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THE INSTITUTE OF CHARTERED ACCOUNTANTS OF BANGLADESH

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July – December 2021

Bangabandhu Tri-Tower, Purbachal

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# Editorial

**Professor Dr. Md. Salim Uddin** FCA, FCMA
Chairman - Editorial Board

It gives me an immense pleasure that we have been able to publish 'Bangladesh Economia', a research based journal of ICAB within such a short span of time. Peoples involved in it had to work very hard to make sure it maintains international standard.

A range of topics related to finance, economy have been covered in this publication. My heartfelt thanks to the authors, reviewers who all have given their time and effort to make it a distinctive piece of publication.

In this first publication, we have included articles having research value. Additionally, we have included an opinion based articles; a review of a book related to our economy is also part of the journal.

Publication may have some errors and omissions. I urged the esteemed readers to overlook our inadvertent lapses, and put forward valuable suggestions to improve further. We earnestly hope that this journal will provide a forum for debate and discussion on national and international finance, accounting, economy, trade and business, development studies, legal intricacies in national, regional and global perspectives.

I congratulate the authors whose write-up have been published. Some of the papers had to be left out because of obvious reason; I express my gratitude to every one of them.

As Chairman, Editorial Board of this first publication, I hope this initiative would go a long way if we nurture it with professional acumen and handle it with prudence.

If we have to grow, we have to grow with knowledge and wisdom. To achieve the objectives of this publication, we need meaningful cooperation and attachment. Quality not quantity should matter to us.

At this auspicious moment, I must thank the Members of Editorial Board for their cooperation and Member Secretary for his hard work to accomplish this arduous task.

With best wishes to all.

# President's Note

**Mahmudul Hasan Khusru** FCA
President-ICAB

This is indeed a unique moment for all of us as we become part of ICAB's history as the proponent of research in our yearly routine. Research is not very welcoming a field for many of us. Firstly, it takes substantive amount of time and energy; Secondly, we may not like the idea that we should replace things we used to think otherwise. As it requires exceptional knack, constant effort; not many people would like to dwell upon it unless compelled to.

However, in any progressive society, its dividend is more to the community or society than that of an individual or a particular institute. Therefore, no wonder, it has become an important parameter to judge a institute what their research activities are. Research works as a mirror through which we can view an institution. We as a prime institute of the country has all the reason to give proper attention towards that fact.

I believe ICAB has an obligation to bring the professional, academics related to finance, economy on a platform to disseminate their innovative thoughts and ideas. We actually have taken quite a long time before we undertook this needed task.

I would like to express my gratitude to Prof. Dr. Md. Salim Uddin FCA, Chairman, Editorial Board who spent his valuable time to bring out this publication successfully.

I also thank Members of the Editorial Board, paper writers, Reviewers and Member Secretary who have accomplished an outstanding work to materialize our long cherished desire. Their dedication and hard work as pioneer the team would be part of our proud history, which is gratefully recognized.

This is undoubtedly, a courageous initiative of ours. Beginning is always tough, so is the continuation. We need to make concerted effort to continue and put special consideration to bring out such publication regularly.

Finally, I believe we will be able to stand out and earn respect through this publication, establish the journal as an authoritative one, home and abroad.

With profound regards to all.

BANGLADESH economia

# RESEARCH AND STUDY

# Should Corporate Social Responsibility Reporting be Made Mandatory? Evidence from Bangladesh

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## ACKNOWLEDGEMENTS

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Dr. Md. Shahid Ullah is an Associate Professor at the Bangladesh Institute of Bank Management (BIBM). Dr. Ullah is also the Associate Editor of Bank Parikrama – A Journal of Banking and Finance published by BIBM. Dr. Ullah did his PhDs in social accounting from the University of Sheffield, the United Kingdom and Kobe University, Japan. Earlier, he obtained his MBA and BBA in Accounting and Information Systems from the University of Chittagong, Bangladesh. Dr. Ullah has a good number of publications on Corporate Governance, Corporate Social Responsibility, Green Banking and other areas published in different reputed refereed journals at both home and abroad. Dr. Ullah has also authored a book titled 'Management Accounting (for bankers)' published by the Institute of Bankers, Bangladesh. Google scholar profile of Dr. Md. Shahid Ullah: https://scholar.google.com/citations?user=TOj2STEAAAAJ&hl=en&authuser=1

## ABSTRACT

This study examines whether corporate social responsibility (CSR) reporting should be made mandatory to catalyse social disclosures in Bangladesh based on semi-structured interviews of 26 corporate and 23 non-corporate respondents. The study finds that Bangladesh should adopt a carrot and stick approach to CSR reporting rather than going for the absolute mandatory or voluntary approach considering the stage of development, economic priority, cost of reporting, ineffective enforcement of the prevailing laws and regulations. The study offers some implications for policymakers, businesses, academicians and professional accountants. The originality of the study is that this is the first study of its kind in the context of Bangladesh that explores if it will be judicious to make CSR reporting mandatory in Bangladesh by capturing views of diverse stakeholders from alternate perspectives. Findings and conclusions drawn in the study will be very useful to the policymakers, development partners and researchers in the fields of social and environmental accounting.

## KEYWORDS

Corporate social responsibility, CSR reporting, mandatory reporting, voluntary reporting, Bangladesh, developing countries

## Introduction

While a financial report focuses on the financial performance, a corporate social responsibility (CSR) report focuses on triple bottom lines – the financial, environmental and social performance along with the governance of the reporting entity. A CSR report meets the information needs of diverse stakeholders. It helps manage socially responsible activities systematically, identify future risks and opportunities that in turn help enhance competitiveness and sustainability i.e. long-term viability of a business (Moravcikova, Stefanikova, & Rypakova, 2015). Therefore, there is a growing interest in CSR reporting across the globe.

The level of social disclosure of Bangladeshi companies is still low. There are coercive pressures for donations, but not for social and environmental reporting. In the absence of effective regulatory pressure or strong pressures from society for the CSR reporting, the performance of companies in sensitive social and environmental aspects (such as child labour, poverty alleviation, corruption, pollution) is generally poor and, thus, companies are not interested in disclosing their poor performance (Belal & Cooper, 2011). The reasons for low or no social disclosure in a developing country like Bangladesh include the lack of resources, the profit imperative, the lack of legal requirements, lack of awareness, poor performance and the fear of bad publicity (Belal & Cooper, 2011), the desire of keeping the size of the annual report brief and maintaining secrecy about the firm's activities (Teoh & Thong, 1984), cultural attitudes within a country (Adams, 2004); little or no pressure from community pressure groups and the government's failure to enforce existing CSR reporting legislation (Gao, Heravi, & Xiao, 2005); an absence of mandatory CSR reporting (Kuasirikun & Sherer, 2004). Also, the CSR disclosures in Bangladesh are characterised by the rhetoric, descriptive and positive disclosures because of the lack of corporate genuine social involvement (Belal & Cooper, 2011; Sobhani, Amran, & Zainuddin, 2009; Imam, 2000) and are "no more than a public relations exercise" (Momin, 2013, p. 11). As a result, the fundamental objective of CSR reporting to promote transparency and accountability is being compromised due to the 'business case' motive of CSR reporting and an unwillingness to reform corporate governance structures (Owen, Swift, & Hunt, 2001).

While a mandatory requirement for CSR reporting could ensure corporate accountability, it is yet to be done due to the lack of political will and probable cost of arbitrage including increased corruption (Belal, Cooper, & Khan, 2015; Belal & Roberts, 2010). Although mandatory regulations typically have a strong and positive influence on firms' social and environmental performance and reporting thereof, voluntary pressures are unlikely to bring about significant improvements in this regard (Aragon-Correa, Marcus, & Vogel, 2020). On the other hand, the concept of CSR is originally voluntary and we have found strong support for keeping CSR reporting voluntary while facilitating it by providing some sort of reporting guidelines and soft regulation, and creating awareness first followed by reporting (Teoh & Thong, 1984). The debate regarding legislating CSR reporting is going on and it would be intriguing to explore if CSR reporting should be made mandatory in Bangladesh. Therefore, this study examines whether CSR reporting should be made mandatory to catalyse social disclosures in Bangladesh.

The next section presents the socioeconomic, regulatory and institutional environment of Bangladesh regarding CSR and CSR reporting (research setting). Section three outlines the research methods employed in the study, including how data are collected and analysed. Section four reports the findings of the study. Section five discusses the findings, and finally, section six concludes the paper along with offering some policy implications.

## Research Setting

Bangladesh is the 2nd largest economy in South Asia, the 37th largest economy in the world in terms of the nominal gross domestic product (GDP) and one of the next 11 emerging countries. Bangladesh holds the 2nd position in the global garments market and has achieved the highest growth in GDP among the 45 Asia-Pacific countries (ADB, 2019). Despite being an agrarian economy, Bangladesh has been experiencing a rising growth in the service and industrial sectors as a result of privatisation, liberalisation, linkage with the global market and realisation of the demographic dividend, The contributions of the service sectors and industrial sectors in the fiscal year 2017-18 were 52.1% and 33.66%, respectively (World Bank, 2002; GOB, 2018). The private sector plays a remarkable role in the economic growth of the country through production, investment, export and employment. In FY2017-18, the total investment increased to 31.23% of the GDP from 19.20% in 2008, and 74.48% of the investments came from the private sector (GOB, 2018). Besides privatisation, the government undertook several initiatives to develop the private sector. Some of the noteworthy initiatives are revitalising the Dhaka Stock Exchange (DSE), establishing the Chittagong Stock Exchange, establishing the Bangladesh Securities and Exchange Commission (BSEC) to regulate the capital market and protect the interests of the investors, establishing special industrial zones, and offering incentives to attract private sector investments both from home and abroad. These growing economic activities explicitly affect the social and natural environment of Bangladesh both positively and negatively (Fares et al., 2006). Hence, CSR reporting can help promote transparency and accountability of the social and environmental performance of companies in Bangladesh.

The laws and regulations that determine the corporate disclosures in Bangladesh are, inter alia, the Companies Act, 1994; the Securities and Exchange Ordinance, 1969; the Securities and Exchange Rules, 1987; the Corporate Governance Code 2018; the listing rules of stock exchanges, the Insurance Act, 1938; the Banking Companies Act, 1991; and the Income Tax Ordinance, 1984 and the various statutes creating the public enterprises. The Companies Act is the main act for the publicly listed limited companies, which mainly requires financial disclosures along with some social disclosures (such as spending for energy, number of employees, salaries, remuneration paid to the directors, contribution to the national exchequer). The Securities and Exchange Ordinance and Rules, and the Listing Rules of stock exchanges require the listed companies to disclose additional information and comply with international accounting standards. There are 21 environmental laws and related documents in Bangladesh (Ullah, 2014). Despite numerous laws, regulations and policy initiatives for conserving the natural environment are in place, the environmental performance and disclosure of companies in Bangladesh is still poor.

The government of Bangladesh encourages CSR by offering a 10% tax exemption on the allowable actual CSR expenditure, which is lower than 20% of the gross income, or BDT 80 million. Some of the areas of CSR expenditures applicable for such exemption are aid through any government bodies for reducing mass crisis in case of natural disasters; aid to organisations doing welfare activities, such as operating old homes; taking care of mentally and physically challenged people, women empowerment and anti-dowry campaigns, subsistence, rehabilitation and education of orphan and rootless children; housing projects for slum dwellers; independence war-related research; healthy sanitation activities; free medical treatment to cleft lip, cataract and cancer; acid victims, liver and kidney diseases, thalassemia, ophthalmology, cardiology; sports training, museums for preserving the memory of the independence war and memory of the father of the nation; various funds of the Prime Minister. All these government initiatives encourage companies to spend on CSR. However, there is no direct encouragement for CSR reporting though companies are supposed to disclose these activities in their reports and on the websites. In line with the government initiatives, Bangladesh Bank (BB), the central bank of the country, has also undertaken certain initiatives for promoting inclusive growth, sustainability, CSR and CSR reporting. Notable BB initiatives are ensuring necessary measures against environmental pollution before financing[1], issuance of a comprehensive guideline on CSR[2], the Agricultural Credit Policy[3], Guidelines on Environmental Risk Management[4], and Policy Guidelines for Green Banking[5]. As a result of BB initiatives, all the local banks in Bangladesh started reporting their CSR initiatives in their annual reports following the CSR guidelines of BB from 2010 (Ullah, 2013). However, none of the aforesaid laws, rules, guidelines, nor the organisations call for any mandatory CSR reporting for the publicly listed companies. Hence, in the absence of any mandatory requirements or incentives for CSR reporting, companies are not interested in disclosing their poor performance in Bangladesh (Belal & Cooper, 2011).

## Research Method

The study examines if mandatory social reporting can catalyse social disclosure in developing countries taking Bangladesh as a case and using semi-structured interviews. The semi-structured interview method is used to understand the perceptions of the respondents because it offers an opportunity to directly interact with the interviewees, unveil the problem and frame the questions based on the ground realities (Burgess, 2002). It also offers flexibility in conducting interviews and coping with the situation during the interview (Saunders, Lewis, & Thornhill, 2000). This paper is one of the outcomes of a doctoral project, which was duly approved by the research ethics committee of The University of Sheffield, the United Kingdom before the fieldwork and the interviews were conducted accordingly.

