countries of the world, pointed out by Mauro (1995) and Rodrik *et al*, (2004).

Apropos, the sound theoretical evidence about the bureaucratic efficiency and economic development has not been supported by the empirical studies, hence there is a need to conduct studies on bureaucratic efficiency and economic development on a wide ground. The less empirical literature on bureaucratic productivity and degree of openness goes back to the lack of appropriate data. Although literature is available on how bureaucratic productivity affects economic

development,theoretical ideas about bureaucratic output and openness are not backed by any strong empirical evidence. Due to the lack of empirical evidence of bureaucratic efficiency, this research attempt to put in the empirical literature associated with bureaucratic efficiency and degree of openness.

Bureaucracy is broadly defined as a kind of institute with the qualities of work divisions, basic quality of societal relations, and so forth. The embodiment of bureaucracy is to give power to wide-ranging links to be overseen, to achieve effectiveness and be more accountable to the individuals. Moreover, in other word bureaucracy is an established phenomenon relating to the management structure, coped by any institute with non-elected officials. Max Weber refers to bureaucracy the perfect and level-headed kind of institute, valuable for the achievement of encouraging outcomes. He takes note of the dysfunctions of bureaucracy because of excessive utilization of its managing standards by officeholders. The top organizations have badly contact on social and economic improvement, mostly in deprived people. Bureaucratic performance means how bureaucrats are effectively engaged in formulating and implementing policies as well as regulating and delivering services. Our main purpose is to find the relationship between bureaucratic efficiency and openness mechanisms. In particular, we study how the consumption of governments relies on the degree of openness and key variables. This research is planned as follows. Part 2 represents the detailed literature analysis. Segment 3 puts up the model framework. Section 4 derives the data source and descriptive analysis. Section 5 draws the effects of bureaucratic productivity on the degree of openness and analyzes the outcome of the model. In the last part of section 6, a conclusion and policy implications are presented.

Literature Review

In the present study, we tried to develop an alternative framework to make a clear understanding of the link between the openness of trade and bureaucratic efficiency. Rauch and Evans (2000) analyzed the characteristics of government bureaucracies for the time period 1990-1995 in case of 35 least developed countries (LDCs). The findings suggested that state bureaucracy variables, i.e. salaries, internal promotion, meritocratic recruitment, and controlled variables are education. However, income and ethnolinguistic diversity affect bureaucratic efficiency. The result showed that the most important element for improving bureaucratic efficiency was meritocratic recruitment, whereas competitive salaries have an ambiguous effect on bureaucratic efficiency. On similar lines, promotions and career stability affect bureaucratic performances positively.

Based on the panel data set of samples of around 38 to 82 countries, Dutt, (2009) concluded a strong link between bureaucratic corruption and trade protectionist strategy along with evidence on pro-trade liberalization. The research concluded that trade openness leads to lessening bureaucratic dishonesty. Alesina & Wacziarg (1998) affirmed the same relation while utilizing government transfer as a part of GDP and found that a greater amount of open economies brings bigger legislatures. The poor performance of the institutions which increased the cost and risk leads to weak international trade openness. Extending this they checked for the empirical confirmation of the effect of excellence of institutions on openness and found that the inverse relationship between both. Mauro (1995) and Rodrik *et al*, (2004).: explored the link between, democracy, international trade, and income and found that there is a negative relationship between trade and democracy. They found an inverse channel in which ill-functioning institution's impact efficiency and output and that lesser output is a hurdle to bring efficiency which is probable to have unhelpful effects of openness

Levchenko, (2007) showed that there are trade gains and comparative advantage when there had been a disparity in the worth of institutions across countries. The researchers studied the effect of trade openness on institutional change and he assumed that there was a similar technology between countries than countries would try to get the best possible level of institutions by creating competition among institutional production. Institutions may also sensitize trade through indirect channels that affect other variables that determine trade (Benarroch, Pandey (2012); Knack and Keefer, (1995**).** Meon and Sekkat (2004) investigated that the weakening in the efficiency of institutions showed lower performance in terms of (FDI) attractiveness. Ades & Tella (1999) checked the link between corruption and competition environment of bureaucrats and found that society pays out resources to perceive the corrupt bureaucrats and to enhance increased competition. The research utilized three variables to determine the equilibrium level of corruption, such as salaries paid to bureaucrats, level of supervision and profit margins. The research concluded that the diminishing level of corruption showed the way to increase trade openness to high competition.

