

Status of Investment Climate in Bangladesh Comparing with Selected Asian Countries

*Sonjoy Chkaraborty

Abstract

Fifteen Asian selected economy's comparative investment climate has been examined in this study. These economies are Bangladesh, India, Sri Lanka, Pakistan, China, Malaysia, Thailand, Indonesia, Vietnam, Singapore, Hong Kong, Philippine, Cambodia, Lao P.D.R and Korea. In spite of lowest wage rate and lowest business operating cost components in Bangladesh, per-capita FDI and FDI-GDP ratio is significantly low compared to other 14 selected Asian countries. The target of Perspective Plan of Bangladesh (2010-2021) is to achieve middle income country by 2021 and for this reason Bangladesh has to attain 8% GDP growth rate by 2020. For achieving 8% growth rate, 32% to 35% investment of GDP is required. Target of 7th Five Year Plan is to achieve 34.4% of Gross Domestic Investment and 9.56 billions USD FDI by 2020. At present, Investment is only 28.9% of GDP and FDI is only around 1% of GDP(2.23 Billion USD in 2015). Due to low per capita income, rapid enhancement of domestic investment is not very easy and in such a situation, FDI can play a very important role to fill up the investment gap though it is may not always true. For attracting more FDI, Bangladesh have to be more concern about infrastructural development, Need-based Skilled Human capital, Doing Business factors, Getting Electricity, Registering Property, Getting Credit, Protecting Minority Investors, Trading Across Borders, Enforcing Contracts, Resolving Insolvency, Economic Freedom, Business Freedom, Labor Freedom, Trade Freedom, Investment Freedom, Global Competitiveness factors, Global enabling trade factors, Business Environment, Human Capital, Global Innovation factors, Governance Indicators and Labor Cost etc.

Key Words: Investment Climate, Foreign Direct Investment, Per capita FDI, FDI-GDP ratio

1. Introduction

The Investment climate is affected by many factors, including: skilled workers, poverty, crime, infrastructure, workforce, national security, political instability, regime uncertainty, taxes, rule of law, property rights, government regulations, government transparency and government. According the Perspective Plan of Bangladesh (2010-2021), the target is to achieve middle income country by 2021 and for this reason Bangladesh has to attain 8% GDP growth rate (Attaining average real GDP growth of 7.4% per year over the 7th Five Year Plan period). For achieving 8% growth rate, 32% to 35% investment of GDP is required. At present, Investment is only 28.9% of GDP (around 22% is private investment and 6.9% is public investment). Target of 7th Five Year Plan to achieve 34.4% of Gross Domestic Investment and 9.56 billion USD FDI by 2020. For attaining the targeted level investment, proper investment climate is essential. "First consumption, then savings or investment"- is the human character. Bangladesh is lower-Middle income country. So, it is very difficult to increase the investment very rapidly. For this reason, FDI can play, the very important role to fill-up the gap between the present investment level and required investment level. The government gave importance to accelerate FDI, because FDI brings their better technological and managerial skills and knowledge about international marketing conditions, are expected to improve the productivity as well as export performance of host country firms by creating certain positive externalities known as 'spill overs'. In 7th Five Year Plan, the targeted Investment is to reach 34.6 percent of GDP by 2020 (around 26.7% is private investment and 7.8% is public investment) and Inflow of FDI is to achieve \$9.6 billion by FY20. However, in 2015, inflow of FDI is only 2.235 Billion USD. So, it is a great challenge for Bangladesh.

Generally Foreign Direct Investment means "Establishing or expanding business operations into a foreign country with transfer of capital". FDI is defined by UNCAD as "An investment

*Sonjoy Chkaraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy. The World Bank World Development Indicators defines inward FDI as “the net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor” (World Bank 2006, p. 319). Inward FDI not only serves the long-term financial interests of foreign investors, it can also play a significant role in the growth dynamics of host countries. FDI can fill the “investment gap” by providing capital for domestic investment in one hand and can also fill the “foreign exchange gap” by providing foreign currency through initial investments and subsequent export earnings on the other hand finally, FDI can help close the “tax revenue gap” by generating tax revenues through creation of additional economic activities (Smith, 1997). FDI has an important effect on economic growth of third world countries by creating bridge between the gap of domestic savings and investment and introducing familiarizing the up to date technology and management skill from developed countries (Mottaleb, 2007). Many empirical studies have revealed that FDI can also help generate domestic investment in matching funds, facilitate transfer of managerial skills and technological knowledge, increase local market competition, create modern job opportunities and increase global market access for export commodities, etc. At the end of the Cold War in the early 1990s in a new political dynamics, LDCs become heavily dependent on foreign public aid regardless of their political ideological leaning, to find out alternative sources of foreign private capital and the FDI is getting its importance to fill the shortage of capital. Before taking decision of investment, an investor search the investment climate for smooth return of his capital. In this article industrial climate of more or less 15 selected Asian countries like Bangladesh, India, Sri Lanka, Pakistan, China, Malaysia, Thailand, Indonesia, Vietnam, Hongkong, Philippine, Cambodia, Lao PDR, Korea and Singapore have been compared.

Availability of natural resource, labour quality, inflation of the country, domestic economic environment, market size, quality of infrastructure, labor cost, economic openness, return on capital, political stability are the determinants of FDI is identified by the most of studies. There are many instances of conflicting findings regarding the direction of influence of the determinants of FDI (Chakrabarti, 2001). FDI sources endeavoured to invest in developing countries with the object of obtaining increased imports of primary products which are vitally important for the country. Natural resources like oil, natural gas, iron, coal, copper, bauxite and other metals are targets in this type of investment (Kojima, 1978). Regarding political instability, Barro (1991) and Corbo and Schmidt-Hebbel (1991) state that it creates an uncertain economic environment detrimental to long-term planning, which reduces economic growth and investment opportunities. Economic freedom, trade openness, market size, human capital, political instability plays the significant determinants of FDI in Bangladesh, India, Nepal, Pakistan and Sri Lanka (Quazi and Mahmud, 2006). Jaspersen et al (2000) and Asiedu (2002) found that the rate of return on investment positively affects FDI, while Wheeler and Mody (1992) and Asiedu (2002) found that availability of infrastructure significantly boosts FDI. Market size, GDP growth, trade openness / access to international market and quality of labor are the major determinants that have significant impact on the FDI inflow in Pakistan (. The study also found no impact of market potential and communication facility on the attraction of FDI inflow in Pakistan (Rehman. A. et al, 2009). Though, there are a lot of study regarding the positive impact of FDI, Sadik and Bolbol (2001) investigate the effect of FDI through technology spillover on overall total factor productivity for India, Pakistan,

Bangladesh and Srilanka over a 10-year period. They find that FDI has not had any manifest positive spillover on technology and productivity over and above those of other types of capital formation. In a study of the impact of economic freedom and investment climate on FDI in Latin America, Quazi (2007) found that FDI inflow is negatively correlated with policy changes that result in diminished economic freedom, and excessive bureaucracy and inefficient financial markets have created locational disadvantages for Mexico vis-à-vis other countries in the region.

2. Objective of the Paper

The broad objective of this paper is to compare the investment climate of Bangladesh with selected countries in Asia- India, Sri Lanka, Pakistan, China, Malaysia, Thailand, Indonesia, Vietnam, Singapore, Hong Kong, Philippine, Korea, Lao PDR and Cambodia. This paper is also designed to accomplish the objectives to identify the determinants that measure the investment climate and to identify the barriers of inflow of FDI in Bangladesh

3. Methodology

This is actually a literature survey study. An exploratory research has been conducted in preparing the paper. The methodology includes simple statistical tools such as mean, standard deviation, correlation and percentage. This paper is primarily based on secondary information. Internet resources from various websites had been facilitating in locating and gathering data. The relevant secondary data are collected from Statistics Department and Research Department of Bangladesh Bank (Central Bank of Bangladesh), Bangladesh Investment Development Authority (BIDA), Bangladesh Economic Trend, Bangladesh Economic Review, World Investment Report 2015 published by UNCTAD various survey, websites, journals, working papers, books and newspapers etc. These data has been analyzed to compare the investment climate Bangladesh, India, Sri Lanka, Pakistan, China, Malaysia, Thailand, Indonesia, Vietnam, Singapore, Hong Kong, Philippine, Korea, Lao PDR and Cambodia.

4. Defining Investment Climate

Investment Climate may be defined as the economic and financial conditions in a country that affect whether individuals and businesses are willing to lend money and acquire a stake in the businesses operating there. An idea of Investment climate is easy to perceive, but difficult to define precisely. According to the World Development Report 2005, investment climate is the set of location-specific factors shaping the opportunities and incentives for firms to invest productively, create jobs, and expand. Clearly, this definition is wider, which encompasses government policies, institutions and behavioral environment that have significant influence on costs, risks and barriers to business. It has emphasized on a good investment climate is the one that serves the society as a whole on the one hand (through its impact on job creation, lower prices, and broadening the tax base) and serves all firms, including both large and small, on the other. A sound investment climate not only encourages more investment, but also promotes higher productivity because of increased competition.

For Bangladesh to make significant impact on the existing poverty incidence, annual GDP growth of 7-8 percent is needed (Razzak, A. and Raihan, S., 2007). Considering the experience of the past 30 years or so, it can be inferred that a growth rate of 7 percent would require an investment-GDP ratio of more than 30 percent as against the current level of 26.89 percent (www.economywatch.com). Seventh FYP projected to attain the 8% growth rate and 34.6% investment of GDP. When investment is based on domestic saving alone, we have to sacrifice current consumption for future prosperity. At a low level of income it is a very difficult option and for this reason investment from foreign sources (such as foreign direct investment or FDI) can greatly help a country achieve higher growth without constraining the current consumption too much.

In recent times discussion of investment climate becomes an important issue in the Business arena. There are a number of cross-country comparisons in different reports often seem to be conflicting, giving rise to controversies and misunderstandings. These make it difficult for the policy makers to derive necessary inputs from the analyses that are made available. The underlying methodologies and their implications for investment, business activities and overall economic growth are often not clear to most of the stakeholders while they pay maximum attention to the ranking of the countries that a number of studies provide. There has not been any serious attempt to provide a simple presentation of these analyses evaluating the usefulness of the cross-country comparisons. As such, this article has been given attention of ten Asian countries and compared their investment climate to Bangladesh and then to explore the real problem for attracting FDI.

5. Status of Investment Climate in Bangladesh Comparing with Selected Countries

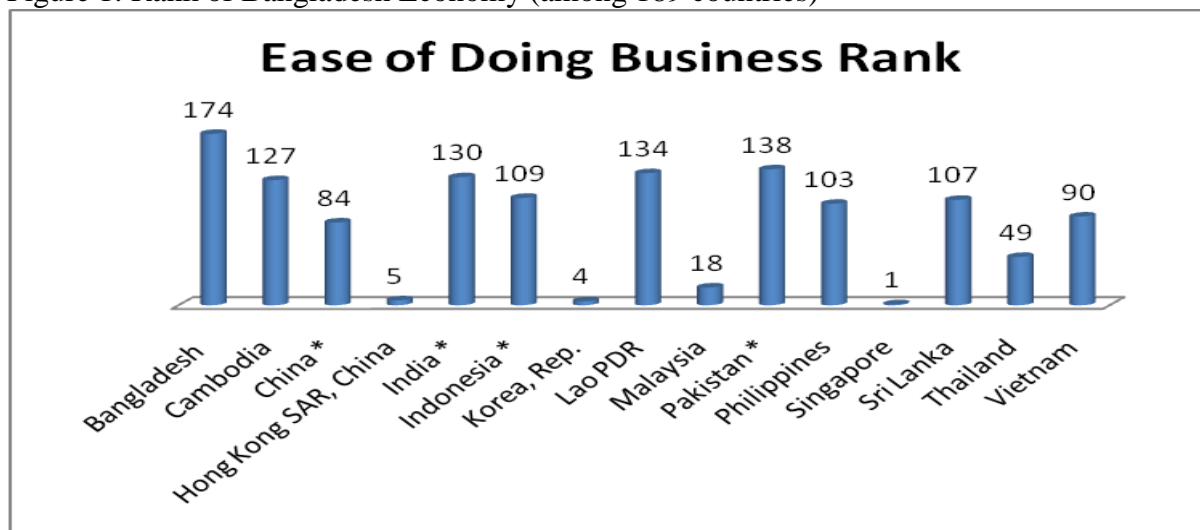
There is a lot of indices to measure the investment climate of a country. Few of the indices like Doing Business Index, Getting Electricity Index, Registering Property, Getting Credit, Protecting Minority Investors, Trading Across Borders, Enforcing Contracts, Resolving Insolvency, Index of Economic Freedom, Business Freedom, Labor Freedom, Trade Freedom, Investment Freedom, Global Competitiveness Index (GCI), Global enabling trade index (ETI), Business Environment Rankings, Status of Human Capital, Knowledge Economy Index, Human Capital Index, Global Innovation Index, Infrastructure Country Ranking, Governance Indicators, Industrial Unit Labor Cost, Economic Freedom Index are presented here to evaluate the investment climate of 15 Asian economies including Bangladesh.