The sample respondents were selected from both corporate and non-corporate stakeholders. Corporate respondents include the chief executive officers (CEOs) of listed companies, members of the board of directors, heads and members of the CSR department, business leaders. The non-corporate respondents include regulators from the BSEC, Bangladesh Bank, Stock Exchange, CSR experts, professional accountants, former bureaucrats, former ministers; members of nongovernmental organisations (NGOs) and civil society organisations (CSOs), and academics. The interviews were conducted during the author's visit to Bangladesh from February to May 2019. A total of 53 interviews were conducted but a total of 49 interviews (26 corporate and 23 non-corporate) were found useful, processed and analysed. The interviewees have been coded and pseudonyms have been used to ensure anonymity. To keep the paper brief, the responses of all the interviewees have not been quoted and the profiles and details of the interviewees have not been included in the paper[6]. The interviews were mainly conducted in English. All interviews, except one, were tape-recorded with the consent of the interviewees and subsequently translated and transcribed. The interviews lasted between thirty minutes and two hours, with an average of 58 minutes. The interview data were analysed using NVivo 12 software and through a systematic classification process of coding and detecting themes (Hsieh & Shannon, 2005). The interview responses may not be free from bias because of race, gender, religion, age, social class (Buckley, Buckley and Chiang, 1976), the willingness and ability of the interviewees. Therefore, findings based on the interview responses are subject to limitations.

## Findings

This section presents the findings of the study according to themes, namely arguments in favour of mandatory CSR reporting, arguments in favour of voluntary CSR reporting, arguments in favour of a balanced approach combining the elements of both voluntary and mandatory social reporting, and other views or avenues to catalyse CSR reporting in Bangladesh.

***Arguments in favour of mandatory CSR reporting***

Some of the interviewees opined that in a developing country like ours people will not do CSR reporting

1 BB BRPD Circular No. 12 dated August 10, 1997.

2 DOS Circular No. 01 'Mainstreaming Corporate Social Responsibility (CSR) in banks and financial institutions in Bangladesh' dated 1 June 2008.

3 ACD Circular No. 14 'Agricultural / Rural Credit Policy and Programme for the fiscal Year 2010-11' dated July 21, 2010.

4 BRPD Circular No.01 'Guidelines on Environmental Risk Management (ERM)' dated January 30, 2011.

5 BB BRPD Circular No. 2, February 27, 2011.

6 The profiles and details of the interviewees can be provided on request.

unless it is made mandatory. For example, an interviewee said, “In our country, people don't want to do voluntary things” (Academic6). “If CSR and CSR reporting is made mandatory, then definitely the CSR contribution and disclosure will increase “(Independent Director4). Likewise, “I think CSR reporting will increase if it is made mandatory” (Corporate3).

Being asked about the concern that, making CSR reporting mandatory may result in further corruption, some interviews did not support the notion. Rather they opined that mandatory reporting will ensure increased transparency and accountability. For example, “I do not think it will lead to further corruption because something becomes perfect through some process and improvements” (Corporate3). Another respondent said, “Legal implications have some relationships with corruption. But still, we cannot run without a legal framework. Even there is such thing, CSR reporting with ultimately outweigh that” (Independent Director 4). Similarly, a member of a CSR team said: “If there is corruption, it will be very insignificant. But reporting has many dimensions So, making CSR disclosure mandatory will not result in further corruption, rather it will enhance transparency and reduce corruption” (CSR Team3).

Respondents opined that mandatory CSR reporting will help companies to prepare their CSR reports in a structured manner. It will also help institutionalise CSR reporting and ensure transparency and accountability. For instance, an interviewee said:

> Now firms are spending money, but there is no transparency and accountability. If CSR reporting is regulated by law, then transparency and accountability will be ensured and things will be institutionalized, organized and far better. …I don't disagree with that (further corruption) but when it will be under a certain law, then disclosure and presentation will be more systemic and organised than the present scenario. (CSR Team4)

Referring to the Indian experience, a former Governor of the Central Bank said that making CSR reporting mandatory will not result in further corruption - “No, that (corruption) is everywhere, not only in CSR. India has done it. So, look at the Indian example. They have a law; they have made it mandatory for 5 billion-plus Rupees companies and they need to get audited by the government. So, I think that model is quite doable” (Former Governor, REG1).

***Arguments in favour of voluntary CSR reporting***

Some interviewees opined that the development of awareness, having a common guideline for CSR reporting, implementation of CSR is more important than making CSR reporting mandatory. For example, the CFO of a stock exchange said: “First of all, you have to create awareness, then comes the implementation of CSR, and then the question of reporting” (Stock Exchange, REG5). Interviewees also opined that adopting CSR reporting is a gradual process. So, we should start from a certain level, make people and companies aware of it, and then gradually make it mandatory. For example, a member of a CSO said, “I don't think this is the time when we can make it mandatory for everyone; first the government can incentivize through fiscal incentives that if you do this, then I will give tax rebate” (NGO/CSO4). Pointing to the danger of CSR decoupling, some respondents opined that making CSR reporting mandatory may lead to mere compliance rather than increasing CSR in practice. For example, “If it is made mandatory, CSR will no more exist. Everyone will go for compliance, just like box-ticking, not from the heart. But there can be a CSR guideline” (Stock Exchange, REG8). Similarly, referring to the weak governance, an interviewee said: “Look, companies are ticking boxes for corporate governance guidelines but governance hasn’t been improved. So, if you make it mandatory, it will become a box-ticking, things will not improve unless you improve yourself” (Independent Director1). Another respondent said: “Since there is no guideline, there is no benchmark to follow, compare and regulate CSR reporting. We should have a transparent system of procedures for CSR starting from how to select or give money and what will be the impact and then how to report” (CEO and Director1).

Interviewees argued that only regulations will not work if they are just pushed from the top. Businesses should believe that this is good for them. Otherwise making CSR reporting mandatory will not work. For example, the CEO of a company known for CSR reporting said: “We have so many laws in Bangladesh, people don't follow. We don't need to introduce any other laws. Because if you just introduce laws, people won't follow. It has to come from the within voluntarily" (CEO3). Another interviewee said: "This is not the right time to make CSR reporting mandatory. First of all, the development of awareness and understanding of how both the demand-side and supply-side will be benefitted from CSR reporting is important" (Academic6).

Bangladesh bank, the central bank of the country has issued guidelines asking banks to issue CSR reports with certain deadlines, but that has not become mandatory in practice as the preparedness and capacity levels of all banks and financial institutions are not the same. Indicating that, a General Manager of Bangladesh Bank said, "It will take some time. But the banks which have been aware of this issue have been prepared themselves earlier. Bangladesh Bank has not made it compulsory but it has given some indication that your CAMELS rating (will be improved) and somehow and someway you will be rewarded if you go with these sorts of standards" (Central Banker, REG6).

***Arguments in favour of a carrot and stick approach to CSR reporting***

Some interviewees expressed careful views in favour of adopting a 'carrot and stick approach' combining both regulations and incentives, arguing that if the market is not ready, then the companies may go for regulatory arbitrage. For example, a member of a CSO said: "If you make it mandatory and if the businesses are not ready, then, a good thing can lead to a further bad thing. One has to go very carefully; both carrots-and-sticks will have to be there" (NGO/CSO4). Another interviewee said: "If I am not convinced that I should go for this kind of reporting, then I will look for regulatory arbitrage. So, we need both elements side by side - try to encourage people, start with voluntary (approach), bring some elementary imposition because we need both" (CSR Expert3).

Interviewees opined that a combination of national regulations in line with global governance initiatives along with visionary leadership to be the market leader at the firm level can result in the best outcome. For example, underscoring the blending of regulations and self-motivation, a regulator said: "They know that one day the Bangladesh Bank will make it mandatory and will give much pressure to cope up with these. So, it's better to have the preparation early to be comfortable when Bangladesh bank goes with it for mandatory" (Central Banker, REG6). Emphasising the paramount importance of the 'carrot and stick approach' he added that, "Although we haven't made it mandatory for banks and financial institutions, the moral suasion and the motivation is very much there, and it is appreciable because it is reflected in the CAMELS rating" (Central Banker, REG6).

***Other issues to catalyse CSR reporting in Bangladesh***

There is no national CSR guideline in Bangladesh and the preparation of a national CSR guideline is in process. The CSR Centre, the local network of United Nations Global Compact (UNGC) in Bangladesh, steer the National CSR Guideline for Bangladesh with the Ministry of Planning and 25 relevant Ministries. It took two and a half years to prepare the draft guideline. However, an interviewee who was actively involved with the process expressed her frustrations about the snail speed progress that they submitted the report to the concerned Minister who highly appreciated the work and since then there has been no progress, as she said:

> We submitted it to the then Planning Minister. He looked at it and said it's fantastic. We had over 100 workshops, 200 consultations; it was a huge process; everybody was very excited because everybody thought there should be a national CSR guideline. ….. it hasn't been launched yet. Unfortunately, that is also a weakness in the governance structure. Companies really did say that they want to report but they want a structure for reporting. (CSR Expert2)

Some of the interviewees opined that having a national CSR guideline will help them to report their CSR activities in a structured way. Even the central bank is waiting for it with an expectation that it will help to strengthen BB's CSR policy.

> Once the national CSR guideline is finalised, Bangladesh Bank will definitely consider and consult that to identify and minimize the gaps in its CSR guideline, and it will automatically strengthen the CSR guidelines for banks and financial institutions. (Central Banker, REG6)

At least six interviewees said that there is a lack of an overseeing authority to oversee the need for new laws, the flaws and effectiveness of existing laws, and various institutions and to coordinate among different public and private organisations. They recommended having a national coordinating authority. For example, an interviewee said: "There is a need for a national organisation of the government that will be supervising for enacting right laws, implementing laws, whether there are any deficiencies, and taking corrective measures" (Academic6).

The macroeconomic environment is not conducive to CSR reporting. For instance, there is no mention of the CSR reporting in the statutory regulatory orders issued by the National Board of Revenue, which list the purposes of CSR spending to be eligible as CSR for the tax credit. Many accountants do not consider CSR reporting as a tool for ensuring transparency and accountability. Being asked about the role of their institute for promoting CSR reporting, the President of an accountants' body said: "Our main job is to take care of the financial audit. That's [CSR reporting] not within our jurisdiction" (Accountant1). However, it is good to see that Global Reporting Initiatives (GRI) has recently entered into a memorandum of understanding (MOU) with the Institute of Cost and Management Accountants of Bangladesh (ICMAB) and Dhaka Stock Exchange (DSE). Both of the Stock Exchanges of the country are members of the sustainability stock exchanges initiative of the UN. So, they are expected to be committed to introducing CSR disclosures for the listed companies. The collaboration between the GRI, ICMAB and DSE will help to raise awareness and conduct formal training on how to prepare a sustainability report. A fellow of the ICMAB said that "Now GRI has a strong network with DSE and ICMAB and since the financial audit, the statutory audit is under the purview of the ICAB, the ICMAB is trying to capture these types of reporting - sustainability reporting under GRI guideline" (BSEC Commissioner, REG3). Recently, DSE has issued a document titled 'Guidance on Sustainability Reporting for Listed Companies in Bangladesh' in collaboration with the GRI. Other state actors such as the Registrar of Joint Stock Companies (RJSC) has no notable role for CSR reporting in Bangladesh as an interviewee said: "RJSC, they have no function. They are just like a post office. When any organisations need a certified copy, they just issue it. They don't monitor anything" (BSEC Commissioner, REG3).

CSR reporting is costly and there is a lack of incentives and pressures for CSR reporting in Bangladesh as an interviewee said: "When we talk about reporting, we actually talk about cost. So, unless it is mandatory or unless there are any incentives, domestic firms will try to reduce cost and will not be interested in doing these things" (Academic6). Although there are some forms of incentives from the government in the form of tax rebates for CSR expenditure in some specified areas, there is no incentive for CSR reporting. For the banks, Bangladesh Bank has offered some sort of incentives in the form of CAMELS rating and low-cost refinance facility. A General Manager of the Central Bank said: "It has given some indication that your CAMELS rating will be improved and somehow and someway you will be rewarded if you go with these sorts of standards (reporting standards)" (Central Banker, REG6). However, no such incentive for reporting CSR is there for other businesses. Companies expect some form of recognition from the government as a head of CSR said: "I don't see any influences of country-level governance on the CSR reporting because unless and until it gives me some kind of recognition or incentive for publishing a stand-alone sustainability report. (CSR Team2). Another member of the CSR team said, "CSR reporting is considered as a misuse of the fund and it is the first to cut budget allocation and human resources arguing that it has no visible outcome, it's an unproductive department" (CSR Team2).