Gatti (1999) examined whether open countries are associated with less corruption and findings recommended that trade obstruction leads to higher corruption. Institution efficiency and trade openness increase the costs connected with incorporation and openness. Dollar & Kraay (2003) proposed that due to the high connection between openness and institutions, both determinants of growth give insignificant results. They found that in the long run, a significant combined outcome of trade and institutions on development exists, but a bigger part of trade

solely exists for development in the small-time period. This recommends that high-quality institutions are critical to the capability of a country to make long-time period development increase from openness. The outcome implies that the weaker growth benefits of openness in African countries may be due to incompetent institutions. Another extremely quoted research effort to untie the effect of openness and institutions on development is Benarroch, Pandey (2012)**.** Few of the existing research demonstrates the positive impact of bureaucratic competence and international openness.

Costinot (2004) recommend a straightforward theory of openness with endogenous technical dissimilarity across countries. The center of the study shows the distribution of worker. Under autarky, worker range adds to with institutional excellence, but declines in human capital per labor. I can be concluded that when states open the international trade institutional efficiency and education are essential factors of comparative benefit in bigger industries. Political institutions from the lawful methods that identify the set of laws that govern the switch at home and worldwide marketplace. Devoid of a suitable inducement structure inside political institutions, set of laws may be considered to grant political gains to particular groups at the cost of the public, which usually is deficient in essential lawful defense against state expropriation of private property. In such a situation, government investment tends to be infertile leading to adverse trade benefits.

The debate can be précis by the following hypothesis that had the bureaucratic performance had a constructive impact on international trade of an economy. The debate in the above paragraph highlights, can bureaucratic competency direct to more openness? Chan (2002) finds that nation for stronger by, the organization may focus on liberal trade, more skillful. We assess in turn theory that might make summarized as the bureaucratic output provides an encouraging impulsion for a liberal trade.

Theoretical Framework and Model Specification

Trade sectors' success lies in the competition with the external world. As explained by Cameron (1978), the countries possessing ingrained institutions to determine the conflict, gain more from international openness. Productivity in the performance of state organizations provided infrastructure leading to expanding in trade income. Due to the efficient global market, the government provides social insurance against external shocks, increasing export earnings. Chan (2002) investigated the impact of bureaucratic competence on international openness and found bureaucratic inefficiency as the biggest obstacles to compete with the country's products in the global market. Inefficient bureaucrats create losses to the citizens and to the businessman as this reduces the benefits from goods and services provided.

The impact of bureaucratic competence on international openness in our theoretical model works through different channels. Bureaucratic efficiency is required to progress trade openness. Trade openness creates less incentive for corruption and gives the bureaucrats less discretionary authority due to sky-scraping rivalry with the international market. The government addresses diverse challenges well-organized and less expensive due to efficient bureaucracy. It is well recognized that bureaucratic output is crucial for the appropriate functioning of the economy. The quality of bureaucracy is critical to determine the effect of bureaucratic involvement in the enhancement of trade. It has been argued that government expenditures produced a positive effect on trade. The bureaucrats may have high or low quality. Efficient bureaucracy set priority in the interest of citizens and services are provided are highly valued by users. It is inefficient bureaucrats which lead to uncertainty and minimize accountability procedures and output. Bureaucratic efficiency is extremely and increasingly important in every sphere of society. Bureaucratic efficiency is and should be the central objective to increase trade openness and risk reduction. The reason for the prevalence of bureaucratic efficiency may be that it is able to minimize the uncertainty reduction to enhance trade openness. The aspect of bureaucratic efficiency yields two advantages: to enhance the trade openness, it reduces the risk factor and reduces the government size by setting the policies which reduce the external risk.

The government provides goods and services to enhance trade at international level as trade has to compete for the international market and the size of government consumption provide security against the external risk to trade due to high competition at the global market. Because of high and efficient international trade market competition, improvement in the competency of bureaucrats will increase the efficiency and earning of the traded goods. This established the link between government consumption, international openness and bureaucratic efficiency as open market increase the bureaucratic efficiency and size of government consumption leads to an increase the openness to trade. Therefore a well-built trade direction must lead to upgrading in bureaucratic competency and increase in size of government leads to enhance trade openness. The estimation process of trade openness, bureaucratic efficiency, and government size might bear equations bias due to some of the explanatory variables might not be really exogenous. As a result, we analyze the trade openness equation by using bureaucratic

efficiency and government size as an independent variable. To look at the effect of bureaucratic competence on international trade, this research used the equation given by (Chan, 2002).

$$TO_{jt} = f(BE_{jt}, HDI_{jt}, DE_{jt}, GS_{jt}) \qquad (1)$$

$$TO \quad j$$

Shows the openness of countries. The Study measured trade as a percentage of GDP as trade openness.DE shows democracy and GS represent state size measured as government consumption as a percentage of GDP. HDI shows human development index.