(a) Doing Business Index

The Doing Business project provides objective measures of business regulations for local firms in 189 economies and selected cities at the subnational level. Here, economies are ranked on their ease of doing business, from 1–189. A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The rankings are determined by sorting the aggregate distance to frontier scores on 10 topics, each consisting of several indicators, giving equal weight to each topic. The rankings for all economies are benchmarked to 1, June 2015. Bangladesh ranks 174th among a total of

189 countries considered in terms of the overall ease of doing business' indicators. It provides paying taxes (86th), and protecting minority investors (88th) are relatively easier.

Figure 1: Rank of Bangladesh Economy (among 189 countries)



Source: Doing Business index, 2016

Note: Smaller values represent better doing business situations.

Table 1: Comparative Rank of Ten Selected Economy of Asia (among 189 countries)

Economy	Starting a Business	Dealing with Construction Permits	Getting Electricity	Registering Property	Getting Credit	Protecting Minority Investors	Paying Taxes	Trading Across Borders	Enforcing Contracts	Resolving Insolvency
Bangladesh	117 (7 th)	118 (5 th)	189 (World worst)	185 (15 th)	133 (14 th)	88 (9 th)	86 (5 th)	172 (15 th)	188 (15 th)	155 (14 th)
Cambodia	180	181	145	121	15	111	95	98	174	82
China	136	176	92	43	79	134	132	96	7	55
Hong Kong	4	7	9	59	19	1	4	47	22	26
India	155	183	70	138	42	8	157	133	178	136
Indonesia	173	107	46	131	70	88	148	105	170	77
Korea, Rep.	23	28	1	40	42	8	29	31	2	4
Lao PDR	153	42	158	66	70	178	127	108	92	189
Malaysia	14	15	13	38	28	4	31	49	44	45
Pakistan	122	61	157	137	133	25	171	169	151	94
Philippines	165	99	19	112	109	155	126	95	140	53
Singapore	10	1	6	17	19	1	5	41	1	27
Sri Lanka	98	77	81	153	97	49	158	90	161	78
Thailand	96	39	11	57	97	36	70	56	57	49
Vietnam	119	12	108	58	28	122	168	99	74	123

Source: Doing Business index, 2016

Note: Smaller values represent better doing business situations.

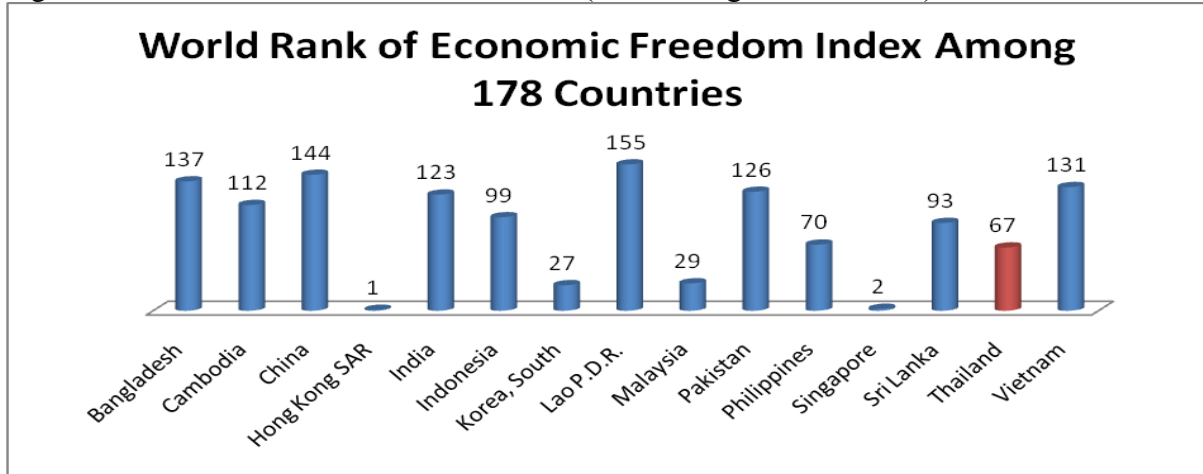
However, the country performs very poor in terms of getting electricity (lowest in the world, 189th), enforcing contract (188th), registering property (185th), trading across border (172rd) resolving insolvency (155rd) and dealing with construction permit (118rd).

It is found that, among the 15 Asian countries, position of Singapore is first (also first in the world ranking) and the position of Bangladesh is the last (174th in the world ranking). Korea (4th), Hong-Kong (5th) and Malaysia (18th) is also in the very good position considering the world ranking. Among the 10 indicators, getting electricity is the top most problematic for Bangladesh and its position of rank is 189th. It is interesting to learn from the aforementioned report that overall doing business is very difficult for Bangladesh comparing above 15 countries.

(B) Index of Economic Freedom

Economic freedom is the fundamental right of every human to control his or her own labor and property. In an economically free society, individuals are free to work, produce, consume, and invest in any way they please. In economically free societies, governments allow labor, capital, and goods to move freely, and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself. For over two decades, the Index of Economic Freedom has measured the impact of liberty and free markets around the globe, and the 2016 Index confirm the formidable positive relationship between economic freedom and progress. The ideals of economic freedom are strongly associated with healthier societies, cleaner environments, greater per capita wealth, human development, democracy, and poverty elimination.

Figure 2: Index of economic freedom’ 2016 (considering 178 countries)



Source: The Heritage Foundation, in partnership with Wills Street Journal for Index of Economic Freedom
 Note: Smaller values represent better position.

In economically free societies, governments allow labor, capital and goods to move freely, and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself. Index of economic freedom based on 10 quantitative and qualitative factors, grouped into four broad categories, or pillars, of economic freedom and they are Rule of Law (property rights, freedom from corruption), Limited Government (fiscal freedom,

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

government spending), Regulatory Efficiency (business freedom, labor freedom, monetary freedom) and Open Markets (trade freedom, investment freedom, financial freedom).

Economic freedom index 2016 reported that Bangladesh has shown remarkable macroeconomic resilience, and its economy has grown steadily over the past five years. Nonetheless, overall entrepreneurial activity is disadvantaged by an uncertain regulatory environment, poor infrastructure, and the absence of effective long-term institutional support for private-sector development. Snapshot of Economic Freedom index, 2016 of Bangladesh is:

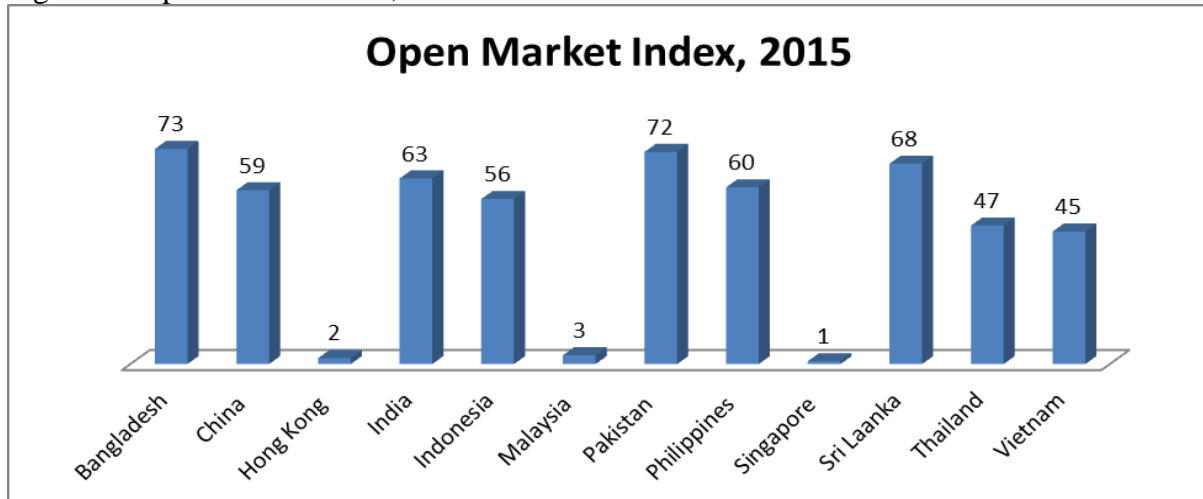
- 2016 Economic Freedom Score: 53.3 (down 0.6 point)
- Economic Freedom Status: Mostly Unfree
- Global Ranking: 137th
- Regional Ranking: 29th in the Asia–Pacific Region
- Notable Successes: Management of Public Finance
- Concerns: Rule of Law and Open Markets
- Overall Score Change Since 2012: +0.1

Table2: Openness Indices of Economic Freedom, 2016

Country	Monetary Freedom, 2016	Investment Freedom, 2016	Financial Freedom, 2016	Labor freedom, 2016	Tariff Rate, 2016	Tax Burden (% of GDP), 2016	Business Freedom, 2016	Trade Freedom, 2016	Fiscal Freedom, 2016
Bangladesh	68.2 (15 th)	45(10 th)	30(13 th)	62.5 (5 th)	10.7(14 th)	9(1 st)	52.6(13 th)	63.6(14 th)	72.7(14 th)
Cambodia	78.1	60	50	62.5	8.9	12.4	32.3	72.2	90.5
China	70.6	30	30	62	3.6	19.4	54.2	72.8	69.7
Hong Kong	81.8	90	90	89	0	15.7	97.4	90	92.6
India	72.8	35	40	47.8	7	16.7	47.6	71	77.1
Indonesia	74.3	40	60	49.3	2.3	11.8	54	80.4	83.4
Korea	82.6	70	80	50.6	7.7	24.3	91.1	74.6	73.8
Laos	71.3	35	20	57.6	13.2	15.3	55.9	58.6	86.1
Malaysia	84.5	60	60	71.5	4.3	15.8	91.4	81.4	85
Pakistan	71.5	55	40	42.1	10	10.5	61.2	65	79
Philippines	77.7	60	60	57.1	4.3	13.3	63	76.4	79
Singapore	81.8	85	80	90.7	0	13.8	95	90	91.2
Sri Lanka	71.5	35	40	56.5	6.3	11.6	70.3	72.4	85.1
Thailand	70.9	50	60	62.5	6.2	16.2	76.3	77.6	81.1
Vietnam	70.6	25	40	62.6	3.5	18.9	58.3	83	79.3

Source: *Index of Economic Freedom, 2016*, available at <http://www.heritage.org/index/explore?view=by-variables>

Figure 3: Open Market Index, 2015



Source: The Open Markets Index (OMI) is collected from the Open Markets Index (OMI,) 2015

Note: The Open Markets Index (OMI) is prepared by International Chamber of Commerce comprising four key components and these four components are openness to trade, trade policy, foreign direct investment (FDI) and infrastructure for trade. It is prepared on among 75 countries.

The report presented also, economic development remains hampered by the fragile rule of law. Corruption and marginal enforcement of property rights have driven people and enterprises out of the formal sector. The government’s inability to provide basic public goods further limits opportunities for business development and job growth.

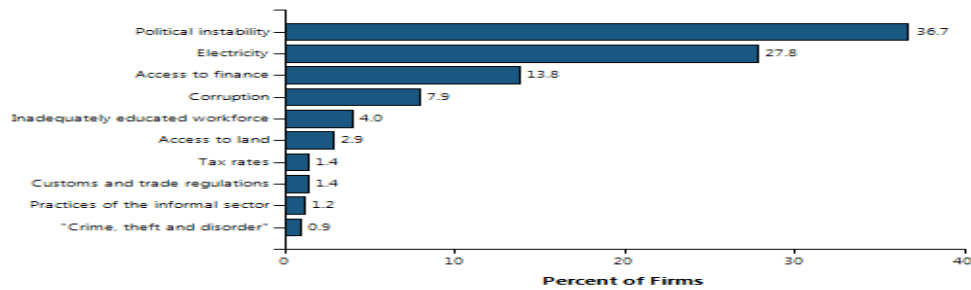
(c) Investment Climate Assessment (ICA) surveys

Investment Climate Assessment is also the World Bank’s development efforts around the world. ICAs are the voice of the firms. It is an innovative tool used to evaluate the competitiveness of the private sector and identify ways that firms can improve productivity. The objective of ICA is to evaluate the state of the private sector, identify the key constraints to increasing firm productivity, evaluate how competitive firms in a particular country are with respect to those of in our neighboring countries or in other regions of the world, and identify policies that will alleviate obstacles and improve firm productivity and export competitiveness.