CSR reporting is not a priority for companies in Bangladesh where non-compliance with regulations is a common phenomenon. Considering the stage of development, corruption, impunity and density of population, people do not expect much from companies in the form of CSR, and thus, they do differentiate much between companies in terms of CSR reporting. The low-level of CSR disclosures is seen as taken-for-granted since CSR reporting is not a priority in a developing country like Bangladesh, where many companies even do not comply with the mandatory disclosure requirements, as an interviewee said:

> … not to speak about CSR reporting, they don't even comply with national laws and regulations. So, the overall governance

> environment of the country affects how the businesses will behave, … that's why, we see various anomalies, corruption, underhand dealing, non-transparent bidding process, default culture, impunity. (NGO/CSO4)

Moreover, there is a nexus between business, politics and government in Bangladesh, where about 72% of the lawmakers are businessmen. This unholy nexus adversely affects the development of good governance and CSR reporting. They do not follow many of the mandatory requirements, whereas CSR reporting is a voluntary issue. It was said by some of the interviewees that BSEC was considering the inclusion of environmental, social and governance (ESG) disclosure guidelines while issuing the latest corporate governance code in 2018, but they could not do that because of strong resistance from some of the influential businessmen. They argued as reported by an interviewee, “It's premature, it's too early to introduce these things (social reporting) in Bangladesh” (Director of BSEC, Reg7).

## Discussion

This study explores whether CSR reporting should be made mandatory to catalyse social disclosures in Bangladesh. Because the absence of mandatory CSR reporting is considered as one of the reasons for the low-level of social disclosures, and it is argued that making CSR reporting mandatory can enhance the level of CSR disclosures in a developing country like Bangladesh (Kuasirikun & Sherer, 2004; Adams, Coutts, & Harte, 1995). Some of our findings support the notion that CSR reporting should be made mandatory because in a developing country like ours people will not do CSR reporting unless they are bound to do so.

In contrast to the concerns expressed in extant literature that making CSR reporting mandatory may cause further corruption – “… such policy recommendation (making CSR reporting mandatory) is not without reservations.” (Belal and Roberts, 2010, p. 320), this study offers evidence that making CSR reporting mandatory will not in further corruption. Rather even if there is some corruption at the initial stage, the benefit of increased social disclosures will outweigh the initial drawbacks because of the enhanced transparency and accountability with institutionalised, systematic and organised reporting.

The concept of CSR is originally voluntary and we have found strong support for keeping CSR reporting voluntary while facilitating it by providing some sort of reporting guidelines and soft regulations. So, first of all, we should priorities creating awareness of CSR and CSR reporting followed by implementing CSR programmes, and finally, we should go for CSR reporting (Teoh & Thong, 1984). Our findings suggest that having a common guideline for CSR reporting is more important than making it mandatory because CSR should come from within (heart).

CSR reporting is costly (Belal & Cooper, 2011). In the absence of any positive or negative incentives, some of the companies in Bangladesh consider CSR reporting as a misuse of money. We find that there are some incentives for CSR (e.g. 10% tax exemption on the allowable actual CSR expenditure), but there are no such incentives for CSR reporting. Our findings are consistent with the extant literature that document the reasons for low or no disclosure as the lack of resources, the profit imperative, the lack of legal requirements, lack of awareness, poor performance and the fear of bad publicity (Kirsch, 2018; Belal & Cooper, 2011), the desire of keeping the size of the annual report brief and maintaining secrecy about the firm's activities (Teoh & Thong, 1984), and little or no pressure from community pressure groups and the government's failure to enforce existing CSR reporting legislation (Gao, Heravi, & Xiao, 2005; Kuasirikun & Sherer, 2004).

The local context plays a critical role in determining CSR reporting (Tilt, 2016). For example, we find that, besides the corporate respondents, many of the professional accountants do not consider CSR reporting as a part of corporate responsibility and as an avenue to ensuring accountability and transparency. The priority of developing countries like Bangladesh is economic imperatives over social and environmental performance (Lauwo, Otusanya, & Bakre, 2016; Belal, Cooper, & Roberts, 2013). The effectiveness of various global guidelines in accommodating context-specific local issues is questioned (Osman, Gallhofer, & Haslam, 2021). Similar concerns are raised by Belal & Owen (2007) around the applicability of international social accounting standards in the Bangladeshi context. Therefore, instead of adopting a one-size-fits-all global framework in its original form, a tailor-made doable reporting framework should be developed according to the local needs and capabilities.

Finally, we have got strong support for adopting a 'carrot and stick' approach – a combined approach (Gatti et al., 2019) arguing that if the market is not ready, then companies will look for regulatory arbitrage that may cause further bad things (Gatti et al., 2019; Belal & Roberts, 2010). Overall, we find that national regulations along with the global normative guidelines such as the GRI sustainability standards and visionary leadership can result in a better outcome in promoting CSR reporting. The use of moral suasion vis-a-vis coercive pressures is more effective in catalysing CSR reporting in Bangladesh. Our findings imply that Bangladesh should adopt a 'carrot and stick' approach in a combination of both voluntary and mandatory requirements to catalyse CSR reporting. To promote CSR reporting in Bangladesh, we should have a national CSR guideline, and major stakeholders such as the Institute of Chartered Accountants of Bangladesh (ICAB), Institute of Cost and Management Accountants of Bangladesh (ICMAB), Bangladesh Securities and Exchange Commission (BSEC), Registrar of Joint Stock Companies (RJSC), Bangladesh Bank, development partners, NGOs and other stakeholders should play pivotal roles in this regards. Also, as the implementation of a CSR policy/guideline requires support from many governmental institutions, a national coordination cell can be formed to coordinate and oversee the formulation, enactment, implementation and reforms of various regulations and policy measures.

## Conclusion

This study examines if CSR reporting should be made mandatory to catalyse social disclosures in Bangladesh based on semi-structured interviews of 26 corporate and 23 non-corporate respondents. The arguments for the mandatory approach are people in a developing country like ours will not do CSR reporting unless they are bound to do so because it is costly and there are no incentives for doing so. The arguments in favour of voluntary CSR reporting are that CSR reporting is originally voluntary in nature, CSR and CSR reporting should come from within (heart), it is more important to create awareness of CSR reporting, have a national CSR guideline including CSR reporting, promote CSR reporting by offering some kinds of incentives, improving the general regulatory and government environment rather than the imposition of new regulations for CSR reporting. Despite we have got evidence in support of mandatory and voluntary CSR reporting, overall, our findings suggest that a 'carrot and stick' approach in a combination of both voluntary and mandatory requirements should be adopted to catalyse CSR reporting in Bangladesh rather than going for the absolute mandatory or voluntary approach. The arguments in favour of a carrot and stick approach' of CSR reporting are, inter alia, if CSR reporting is imposed through regulations before capacitating the reporting entities, creating awareness and offering some kinds of incentives and improving enforceability and rule of law, then the market will not be ready to accept or adopt such regulatory imposition and companies may go for regulatory arbitrage that may cause further bad things. Overall, our findings suggest that national regulations along with the global normative guidelines such as GRI and visionary leadership can result in a better outcome in promoting CSR reporting, and moral suasion vis-a-vis coercive pressures are more effective in catalysing CSR reporting in Bangladesh.

The study contributes to the social and environmental accounting (SEA) literature in several ways. In contrast to the concerns expressed by previous studies (Belal and Roberts, 2010, p. 320) regarding further corruption in case making CSR reporting mandatory, the findings of this study suggest that CSR reporting will not increase corruption, rather it will ultimately reduce corruption by ensuring transparency and accountability through systematic and structured reporting. The study offers evidence that not only corruption but also the absence of awareness and normative pressures from the ground, lack of enforcement of regulatory requirements, and lack of preparedness thwart the development of CSR reporting in Bangladesh. In contrast to the previous studies (e.g. Kuasirikun & Sherer, 2004; Adams, Coutts, & Harte, 1995) arguing that the absence of mandatory CSR reporting is one of the reasons for the low level of social disclosures in developing countries, the study argues that mandatory CSR reporting is not an appropriate choice for a developing country like Bangladesh considering their stage of development, economic priority, cost of reporting, and ineffective enforcement of other prevailing laws. Finally, the study contributes to the SEA literature by offering strong support for adopting a 'carrot and stick' approach – a combination of mandatory and voluntary elements following the approach adopted in India (Gatti et al., 2019).

The study offers some important implications for policymakers, businesses and academicians. For the policymakers, the findings imply that it is not the appropriate time to make CSR reporting mandatory, rather a 'carrot and stick' approach in a combination of both voluntary and mandatory elements should be adopted to catalyse CSR reporting in Bangladesh. It is also imperative to have a national CSR guideline that can be used as a tool for learning CSR and CSR reporting. The local contexts and priorities should be taken into account in preparing the CSR guideline. The industry, firm size, linkage with the rest of the world, affordability of firms should also be considered in imposing any compulsion. As the implementation of a CSR guideline requires support from many governmental institutions, a national coordination cell can be formed to coordinate and oversee the enactment, implementation and up-gradation of relevant laws and regulations. CSR reporting is costly. Therefore, to promote CSR reporting, there should have some incentives. For the businesses, the findings imply that, with the growing expansion of the economy and uprising linkage with the rest of the world, the large and export-oriented companies should be prepared and equipped with the globally used social and environmental accounting technologies, such as GRI sustainability standards to showcase themselves decently, be competitive and appease the coercive pressures for accountability and transparency through disclosure.

For the academics and the professional accounting bodies, the findings of the study imply that despite an important branch of accounting to ensure accountability and transparency, social and environmental accounting is still being neglected in Bangladesh. Thus, CSR and CSR reporting should be included in accounting education, particularly for professional accountants. Despite the low level of social disclosure in Bangladesh, some companies in Bangladesh are doing very well and getting various awards and accolades for their CSR reports both at home and abroad. Auditing enhances the authenticity of CSR reports and there will be an uprising demand for auditing of CSR reporting. Hence, professional accountants and professional accounting bodies, such as the ICAB and the ICMAB should be prepared to cater for this emerging need. The academics should develop some sort of template for CSR reporting so that reporting CSR activities can be simple, easy to understand and do, cost-effective, and reflects the local context.

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# Impact of Corporate Governance on Tax Management: Evidence from DSE listed Banks

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## ABSTRACT

Abstract
This study examines whether corporate governance (CG) codes affect the tax management of banks. Audit committee volumes (VAC), audit committee meetings (MAC), board sizes (BS), board meetings (BM), board independence proportions (IBP), and proportion of non-executive board of directors (NBP) are considered as the proxies of CG developed from BSEC Corporate Governance Code 2018. The extent of the effective tax rate (ETR) is used to assess tax management. This study uses quantitative research design and obtained 204 observations from 17 banks listed on DSE covering 2009-2020 period. Performing the "Two-stage Least Square" (2SLS) model for the analysis, we got the regression outputs where the VAC, MAC, BS, and IBP are negatively and significantly associated with ETR gap. But BM and the NBP were not significant to influence the ETR gap. The results indicate that CG proxies lessen the ETR gap, and improves the tax management. To check the robustness of the results, we apply pooled OLS (ordinary least square) model and two-step-system GMM (Generalized Method of Moment). In this case, we found consistent findings except for the MAC because it came out as insignificant. The results generated from this study would be a policy dialogue for the bank regulatory bodies, corporate authorities, policy-makers, and academics.

## KEYWORDS

Keywords: Corporate governance, Tax management, Taxation, Tax planning, Audit committee, Board size.

## Introduction

Corporate tax is one of the primary sources of government revenue, especially for developing countries with few alternative sources of revenue (Alshirah et al., 2021; McNabb, 2018). Tax collections include any tax receipts derived from taxation on income and profits, goods and services, land ownership and selling, and several other ways of taxation. Management has an opportunity to participate in tax avoidance to keep the tax obligations to a minimum or prevent taxation through the usage of fraudulent activities (Garcia-Bernando et al., 2021). In addition to being a source of income, in fields such as foreign direct investment, corporation tax is often utilized by policy-makers in the country's fiscal management. Governments establish statutory income tax thresholds, at which companies are required to pay their taxes, to meet these targets (Klitgaard & Paster, 2021). However, statutory corporate tax rates do not offer a clear description of a business's actual tax expenses since the tax effects of a company are obtained by applying a set of pre-tax incomes deferrals, accruals, and other deductions. Owing to discrepancies in accounting and tax treatment on some financial report products, these changes are brought on. Efficient tax rates (ETR), thus, offer a more accurate and practical indicator of a company's tax cost than the statutory rates (Hager & Baines, 2020).

In company's financial decisions, corporate tax plays a major part. Capital budgeting decisions, decisions on the capital structure and dividend policies are some of the strategic choices influenced by corporate income tax. Abdelfattah & Aboud (2020), Alkurdi & Mardini (2020), and Garcia-Bernando et al. (2021) observed that corporate income tax has a substantial positive relationship with the financial output of corporations, meaning that corporate tax affects significant corporate decisions. Because tax is a major cost for a business which, in turn, affects its efficiency, businesses will often search for ways to minimize their tax burden by using their effective tax rates (Gunawan & SeTin, 2019; Guo & Zheng, 2021; Hager & Baines, 2020; Hidayat & Yuliah, 2018). ETRs are often smaller than the legislative tax thresholds, a report by Kovermann & Velte (2019) and Muturi et al. (2021), and Salhi et al. (2020) also revealed the same. A business profits from lower effective tax rates by preserving capital, which allows it to make more acquisitions, which in turn raises the company's valuation. Consequently, in terms of increased share price and higher dividends, shareholder equity is maximized (Hunjra et al., 2020; Iriyadi et al., 2020; Jia & Gao, 2021; Temouri et al., 2020; Zeng & Mindzak, 2019). Garcia-Bernando et al. (2021) also mentioned the advantage of decreased interest rates due to lowered default risk and increased financial flexibility induced by a lower effective tax rate. Not only shareholders but also management staff, who in most situations, earn reimbursement for their role in lowering the tax liability of a corporation, benefit from lower ETR (Karami et al., 2020). Although a lower marginal tax rate is advantageous in terms of tax benefits for the business and its owners, the risks associated with it could be too high to bear (McNabb, 2018).