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$$\Delta TO_{it} = \alpha_\circ + \beta_1 \Delta TO_{jt=1} + \beta_2 \Delta BE_{Jt-1} + \beta_3 \Delta GS_{jt-1} + \beta_4 \Delta HDI_{jt-1} + \beta_5 \Delta DE_{jt-1} + U_{it} + \Delta v_t - -(2)$$

One period lagged independent variables in the equation (2) are included to evade the possibility of multicollinearity and endogeneity among the variables. We, therefore, make use of the dynamic system (GMM) estimator to overcome the serial correlation and endogeneity problem.

Data Sources and Descriptive Analysis

The data consists of four countries (Bangladesh, India, Srilanka, and Pakistan) over the period 1996-2016. The dependent variable consists of trade openness and data is selected from World Bank 2016 online database. Our independent variable of interest is bureaucratic efficiency. We considered bureaucratic efficiency (government effectiveness) from worldwide Governance Indicators (World Bank 2016) online database. The bureaucratic efficiency (BE) is collected through government effectiveness index, which ranges from -2.5 to +2.5. We considered the democracy from Freedom House (Freedom House 2016) online database. This index ranges from 1.00 to 7.00 scales. Human development index and government size (GS_{jt}) data are taken from the World Bank 2016 data base.

Descriptive analysis of international openness and bureaucratic efficiency is shown in table A1. (See Appendix Table A1)

Results and Discussion

The researcher analyzed the correlation among openness, bureaucratic competency, democracy HDI and government consumption to evaluate the intercorrelation among the regressors. Table B1 showed an analysis of the correlation results.

Empirical Methodology

By using different empirical methods, we find the results which are shown in Table 1.

Table 1. Results

	TO_{jt}		
Variables	**Pooled OLS**	**FE**	**RE**
Constant	4.33***	0.99	0.06
	(0.49)	(0.69)	(0.079)
BE_{jt}	-0.11	-0.141	-0.04
	(0.093)	(1.37)	(-0.39)
HDI_{jt}	1.70***	0.75**	0.05
	(0.17)	(0.25)	(1.14)

DE_{jt}	0.246**	-0.41**	-0.39***
	(0.098)	(0.10)	(-3.22)
GS_{jt}	0.119	1.14***	1.29***
	(0.121)	(0.20)	(5.98)
R-square	0.66	0.69	0.661
BP LM Test	42.91[0.00]***	35.57 [0.0]***	34.79 [0.0]***
Hausman Test	-	-	41.18 [0.00]
Obs	80	80	80

*Note: *** and ** indicates significant at the 1% and 5% level of significance respectively. Numbers in (.) are the standard errors.*

The BP-LM null hypothesis is not accepted as P-value is less than 0.05. This shows that the results of POLS, FE and RE technique is inefficient. We used (SYS-GMM) approach to measure the international openness equation because of occurrence of potential endogeneity and causality issues. The researcher studies the hypothesis of whether government size and bureaucratic efficiency have an encouraging impact on trade openness by including other variables such as democracy, human development index. The analysis depends on SYS-GMM estimator showed in the table (2). The Sargan test authenticates the GMM instruments. Consequently, by the insignificance of the autocorrelation (1) and autocorrelation (2) tests shows no autocorrelation. The lagged coefficient of international openness puts forth a significant encouraging impact on international trade (TO_{jt}) in the present time period.

The bureaucratic productivity grasps a pessimistic connection with international openness, as predominantly, the result specifies that when bureaucratic efficiency increases, the enticement of being more fruitful upswings for bureaucrats. It understandably directs to a rise in the price of bureaucracy; it means the cost of bureaucracy would go up. When traders pay a higher amount for the cost of bureaucracy, they have to legalize the use of traded goods, and return on trade reduces. We established that this policy diminishes the bureaucracy related troubles, but this leads to the reduction of trade openness (Cooray, Dutta, and Mallick (2017). Democracy has an encouraging and significant effect of openness. It can be argued that well-functioning democracy has an optimistic impact on trade openness. Finally, State consumption optimistically and significantly connected to international openness. The state expenditure acts as a threat falling function in the international market. The human development index is used as a proxy for human capital. According to Chan (2002), human capital has an optimistic and significant impact on trade openness as skilled and educated, employed increased the effectiveness of human capital, help in enhancing the trade openness.