The ICA survey conducted in Bangladesh covered 1,442 firms were interviewed from April 2013 through September 2013 from 09 business sectors – food, garments, leather products, chemical and chemical products, furniture, other manufacturing, retail, other services, motor vehicle and transport. The main conclusions from the study are : (1) Bangladeshi manufacturing firms report very high levels of capacity utilization, (2) Bangladeshi firms are also exporting at higher rates compared to businesses in other countries, (3) Female inclusion in economic activity lags behind most countries, (4) The Bangladeshi private sector considers political instability as the biggest business environment obstacle, (5) Electricity outages are numerous and of short duration, and (6) Firms in Bangladesh experience a high level of corruption when obtaining licenses and utility connections.

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

Figure 3: Firms' Perception about Major Constraints to Business Operation in Bangladesh



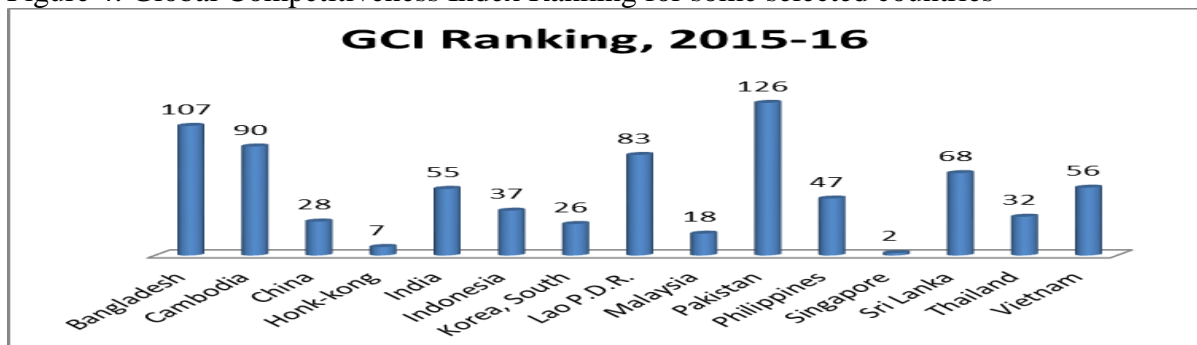
Source: World Bank, 2013

Business owners and top managers in 1,442 firms were asked to choose the top ten business environment obstacles. According to their opinion political instability is the most severe problem, with about more than one-third (36.7%) of the surveyed firms considered it as a major constraint. It was followed electricity (27.8%), access to finance (13.8%), corruption (7.9%), indicated educated workforce (4.0%), access to land (2.9%), tax rate (1.4%), custom and trade regulation (1.4%), the practice of the informal sector (1.2%), crime theft and disorder (1.2%).

(d) Global Competitiveness Index (GCI)

The index is prepared by World Economic Forum (WEF). The World Economic Forum (WEF) is a Swiss nonprofit foundation, based in Cologny, Geneva. The World Economic Forum (WEF) is publishing the Global Competitiveness Report (GCR) since 2004. The report states that it is based on the latest theoretical and empirical research. It is made up of over 110 variables, of which two thirds come from the Executive Opinion Survey, and one third comes from publicly available sources such as the United Nations. The variables are organized into twelve pillars, with each pillar representing an area considered as an important determinant of competitiveness. It attempts to provide what is known as the competitiveness rankings of countries.

Figure 4: Global Competitiveness Index Ranking for some selected countries



Source: Global Competitiveness Report of WEF 2015-16

<http://reports.weforum.org/global-competitiveness-report-2015-2016/competitiveness-rankings/>

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

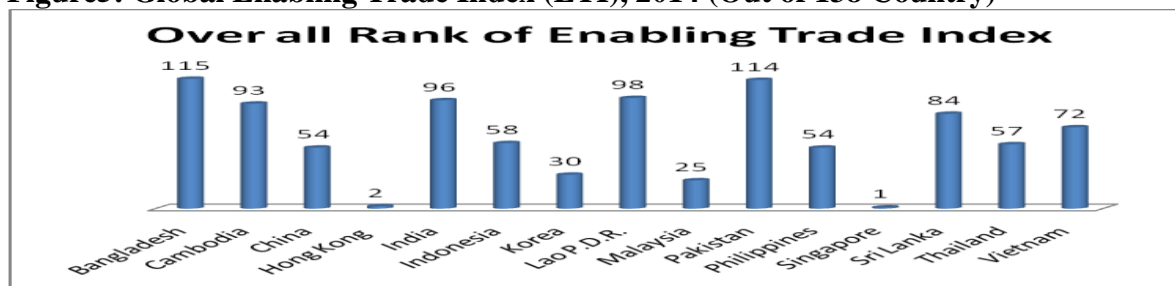
The Global Competitiveness Index integrates the macroeconomic and the micro/business aspects of competitiveness into a single index. Competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained from investments in an economy, which in turn are the fundamental drivers of its growth rates. GCI is the weighted average of many different components, each measuring a different aspect of competitiveness. The components are grouped into 12 categories, The pillars of competitiveness are institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, R & D innovation.

The GCI index examines the potentials of countries across the world to achieve growth that is sustainable in the medium and long term. Figure 4 provides the GCI rankings for some selected countries in 2015-16, in terms of the individual GCI Components, Bangladesh Ranked 109th in the Basic requirements index, 105th in the Efficiency enhancers index, and 123rd in the Innovation and the sophistication factor index in 2014-15. On the whole, the country ranked at 107th among the 140 countries. Among the 12 pillars, Bangladesh is assessed to have the worst in the institutions pillar (ranked at 129th), while the relative positions of market size (rank 40th) is comparatively better. Among the 15 Asian countries, performance of Bangladesh is only better than Pakistan.

(E) Global Enabling Trade Index (ETI)

It is also prepared World Bank Economic Forum. Lawrence et al. (2008) have defined global enabling trade index (ETI) as “a comprehensive index that measures the factors, policies and services, facilitating the free flow of goods over borders and destinations”. For the 2014 edition, ETI coverage from 138 economies, which together account for 98.8% of world GDP and 98.3% of world merchandise trade. There are four key issues or sub-indexes implicit in the ETI. These are market access, border administration, transport and communication, infrastructure and the business environment. Market access is an index which measures the ease with which policy and cultural framework welcomes foreign goods into a country.

Figure5: Global Enabling Trade Index (ETI), 2014 (Out of 138 Country)



Source: Global Enabling Trade Index (ETI) (Out of 138 Country), 2014

Note: Lower values represent better Position.

The second subindex assess the extent to which border administration facilitates the entry of goods that are permitted. The moment goods have been allowed to enter the border, the next effort is to get them to their destinations. It is the third sub-index that measures this. The fourth sub-index evaluates the overarching regulatory and security environment impacting on the transport business in the country. It is important to mention here that each of the four sub-indexes is composed of a number of pillars of enabling trade. There is a total of ten pillars in this regard, these are: 1. Tariffs and non-tariff barriers, 2. Proclivity to trade, 3. Efficiency of customs, administration, 4. Efficiency of import-export produces, 5. Transparency of border administration, 6. Availability and quality of transport infrastructure, 7. Availability and quality of transport services, 8. Availability and use of ICTs, 9. Regulatory environment and, 10. Physical security

Table 3: Global Enabling Trade Index (ETI), 2014 (Out of 138 Countries)

Country Name	Market Access Sub-index	Broder Administration Sub-index	Infrastructure Sub-index Index	Operating Environment Sub-index
Bangladesh	57 (6 th)	123 (15 th)	103 (14 th)	99 (14 th)
Cambodia	36	108	77	74
China	119	48	36	37
Hong Kong	37	11	2	1
India	136	74	67	73
Indonesia	20	69	64	61
Korea	120	19	7	55
Lao P.D.R.	39	114	115	68
Malaysia	40	33	23	27
Pakistan	133	72	94	116
Philippines	11	71	89	82
Singapore	2	1	1	2
Sri Lanka	104	87	83	53
Thailand	51	56	46	75
Vietnam	34	86	60	81

Source: Global Enabling Trade Index (ETI) (Out of 138 Country), 2014

Note: Lower values represent better Position.

Figure 5 and table 3 represents the index enabling trade (ETI). In this index rank of Bangladesh is 115, which is worst among the 15 Asian countries. Among the four sub-index, Bangladesh's position is comparatively better in Market Access Sub-index (6th Position).

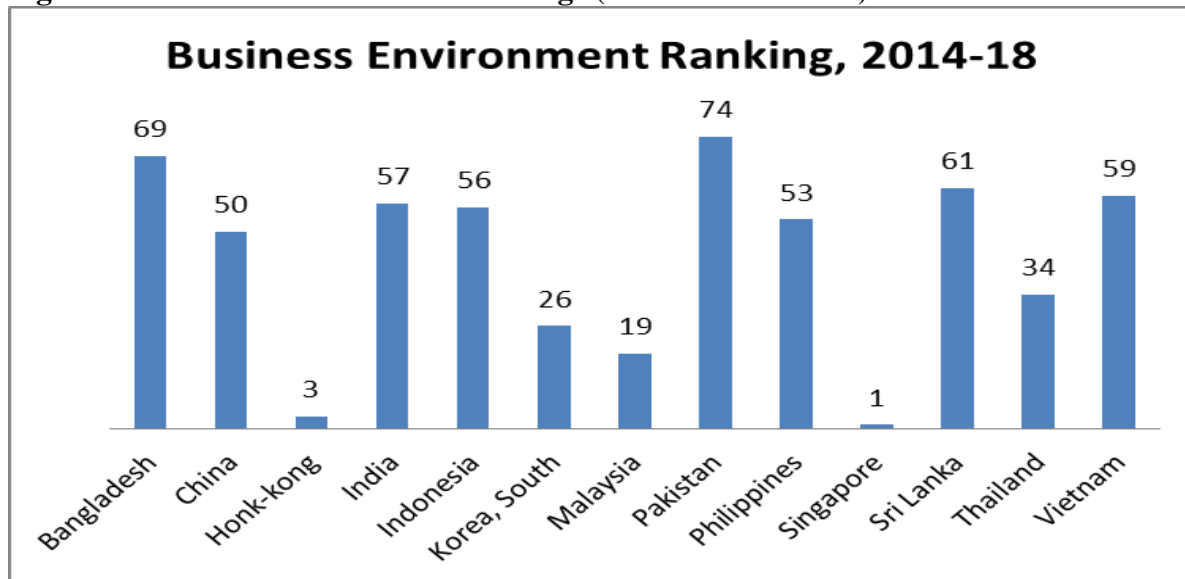
(f) Business Environment Rankings: Which country is best to do business in?

The Economist Intelligence Unit's prepared the Business Environment Rankings for 82 countries. According to the Economist Intelligence Unit's, Singapore looks set to remain the world's most investor-friendly location in 2014-18, retaining its number-one spot for the 2009-13 period. Hong Kong and Switzerland also defend their second and third place position. Asia is a diverse region, and there are large differences between the overall scores and global rankings of its top four countries (Singapore, Hong Kong, Australia and New Zealand) and its poorest performers (Bangladesh and Pakistan, in 69th and 74th place

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

respectively, out of the 82 countries ranked) (See figure 6). The gap reflects the widely varying levels of economic development and political stability between these countries, alongside sharp differences in the underlying structure shaping laws and regulations of foreign investment. In this index, Bangladesh perform only better than Pakistan and Srilanks (see figure 6)

Figure 6: Business Environment Rankings (Out of 82 countries)



Source: Business Environment Rankings, 2014-18; available at: <http://going-global.economist.com/en/2014/05/26/businessenvironmentrank/> Retrived on 24-09-16

Note: Larger value indicate lower performance

(g) Status of Human Capital:

Economist Theodore Schultz invented the term "human capital" in the 1960s to reflect the value of human capacities. He believed human capital was like any other type of capital; it could be invested in through education, training and enhanced benefits that lead to an improvement in the quality and level of production. Suppose, every resource is available, but no skilled human to utilize the resource for the creation of utility to fulfill the need is meaningless. In this contest, skilled worker is the most essential element of the investment climate. The concept of human capital recognizes that not all labor is equal and that the quality of employees can be improved by investing in them; the education, experience and abilities of employees have economic value for employers and for the economy as a whole. There are many organizations and tools to measure the knowledge or skilled of a worker or the whole society of economy. Few of the measures are presented to compare the quality of worker for the concern 15 Asian countries.