Existing studies focused on tax avoidance and corporate governance (Abdelfattah & Aboud, 2020; Bayar et al., 2018; Kovermann & Velte, 2019; Salhi et al., 2020), ownership structure and tax avoidance strategy (Alkurdi & Mardini, 2020; Zeng & Mindzak, 2019), firm's value creation and tax avoidance

(Manthey & Kiesewetter, 2017; Nugroho & Agustia, 2018), auditor characteristics and tax avoidance (Shahri et al., 2020), operational transparency and tax avoidance (Muturi et al., 2021), tax planning and corporate governance (Chytis et al., 2020; Hidayat & Yuliah, 2018; Iriyadi et al., 2020; Sun et al., 2021), tax aggressiveness and audit committee characteristics (Handayani, 2019; Landry et al., 2019), and tax evasion and corporate governance (Al-hadidi, 2017). The study on tax management through corporate governance is not directly mentioned in the current literature. Thus, this research aims to examine whether CG influences tax management of DSE listed Banks in Bangladesh. More specifically, this research seeks answers to the three questions. The first one is: "What are the major factors of corporate governance that may affect tax planning in the DSE listed banks?" The second one is: "What is the relationship between corporate governance and tax management in the DSE listed banks?" The third one is: "How does corporate governance impact tax management in the DSE listed banks?" Thus, in light of the extreme circumstances generated by the financial crisis, this research examines the connection between corporate governance and tax management among listed companies in Bangladesh.

ETR gap was selected as a proxy for tax management and was applied to the sample of banking companies listed on the DSE for 2009–2020. The study shows that corporate governance aspects do affect corporate tax management, and the findings are consistent with Alshirah et al. (2021); Hager & Baines (2020); Karami et al. (2020) and Alkurdi & Mardini (2020). Therefore, the findings generated from this research would be complementary for the study of Alshirah et al. (2021); Hager & Baines (2020); Karami et al. (2020), Alkurdi & Mardini (2020), Zeng & Mindzak (2019), Hunjra et al. (2020) and Sun et al. (2021). This research took different proxies of the corporate governance variables and firm characteristics. Thus, more specifically, tax management was found to be significantly negatively associated with "volume of the audit committee", "meetings of audit committee", "size of board of directors", and "proportion of independent board of directors". Further, this study found positive but insignificant relationship of tax management with "meetings of board of directors" and "proportion of non-executive board of directors". This study also found substantial relationships of tax management with firm characteristics.

This research contributes to the current literature, First, by creating a connection between the corporate governance characteristics and effective tax rate gap, that the study shed light on how tax management links to corporate governance. Second, to our knowledge, this is one of the first articles to empirically investigate corporate governance's position in corporate tax management in Bangladesh. We can grasp the impact of corporate governance deeper by the tax management. This research also helps one to determine how directors and non-executives handle their taxes. Lastly, the endogeneity of output and governance metrics is a major issue in corporate governance studies (Manthey & Kiesewetter, 2017). As suggested by Salhi et al. (2020) and Manthey & Kiesewetter (2017), the researchers carefully track the endogenous relationships between governance, firm features and firm results. In carrying out some analytical estimate of corporate governance, endogeneity is a significant concern; indeed, governance and its determinants are likely to be collectively decided (Klitgaard & Paster, 2021; McNabb, 2018; Sun et al., 2021). Thus, the researchers check the robustness of our findings with alternative estimation methods like two-step system GMM (generalized methods of moments) and pooled OLS (ordinary least square) that is consistent with Alkurdi & Mardini (2020); Bayar et al. (2018); Karami et al. (2020) and Nugroho & Agustia (2018).

## Literature Review and Hypothesis Development

### Corporate Governance (CG) Code

The structure by which corporations are guided and regulated is corporate governance (Bardai et al., 2018). Corporate management precisely differentiates the shareholders from the managers (Handayani, 2019). According to Bataineh (2021), the position of shareholders of management is to select the managers and auditors and to make sure there is a proper governance system. The empirical literature provides several governance strategies to alleviate management and owners' problems (Garcia-Bernando et al., 2021; Hager & Baines, 2020; Handayani, 2019; Hidayat & Yuliah, 2018; Kovermann & Velte, 2019; Manthey & Kiesewetter, 2017). We examine six codes of corporate governance according to Corporate Governance Code (2018) by Bangladesh Securities and Exchange

Commission (BSEC): "volume of the audit committee", "meetings of the audit committee", "size of the board of directors", "proportion of independent board of directors", "meetings of the board of directors" and "proportion of non-executive board of directors". Deb et al. (2020) argued that the greater the practices of these CG codes, the better the practices of corporate governance in the company.

### Tax management (TM)

Tax management involves planning relations so that the tax duty is adequately handled (Abdelfattah & Aboud, 2020). Tax management's goal is to conform with the terms of the Income Tax Legislation and its associated laws (Hidayat & Yuliah, 2018). Tax management aims to decrease corporate taxes' present value by legitimate means and among the possibilities observed in tax law to improve their efficiency, market value and employee growth (Hidayat & Yuliah, 2018; Iriyadi et al., 2020; Rahman et al., 2020). Tax management is proxied by effective tax rate gap. Effective tax rate gap is measured by the income tax expense divided by the pre-tax income of the respective years. The lower the ETR the greater the tax management.

### Corporate Governance (CG) Code and Tax Management (TM)

In this section, the connections between CG codes and TM are evaluated. The followings are the links of CG codes and TM:

**VAC and TM**

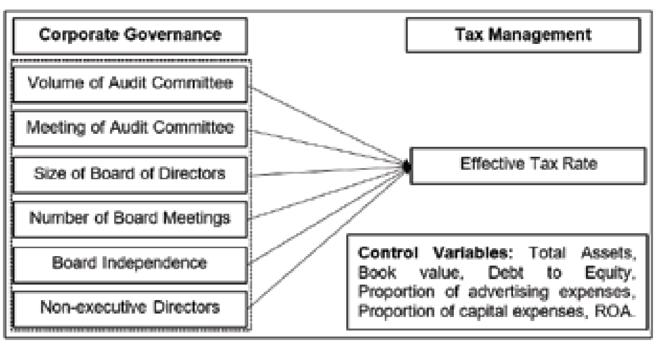
The Audit Committee is a committee established by the three board members and all members of the audit committee should be "financially literate" as per BSEC corporate governance code (2018) (Abdul Wahab et al., 2017; Brigham & Houston, 2021; Deb et al., 2020). The audit committee must ensure that the corporation acts in line with laws and legislation, does business with ethics, maintains restrictions on conflicts of interest and fraud perpetrated by the company's staff (Chytis et al., 2020). In conjunction with their field of work, audit committee representatives must have strong honesty, skill, expertise, and experience and interact well (Shahri et al., 2020). The presence of an audit committee would also affect the company's approach against tax aggressiveness. The audit committee volume (VAC) can have a link with tax management (Shahri et al., 2020; Temouri et al., 2020). This research estimates that the higher the VAC, the lower the ETR gap, thereby enhances the TM. Thus, this study postulates the following hypothesis.

**Hypothesis 1: VAC is negatively associated with ETR.**

**MAC and TM**

According to BSEC corporate governance code (2018), at least four meetings of the Audit Committee are required to be held within a financial year. According to Hidayat & Yuliah (2018), the inclusion of an internal audit feature and the number of audit committee meetings (MAC) positively impact the consistency of corporate financial statements. This indicates that if the audit committee carries out its role following corporate governance, it will limit the occurrence of tax aggressiveness so that the financial statements produced will be of higher quality (Al-hadidi, 2017; Gallego-Álvarez & Ortas, 2020). But Ratnawati et al. (2019) argued that MAC and tax aggressiveness are not interrelated. The frequency of financial reports issues may be reduced if the audit committee met regularly (Bataineh, 2021; Bayar et al., 2018). The Audit Committee meetings are detrimental to earnings control (Nugroho & Firmansyah, 2017; Rahman et al., 2020). Thus, the research estimates that the total number of meetings of the audit committee can reduce the ETR gap, thereby enhancing the TM. Thus, this study postulates the following hypothesis.

**Figure 1: Conceptual Research Model**




*Source: Developed by the authors*

**Hypothesis 2: MAC is negatively associated with ETR.**

**BS and TM**

According to BSEC corporate governance code (2018), board size (BS) should remain between 5 and 20. The board's size is a merit aspect of board activities since larger boards prevent the free sharing of views with members of the board and cannot operate as easily as small boards (Bardai et al., 2018; Hidayat & Yuliah, 2018). The board's management will allow employees to manipulate shareholders' capital if the size is small (Chytis et al., 2020). In contrast, firms with limited boards and a large proportion of external directors are more interested in corporate success and shareholder welfare (Kovermann & Velte, 2019; Nirino et al., 2021; Nugroho & Agustia, 2018). This research estimates that the higher the BS the lower the ETR gap, thereby enhances the TM. Thus, this study postulates the following hypothesis.

**Hypothesis 3: BS is negatively associated with ETR.**

**BM and TM**

The number of board meetings and a board of directors' participation are just two dimensions of board supervision (Karami et al., 2020). The link between board meetings and lower earnings management (Nugroho & Firmansyah, 2017) is particularly relevant to our study. However, this higher board activity can improve companies' value (Iriyadi et al., 2020). The number of meetings will also be important if the committee wants to closely track its managers (Chytis et al., 2020). But Hidayat and Yuliah (2018) showed that the rise in the number of annual meetings of the board actually diminishes the business's value. This research estimates that the higher the BM the greater the ETR gap, thereby fails to enhance the TM. Thus, this study postulates the following hypothesis.

**Hypothesis 4: BM is positively associated with ETR.**

**IBP and TM**

According to BSEC corporate governance code (2018), all firms' boards of directors shall have an effective representation of independent directors, so that the Board as a whole possesses key capabilities deemed appropriate in the context of each company. According to the CG code (2018), independent directors must make up at least one-fifth (1/5) of the total number of directors on the board of directors. The independence of the board of directors is needed as the internal management system to safeguard shareholders' interests (Alkurdi & Mardini, 2020; Gunawan & SeTin, 2019; Handayani, 2019). An independent director is one who either owns no shares in the firm or owns less than one percent (1%) of the company's total paid-up shares. The board shall also be responsible, for paying higher taxes or fewer taxes than those imposed by statute, for the administration of taxes of the corporation and shall be responsible for developing an entrepreneurial control climate in the knowledge of possible tax (Hidayat & Yuliah, 2018; Iriyadi et al., 2020; Jia & Gao, 2021). Moreover, a higher proportion of the independent board of directors can control the stakeholders' interest (Kovermann & Velte, 2019; Rahman et al., 2020; Ratnawati et al., 2019). This research estimates that the higher the IBP the lower the ETR gap thereby enhances the TM. Thus, this study postulates the following hypothesis.

**Hypothesis 5: IBP is negatively associated with ETR.**

**NBP and TM**

In affecting tax preparation, the proportion of non-executive directors to overall directors may be an important factor (Ratnawati et al., 2019). Due to the beneficial impact of directors' independence, technical expertise and experience, non-executive directors successfully reduce organisation issues (Bardai et al., 2018; Bataineh, 2021). When non-executive directors help mitigate the department's issues, it also impacts the preparation of taxation (Klitgaard & Paster, 2021; Kovermann & Velte, 2019). This research estimates that the higher the NBP the lower the ETR gap, thereby enhances the TM. Thus, this study postulates the following hypothesis.