Table 2. Analysis of SYS-GMM method

	Dependent Variable: TO_{jt}	
Variable	**SYS-GMM (1)**	**SYS-GMM(2)**
Constant	0.17	0.14***
	(0.39)	(22.9)
TO_{jt-1}	0.92*	0.48***
	(51.5)	(36.1)
BE_{jt}	0.007	-0.04**
	(0.62)	(-2.04)
HDI_{jt}	0.027	0.43***
	(0.47)	(5.44)
DE_{jt}	-0.02**	0.13***
	(-1.72)	(11.0)
GS_{jt}	0.09**	0.41***
	(2.21)	(38.0)
Time dummies	Yes	Yes
Wald Joint: $\chi^2(6)$	4710 [0.0]***	5720 [0.0]***
Wald(dummy): $\chi^2(21)$	1.71 [1.0]	57201[0.0]***

Wald (time): $\chi^2(21)$	2.39 [1.0]	5720 [0.0]***
Sargan test: $\chi^2(390)$	96.99 [1.0]	-7.921-e015 [1.0]
Autocorrelation (1)	-0.50 [0.60]	1.69 [0.11]
Auto-correlation(2)	0.80 [0.519]	1.79 [0.08]

*** and ** point to significant at the 1% and 5% level respectively. Number in (.) are t-values, while the number in [.] are p-values.

Conclusions and Recommendations

Our research aimed to fill a gap in the current debate regarding the relationship between government size, openness and bureaucratic efficiency by analyzing the determinants of Bangladesh, Pakistan India, and Sri Lanka. The empirical analysis carried out in this study investigated the questions whether bureaucratic efficiency affects the level of trade openness in these countries or we assess in turn theory that might make summarized as the bureaucratic output provides an encouraging impulsion for a liberal trade. On similar lines, we have tried to address another issue that an efficient bureaucracy reduces the size of government and boosts up the trade openness.

Although the evidence either, theoretical or empirical has been depicting the diverse point of views on the subject, we have been occupied to carry out our empirical study in order to put emphasis on the significance of bureaucratic efficiency on trade openness. Here we wanted to lengthen the existing literature that mostly stressed the significance of the macroeconomic structure of a country and just in brief discussed international openness and state consumption (government size).

In the empirical analysis, we employed a specification of a model of trade openness and reported comprehensive details providing the readers with a new and innovative aspect of the topic. Further, we add to the sample of the time period from 1996 to 2016, in accord with the accessibility of the dataset, which also serves as a new addition to the novelty of literature. The achievement and hence maintaining the bureaucracy at civilized levels, in order to achieve improvement and the competitiveness of the trade sector always benefits the State, This phenomenon had become efficient and effective while formulating the policy framework, unlocking and catalyzing the economic development process of a nation widely. The empirical results of this study instigate the thoughtfulness on a few interesting and innovative policy implications for Bangladesh, India, Pakistan, and Srilanka.

The major result of this research appears that international trade and bureaucratic quality are pessimistically connected in the selected countries like Pakistan, India, Bangladesh, and Srilanka. Hence, without up-gradation of bureaucratic productivity, utmost gain from international trade could not be achieved on a wider ground. Therefore, countries in the SAARC region must formulate and hence implement policies framework and procedures in such a way to enhance the efficiency of bureaucrats produced through civil service restructuring. This would further enhance the bureaucratic capabilities and success of public policies taken; in turn, social welfare benefit is achieved.

References

Alcala, Francisco, and Antonio Ciccone, (2003). "Trade, Extent of the Market, and Economic Growth 1960- 1996". Unpublished.

Alesina, A.; Wacziarg, R (1998) "Openness, country size and government" *J. Pub. Econ*, Vol, 69, 305-321.

Azulai, M.; Bandiera, O.; Blum, F.; Kleven, H.; La Ferrara, E.; Pardò, G.;and Tejada, C. M.(2014), "State effectiveness, growth, and development" London: International Growth Centre.