Knowledge Economy Index: The Knowledge Economy Index (KEI) is prepared by World Bank takes into account whether the environment is conducive for knowledge to be used effectively for economic development. It is an aggregate index that represents the overall level of development of a country or region towards the Knowledge Economy. The KEI is

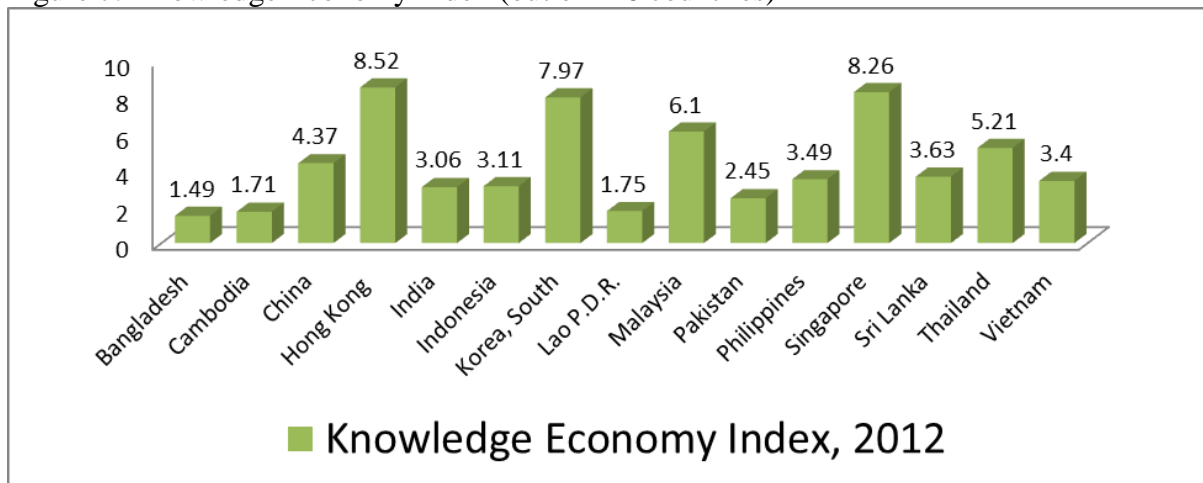
*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

calculated based on the average of the normalized performance scores of a country or region on all 4 pillars related to the knowledge economy - economic incentive and institutional regime, education and human resources, the innovation system and ICT.

The 4 pillars of the Knowledge Economy framework are:

- An economic and institutional regime to provide incentives for the efficient use of existing and new knowledge and the flourishing of entrepreneurship;
- An educated and skilled population to create, share, and use knowledge well;
- An efficient innovation system of firms, research centers, universities, consultants and other organizations to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new technology;
- Information and communication technology to facilitate the effective creation, dissemination, and processing of information.

Figure 7: Knowledge Economy Index (out of 146 countries)



Source: Knowledge Economy Index, 2012: Available at: <https://knoema.com/atlas/topics/World-Rankings/Knowledge-Economy-Index/Knowledge-Economy-Index>

Note: Higher value indicates better performance

World Bank prepared many other indices which also measure the quality of worker or strength of manpower. % of Urban population, % of the working population, Internet Users Rate are also the indicator of human resource or can be used as a proxy variable of labor quality or human resource. It is assumed that the urban population is more skilled than the rural people. In Bangladesh, it is the 34.27% in the year of 2015 which is the 10th position among the 15 Asian countries. On the other hand, only 9.6 percent people use the internet in Bangladesh. The World internet user rate is 40 percent and it is 16.6 percent in South Asia and 46.9 percent in East Asia (available at: <https://knoema.com/infographics/okfysj/moving-towards-knowledge-economy>). Certainly, using the internet an important indicator of skilled workers. This internet user rate is marginally larger than only Cambodia.

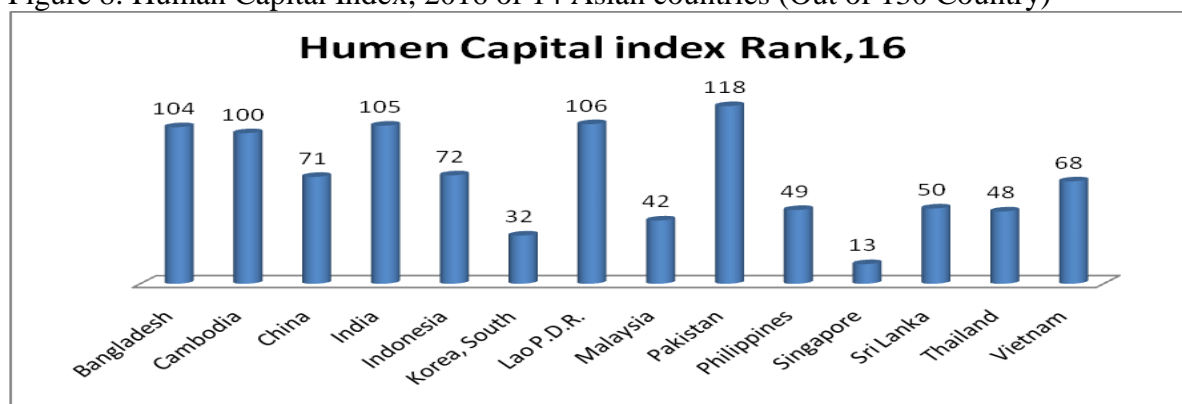
Table 4: Knowledge Economy Index Ranking, Urban Population, Internet Users, % of population (15-65)

Bangladesh	Knowledge Economy Index Ranking (KEI), 12	Urban Population (Proxy Variable of Labor Quality), 2015	% of population (15-65), 2015)(Proxy Variable of Strength of Economy), 2015	Internet Users (%) (Is the proxy variable of Technically efficient manpower), 14
Bangladesh	137 (15th)	34.27 (10th)	65.57 (10th)	9.6 (13th)
Cambodia	132	20.72	64.27	9
China	84	55.61	73.21	49.3
Hongkong	18	NA	NA	NA
India	110	32.74	65.59	18
Indonesia	108	53.74	67.13	17.14
Korea	29	82.47	72.88	84.33
Lao PDR	132	38.61	61.41	14.26
Malaysia	48	74.70	69.09	67.5
Pakistan	117	38.75	60.49	13.8
Philippines	93	44.37	63.47	39.69
Singapore	23	100	72.77	82
Sri Lanka	101	18.35	66.12	25.8
Thailand	67	50.37	71.81	34.89
Vietnam	104	33.59	70.16	48.31

Source: Urban Population, % of population (15-65), Internet Users (%) is collected from World Bank Open Data source and Knowledge Economy Index, 2012 Ranking is collected from <https://knoema.com/infographics/okfysj/moving-towards-knowledge-economy>

The Human Capital Index: The Human Capital Index seeks to serve as a tool for capturing the complexity of education, employment and workforce dynamics so that various stakeholders are able to make better-informed decisions. Last year’s edition of the World

Figure 8: Human Capital Index, 2016 of 14 Asian countries (Out of 130 Country)



Source: Human Capital Index, 2016

Avail at: <http://reports.weforum.org/human-capital-report-2016/rankings/>

Note: Larger vale indicates lower performance

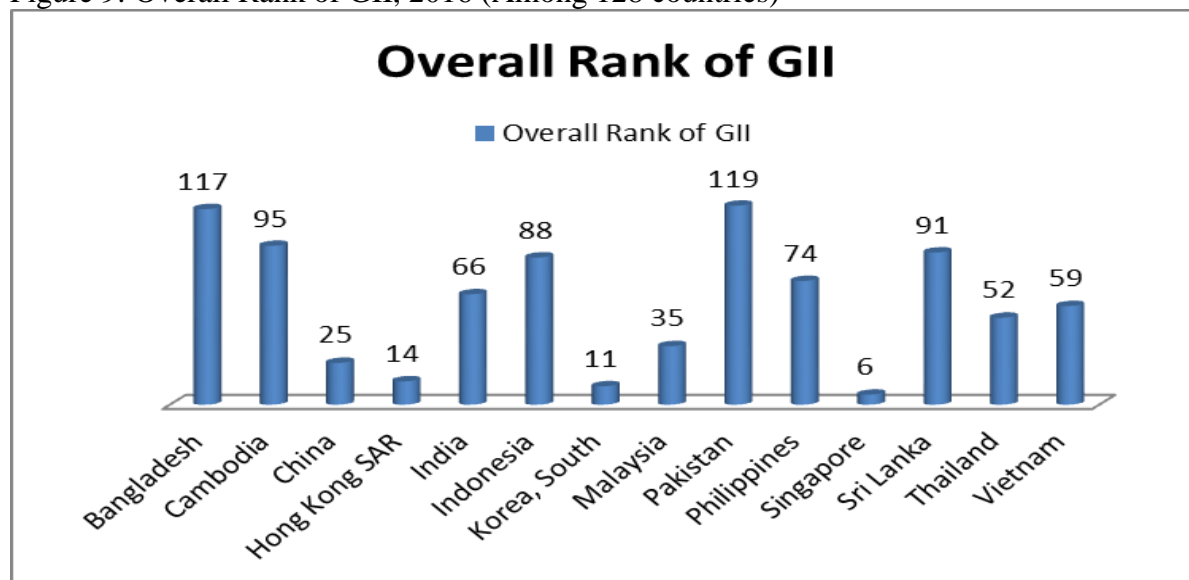
*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

Economic Forum’s Human Capital Report explored the factors contributing to the development of an educated, productive and healthy workforce. This year’s edition will extend the analysis by focusing on a number of key issues that can support better design of education policy and future workforce planning. Bangladesh’s ranks is 104 among the 130 countries and only performed better than India, Lao PDR, Pakistan.

Global Innovation Index: Global index Rank, 2016 in prepared on the 128 countries of the world. In today’s economic climate, innovation—technological innovation in particular—is considered to be a major force for economic growth. The convergence of data analytics, commerce, and technological progress is seen as a key driver of innovation in the global economy. Moreover, entrepreneurship, evolving business models, and technological progress are at the heart of innovation. Innovation is now widely recognized as a central driver of economic growth and development. The Global Innovation Index (GII) aims to capture the multi-dimensional features of innovation by providing a rich database of detailed metrics for 128 economies, which represent 92.8% of the world’s population and 97.9% of global GDP. As UN Secretary-General Ban Ki-moon noted at the UN Economic and Social Council in 2013, the GII is a ‘unique tool for refining innovation policies... for providing an accurate picture on the role of science, technology and innovation in sustainable development’.

Among the 14 Asian countries, Bangladesh position is the worst, considering the overall rank. Efficiency score is one of the important components of measuring the GII. Ratio of the Output Sub-Index score over the Input Sub-Index score is only 0.52 in the case of Bangladesh (lowest position among the 14 Asian countries).

Figure 9: Overall Rank of GII, 2016 (Among 128 countries)



Source: www.globalinnovationindex.org

Note: Smaller rank indicates better performance and greater score indicates better performance.

(h) Infrastructure Status of Bangladesh Comparing Asian Countries:

In the empirical as well as the theoretical literature, there is a broad consensus that a country's endowment with infrastructure represents a critical factor to sustain economic growth, attract foreign direct investment (FDI) and promote trade. Straub (2008) finds that most, though far from all empirical studies show a significantly positive effect of infrastructure on output and growth. Straub (2008: 4) also notes that "in surveys assessing the investment climate, businesses usually rank deficient infrastructure as an important barrier to their operations and growth." Particularly in developing countries, deficient infrastructure can seriously affect the people's daily life and work. Asiedu (2002: 111) argues that "good infrastructure increases the productivity of investments and therefore stimulates FDI."

Infrastructure is one of the very important determinants of investment. There is a strong correlation between infrastructure and foreign investment. Targeted at economic infrastructure helps developing countries attract higher FDI inflows through improving their endowment with infrastructure in transportation, communication, energy and finance. Aid in infrastructure appears to have surprisingly strong direct effects on FDI (Donaubauer et. al., 2015). Infrastructure is public goods in nature, as well as large volume of financing is involved and return of capital is comparatively low and slow (though reliable), market mechanism does not function efficiently. For this reason, national and international organizations should take special types of policies and regulations for supplying the efficient level of infrastructural investment.

Infrastructural Investment is essential for the long term economic development of a country. Key infrastructure assets create additional economic benefits by supporting urbanization and industrial growth and providing better access to adjoining countries and stronger trade links. This, in turn, accelerates growth in GDP per capita and therefore the ability to derive greater financial returns. Infrastructure development creates the linkage between developed and undeveloped nations. Due to the characteristics of positive spillover effect on the infrastructure, undeveloped nation's infrastructural investment should get the top priority for the creation of the better world and attracting foreign investment.

Many studies find a positive and important contribution of infrastructure provision to economic growth, but quite a few studies have found a weak or negligible impact. According to the infrastructure index, prepared by Rob Mooren (2014) and Donaubauer et al. (2014), it can be summarized that there is a positive relation between infrastructure investment and economic development. Though, there is no yardstick of optimum level of infrastructure, but a rough rule of thumb is that total investment needs appear to be more than 7 per cent of gross domestic product (GDP) in low-income countries and about 3 per cent of GDP in upper middle-income countries (McCawley, 2010). An infrastructure index is prepared by Donaubauer, Mayer, Nunnenkampin 2014 for 140 countries. Among the 140 countries Bangladesh's overall Rank is 111, which is only above the Pakistan and Cambodia (Among the considered 15 Asian countries).