## Data, Model, and Variables

### Data

Our sample involves the DSE-listed Bangladeshi banking sector, which was involved over a span of 12 years starting in 2009. For the following purposes, we have chosen this length. Firstly, a long-term ETR may be calculated to recognize companies engaged

Table 1: Variables' Explanation

| Variables | Abbreviation | Description | Sources |
|---|---|---|---|
| **Independent Variables (Corporate Governance)** | | | |
| **Volume of audit committee** | VAC | The VAC indicates the number of membersin the audit committee. The higher the VAC the greater the practices of CG. | Bank's Annual Report |
| **Meetings of audit committee** | MAC | The MAC indicates the number of meetings arranged in audit committee. The higher the MAC the greater the practices of CG. | Bank's Annual Report |
| **Size of board of directors** | BS | The BS indicates the number of board members of directors in the company. The higher the BS the greater the practices of CG. | Bank's Annual Report |
| **Meetings of board of directors** | BM | The BM indicates the number of meetings arranged by the board of directors. The higher the BM the greater the practices of CG. | Bank's Annual Report |
| **Proportion of independent board of directors** | IBP | The IBP indicates the percentage of independent directors. The higher the IBP the greater the practices of CG. | Authors' calculation |
| **Proportion of non-executive board of directors** | NBP | The NBP indicates the percentage of directors who are non-executives. The higher the NBP the greater the practices of CG. | Authors' calculation |
| **Dependent Variable (Tax Management)** | | | |
| **Effective tax rate** | ETR | Effective tax rate is measured by the income tax expense divided by the pre-tax income of the respective years. The lower the ETR the greater the tax management. | Authors' calculation |
| **Control Variables (Firm Characteristics)** | | | |
| **Size** | TA | Size represents the total assets of the company. | "Compustat database" |
| **Book value** | BV | BV is the book value of common equity. | "Compustat database" |
| **Debt_Equity** | DE | DE is calculated by the longterm debt divided by the book value of common equity. | "Compustat database" |
| **Proportion of advertising expenses** | PAE | PAE is calculated by the advertising expenses divided by the total assets for the year. | "Compustat database" |
| **Proportion of capital expenses** | PCE | The capital expenditures calculate PCE by the total assets for the year. | "Compustat database" |
| **Return on assets** | ROA | ROA is measured by the earnings divided by the total assets for the year. | "Compustat database" |

*Source: Prepared by authors*

in tax policies that reduce their tax obligations in the medium and long term (Hager & Baines, 2020). Second, for fiscal years starting on 1 January 2009, the Bangladeshi banking sector was expected to introduce international financial reporting requirements at the latest. Accordingly, over the whole cycle, the accounting data used for measuring model factors were set on a comparable basis (Rahman & Akhter, 2021). We left away 4 banks with missing details, 3 companies with negative market-to-life ratios from the list of 30 banking industries on the Stock Exchange. We removed four companies with ETRs above 1 of the remaining 25 companies as these values will trigger problems in model estimation (Landry et al., 2019). Furthermore, we omitted 2 companies with ETRs below 1 and received a final sample of 17 companies. We believe that finding generated from these 17 sampled banks would represent the whole population of 30 banks of DSE listed.

**Table 2: Correlation matrix and statistical summary**

| Variables | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| **ETR** | **(1)** | 1 | | | | | | | | | | | | |
| **VAC** | **(2)** | -0.30 | 1 | | | | | | | | | | | |
| **MAC** | **(3)** | -0.15 | -0.05 | 1 | | | | | | | | | | |
| **BS** | **(4)** | -0.22 | 0.14 | 0.28 | 1 | | | | | | | | | |
| **BM** | **(5)** | -0.12 | 0.07 | -0.21 | -0.36 | 1 | | | | | | | | |
| **IBP** | **(6)** | -0.05 | 0.06 | -0.24 | 0.20 | 0.11 | 1 | | | | | | | |
| **NBP** | **(7)** | 0.11 | -0.17 | -0.39 | 0.11 | -0.12 | 0.08 | 1 | | | | | | |
| **TA** | **(8)** | 0.04 | -0.11 | 0.31 | 0.02 | 0.23 | -0.02 | -0.04 | 1 | | | | | |
| **BV** | **(9)** | 0.21 | 0.16 | 0.25 | 0.08 | -0.02 | -0.21 | -0.50 | 0.22 | 1 | | | | |
| **DE** | **(10)** | 0.25 | -0.24 | -0.18 | -0.18 | 0.25 | 0.05 | 0.22 | 0.34 | -0.15 | 1 | | | |
| **PAE** | **(11)** | 0.22 | 0.37 | -0.12 | 0.09 | -0.28 | 0.09 | -0.04 | 0.21 | 0.42 | -0.15 | 1 | | |
| **PCE** | **(12)** | 0.10 | -0.14 | 0.01 | -0.35 | 0.52 | -0.04 | 0.21 | 0.16 | -0.28 | 0.44 | -0.22 | 1 | |
| **ROA** | **(13)** | 0.32 | 0.41 | 0.14 | -0.14 | 0.26 | 0.08 | -0.08 | 0.26 | 0.11 | 0.22 | 0.41 | 0.40 | 1 |
| | | | | | | | | | | | | | | |
| **MEAN** | | 0.35 | 0.57 | 0.29 | 0.64 | 0.59 | 0.12 | 0.22 | 0.44 | 15.73 | 0.86 | 0.11 | 0.23 | 6.33 |
| **MAX** | | 1.00 | 5.00 | 11.00 | 16.00 | 17.00 | 0.67 | 0.49 | 0.67 | 97.88 | 1.18 | 0.34 | 0.58 | 9.00 |
| **MIN** | | 0.00 | 0.00 | 3.00 | 5.00 | 9.00 | 0.22 | 0.31 | 0.23 | 32.80 | 0.19 | 0.26 | 0.16 | 3.00 |
| **S.D.** | | 0.15 | 0.07 | 0.12 | 0.11 | 1.22 | 0.36 | 0.23 | 0.11 | 12.69 | 0.10 | 0.03 | 0.11 | 1.46 |
| | | | | | | | | | | | | | | |
| **No. of Obs.** | | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** | **204** |
| **No. of Banks** | | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** | **17** |

*Source: Developed by the authors from EViews 10 output*

## Model

The empirical model used to analyze the association between tax management (e.g., ETR gap) and corporate governance aspects were:

$$ETR = \beta\_0 + \beta\_1VAC + \beta\_2MAC + \beta\_3BS + \beta\_4BM + \beta\_5IBP + \beta\_6NBP + \beta\_7\ TA + \beta\_8BV + \beta\_9\ DE + \beta\_10PAE + \beta\_11\ PCE + \beta\_12\ ROA + \varepsilon \text{ ----------- } (1)$$

Where, ETR = "Effective tax rate", VAC = "Volume of audit committee", MAC = "Meetings of audit committee", BS = "Size of board of directors", BM = "Meetings of board of directors", IBP = "Proportion of independent board of directors", NBP = "Proportion of non-executive board of directors", TA = "Size", BV = "Book value", DE = "Debt_Equity", PAE = "Proportion of advertising expenses", PCE = "Proportion of capital expenses", ROA = "Return on assets", ε = Error term.

## Variables

### Dependent Variable

In this analysis, tax management is the dependent variable. No widely agreed tax administration calculation structure is available (Landry et al., 2019). We use a long-term ETR gap measured over twelve years to quantify tax control as the abilities of the long-term reduced tax liability that is consistent with Landry et al. (2019). For a period divided by the company's pre-tax profit sum over the same period, ETR is measured as the company's cash imposition paid. The lower the ETR, the better the tax management.

### Independent Variables

This study includes six codes of corporate governance developed from BSEC corporate governance code (2018). The codes include VAC, MAC, BS, BM, IBP, and NBP. The VAC indicates the number of members of audit committee. The higher the VAC the greater the practices of CG. The MAC shows the number of meetings arranged in the audit committee. The higher the MAC, the greater the practices of CG. The BS shows the number of members of board of directors in the company—the higher the BS, the greater the practices of CG. The BM indicates the number of meetings arranged by the board of directors. The higher the BM the greater the practices of CG. The IBP indicates the percentage of independent directors. The higher the IBP the greater the practices of CG. The NBP indicates the percentage of directors who are non-executives. The higher the NBP the greater the practices of CG. We expect the following sign of CG with TM's relationship: VAC (-), MAC (-), BS (-), BM (+), IBP (-), and NBP (-).

**Control Variables**

We monitor the corporate characteristics linked to our tax administration action based on previous studies (Abdelfattah & Aboud, 2020; Al-hadidi, 2017; Alshirah et al., 2021; Bayar et al., 2018; Garcia-Bernando et al., 2021; Landry et al., 2019; Nugroho & Agustia, 2018). TA, BV, DE, PAE, PCE and ROA are the control variables. TA represents the

**Table 3: Regression output for tax management and corporate governance (2SLS)**

| Variables | ETR | ETR | ETR | ETR | ETR | ETR |
|---|---|---|---|---|---|---|
| | (Model-1) | (Model-2) | (Model-3) | (Model-4) | (Model-5) | (Model-6) |
| | | | | | | |
| **Constant** | 0.113*** | 0.017** | 0.104** | 0.190*** | 0.100** | 0.011*** |
| | (0.000) | (0.045) | (0.039) | (0.008) | (0.022) | (0.005) |
| **VAC** | **-0.092*** ** | | | | | |
| | **(0.000)** | | | | | |
| **MAC** | | **-0.062** ** | | | | |
| | | **(0.019)** | | | | |
| **BS** | | | **-0.013*** ** | | | |
| | | | **(0.001)** | | | |
| **BM** | | | | **0.001** | | |
| | | | | **(0.396)** | | |
| **IBP** | | | | | **-0.003** ** | |
| | | | | | **(0.026)** | |
| **NBP** | | | | | | **0.010** |
| | | | | | | **(0.632)** |
| ***Control Variables*** | | | | | | |
| **TA** | 0.104** | 0.001* | 0.001* | 0.002* | 0.001* | 0.001* |
| | (0.030) | (0.097) | (0.097) | (0.076) | (0.098) | (0.086) |
| **BV** | 0.013*** | 0.003*** | 0.003*** | 0.003*** | 0.003*** | 0.003*** |
| | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **DE** | -0.009 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.302) | (0.300) | (0.315) | (0.289) | (0.304) | (0.317) |
| **PAE** | 0.002** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** |
| | (0.021) | (0.000) | (0.000) | (0.001) | (0.000) | (0.000) |
| **PCE** | 0.011* | 0.058*** | 0.058*** | 0.059*** | 0.058*** | 0.057*** |
| | (0.08) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **ROA** | 0.121* | 0.110 | 0.105** | 0.120** | 0.111*** | 0.119*** |
| | (0.100) | (0.160) | (0.020) | (0.026) | (0.000) | (0.000) |
| **F-statistics (P-value)** | 130.42*** (0.00) | 127.03*** (0.00) | 135.49*** (0.00) | 120.48*** (0.00) | 132.91*** (0.00) | 135.73*** (0.00) |
| **Durbin Watson Test** | 2.07 | 1.87 | 1.76 | 2.21 | 2.05 | 1.74 |
| **Observations** | **204** | **204** | **204** | **204** | **204** | **204** |
| **No of Banks** | **17** | **17** | **17** | **17** | **17** | **17** |

Note: "Dependent variable is Effective Tax Rate (ETR) in all models, where lower values of ETR represent the higher tax management, and vice versa. ***, **, * represent statistical significance at 1%, 5%, and 10% levels respectively. Durbin Watson Statistic Test indicates that there is a positive auto correlation between the variables. *P*-values are computed by the heteroskedastic-robust standard errors and are reported in parenthesis."

*Source: Developed by the authors from EViews 10 output*

total assets of the company. BV is the common stock book value. DE is determined by the long-term debt and is separated by the common equity book value. PAE is determined by spending on ads measured by total year assets. The capital expenditures calculate PCE by the total assets for the year. For the year, ROA is determined by the income split by the overall assets.

The details of the variables are presented in Table 1.

## Findings and Discussion

### Summary Statistics and Correlation Matrix

Descriptive statistics provides simple summaries of sample and conclusions. To interpret the results, the minimum, median, average and standard deviation and frequency of descriptive statistics are shown in Table 2. Table 2 also shows the correlation of the employed variables. Correlation among the variables is not high that is less than 0.60. Thus, these variables contributes independently (Shrestha, 2020). Mean, minimum, maximum and standard deviation values have been presented. The average effective tax rate is 0.35 while minimum and maximum are 0.00 and 1.00, respectively. The maximum number of members is the audit committee is 5.00, while the minimum and average are 0.00 and 0.57, respectively. The variables' description has also been presented thereby.

### Regression Mutputs from Corporate Governance and Tax Management using 2SLS

Table 3 represents the regression outputs employing the Two-Stage Least Squares (2SLS) model. Table 3 shows a negative and significant relationship between ETR and VAC. This relationship indicates that the volume of audit committee declines the effective tax rate. As VAC is negatively associated with ETR, this association enhances tax management of the banks. This finding is widely consistent with Abdelfattah & Aboud (2020); Bataineh (2021); Garcia-Bernando et al. (2021); Kovermann & Velte (2019); Landry et al. (2019) and Shahri et al. (2020). Therefore, this finding supports Hypothesis 1. Again, MAC, BS and IBP are negatively and significantly associated with ETR. These relationships indicate that audit committee meetings, board size, and proportion of independent directors lower the effective tax rate. Thus, tax management can be enhanced through meetings size, the board size, and director's independence. These findings are consistent with Landry et al. (2019); Shahri et al. (2020); Temouri et al. (2020) and Hidayat & Yuliah (2018). Therefore, these findings support Hypothesis 2, Hypothesis 3 and Hypothesis 5. But the relationship of BM and NBP with ETR are not significant in this study. Thus, the researchers fail to say that board meetings and non-executives members affect tax management. These findings are not similar to the previous study (Handayani, 2019; Salhi et al., 2020). Therefore, these findings fail to support Hypothesis 4 and Hypothesis 6.

Size, book value, the proportion of advertising expenses, proportion of capital expenses and assets' return significantly increase the value of effective tax rate. These findings suggest to be cautious to the management for tax planning. Debt to equity ratio is not significant across this study indicating that it has no influence on tax management. These findings are consistent with previous findings (Chytis et al., 2020; Guo & Zheng, 2021; Hidayat & Yuliah, 2018; Karami et al., 2020; Klitgaard & Paster, 2021) except debt-to-equity ratio which was significant in the study of Landry et al. (2019).