Baldwin, Robert E. (2003) "Openness and Growth: What's the Empirical Relationship?" National Bureau of Economic Research (NBER), working paper No. 9578.

Brunetti, A. (1997) "Political variables in cross country analysis" Journal of Economic Surveys, Vol, 11. 163-190.

Cameron, D (1978) "The expansion of the Public Economy: A comparative analysis" *Amer. Pol. Sci. Rev*, 72, 1243-1261.

Chan. K. S. (2002) "Trade and bureaucratic efficiency" *Econ. Dev. Cult. Chang*. Vol, 50(3), 735-754

Clay, K. B. (1997), ''Trade without Law: Private-Order Institutions in Mexican California.'' Journal of Law, Economics, and Organizations 13(1), 202–231.

Dollar, D & Kraay, A (2003) "Institution Trade and Growth: Revisiting the Evidence" Journal of Monetary Economics, Vol, 50. Pp 133-162.

Dutt, P. (2009) "Trade protection and bureaucratic corruption: An empirical investigation" *Canadian J. Econ.*, 42(1), 155-183.

Gatti R. 1999. Corruption and trade tariffs, or a case for uniform tariffs. Policy Research Working Paper No. 2216. The World Bank: Washington DC.

Cooray, A., N. Dutta and S. Mallick (2017) Trade Openness and Labor Force Participation in Africa: The Role of Political Institutions, Industrial Relations: A Journal of Economy and Society, 56 (2): 319–350

Knack, S.; Keefer, P. (1995). "Institutions and economic performance: Cross-country tests using alternative institutional measures" *Econ. Polit.* Vol,7(3), 207-227.

Larrain F, Tavares J. 2002. Can openness deter corruption? Manuscript.

Lawrence, E. (1931), ''Mexican Trade between Santa Fe and Los Angeles, 1830–1848.'' California Historical Society Quarterly 10(1), 27–39.

Levchenko, Andrei A.,(2007) "Institutional Quality and International Trade," The Review of Economic Studies, 74 (3), 791–819

Manova, Kalina, (2006) "Credit Constraints, Heterogeneous Firms, and International Trade". Harvard University mimeo.

Mauro, P. (1995) "Corruption and growth". The Quarterly Journal of Economics. Vol, 110(3), 681-712.

Meon, P.G. and Sekkat .K. (2008) "Institutional Quality and Trade: Which Institution? Which Trade?" Economic Inquiry, Vol 46, Pp 227-240.

Rodrik, D. and R. Rigobon (2004): "Rule of Law, Democracy, Openness, and Income: Estimating the Interrelationships". National Bureau of Economic Research, Working Paper 10750

Rodrik, D. (1998) "Why do more open economies have bigger governments?" *J. Pol. Economy*, Vol, 106, 997-1032.

Tanzi, Vito (1994) "Corruption, Governmental Activities, and Markets," IMF Working Paper, 99, Washington DC: IMF.

Table A1. Descriptive Statistics (1996-2016)

Panel 1: Trade openness					
Country	Mean	Median	Maximum	Minimum	Std. deviation
Overall sample	43.54	38.11	89.41	22.17	16.75
Bangladesh	31.0	29.1	46.10	16.6	10.6
India	29.99	25.0	54.99	12	14.8
Pakistan	34.4	35.1	37.9	28.0	2.8
Sri Lanka	65.1	67.9	87.9	46.0	12.0
Panel 2: Bureaucratic quality (BE)					
Overall sample	-0.37	-0.38	0.70	-0.91	0.32
Bangladesh	-0.64	-0.73	0.70	-0.91	0.33
India	-0.07	-0.09	0.12	-0.21	0.09
Pakistan	-0.60	-0.60	-0.38	-0.82	0.15
Sri Lanka	-0.18	-0.17	0.05	-0.42	0.12

Table B1. Correlation analysis

Variables	TO_{jt}	BE_{jt}	HDI_{jt}	DE_{jt}	GS_{jt}
TO_{jt}	1				
BE_{jt}	0.42*** (2.78)	1			
HDI_{jt}	0.36*** (3.42)	0.44*** (3.12)	1		
DE_{jt}	0.13 (0.31)	-0.42*** (3.26)	-0.30** (-2.21)	1	
GS_{jt}	0.46*** (3.64)	0.51*** (4.41)	0.59*** (7.14)	-0.48*** (-6.06)	1

Note: t-values are in parentheses, *** and ** indicate significant at the 1% and 5% level of significant