Table 5: Table of A New Global Index of Infrastructure Country Ranking; Overall infrastructure and sub-categories (Out of 140 Countries)

Country	Total (Rank)	Transport	Energy	ICT	Finance	2010 (over all index)	2000 (over all index)	1990 (over all index)
Bangladesh	111 (12 th)	127 (14 th)	113 (10 th)	90 (8 th)	52 (8 th)			
Cambodia	120	57	129	121	80			
China	28	17	71	47	5	28	35	58
Colombia	96	107	73	96	101	81	89	95
India	35	6	117	109	16	34	37	52
Indonesia	102	106	106	80	74	84	77	85
Lao PDR	98	65	120	NA	109			
Malaysia	38	72	76	41	7	37	33	42
Pakistan	116	83	116	102	84	91	69	96
Philippines	90	105	92	86	57	76	64	94
Singapore	2	2	9	16	2	2	3	4
Sri Lanka	93	113	82	97	67	78	86	97
Thailand	58	112	86	54	21	54	44	51
Vietnam	60	94	72	77	32			

Source: Donaubauer, J, Mayer B., Nunnenkamp, P., (2014)

Note: Larger Value Indicate Lower Position

Asian Development Bank Institute (ADBI) prepared a working paper in 2010 regarding Asian countries on 32 Asian countries. This paper estimates the need for infrastructure investment, including energy, transport, telecommunications, water, and sanitation during 2010-2020, in order to meet growing demands for services and facilitate further rapid growth in the region. By using “top-down” and “bottom-up” approaches, this paper provides a comprehensive estimate of Asia’s need for infrastructure services. The estimates show that developing countries in Asia require financing of US\$776 billion per year for national (US\$747 billion) and regional (US\$29 billion) infrastructure during 2010-2020 to meet growing demand. According to the estimation, Bangladesh’s need 144903 million USD, that is, yearly 13173 million USD for the infrastructure expenditure. At the same time, 11.56% of GDP is required for Bangladesh infrastructural investment (4.92% for transport, 1.24% for electricity, 4.22% for ITC and 1.19% for water and sanitation), which is the second highest amount among the 11 Asian countries. This indicates the infrastructural weakness of an economy.

To estimate the requirements of infrastructure expenditure, land area, population, urbanization, the share of agriculture value-added in GDP, the share of manufacturing value-added in GDP, and GDP annual growth is considered as variables. Land area is assumed to be constant and equal to 2005 figures in each country. The sources of projections for population and GDP growth include the World Bank, ADB, and the International Monetary Fund (IMF). The growth rates projected by IMF’s World Economic Outlook (WEO) for 2008-2013 were used as the base case (IMF 2006).

There are many other variables, which is used as a proxy variable of infrastructure. Technology Index, Quality of Port Infrastructure Index, Fixed Telephone (%) are also

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

considered as infrastructural status of a country. Bangladesh Ranked 198th for Technology Index, which is only better than Cambodia. The Fixed telephone user rate is the lowest and

Table 6: Table of National Infrastructure Investment Needs in Asia: 2010-2020 (Out of 32 Asian Countries)

Country / Sub region	% of Total Asian Investment Need	Estimated Investment Needs (US\$ millions)	Investments as Percentage of Total		Total Investment per Year	Total Investment per Capita (US\$)	2008 GDP Per Capita (Constant 2000 US\$)
			New Capacity	Maintenance			
Pakistan	2.172%	178,558	53%	47%	16,233	650	1075
Cambodia	0.163%	13,364	51%	49%	1,215	511	918
Indonesia	5.476%	450,304	70%	30%	40,937	1,087	1981
Lao PDR	0.138%	11,375	56%	44%	1,034	475	1833
Malaysia	2.287%	188,084	79%	21%	17,099	5,151	6962
Philippines	1.546%	127,122	53%	47%	11,557	1,225	1407
Thailand	2.103%	172,907	72%	28%	15,719	2,640	2566
Viet Nam	1.335%	109,761	53%	47%	9,978	647	1273
Bangladesh	1.762%	144,903	54%	46%	13,173	462	906
India	26.421%	2,172,469	64%	36%	197,497	718	1,906
Sri Lanka	0.461%	37,908	52%	48%	3,446	1,199	1,881

Source: Asian Development Bank Institute (ADBI). (2010). pp 12: <https://www.adb.org/sites/default/files/publication/156103/adbi-wp248.pdf>, Retrived on 23.9.16

Table 7: Infrastructure Investment Needs as a % of Estimated GDP 2010-2020 (Out of 32 Asian Countries)

Country	Investment as % of Estimated GDP				
	Transport	Electricity	Telecommunications (ITC)	Water and Sanitation	Total
Pakistan	2.65%	2.68%	2.22%	0.73%	8.27%
Cambodia	4.43%	0.95%	2.97%	0.36%	8.71%
Indonesia	3.88%	0.98%	0.97%	0.35%	6.18%
Lao PDR	10.62%	0.00%	2.40%	0.60%	13.61%
Malaysia	1.94%	4.42%	0.27%	0.04%	6.68%
Philippines	2.30%	1.87%	1.22%	0.65%	6.04%
Thailand	0.58%	3.69%	0.45%	0.19%	4.91%
Viet Nam	2.07%	3.12%	2.38%	0.54%	8.12%
Bangladesh	4.92%	1.24%	4.22%	1.19%	11.56%
India	5.67%	3.23%	1.87%	0.34%	11.12%
Sri Lanka	4.23%	1.00%	1.39%	0.22%	6.85%

Source: Asian Development Bank Institute (ADBI). (2010). pp14 <https://www.adb.org/sites/default/files/publication/156103/adbi-wp248.pdf>; Retrived on 23.9.16

score value of Quality of Port Infrastructure Index is 3.56, which is only larger than Lao PDR (2.18), and the Philippines (3.22). This picture describes the authenticity of the global index of infrastructure country ranking position, which is presented earlier.

Table 8: Technology Index, Quality of Port Infrastructure Index, Fixed Telephone (%)

Country	Technology Index (Proxy variable of Infrastructure)' 12	Quality of Port Infrastructure Index* (Proxy variable of Infrastructure), 15	Fixed Telephone (%) (Proxy variable of Infrastructure), 14
Bangladesh	138 (14 th)	3.56 (12 th)	0.61 (14 th)
Cambodia	142	3.71	2.34
China	93	4.55	17.90
Hongkong	10	NA	Na
India	121	4.21	2.13
Indonesia	113	3.81	10.37
Korea	29	5.23	59.54
Lao PDR	124	2.18	13.36
Malaysia	52	5.57	14.61
Pakistan	96	4.08	2.65
Philippines	107	3.22	3.09
Singapore	15	6.66	36.19
Sri Lanka	110	4.28	12.49
Thailand	65	4.49	8.46
Vietnam	74	3.91	6.01

Source: Technology Index is collected from <https://knoema.com/atlas/topics/World-Rankings/Knowledge-Economy-Index/Information-and-Communications-Technologies-Index> and Quality of Port Infrastructure Index is collected from World Bank open source (Technology Index's, lower value index indicates better performance)
 * Quality of Port Infrastructure Index: WEF (1=extremely underdeveloped to 7=well developed and efficient by international standards) (*Here higher value index better performance)

(I) Governance Indicators

According to World Bank, governance can be broadly defined as the set of traditions and institutions by which authority in a country is exercised. This includes (1) the process by which governments are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them. The Worldwide Governance Indicator (WGI) report six aggregate governance indicators for 215 countries and territories covering i) Voice and Accountability, ii) Political Stability and Absence of Violence, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law, and vi) Control of Corruption. Governance literature that attempts to analyze cross-country growth, and trade and investment flows. There are many indicators in this regard, but here we consider six, developed by Kaufmann et al. (1999, 2002), reflecting different aspects of governance. These governance measures combine information (mostly subjective) for up to 60 indicators from a number of sources. The voice and accountability indicator measures citizens' abilities to take part in the selection of government; political stability measures the probability that the government would be destabilized by some unconstitutional means; government effectiveness reflects the quality of 'inputs' like public service and bureaucracy that are required to implement policies effectively; regulatory quality measures the quality of

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

government policies; rule of law reflects the extent to which people have faith on the rules and to the extent they comply with the rules; control of corruption indicates the level of corruption. The values of governance indicators range from -2.5 to 2.5 and the higher the value the better the governance outcomes. In a table of governance indicator, depending on the point estimates, all the countries are ranked. A lower rank means worse governance and vice versa.

Table 9: Aggregate Governance Indicators for Selected Countries: 2010 and 2015

Country	Voice and Accountability		Political Stability		Government Effectiveness		Regulatory Quality		Rule of Law		Control of corruption	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Bangladesh	37.44	30.54 (7th)	9.95	10.95 (14th)	25.84	24.04 (14th)	22.49	17.31 (13th)	25.59	27.40 (15th)	14.76	18.27 (15th)
Cambodia	22.27	18.72	26.54	43.81	18.66	25.48	35.89	35.10	12.80	17.31	6.67	12.50
China	5.21	4.93	25.12	27.14	58.37	68.27	44.50	44.23	45.02	43.75	32.38	50.00
Hong Kong	63.03	63.55	78.67	83.33	93.78	99.04	100.0	99.52	91.00	94.71	94.76	92.31
India	60.66	60.59	12.32	16.67	56.46	56.25	39.23	39.90	54.50	55.77	36.19	44.23
Indonesia	47.87	52.22	20.85	24.76	47.37	46.15	37.32	47.12	31.75	39.90	25.24	38.46
Korea, South	69.19	69.46	54.98	52.38	84.69	80.29	78.95	84.13	81.52	80.77	69.05	69.71
Lao P.D.R.	5.69	4.43	35.55	60.48	20.10	36.54	17.70	23.56	19.43	25.48	7.62	19.71
Malaysia	33.65	36.45	51.66	54.29	82.78	76.92	70.81	74.52	65.88	71.63	62.86	65.87
Pakistan	26.07	27.09	0.47	0.95	24.88	27.40	30.62	29.33	27.49	23.56	13.33	23.56
Philippines	48.34	51.72	5.21	20.95	55.50	57.69	44.98	52.88	33.65	42.31	22.38	41.83
Singapore	40.76	42.86	89.57	93.33	100.0	100.0	98.09	100.0	92.89	96.63	98.57	97.12
Sri Lanka	30.33	35.96	18.01	46.67	48.80	53.37	45.93	51.92	53.55	59.62	43.33	45.19
Thailand	32.23	23.65	9.48	15.71	62.20	65.87	56.46	63.46	49.29	53.85	48.57	43.75
Vietnam	8.53	10.84	50.71	48.57	45.93	55.29	28.23	33.65	34.60	46.15	31.43	39.42

Source: Aggregate Governance Indicators 2010 and 2015, available at:

<http://info.worldbank.org/governance/wgi/index.aspx#reports>

Note: Lower values represent poorer government performance

It appears from Table 9 that, Bangladesh perform better in 2015 than 2010 in the three indicators like Political Stability, Rule of Law, Control of corruption. However, Bangladesh performs poorly in 2015 compared to 2010 in other three indicators. In terms of political stability Bangladesh performed extremely poor among the concern 15 countries in 2015 except Pakistan. Bangladesh's relative position is comparatively better in voice and accountability indicator (37.54 in 2010 and 30.54 in 2015), which is also poorer than Hong-kong, Malaysia, Philippine, Singapore, India and Indonesia. In case Government Effectiveness, Bangladesh performs only better than Lao PDR. The ranking of political stability is the worst in Bangladesh.

(j) Transparency International's Corruption Perception Index

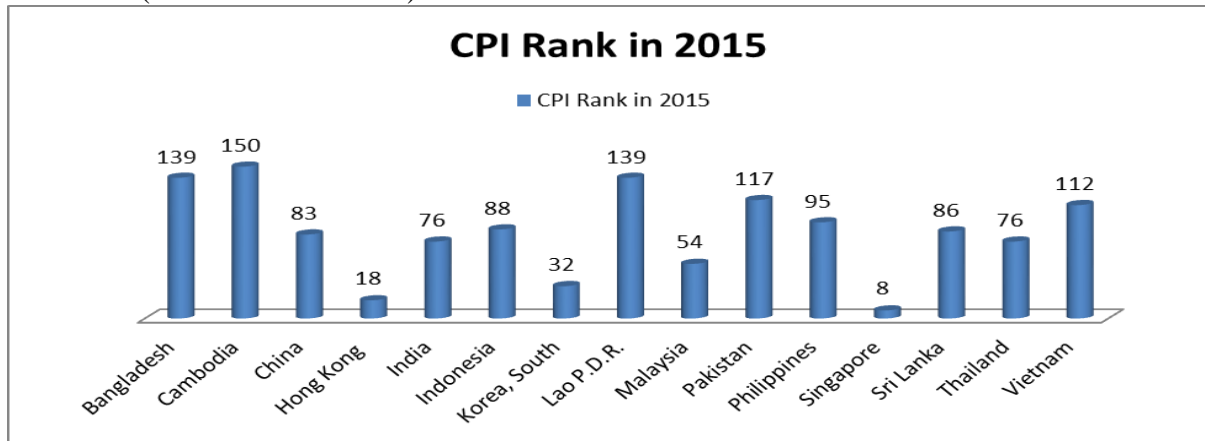
The Corruption Perceptions Index ranks countries/territories based on how corrupt their public sector is or perceived to be. A country/territory's score indicates the perceived level of public sector corruption on a scale of 0 - 100, where 0 means that a country is perceived as highly corrupt and 100 means that a country is perceived as very clean. A country's rank indicates its position relative to the other countries/territories included in the index.