Finally, as the "volume of audit committee", "meetings of audit committee", "size of board of directors", and "proportion of independent board of directors", significantly lower the effective tax rate, and based on findings of the sample banks the researchers infer that these variables enhance the tax management of all the listed banks of Bangladesh.

Further, as the researchers found the "meetings of board of directors" and "proportion of non-executive board of directors" are not significant to influence effective tax rate, based on the findings of the sample banks, the authors infer that these variables are not ready to manage taxation of listed banks of Bangladesh.

### Test of Output Issues

**Test of Auto Correlation**

For autocorrelation testing, Durbin-Watson stats are used. The Durbin-Watson test results vary between 0 and 4. A near 2 result suggests that the autocorrelation is very poor. A closer result to 0 is a stronger positive self-correlation and a closer result to 4 means a stronger negative autocorrelation. A

**Table 4: Regression output for tax management and corporate governance (Pooled OLS)**

| Variables | ETR | ETR | ETR | ETR | ETR | ETR |
|---|---|---|---|---|---|---|
| | (Model-1) | (Model-2) | (Model-3) | (Model-4) | (Model-5) | (Model-6) |
| | | | | | | |
| **Constant** | 0.003** | 0.104 | 0.024** | 0.109* | 0.040** | 0.001*** |
| | (0.000) | (0.405) | (0.039) | (0.058) | (0.012) | (0.000) |
| **VAC** | **-0.271*** ** | | | | | |
| | **(0.000)** | | | | | |
| **MAC** | | **-0.182** | | | | |
| | | **(0.236)** | | | | |
| **BS** | | | **-0.362** ** | | | |
| | | | **(0.048)** | | | |
| **BM** | | | | **0.001* ** | | |
| | | | | **(0.370)** | | |
| **IBP** | | | | | **-0.451** ** | |
| | | | | | **(0.036)** | |
| **NBP** | | | | | | **0.339** |
| | | | | | | **(0.124)** |
| ***Control Variables*** | | | | | | |
| **TA** | 0.044** | 0.010* | 0.401* | 0.211* | 0.004* | 0.002* |
| | (0.037) | (0.077) | (0.097) | (0.076) | (0.098) | (0.086) |
| **BV** | 0.005*** | 0.023*** | 0.070*** | 0.003*** | 0.030*** | 0.013*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **DE** | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.528) | (0.660) | (0.305) | (0.201) | (0.374) | (0.178) |
| **PAE** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** |
| | (0.001) | (0.000) | (0.000) | (0.001) | (0.000) | (0.000) |
| **PCE** | 0.002*** | 0.018*** | 0.008*** | 0.039*** | 0.058*** | 0.007*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **ROA** | 0.021*** | 0.010*** | 0.115*** | 0.020*** | 0.100*** | 0.009*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **F-statistics (P-value)** | 210.42*** (0.00) | 217.03*** (0.00) | 215.49*** (0.00) | 210.48*** (0.00) | 212.91*** (0.00) | 215.73*** (0.00) |
| **Hansen test (P-value)** | 13.07 (0.296) | 13.87 (0.248) | 15.86 (0.249) | 15.21 (0.182) | 14.05 (0.239) | 12.44 (0.273) |
| **Observations** | **204** | **204** | **204** | **204** | **204** | **204** |
| **No of Banks** | **17** | **17** | **17** | **17** | **17** | **17** |

Note: "Dependent variable is Effective Tax Rate (ETR) in all models, where lower values of ETR represent the higher tax management, and vice versa. ***, **, * represent statistical significance at 1%, 5%, and 10% levels respectively. *P*-values are computed by the heteroskedastic-robust standard errors and are reported in parenthesis. The null hypothesis of the Hansen test is that the instruments used are not correlated with residuals."

*Source: Developed by the authors from EViews 10 output*

**Table 5: Regression output for tax management and corporate governance (2 step GMM)**

| Variables | Abbreviation | Description | Sources |
|---|---|---|---|
| **Independent Variables (Corporate Governance)** | | | |
| **Volume of audit committee** | VAC | The VAC indicates the number of members in the audit committee. The higher the VAC the greater the practices of CG. | Bank's Annual Report |
| **Meetings of audit committee** | MAC | The MAC indicates the number of meetings arranged in audit committee. The higher the MAC the greater the practices of CG. | Bank's Annual Report |
| **Size of board of directors** | BS | The BS indicates the number of board members of directors in the company. The higher the BS the greater the practices of CG. | Bank's Annual Report |
| **Meetings of board of directors** | BM | The BM indicates the number of meetings arranged by the board of directors. The higher the BM the greater the practices of CG. | Bank's Annual Report |
| **Proportion of independent board of directors** | IBP | The IBP indicates the percentage of independent directors. The higher the IBP the greater the practices of CG. | Authors' calculation |
| **Proportion of non-executive board of directors** | NBP | The NBP indicates the percentage of directors who are non-executives. The higher the NBP the greater the practices of CG. | Authors' calculation |
| **Dependent variable (Tax management)** | | | |
| **Effective tax rate** | ETR | Effective tax rate is measured by the income tax expense divided by the pre-tax income of the respective years. The lower the ETR the greater the tax management. | Authors' calculation |
| **Control Variables (Firm characteristics)** | | | |
| **Size** | TA | Size represents the total assets of the company. | "Compustat database" |
| **Book value** | BV | BV is the book value of common equity. | "Compustat database" |
| **Debt_Equity** | DE | DE is calculated by the long-term debt divided by the book value of common equity. | "Compustat database" |
| **Proportion of advertising expenses** | PAE | PAE is calculated by the advertising expenses divided by the total assets for the year. | "Compustat database" |
| **Proportion of capital expenses** | PCE | The capital expenditures calculate PCE by the total assets for the year. | "Compustat database" |
| **Return on assets** | ROA | ROA is measured by the earnings divided by the total assets for the year. | "Compustat database" |

*Source: Developed by the authors from EViews 10 output*

rule of thumb is that test statistic values in the 1.5 to 2.5 range are considered to be reasonably usual. Any value outside this may be cause for concern. Table 3 shows that positive autocorrelation exists between the variables. The figures are between 1.5-2.5 indicating that it is normal (see the Table 3).

**Test of Endogeneity**

According to Yang (2020), Hausmann Test (also known as the Hausmann specification test) identifies endogenous regressors in a regression model. Endogeneity generally applies in econometrics to cases where the explaining variable is linked with the error expression (Yang, 2020). The lack of variables in a model will cause endogeneity (Huang et al., 2020). These variables are not taken into account in the study and are excluded from the formula. The deviations induced by them are recorded by the error term inside the model, which results in endogenous problems (Huang et al., 2020). The null hypothesis of the Hansen test is that the instruments used are not correlated with residuals. Table 5 represents that the p-value for Hansen test is greater than the 5% significant level. Thus, the researchers fail to reject the null hypothesis and conclude that endogeneity problem doesn't undermining the research findings.

### Robustness Checks with Alternative Estimation Methods: Pooled OLS and 2-step System GMM

The researchers tested the findings' robustness in Table 4 and Table 5 with alternative estimation methods. First, the researcher pooled the banks data and applied ordinary least square model. This concept is similar to Rahman et al. (2021), Hidayat & Yuliah (2018); McNabb (2018); Nugroho & Agustia (2018); Shahri et al. (2020) and Zeng & Mindzak (2019). Furthermore, the same findings come to view. But the board meetings come significant due to pooling the data.

Taking idea from Al-hadidi (2017), Alkurdi & Mardini (2020), Alshirah et al. (2021), Deb et al. (2020), Garcia-Bernando et al. (2021) and Hidayat & Yuliah (2018), the researchers applied Two Step System GMM (Generalized Methods of Moment) specified by Arellano and Bond (1991) and found the similar results with Table 3 outputs. Thus, these findings combinedly supported the Hypothesis 1, Hypothesis 2, Hypothesis 3, and Hypothesis 5.

## Conclusions

As taxes are a big expense for firms, they affect profits and market value directly. Thus, management may use proactive fiscal planning and minimization techniques to optimize shareholders' capital. The usage of such tactics may well be seen as successful business practice by investors. Therefore, the public wants businesses to be accountable economically and encourage companies to align the needs of different owners with their duty to give the government and community an equal share of the taxes (Garcia-Bernando et al., 2021). In addition, taxation authorities may challenge corporations' tax policies, leading to substantial reputational and liability risks for tax-aggressive companies (Karami et al., 2020).

This research finds that corporate governance aspects enhance tax management of Bangladesh's listed companies analyzing a panel dataset of 2009-2020 period. More specifically, number of audit committee members is negatively associated with effective tax rate and this association enhances tax management of the banks. This finding is widely consistent with Abdelfattah & Aboud (2020), Bataineh (2021), Garcia-Bernando et al. (2021), Kovermann & Velte (2019), Landry et al. (2019) and Shahri et al. (2020). Further, the audit committee meetings, board size, and proportion of independent directors lower the effective tax rate. These findings are consistent with Landry et al. (2019), Shahri et al. (2020), Temouri et al. (2020) and Hidayat & Yuliah (2018). But the researchers fail to say that board meetings and non-executives members affect the tax management due to insignificant result. These findings are not similar to the previous study (Handayani, 2019; Salhi et al., 2020).

Besides, bank size, book value, the proportion of advertising expenses, proportion of capital expenses and assets' return significantly increase the value of effective tax rate. These findings suggest to be cautious to the management for tax planning. Debt to equity ratio is not significant across this study indicating that it does not influence tax management. These findings are consistent with previous findings (Chytis et al., 2020; Guo & Zheng, 2021; Hidayat & Yuliah, 2018; Karami et al., 2020; Klitgaard & Paster, 2021) except debt-to-equity ratio which was significant in the study of Landry et al. (2019).

To apply the knowledge suggested from the researchers, the government, policy makers, and regularity bodies should prepare periodicals, amend the existing banking rules those are not relevant to corporate governance, and be more pragmatic to comply with corporate governance practices. The study is limited to the CG codes as not covering all codes of it. Thus, the future researcher should start by taking all corporate governance code like effectiveness of audit committee, role of audit committee, management equity incentives, etc. Further, the current study measures tax management with single proxy. Thus, to remove this limitation, the future study can use cash ETR, book tax difference as well to measure the tax management. In the case of sample selection, the future study should not be limited to select some banks, should need to use all banks or other companies. Finally, the current study covers the secondary data ignoring the primary data through covering the perceptions of the key informant. Thus, the future study can make a primary data-based study covering the key informant's perceptions. To do this, the future study can follow the primary data analysis of Deb et al. (2021) and Rahman and Akhter (2021) to confirm the key informant's perceptions.

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# Contribution of Air Transport Industry to Bangladesh Economy

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## ABSTRACT

The aviation industry of Bangladesh has travelled a long way and recorded an encouraging growth over the last decade. The objective of this study was to see the contribution of Bangladesh Air Transport Industry to her economy. Nonetheless, the study primarily revolved around the civil aviation, which is concerned with carrying passengers and commercial cargo to and from Bangladesh. It is partly an empirical research since a wide variety of realistic data has been used. Secondary sources of data are also consulted to complete this research work. Interview of some key personnel of the Air Transport Industry of Bangladesh also enriched the paper. Biman Bangladesh Airlines Limited (Biman) is found to be the major player in Bangladesh context though other two operating commercial airlines namely US Bangla and Novoair are also securing steady growth. It is also revealed that both in passenger and cargo transport the major share is being enjoyed by the foreign carriers indicating huge potential for further growth of Bangladesh Air Transport Industry. The study discovered several drawbacks like unethical price war, limited watch hours at the airports, inadequate boarding bridges, and inadequate transit facilities. The main way forwards are - making fuel available at a reasonable price, low-cost financing, avoidance of unethical price war, infrastructure development and liberalization of the sky of Bangladesh.

## KEYWORDS

Air Transport Industry, Economy, Air Service Agreement, Cargo, IATA

## Introduction

The century old aviation industry has been making great contribution to Global Economy since long. The global airline industry generated USD 838 billion in 2019 and it has been worth USD 372 billion in 2020 showing a 55% drop from the previous year primarily due to COVID-19.[1] The current year of 2021 is showing a clear recovery of the global air transport industry. With regards to civil aviation, International Civil Aviation Organization says, a total of 1303 airlines with a total of 31,717 commercial aircraft are in operation in 45,091 routes connected through 3,759 airports. There are about 1,770 dedicated cargo aircraft to help boost global trade.[2] Besides, cargo is also carried in the belly of passenger aircraft. It may be mentioned here that around 60% of international cargo is carried on passenger planes, under the passenger deck.[3]

Air travel carries 35% of world trade by value. By some estimate, that is equivalent to $6.8 trillion worth of goods annually, or $18.6 billion worth of goods every day.[4] In the aftermath of Covid-19, the medical cargo operation emerged as the priority operation and the world witnessed the operation of Passenger to Cargo (P2C) flights, which essentially means carrying cargo by passenger aircraft with cabin loading at times. Global airlines including Biman Bangladesh Airlines Limited and US Bangla Airlines of Bangladesh operated considerable number of P2C flights.

Air transport supports 65.5 million jobs and it adds $ 2.7 trillion in global economic activity. Aviation jobs are said to be 4.4 times more productive than other jobs in the economy.[5] Study of 2018 by IATA says, the world's airlines collectively carry over 400 crore passengers a year. It also transports nearly 61 million tons of freight. Interesting to note here that the global air transport industry, by GDP, is larger than both the automobile manufacturing sector and the pharmaceutical manufacturing industry. Thus the global aviation industry adds USD 961.3 billion directly to GDP. Almost an equal amount (USD 816.4 billion) is added indirectly. These indirect means include jobs and services of various types suppliers to the air transport industry like aviation fuel suppliers, suppliers of consumables and sub-components used in aircraft, manufacturers of goods sold in the airports, construction companies and a wide variety of business services, such as money exchange, call centers, IT, lounge services and etc. Besides, around $692.8 billion induced GDP is created by employees in the air transport industry using their income to purchase goods and services for their own consumption.

Globally, the highest growth of air transport industry is being enjoyed by the Asia-Pacific region. The Asia-Pacific Aviation Market was valued at USD 50.92 billion in 2020, and it is projected to reach USD 97.13 billion by 2026, registering a Compound

1 Reduced Losses but Continued Pain in 2021, Available at https://iata.org.

2 Aviation Benefits Report – ICAO, Available at https://www.icao.int.

3 Vladimir D. Zubkov, Air cargo – the lifeline of recovery: health, trade, and society's wellbeing, Available at https://mag.wcoomd.org/

4 Cargo: Enabling Global Trade, Available at https://www.iata.org.

5 Air transport supports 65.5 million jobs and $2.7 trillion in economic activity https://iata.org.

Annual Growth Rate of 8.75%.[6] The commercial airlines in Bangladesh now operate nearly 50 aircraft including the freighters. Additionally, there are also a couple of helicopter operators and flying clubs. However, the main problem is said to be inadequate infrastructure development and consequent limited operation by foreign carriers. There is no denying the fact that air travel promotes tourism but in Bangladesh we are yet to see a successful coupling of these two industries. The regional countries like Singapore, Thailand and even Sri Lanka have been securing more economic benefits by developing infrastructures. Bangladesh is yet to see an aviation hub within the country. Aviation hubs like Doha, Dubai, Sharjah and Istanbul are making great contribution to their respective economies.

To secure desired growth of Air Transport Industry in Bangladesh, there is need for upgradation of infrastructure and associated facilities with a view to making Bangladesh an aviation hub. The unique geographical position of the country in between the East and the West offers huge opportunity to harness benefit from air travel. The proximity of China, Hong Kong, Korea, Macao and Japan etc. made Bangladesh even more potential to act as a bridge for Cargo transportation. The countries in the Middle East and the Gulf offer huge potential for export of fresh vegetables, fish and other agricultural products. To accommodate the booming pressure of air travelers especially in the Asia Pacific region, the Third Terminal of Hazrat Shahjalal International Airport is getting its shape and by 2023 it is expected to be functional. It is very important that in a small country like ours, we have 3 operational international airports and Cox'sbazar would soon join the list.

## Objective of the Research

The main objective of this research is to briefly highlight the contribution made by aviation industry to Bangladesh Economy. However, the specific objectives are as follows:

a. Contribution of Global Aviation Industry in Economy

b. Contribution of Biman Bangladesh Airlines in the economy of Bangladesh

c. Identifying some way forward to secure the growth of Air Transport Industry of Bangladesh.

## Methodology

The research work was a descriptive one, which identified some variable that are found to be the major contributing factor for development of air transport industry in Bangladesh. Qualitative data of Biman has been put under simple statistical analysis to see the trend over five years' time (2015-16 to 2019-20).

## Results and Discussion

### Bangladesh Air Transport Industry at a Glance

Bangladesh Air Transport Industry is passing its golden jubilee this year since the pioneer carrier, Biman Bangladesh was born on 04 January 1972. As per CAAB, at this time, the number of Air Operators holding valid Air Operator Certificate (AOC) is 21. Of them, 07 operators are for Fixed Wing/Passenger Carrier, 09 operators have Helicopter/ Passenger Carrier AOC and 05 Operators hold AOC for Cargo Operation.[7] On the other hand, 05 passenger airlines, 19 cargo operators and 02 helicopter operators have already closed their operations.[8] Bangladesh's huge population, economic graduation of the country and the percentage of that population that enjoys enough disposable income to make air travel means that well-run airlines would be able to find success. In Bangladesh, the aviation industry is said to be booming and in five years (2013 to 2017) period the air traveler grew by 22.1% internationally and 64.7% domestically.[9]

Biman presently maintains four B777-300 ER and six Boeing B787 (Dreamliner) wide body aircraft for its long-haul flights, six 737-800 aircraft medium haul operations and five Dash8-400 primarily for maintaining domestic routes.[10] Accordingly, it has doubled its seat capacity to reach 4698 seats in total

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6 Asia-Pacific Aviation Market – Growth, Trends, COVID-19 Impact, and Forecasts (2021 - 2026), retrieved from https://www.mordorintelligence.com/

7 Member Flight Standard & Regulations, CAAB

8 Mofizur Rahman, "Aviation industry is in coma. Only the Govt can help it wake up", Available at www. www.thedailystar.net

9 Air Passengers Surge in Five Years, Available at www.dhakatribune.com

in just last three years. Meantime, many airlines came into being and many suffered dire extinction too. To mention a few, GMG Airlines, established in 1997, started operation in 1998 in the domestic routes. GMG was exposed to international operation in 2004 and in 2012 it discontinued all operations. Another notable airline, United Airways started its operation in 2007, maintained 11 aircraft before it disappeared from the sky in 2016. The recently grounded airline, Regent Airways is facing cash crunch and sweating to come back to the runway again. Out of two private airlines in operation, US Bangla, the largest private airlines in Bangladesh, has started its journey in 2013 with two Dash 8 aircraft and now maintains a fleet of 4 Boeing 737-800s, 7 ATRs and 3 Dash 8s. Within a span of only 7 years, US Bangla has secured more than 800% growth in terms of seat capacity and has more than 1200 seats in total. Another renowned private airline, Novo Air has also started its journey in 2013 with only two 50-seat Embraer aircraft. Novoair has experienced a seat capacity Jump of 400% within only 7 years of its operation by acquiring seven ATRs in phases.[11] Again, there are five cargo operators and nine helicopter operators to broaden the boundary of the air transport industry in Bangladesh. Needless to mention that the regulatory authority CAAB and aviation and maintenance training institutes are also part of this industry.

### State of Air Service Agreements

Air Service Agreement (ASA) is an instrument that provides the basis for airlines of the countries involved to provide international air services for passengers, cargo and mail. It is generally executed between two countries though it can be a multi-party agreement too. Ideally, through air service agreements, a country develops a procompetitive operating environment for the airlines of that country. In Bangladesh's case the ASA is executed by CAAB on behalf of the Ministry of Civil Aviation and Tourism. Presently, Bangladesh has ASA with only 53 countries and some more such agreement is on the table of discussion. Nonetheless, it is also viewed that due to restrictive nature of ASA, Bangladesh's sky is not fully exploited by the foreign carriers. Besides, there is need for executing more bi-lateral Air Service Agreements (ASA) with prospective countries with a view to facilitating primarily the travel of citizens and transport of goods the states concerned. A properly executed ASA gives enough freedom to its countries airlines to operate within the purview of the agreement but sometime it allows to carry passengers beyond that county too. Such agreement allows more flights to and from a country and help boost the economy through different aeronautical, non-aeronautical revenue for the Civil Aviation authority, Tax for the government, creates job opportunity and promotes country export and import. Such exposure of a country to the larger aviation industry ultimately promotes the growth of countries airlines. For example, a small country like Sri Lanka has ASA with 87 countries. It has open sky agreement with 14 countries including Singapore, Malaysia and Thailand. Table 1 below shows how the air transport industry is contributing to GDPs of different countries.

**Table 1. The Contribution of Air Transport Industry in GDP**

| Serial Number | Country | Destinations from Host Country | Airlines (own airlines) | Contribution to GDP in USD |
|---|---|---|---|---|
| 01 | Bangladesh | 28 | 32 (03) | 769 Million |
| 02 | Vietnam | 72 | 71 (04) | 12.5 Billion |
| 03 | Philippines | 74 | 44 (06) | 10.4 Billion |
| 04 | Sri Lanka | 45 | 32 (01) | 7.9 Billion |
| 05 | Thailand | 220 | 122 (08) | 63.7 Billion |
| 06 | Hong Kong | 171 | 90 (03) | 33 Billion |

*Source: Member, Flight Standard and Regulations, CAAB*

10 Fleet Information, biman.gov.bd

11 Mahbub Jahan Khan,"Will Covid-19 Prevent our Airlines from Returning to the Runways?" Available at www.thedailystar.net

### Direct and Indirect Employment in Bangladesh

Air Transport industry in Bangladesh has experienced remarkable growth in the last decade. As per the latest estimate by International Air Transport Association (IATA), it has so far created 17,000 direct jobs worth of USD 246 Million. IATA also says, this industry supports 129,000 Jobs in Bangladesh notably 30,000 jobs in its supply chain and 65,000 jobs in the tourism sector.[12] It is needless to mention that such direct and indirect employment by the aviation industry companies has visible contributions to countries economic turnover. Biman Bangladesh Airlines is an employer of about 6532 employees with approximately 3969 permanent staffs and 2563 casual workers. Accordingly, it pays nearly BDT 600 crore in a year as pay and allowances. On the other hand, US Bangla, Novoair and Regent Airways collective employ about 3500 staffs. Thus four commercial airlines alone directly employ more than 10,000 people. Besides, we have airport authority, training institutes, cargo services and helicopter services and altogether it reaches the IATA given figure (17,000) of direct employment.

### Promotion of Business

Every airline and air operators directly or indirectly promotes business. For example, Biman Bangladesh Airlines uses services and products from many other stakeholders and in the process it promotes their businesses too. For example, many firms are engaged in supplying spare parts required for the maintenance of aircraft, some supplies various store items for meeting Biman's other logistics requirement. Importantly, Biman purchases aviation fuel from Padma Oil Company. In last five years, Biman paid BDT 30,110 Million to Padma oil alone as payment against aviation fuel.[13] Besides, it also purchases fuel from all the stations it operates primarily for two reasons. First, at outstations there may be some genuine requirement of fuel and secondly, once Biman finds aviation fuel is reasonably cheap in those stations, it goes for fuel tankering. Fuel tankering is simply carrying addition fuel once it is proved to be worth carrying. Since carrying extra fuel also burns fuel, tankering is a difficult mathematics at times. Similarly, other private airlines, cargo operators and helicopter operators also pay substantial amount to Padma Oil Company for meeting their fuel requirement. Biman Flight Catering Centre (BFCC) produces meal for 'Biman' and for some other foreign carriers like Turkish Airways, Malaysian Airlines etc. Egypt Air is expected to join BFCC as a client soon. Such promotion of business is done by any airlines operating to and from Bangladesh and even operating as domestic airlines. Similarly, the helicopter operators are promoting businesses by carrying business executives and businessman saving their time and adding to their comfort.

The dedicated freighters and passenger aircraft carries products across the globe to facilitate businesses only. Thus we see how Hong Kong and Chinese airports like Guangzhou, Wuhan, Shanghai etc are busy in cargo operation. Biman Bangladesh airlines now flights a daily flight to Guangzhou with its wide body 777-300 ER to transport cargo to Dhaka, Delhi, Algeria and some other destinations. Similarly, it is transporting cargo on an occasional basis from Hong Kong to Dhaka, Delhi, Bangalore and some other stations. Biman started operating cargo flights from Wuhan very recently to reach cargo to Bombay, Delhi, Dhaka and in many other stations. Besides, it is also carrying garments items to London, Dubai, Bangkok, Muscat and other destinations. Similarly, US Bangla also transport cargo items to and from Bangladesh. Nonetheless, due to lack of dedicated freighters, the share of Bangladeshi operators in export and import cargo is very negligible. The Table 2 below shows the share of Biman Bangladesh Airlines in export cargo as compared to other airlines in last five years. It is revealed that Biman enjoys only 8-13% share in case of export cargo transportation. From Figure 1, it is also revealed that the trend is downward and Biman's share is decreasing every year.