In the recent years, the index that has been the most talked mostly about in Bangladesh, is the Transparency International's Corruption Perception Index (CPI). The CPI ranks countries in

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

terms of the extent to which corruption is perceived to exist among public officials and politicians.

Figure 10: Transparency International’s Corruption Perception Index of Selected Asian Countries (out of 168 countries)



Source: Transparency International’s Corruption Perception Index, 2015

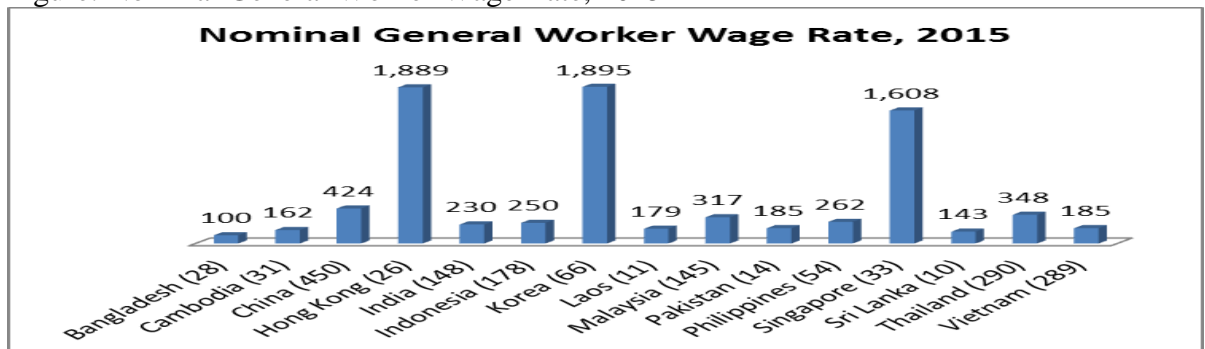
Note: Higher values represent higher corruption,

It is a composite index, drawing on corruption-related data gathered from the perception of selected groups of people. It reflects the views of business people and other observers who are supposed to be knowledgeable about the business environment and practices in the countries under evaluation. According to CPI report 2015, among the 167 countries, Bangladesh’s position is 137, which is only better than the position of Cambodia among the selected 15 Asian countries.

(k) Investment-Related Costs Comparison

The 23rd Survey of Investment Related Costs in Asia and Oceania Japan External Trade Organization (JETRO) conducted a comparative survey of investment-related costs in 41 major cities and regions throughout Asia and Oceania in the period between December 2012 and January 2013. The survey revealed that Japanese companies are mainly concerned about wages.

Figure: Nominal General Worker Wage Rate, 2015



Source: Wage rate is collected from 2015 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

Table 10: The Investment-Related Cost Comparison of Survey of the Concern Selected Asian Countries' Main City

Country	Per capita FDI, 14	Industrial Estate (land) Rent (per sq.m.)	Electricity Rate for Business Use(per kwh)	Water Rate for Business Use (per cu. M)	Gas Rate for Business Use (per cu. m.)	Diesel Price (1liter)	Corporate Income tax Rate
Bangladesh (Dhaka)	9.6	0.1	0.07	0.34	0.03	0.85	37.50%
Cambodia	112.89	0.1	0.15	0.24	-	1.29	20%
China	94.19	4.77	0.13	0.99	0.45	1.2	25%
Hong Kong	24035.1	-	0.148	0.59	-	1.6	16.50%
India	26.57	3.93	0.12	1.82	-	0.86	30%
Indonesia	88.74	5	0.07	1.29	-	0.46	25%
Korea	196.31	0.25	0.07	0.05	-	1.85	22%
Lao PDR	107.76	0.03	0.08	0.06	-	1.06	24%
Malaysia	361.15	-	0.1	0.68	-	0.59	20%
Pakistan	9.44	-	0.08	0.39	-	1.13	35%
Philippines	62.54	3.67	0.14	1.84	-	1.03	30%
Singapore	12344.86	6.51	0.13	1.81	0.19	1.32	17%
Sri Lanka	45.46	-	0.08	0.59	-	0.9	12%
Thailand	185.54	6.9	0.15	0.31	-	0.99	20%
Vietnam	101.4	0.17	0.5	0.34	-	1.05	25%

Source: The 23rd Survey of Investment Related Costs in Asia and Oceania, May 2013, Overseas Research Department Japan External Trade Organization (JETRO)

The Japan External Trade Organization (JETRO) has conducted a survey in 41 major Asian cities on investment-related costs in 2013 for the fiscal year of 2012. Amongst the set of mainly 06 cost components a. Wages, b. Land price, office rents, etc c. Public utility rate d. Transportation e. Tax f. School fee and these broad cost components are sub-divided into 35 cost-components. Most of the cases of cost components, Dhaka has the cheapest cost. In table of The Investment-Related Cost Comparison of Survey of the Concern Selected Asian Countries' represents the seven important cost component of 14 country's capital city. Except Corporate income tax rates all other i.e. 6 other cost components are the lowest in Dhaka city. The report highlighted a few numbers of disadvantages for Dhaka such as (1) container transportation costs, (2) rate of corporate income tax (3) Regular gasoline price and (4) Corporate income tax rate.

According to 2015 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania, the top five problems in Bangladesh are:

- a. Difficulty in local procurement of raw materials and parts
- b. Quality of employees
- c. Completed custom clearance
- d. Wage increase

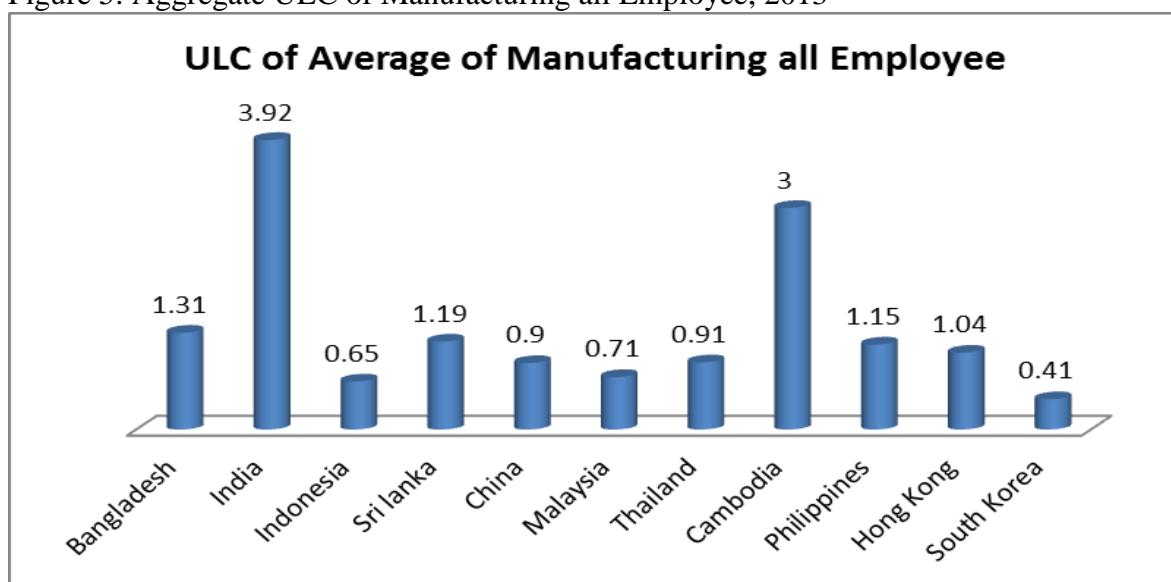
*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

e. Difficulty in quality control

Lowest wage, but wage increase problem in Bangladesh: A Contradiction

One of the very important contradiction is that wage rate is the lowest is Bangladesh but the report of the JETRO Survey on Business Conditions of Japanese companies in Asia and Oceania, 2015 presented that wage rate increase is the second most problematic for the Japanese investment in Bangladesh. The nominal wage rate is presented in the JETRO survey report. Chakraborty (2015) shows that the productivity adjusted wage rate of the manufacturing all employees is the significantly higher in Bangladesh comparing Asian country (see, following figure). Low wage is the indicator of low productivity, less efficient, more aggressive (as the worker can nor maintain standard life). Comparatively, general workers are more efficient than the managers and engineers in Bangladesh. Because, Lower level workers’ skill is inelastic with respect to investments.

Figure 5: Aggregate ULC of Manufacturing all Employee, 2013



Source of Data: Chakraborty (2015), Unpublished

If the wage rate is significantly lower, then there may have a serious labor unrest and for that reason the investors become shaky. In the Global Competitiveness Report 2007-2008 © 2007 World Economic Forum mentions that Competitiveness depends not on costs, but on productivity. Low wages can be a sign of low competitiveness, not a competitive advantage. High wages in a country, if they are justified by high productivity, can be an excellent value. (Chakraborty, 2014; available at: <http://bea-bd.org/site/images/pdf/037.pdf>)

Table11: Industrial Unit Labor Cost (Calculation is done by using Industrial Value added in 2010, Yearly Wage Rate of 2010 and Industrial Employment in 2010 and Yearly Wage Rate in 2010)

Country	ULC of Manufacturing worker	ULC of Manufacturing Engineer	ULC of Manufacturing Manager	ULC of Average of Manufacturing all Employees
---------	-----------------------------	-------------------------------	------------------------------	---

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister’s Office, Bangladesh

Bangladesh	0.34	0.92	2.69	1.31
India	1.36	3.12	7.28	3.92
Indonesia	0.27	0.50	1.17	0.65
Sri Lanka	0.47	1.08	2.02	1.19
China	0.53	0.78	1.40	0.90
Malaysia	0.25	0.66	1.22	0.71
Thailand	0.36	0.69	1.68	0.91
Cambodia	1.15	3.70	4.14	3.00
Philippines	0.46	0.80	2.19	1.15
Hong Kong	0.62	0.89	1.60	1.04
South Korea	0.32	0.39	0.52	0.41

Source: Chakraborty, S (2015)

Optimum pricing is the marketing or management world has always been a challenge. While 'low pricing' may affect the productivity and overall image or accessibility of the product, Out of the market pricing or non-sustainable pricing may seriously impact the core competitiveness of the product or the industry segment as a whole. (Mamun Rashid, Minimum wage for RMG workers, Financial Express, Dhaka, Tuesday, August 27 2013). So, we can see that, low wage cannot harvest the good outcome for attracting FDI. Including the lowest wage rate, investment related most of the costs are low in Bangladesh compared to the ten Asian countries concern. On the other hand, the government is providing a lot of incentives for the foreign investors such as corporate tax holiday, reduced tariff on import of raw materials and capital machinery, bonded warehousing facility, export subsidy, fund for export promotion, export credit guarantee scheme and many others. In spite of all these comparative advantages, per capita FDI and FDI/GDP ratio is the lowest among the 15 Asian countries.

6. Consequence of the Investment Climate

Table 12 shows that per capita FDI of Bangladesh is the lowest among 15 concern countries except Pakistan. If we examine the above analysis, we can observe that most of the cases, Bangladesh performs better than only Pakistan and Cambodia. These indicators were Doing Business, Dealing with Construction Permits, Getting Electricity, Registering Property, Getting Credit, Protecting Minority Investors, Trading Across Borders, Enforcing Contracts, Resolving Insolvency, Index of Economic Freedom, Business Freedom, Labor Freedom, Trade Freedom, Investment Freedom, Global Competitiveness Index (GCI), Global enabling trade index (ETI), Business Environment Rankings, Status of Human Capital, Knowledge Economy Index, The Human Capital Index, Global Innovation Index, Infrastructure Country Ranking, Governance Indicators, Industrial Unit Labor Cost, Openness Indices of Economic Freedom Index etc.

Table 12: FDI, FDI-Population Ratio, FDI-GDP ratio, of the Selected Asian Countries

Country	Gross Investment (% of GDP)	Total FDI Inflow, 2014 (Million USD)	FDI/GDP*100, 2014	Per capita FDI, 14
Bangladesh	28.972	1526.70 (3 rd)	0.88 (13 th)	9.60 (14 th)
Cambodia	22.5	1730.36	10.31	112.89
China	43.334	128500.00	1.24	94.19
Hong Kong	21.791	114055.00	39.16	15749.75
India	33.256	34416.76	1.69	26.57
Indonesia	34.562	22579.55	2.54	88.74
Korea	27.972	9898.50	0.7	196.31
Lao PDR	NA	720.84	6.15	107.76
Malaysia	25.093	10799.16	3.19	361.15
Pakistan	15.118	1747.00	0.72	9.44
Philippines	20.852	6200.53	2.18	62.54
Singapore	26.29	67522.99	22.04	12344.86
Sri Lanka	27.853	944.25	1.18	45.46
Thailand	24.132	12565.73	3.11	185.54
Vietnam	27.581	9200.00	4.94	101.4

Source: FDI is Collected From UNCTAD Website, Gross Investment is collected from Economy watch(<http://www.economywatch.com/economic-statistics/>) and Other data are collected from World Bank Open Source Data Bank, FDI/GDP*100 and Per capita FDI is own calculation.

Note: FDI inflow of Hongkong is collected from Santander Trade Portal (available at: <https://en.portal.santandertrade.com/establish-overseas/hong-kong/foreign-investment>, Retrived on 29-09-16)

FDI can play a vital role for increasing Investment, but for that reason conducive or attractive or business friendly environment is essential. Foreign investors are not satisfied due to the weak socioeconomic framework of Bangladesh. Corruption and religious consideration also encourage them to divert their investment to other neighboring countries (Rahman et. al. 2011). But, fortunately FDI growth rate of Bangladesh was significantly higher (44%) in 2015 (UNCTAD Report, 2015). For continuing this FDI growth or above, Bangladesh has to be more concern about infrastructural development, need-based human capital and governance indicators and also above mentioned indicators of investment climate.

7. Reliability of the Investment Climate indices:

In this study, 9 core index (or core variable) and 41 sub-index (or sub-variables, those influences the investment, especially DFI has been analyzed in this study. The core indices are Doing Business Index, the Global Competitiveness Index, Economic Freedom Index, Enabling Trade Index, Knowledge Economy Index, Business Environment Rankings, Global Human Capital Index, Global Innovation Index, Technology Index. This index should have a positive influence on Investment or FDI. Table 13 represents the correlation value and its level of significance to the FDI-GDP Ratio and per capita FDI with the all 9 core variables.

Table 13: Correlation Value the Determinants of FDI (Core Variables)

	Determinants of FDI (Variables)	FDI-GDP Ratio	Level of Significance (t-two tail)	Per capita FDI	Level of Significance (t-two tail)
1	Doing Business Index, 16	0.477*	0.072	0.541**	0.037
2	Global Competitiveness Index 2015-16	0.559**P	0.030	0.615**	0.015
3	Economic Freedom Index World Rank	0.974***	0.000	1.000***	0.000
4	Enabling Trade Index, 2014	0.725***	0.002	0.774***	0.001
5	Knowledge Economy Index, 2012	0.578**	0.024	0.668***	0.007
6	Business Environment Rankings	0.770***	0.001	0.932***	0.000
7	Global Human Capital Index	0.770***	0.001	0.932***	0.000
8	Global Innovation Index	0.520**	0.056	0.593**	0.025
9	Technology Index 12	0.919***	0.000	0.964***	0.000

***Correlation is significant at the 0.01 level (2-tailed).

**Correlation is significant at the 0.05 level (2-tailed).

*Correlation is significant at the 0.010 level (2-tailed).

Note: For avoiding the confusing relation among the variables, according to principle of economics, the inverse value of the Index rank has been considered during the measure of correlation value.

All the variables are strongly correlated to the FDI-GDP Ratio and per capita FDI with a high level of significance. These core indices are prepared on more than 40 sub-indices. The correlation between most of the variables show the logical relationship to the FDI-GDP Ratio and per capita FDI except electricity (see Appendix-D). The two variables, Electricity including energy and finance do not show the logical relationship (as correlation coefficient is negative) though not statistically significant. If Cambodia, Hongkong, Lao-PDR, Singapore and Vietnam are excluded, then correlation to the FDI-GDP Ratio (0.60) and per capita FDI (0.35) of electricity index becomes logical as it is positive. One of the most interesting points is that cost component of investment like industrial estate (land) rent, electricity rate for business use, water rate for business use, gas rate for business use and diesel price shows no impact of FDI though Bangladesh is a very competitive position in these variables compared to concern 15 Asian countries.

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh

8. Conclusion

According to the Ease of Doing Business indicator, among the concern 15 Asian countries the position of Bangladesh is (174th) and among the 10 indicators of Ease of Doing Business, getting electricity is the top most problematic in the world (189th). On the other hand, JETRO survey reveals, Bangladesh is the most cost comparative advantageous countries for operating a business. Despite this advantageous situation per capita FDI is the second lowest among the concern 15 Asian countries. This study reveals that, cost component of investment like industrial estate (land) rent, electricity rate for business use, water rate for business use, gas rate for business use and diesel price shows no impact on FDI though Bangladesh is very much competitive or advantageous situation in these determinants.

Bangladesh should develop its own indicators of business environment and investment climate, especially in the arena of governance indicator, infrastructural development and skilled manpower. Keeping aside the inter-country ranking, Bangladesh needs to develop a pragmatic way of studying investment climate issues and taking the necessary corrective measures. Comprehensive multi-level corrective measures such as policy level, institutional level, and enterprise level can be formulated. At first the policy makers with stakeholders may devise accurate and priority basis short-, medium-, and long-term strategies to overcome the difficulties of the investment climate and have to implement through the institutions. It is also true that for harvesting better success, enterprise will have to be dynamic, innovative and they also have to maintain regular well-informed interaction amongst other enterprise, institutions and policy makers have to identify the problem and have to take remedial measures.

“In 1990, US Economist Robert Lucas argued that according to economic law, the capital would flow from developed to underdeveloped country. But in reality, this is not happening. We get a rational explanation of the Lucas statement in the quarterly publication of IMF, 2007. The report identified that the productivity of capital drastically decreased in the underdeveloped country due to infrastructural problem, unskilled manpower and corruption. The report further stated that in such a situation, if the capital flows, it will be occurred in the rapidly developing country but this is also not happening. IMF Economist up to 2007 and then the Governor of the Indian Reserve Bank, Raghuram Rajan mentioned in his famous book ‘Front Lines’ that a country’s economic growth will be more speedily if the country invests from his own resource.” (Raruk Moinuddin, Doinik Prothom-Alo, 13, October, 2014, translated form). So, the policy makers should be more serious for the domestic investment and then FDI as well as policy makers and relevant stakeholders have the opportunity to learn from high ranking (performed better in various indicators of investment climate) countries.

References

- Asian Development Bank Institute (ADBI). (2010).
- Andreasen, N. C. (2001). *Brave new brain: Conquering mental illness in the era of the genome*. Oxford, England: Oxford University Press.
- Asiedu, E. (2002) "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?" *World Development*, 30(1), 107-118.
- Barro, Robert J. (1990). Government Spending in a Simple Model of Endogenous Growth. *The Journal of Political Economy* 98 (5): 103-125.
- Bhattacharyay, B. N., (2010). ADBI Working Paper Series Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020, ADBI Working Paper Series No. 248 September 2010, <https://www.adb.org/sites/default/files/publication/156103/adbi-wp248.pdf>
- Bhattacharya, D., Moazzem, K.G., Rahaman, K.M. and Hossain, S.S. (2006), "Business Competitiveness Environment in Bangladesh in 2005: Domestic Perception and Global Comparison." Occasional paper 59. Centre for Policy Dialogue (CPD), Dhaka
- Barro, R. (1991) "Economic Growth in Cross Section of Countries," *Quarterly Journal of Economics*, 12,106(2), 407-444.
- Chakrabarti, A. (2001) "The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-country Regressions," *Kyklos*, 54(1), 89-114.
- Chakraborty, S., (2015) Low inflows of FDI in Bangladesh comparing Asian Countries: Does Labor Cost Factor? (Unpublished)
- Donaubauer, J., Meyer, B., (2015), Nunnekamp, P., Aid, Infrastructure, and FDI: Assessing the Transmission Channel with a New Index of Infrastructure, FIW Working Paper No. 144 February 2015
- Donaubauer, J, Mayer B., Nunnenkamp, P., (2014), A new lobar Index of Infrastructure: Construction, Ranking and Applications, Working Paper No.-1929, 014, Kiel Institute of World Economy, www.ifw-kiel.de
- Jaspersen, F., Aylward, A. and Knox, A. (2000) "The Effects of Risk on Private Investment: Africa Compared with Other Developing Areas," in P. Collier and C. Pattillo (Eds.), *Investment and Risk in Africa*, New York: St. Martin's Press, 71-95. Source: Japan External Trade Organization (JETRO) Survey, 2013
- Japan External Trade Organization (JETRO) Survey, 2013
- Kaufmann, D., Kraay, A. and Zoido-Lobaton, P. (1999), "Aggregating Governance Indicators", World Bank Policy Research Working Paper No. 2195, Washington DC: World Bank.
- Kaufmann, D., Kraay, A. and Zoido-Lobaton, P. (2002), "Governance Matters II: Updated Indicators for 2000-01", World Bank Policy Research Working Paper No. 2772, Washington DC: World Bank.
- Kaufmann D, Kraay A, and Mastruzzi M (2005), "Governance Matters iv: Governance indicators for 1996-2004". World Bank Policy Research working Paper 3630, The World Bank, Washington DC.
- Kojima, K., (1978) *Direct Foreign Investment: A Japanese Model of Multinational Business Operations*. Croom Helm: UK
- Kojima, K. (2000) "The "flying geese" model of Asian economic development: origin, theoretical extensions, and regional policy implications." *Journal of Asian Economics*. pp.375-401.
- Mallampally., Sauvant, K.P. (1999) *Foreign Direct Investment in Developing Countries*. Finance and Development, 36, No.1
- Moosa, I. (2002) *Foreign Direct Investment: Theory, Evidence and Practice*, New York: Palgrave.
- Mottaleb, Khondoker Abdul (2007): *Determinants of Foreign Direct Investment and Its Impact on Economic Growth in Developing Countries*. MPRA Paper
- Porter, M. E., Ketels, C., and Delgad, M., (2007), *the Microeconomic Foundations of Prosperity: Findings from the Business Competitiveness Index*, Chapter 1.2, Institute for Strategy and Competitiveness, Harvard Business School. Retrieved from <http://www.enterprisesurveys.org/~media/GIAWB/EnterpriseSurveys/Documents/CountryHighlights/Bangladesh-2013.pdf>
- Quader, Syed Manzur, 2009, 'Foreign Direct Investment in Bangladesh: An Empirical Analysis on its Determinants and Impacts', Retrieved from <http://mpa.ub.unimuenchen.de/26134/>MPRA Paper No.26134.
- Quazi, R. and Mahmud, M. (2006) "Determinants of Foreign Direct Investment in South Asia," *The International Journal of Business and Public Administration*, 3(1), 1-13.

Rahman, L., Islam, E., Islam, S., 2011 “An Empirical Study on the Foreign Direct Investment Climate in Bangladesh: Applicability of the Purchasing Power Parity Theory and International Fisher Effect” Journal of Banking & Financial Services, Department of Banking Faculty of Business Studies, University of Dhaka, Vol. 5 Number 1

Rajan, R., (2015): Reserve Bank of India Governor Raghuram Rajan delivers a public lecture on ‘Going bust for growth: policies after the global financial crisis’ in the Dhaka city on 12 June, 2015 Retrieved at: <http://www.dhakatribune.com/business/2015/jun/12/rajan-investment-infrastructure-speed-economic-growth#sthash.3Ms90B6S.dpuf>, Date: 15-8-2015

Rashid, M, Minimum wage for RMG workers, Financial Express, Dhaka, Tuesday, August 27 2013

Razzak, A. and Raihan, S., (2007) Trade and Industrial Policy Environment in Bangladesh with Special Reference to Some Non-traditional Export Sectors, Pathak Shambash, Sahabag, Dhaka, Bangladesh.

Rehman, A., Oranzab, Ali R., 2011, ‘Determinants of Foreign Direct investment and its impact on GDP Growth in Pakistan’, Interdisciplinary Journal of Contemporary Research in Business Vol. 2, Issue. 9, pp. 198-205.

Sadik, Ali, and Bolbol, Ali (2001), Capital Flows, FDI, and Technology Spillovers: Evidence from Arab Countries. World Development. 29 (12): 2111-2125

Smith, S. (1997) “Restrictive Policy toward Multinationals: Argentina and Korea,” Case Studies in Economic Development, 2nd ed, Upper Saddle River, NJ: Addison Wesley, 178-189.

Straub, S. (2008). Infrastructure and development: A critical appraisal of the macro level literature. World Bank Policy Research Working Paper 4590. Washington, DC.

The Global Competitiveness Report 2007-2008 © 2007 World Economic Forum

The Heritage Foundation, in partnership with Wills Street Journal, Retrieved from <http://www.heritage.org/index/ranking>

The 23rd Survey of Investment Related Costs in Asia and Oceania, May 2013, Overseas Research Department Japan External Trade Organization (JETRO)

Wheeler, D. and Mody, A. (1992) “International Investment Location Decisions: The Case of U.S. Firms,” Journal of International Economics, 33(1-2), 57-76.

World Bank (2006) World Development Indicators (CD-ROM), Washington, DC: World Bank.

World Bank, 2013, Retrieved from, <http://www.enterprisesurveys.org/~media/GIAWB/Enterprise Surveys/Documents/Country Highlights/Bang>

<http://info.worldbank.org/governance/wgi/index>

<http://www.transparency.org>

<http://www.enterprisesurveys.org/~media/GIAWB/Enterprise Surveys/Documents/Country Highlights/Bang>

<http://www.heritage.org/index/>

<http://www.nationmaster.com/country-info/stats/Economy/Technology-index Ranking>

http://info.worldbank.org/etools/kam2/KAM_page5.asp#c21

<http://www.thefinancialexpress-bd.com/old/index.php?ref=MjBfMDhfMjdfMTNfMV8yXzE4MTIz>

<http://www.unicef.org> (for Adult Literacy India, Pakistan, Sri-lanka)

<http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/KFDLP/EXTUNIKAM/0,menuPK:1414738~pagePK:64168427~piPK:64168435~theSitePK:1414721,00.html>

<http://www.iccwbo.org/>

<http://www.nationmaster.com/country-info/stats/Economy/Technology-index Ranking>

<http://data.worldbank.org/indicator/IQ.WEF.PORT.XQ>

<https://en.portal.santandertrade.com/establish-overseas/hong-kong/foreign-investment>

Appendices:

Appendix A: Calculation of the Productivity Adjusted Wage Cost or Unit Labor Cost (ULC)

ULC is defined as the cost of labor required to produce one unit of output¹. It is used as a measure of competitiveness because labor compensation is often a major component of the cost structure and, therefore, influences prices. It is calculated as the ratio of average labor compensation in nominal terms to average labor productivity²:

$$ULC = \frac{w_n}{ALP} = \frac{w_n}{(VA_r/L)} = \frac{w_n}{((VA_n/P)/L)} \text{----- (1)}$$

where, ULC is the unit labor cost, w_n is the nominal wage rate (i.e., dollar or taka per worker), ALP is average labor productivity, VA_r is real value added (in dollar or taka of a base year), L is the number of workers, and P is the deflator for value added³. The argument is that, in low productivity countries (sectors), a high wage rate can make production costly and jeopardize long-run profitability. In high productivity countries (sectors), however, a high average wage rate can be offset by high productivity and, therefore, can be fully compatible with long-run profitability. In other words, the argument that competition from lower foreign wages can damage domestic industries is not fully correct. What matters is the wage rate (average labor compensation) relative to labor productivity, i.e., the unit labor cost. A common use of ULC is the comparison of cost competitiveness across countries. A common argument is that a lower ULC makes a country more competitive.

In other words, if a country's ULC increases faster than that of its foreign competitors, this will reduce the competitiveness of the home country, thereby reducing market shares and negatively affecting economic growth.

Appendix B: Index of Overall Global Innovation Index and Efficiency Score and Rank

Country Name	Overall Rank	Overall Score	Efficiency Score*	Efficiency Rank
Bangladesh	117	22.9	.52	107
Cambodia	95	27.9	.59	90
China	25	50.6	.90	7
Hong Kong SAR	14	55.7	.61	83
India	66	33.6	.66	63
Indonesia	88	29.1	.71	52
Korea, South	11	57.1	.80	24
Lao P.D.R.	NA	NA	NA	NA
Malaysia	35	43.4	.67	59
Pakistan	119	22.6	.64	71
Philippines	74	31.8	.71	49
Singapore	06	59.2	.62	78
Sri Lanka	91	28.9	.70	54
Thailand	52	36.5	.70	63
Vietnam	59	35.4	.84	11

Source: Global Innovation Index, 2016; available at www.globalinnovationindex.org

Note: Smaller rank indicates better performance and greater score indicates better performance.

*Efficiency Score is the ratio of the Output Sub-Index score over the Input Sub-Index score

Appendix C: Scientific and technical publications, University/industry research collaboration, Expenditure on education, University ranking average score top 3 universities

Country Name	Scientific and technical publications* (Out of 127)	University/industry research collaboration** (Out of 123)	Expenditure on education*** (Out of 118)	University ranking average score top 3 universities**** (Out of 73)
Bangladesh	111	119	116	66
Cambodia	98	105	107	73
China	50	31	NA	7
Hong Kong SAR	NA	27	89	4
India	77	49	83	20
Indonesia	127	29	95	41
Korea, South	25	25	3	9
Lao P.D.R.	NA	NA	NA	NA
Malaysia	55	12	22	28
Pakistan	71	91	110	49
Philippines	123	54	105	47
Singapore	29	5	101	16
Sri Lanka	110	100	117	67
Thailand	86	44	53	36
Vietnam	95	86	21	73

Source: <https://www.globalinnovationindex.org/gii-2016-report>

*Scientific and technical publications: A Number of scientific and technical journal articles (per billion PPP\$ GDP), 2015

**University/industry research collaboration Average answer to the survey question: In your country, to what extent do people collaborate and share ideas between companies and universities/research institutions? [1 = not at all; 7 = to a great extent], 2015

***Expenditure on education: Government expenditure on education (% of GDP) | 2012
Quality Education Institute and Research Conduct:

Appendix D: Correlation Matrix

Correlation Value the Determinants of FDI (Sub-Index / Variables)

	Determinants of FDI (Variables)	FDI-GDP Ratio	Level of Significance (t-two tail)	Percapita FDI	Level of Significance (t-two tail)
1	Monetary Freedom, 2016	0.479*	0.071	0.480*	0.070
2	Investment Freedom, 2016	0.697***	0.004	0.724***	0.002
3	Financial Freedom, 2016	0.610**	0.016	0.655***	0.008
4	Labor freedom, 2016	0.798***	0.000	0.790***	0.000
5	Tariff Rate, 2016	-0.530**	0.042	-0.590**	0.021
6	Tax Burden (% of GDP), 2016	-0.003	0.991	0.014	0.961
7	Business Freedom, 2016	0.483*	0.068	0.593**	0.020
8	Trade Freedom, 2016	0.606**	0.017	0.635***	0.011
9	Fiscal Freedom, 2016	0.684***	0.005	0.584**	0.022
10	Starting a Business	0.926***	0.000	0.955***	0.000
11	Dealing with Construction Permits	0.462*	0.083	0.511**	0.052
12	Getting Electricity	-0.023	0.936	0.041	0.885
13	Registering Property	0.356	0.192	0.409	0.130
14	Getting Credit	0.665***	0.007	0.553**	0.033
15	Protecting Minority Investors	0.880***	0.000	0.927***	0.000
16	Paying Taxes	0.935**	0.000	0.973***	0.000
17	Trading Across Borders	0.382	0.160	0.435	0.105
18	Enforcing Contracts	0.273	0.326	0.349	0.203
19	Resolving Insolvency	-0.020	0.942	0.041	0.884
20	Market Access Sub-index	0.358	0.190	0.401	0.139
21	Broder Administration Sub-index	0.416	0.123	0.471*	0.077
22	Infrastructure Sub-index Index	0.712***	0.003	0.766***	0.001
23	Operating Environment Sub-index	0.975***	0.000	1.000***	0.000
24	Internet Users (%) 14	0.330	0.249	0.514*	0.060
25	Global Index of Infrastructure	0.039	0.892	0.084	0.765
26	Transport	0.024	0.933	0.070	0.805
27	Energy	-0.048	0.865	-0.014	0.961
28	ICT	0.238	0.413	0.299	0.299
29	Finance	-0.003	0.992	0.049	0.861
30	Voice and Accountability, 2015	0.284	0.304	0.384	0.158
31	Political Stability, 2015	0.710***	0.003	0.679***	0.005
32	Government Effectiveness, 2015	0.570**	0.027	0.657***	0.008
33	Regulatory Quality, 2015	0.617***	0.014	0.689***	0.005
34	Rule of Law, 2015	0.569**	0.027	0.671***	0.006
35	Control of corruption, 2015	0.618***	0.014	0.721***	0.002
36	Industrial Estate (land) Rent (per sq.m.)	0.235	0.487	0.438	0.178
37	Electricity Rate for Buss. Use(per kwh)	0.096	0.733	0.027	0.924
38	Water Rate for Business Use (per cu. M)	0.067	0.813	0.145	0.607
39	Gas Rate for Business Use (per cu. m.)	-0.121	0.922	-0.130	0.917
40	Diesel Price (1liter)	0.462*	0.083	0.462	0.083
41	Corporate Income tax Rate	-0.448*	0.094	-0.408	0.131

***Correlation is significant at the 0.01 level (2-tailed).

**Correlation is significant at the 0.05 level (2-tailed).

*Correlation is significant at the 0.010 level (2-tailed).

Note: For avoiding the confusing relation among the variables, according to principle of economics, the inverse value of the Index rank has been considered during the measure of correlation value.

Appendix E: Regarding FDI in 7th Five Year Plan

Bangladesh has among the most liberal FDI regime with (a) no limits on income and profit repatriation, (b) 100% foreign ownership allowed, (c) joint ventures without restrictions on shareholding, (d) all sectors open to FDI except few restricted on national security grounds, and (d) generous tax holidays. Yet, the fact that Bangladesh is only a minor player in FDI with \$1.5-2 billion of inflows in FY2014 compared to India's \$28 billion, Indonesia's \$18 billion, Malaysia's \$12 billion, and Vietnam's \$10 billion says a lot about the lack of a sufficiently favourable investment climate. For FDI to flow in the investment climate has to be conducive for foreign investors to feel confident that not only will returns be high but the risks are low. The Government must recognize that the FDI sector is an integral part of the economy – essential to restructuring the economy and raising national competitiveness.—by putting in place market economy institutions and a sound legal framework; building an advanced and integrated infrastructure, particularly transport and ports; removing complexity in land entitlements and mutations, and developing a quality workforce. Furthermore, improving the investment climate requires concerted actions involving, among other things,

- (a) Provision of adequate power supply,
- (b) further business deregulation to build a dynamic export-oriented economy,
- (c) financial sector reforms,
- (d) reforms in tax and customs administration,
- (e) legal reforms that ensure enforcement of contracts,
- (f) setting up more special economic zones to overcome the land constraint,
- (g) branding of special products (i.e. khadi, silk, jamdani)
- (h) improving overall governance, and
- (i) ensuring socio-political stability.

Appendix E: Comparison of Infrastructure Quality 2014-2015 Country/ Region

Country	Country Ranking*	Overall Infrastructure Score	Electricity
Bangladesh	130	2.8	2.5
India	87	3.6	3.4
China	46	4.7	5.2
Cambodia	107	3.1	3.0
Myanmar	137	2.1	2.8
Pakistan	119	2.7	2.1
Sri Lanka	75	4.0	4.8
Thailand	48	4.6	5.1

Source: 7th Five Year Plan

Appendix F: Seventh Plan Sectoral Public Investment Allocation (Taka billion) ADP by Broad Categories in Constant FY16 Prices (Public Investment) (7th Five Year Plan Projections)

Sl. No.	Sector	FY16	FY17	FY18	FY19	FY20
1	General Public Services	41.8	30.9	34.9	38.8	43.4
2	Defence	4.2	3.0	3.4	3.8	4.2
3	Public Order and Safety	15.3	18.0	20.3	22.5	25.2
4	Industrial and Economic Services	21.0	29.9	35.2	41.0	47.7
5	Agriculture	59.0	75.2	84.8	94.2	105.6
6	Power and Energy	184.8	191.5	189.9	211.1	236.1
7	Transport and Communication	234.3	278.2	310.5	343.3	385.5
8	Local Government and Rural Development	181.8	212.6	239.6	266.2	297.8
9	Environment and Climate Change	4.8	6.8	7.7	8.6	9.6
10	Housing and Community Amenities	18.9	16.6	18.7	20.8	23.2
11	Health	53.3	64.0	72.2	81.6	92.8
12	Recreation, Culture and Religion	8.3	10.1	11.1	12.3	13.8
13	Education and Technology	121.1	173.7	207.0	230.6	258.3
14	Social Protection	37.5	47.1	53.3	59.4	66.6
TOTAL		970.4	1141.6	1287.8	1431.0	1600.

Source: 7th Five Year Plan, Bangladesh

Appendix F: 7th Five Year Plan Savings and Investment Targets in Context

Targets	Base Year 2010	Progress under 6th FYP 2015	7th FYP 2020
National Savings (% of GDP)	29.44	29.01	32
Gross Domestic Investment (% of GDP)	26.25	28.97	34.4
FDI (\$ billions)	0.913	1.60	9.56

Source: 7th Five Year Plan, Bangladesh

*Sonjoy Chakraborty, MSS in Economics (First Class), PGD (Development Planning), Ph. D. (Econ.), Deputy Secretary, Prime Minister's Office, Bangladesh