### Contribution to Government Exchequer

The air transport industry of any country contributes to Government exchequer in many ways

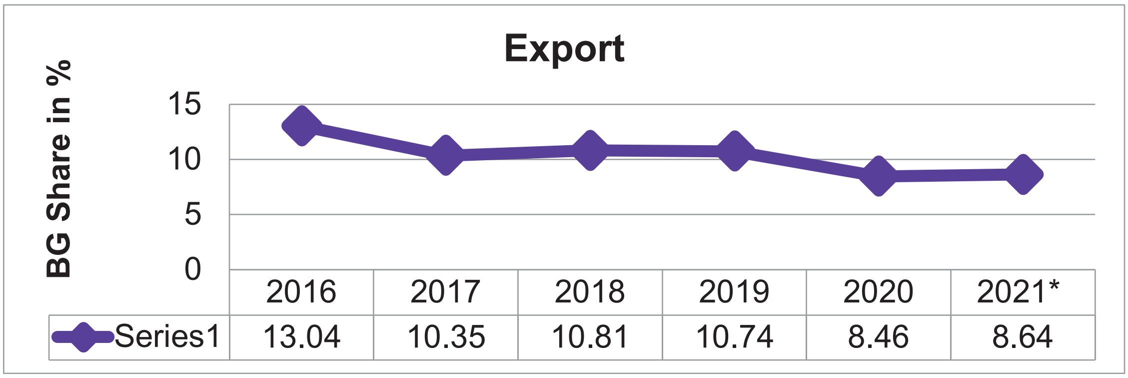
[12] The Importance of Air Transport to Bangladesh, Available at https://www.iata.org

[13] Directorate of Finance, Biman Bangladesh Airlines.

**Table 2. Biman's Share in Export Cargo Transportation**

| Year | Biman Bangladesh (TON) | | | Other Air Lines (TON) | | | GRAND TOTAL (TON) | Biman's Share (%) |
|---|---|---|---|---|---|---|---|---|
| | DRY | OTHERS | TOTAL | DRY | OTHERS | TOTAL | | |
| 2016 | 19013 | 9503 | 28516 | 155734 | 34309 | 190043 | 218559 | 13.04 |
| 2017 | 16861 | 6128 | 22989 | 153839 | 45369 | 199208 | 222197 | 10.35 |
| 2018 | 20242 | 7103 | 27345 | 193858 | 31589 | 225447 | 252792 | 10.81 |
| 2019 | 15780 | 7014 | 22794 | 155361 | 34056 | 189417 | 212211 | 10.74 |
| 2020 | 9722 | 4278 | 14000 | 132005 | 19469 | 151474 | 165474 | 8.46 |
| 2021* | 4008 | 3565 | 7573 | 69250 | 10825 | 80075 | 87648 | 8.64 |

**Figure 1. Biman's Share in Export Cargo Transportation**




and it widely varies from country to country. In Bangladesh, all the airlines do add value to government revenue. It the subsequent paragraphs, a brief rundown is given about the contribution made by Biman Bangladesh Airlines in terms of Travel Tax, Tax on Salary, TDS on party payment, Excise duty and VAT. However, Biman also pays customs duty for its own procurement wherever applicable. Importantly, as it transports cargo to and from Bangladesh it helps boost government collection of customs duties.

a. Travel Tax. The airlines of any country contributes to its economy by collecting travel tax from the passengers and depositing the same to the Government exchequer. For every air traveler of international route originating from Bangladesh, Government gets Foreign Air Travel Tax (FATT) and for domestic passengers she gets "Domestic Air Travel Tax" (DATT). Truly, such contribution is made by all the air operators operating to and from Bangladesh. Such tax varies largely for different destinations from Bangladesh. For example, a London bound passenger from Bangladesh pays BDT 9,514 while travelling by economy class and business class respectively for one way. Similarly, in the domestic market, a Chottogram bound passenger has to pay BDT 725 for one way. However, an air traveler, in most cases, is not aware about this amount since he pays this money along with his Ticket price. The national flag carrier, Biman Bangladesh Airlines alone contributed more than BDT 1,000 crore in last five years (2015-16 to 2019-20) with more than BDT 200 crore per fiscal year (Figure 2). It would have been even more, had there been no COVID-19. If the figure of Biman is extrapolated for the overall aviation industry in Bangladesh, this figure would be very encouraging. As Biman enjoys roughly 20% (one fifth) of the market share, one can conclude that Bangladesh Government gets approximately BDT 1,000 crore from air travelers as travel tax.

b. Tax on Salary. Biman employees are little more than 6500 in number including the casual workers. Of them, 2207 pays tax on a regular basis. Accordingly, Biman deducts Income Tax from the salary of its employees and deposits the same to the Government. Biman contributes on

Figure 2: Travel Tax Paid by Biman in 5 Years

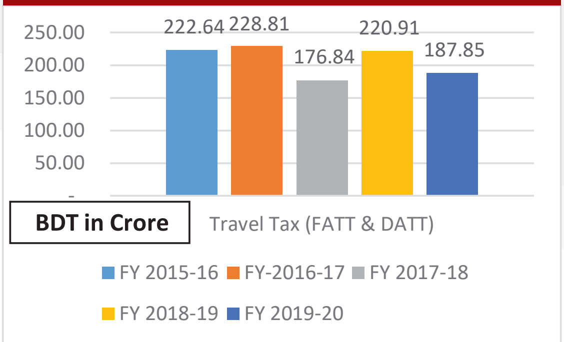
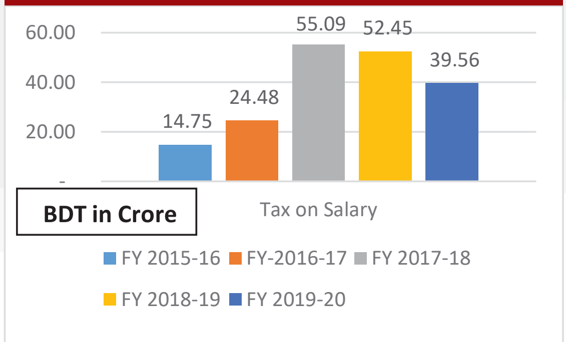



Figure 3: Tax on Salary Paid by Biman




an average 45-50 crore to the government every year as 'Tax on Salary' and it is increasing every year as the airlines is expanding in terms of fleet and network though in 2019-20 it has considerably reduced as there had been salary cut across the organization, on account of Covid-19 Pandemic. The 'Figure 3' shows year-wise payment of tax by Biman against its employees' salary. It is revealed from the figure that Biman added more than 180 crores in last five years to Government revenue. It is needless to say that the amount would be manifold as we add the amount of tax paid by other stakeholders of Biman Bangladesh Airlines. Other private airlines, helicopter operators, regulatory authorities, training institutes and flying academies are also boosting the country's economy by paying income taxes.

c. Tax Deducted at Source. As per the Income Tax Act, any company or person making a payment is required to deduct tax at the source (TDS) if the payment exceeds certain threshold limits. TDS has to be deducted at the rates prescribed by the tax department. Biman Bangladesh Airlines, being a company, shoulders this responsibility to deduct TDS before making any such payment and deposits the same with the government. At Biman, TDS is deducted irrespective of the mode of payment (cash, cheque or credit). The TDS collected and deposited by Biman in different years is shown in Figure 4. It is evident from the figure that Biman has added more than 77 crores to Government exchequer in last two years. In fivers, the figure stands at little more than 120 crores. Similarly, other airlines and operators also contribute to country's economy.

d. Excise Duty. Excise duty is another effective tool of Government's revenue collection and generally imposed on goods and services produced inland. Biman Bangladesh Airlines, as one of the service provider, pays excise duty to the government. It is observed from 'Figure 5' that Biman Bangladesh Airlines paid considerable amount to the government exchequer in terms of excise duty. The same holds good for other airlines.

e. Value Added Tax (VAT). It is well known that VAT is a percentage-wise tax on the value added to a commodity or service at different stages of its production and distribution is

Figure 4: TDS on Part Payment & Income

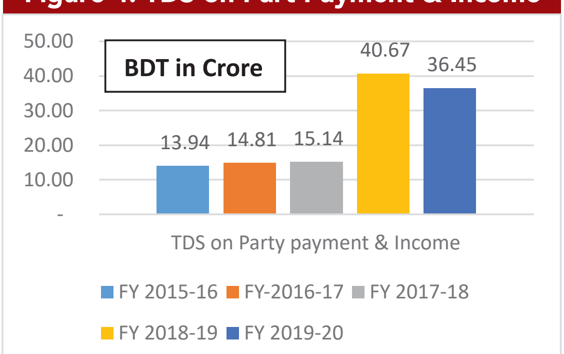
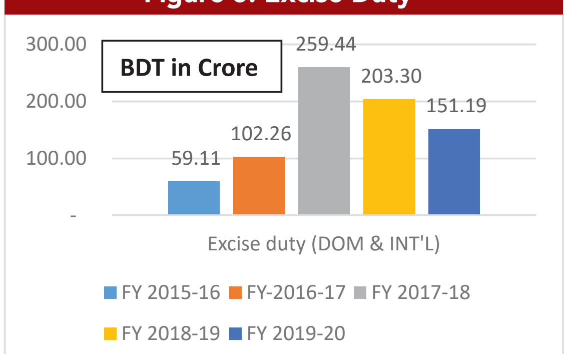
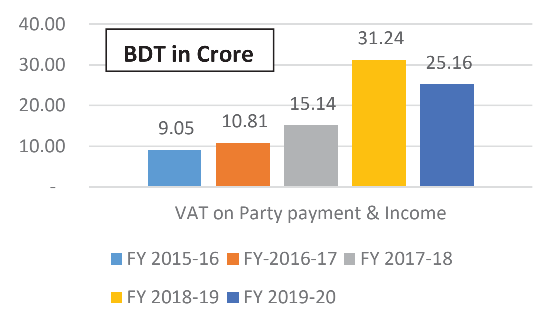



Figure 5: Excise Duty



completed. Biman Bangladesh Airlines pays VAT on any demurrage charges it realizes from the customer while cargo handling and storage. VAT is also paid by Biman on party payment and while paying various charges of CAAB. Figure 6 shows the VAT paid (BDT Crore) by Biman in different years.

**Figure 6: VAT Paid by Biman in 5 Years**




### Support in Fighting the Covid-19

As the global outbreak of the novel Coronavirus (Covid-19) hit the world of aviation hard, many airlines suffered bankruptcy and some got vanished from the sky. Nonetheless, the air transport sector has once again proven its ability to adjust with the situation and as front liner supported the fight against Covid-19 by transporting people and goods to where they are needed. Immediately after the outbreak of Covid-19 pandemic, demands for goods like hand sanitizers, hand gloves, face masks, protective gears, goggles and various types of disinfectant sprays, etc. soared like anything. Demand also sky-rocketed for medical equipment such as ventilators, oximeter and oxygen concentrator to save patients suffering from respiratory illnesses. The transport of COVID-19 vaccines by air began in December 2020 as the countries set their national targets and started fighting the pandemic. Today, billions of doses are being moved all over the world, mostly by air. Thereafter, UN COVAX programme started worldwide and the first shipment of 600,000 vaccines arranged through the UN COVAX facility arrived via air cargo services in Accra, Ghana, on 24 February 2021.[14] Biman Bangladesh Airlines carried out first dedicated cargo flight to Maldives on 13 May 2020 to transport lifesaving medical equipment from Guangzhou, China. It also air shifted 250 Ventilators from Delhi to Dhaka free of cost in July 2021 for supporting the Bangladesh Government. Similarly, it has carried other medical stores and concentrators by two flights to Algeria from China in August 2021 and September 2021. On 20 August 2021, Biman transported oxygen concentrators to Yangon, Myanmar from Delhi. Importantly, Biman has been regularly transporting 'Sino Pharma' vaccines to Bangladesh from different station of China since July 2021. Meantime Biman has carried out 11 such flights and another 09 flights are scheduled to be conducted before end of November 2021. On average, Biman Bangladesh Airlines also transporting more than 20 Million vaccines every month from China to Dhaka.[15]

### Flying for UN Peacekeeping Operations

Biman has so far flown 38 rotation flights (76 Sectors) for carrying Bangladeshi UN troops across the globe. The countries Biman has flown so far are South Sudan, DR Congo, Central African Republic, Lebanon and Mali. It may be mentioned here that flying for UN Mission has been the first of its kind for Biman and it began in May 2020 when the national flag carrier air transported a BAF contingent plus some troops of Bangladesh Army to Bangui, Central African Republic. With that humble beginning, over last 17 Months, Biman has carried UN Troops of Bangladesh Army, Bangladesh Navy, Bangladesh Air Force and Bangladesh Police. As far as revenue is concerned, Biman has earned foreign exchanges worth of USD 12 Million. Biman has not only earned invaluable foreign exchange but also contributed to global peace effort. Most importantly, Biman has also instilled confidence among its crew members to operate in harsh hot spots where conflicting parties offer security challenges.

## Drawbacks

Unethical Price War. In the domestic market, sometime it is evident that the local operators are waging a kind of price war in different ways. Some operators keep fare so low that 75% cabin factor (load) also can't secure the break even for an airline. Again, it is observed that in routes like Dhaka-Rajshahi-Dhaka or Dhaka-Barishal-Dhaka

14 ICAO, "Priority Brief: Air Cargo". Available at https://www.icao.int.

15 General Manager Central Control, Operations Division, Biman Bangladesh Airlines.

where total passengers in many cases, at times, is not more than 150-250, three operators operate their aircraft leading to accumulation of loss only. The operators may explore new routes like Saidpur-Cox's Bazar, Saidpur-Chattogram, and Jashore-Cox'sBazar etc to minimize such loss.

Limitation of Watch Hour. Out of Eight (08) airports, only Hazrat Shahjalal International Airport (HISA) is operational round the clock. Cox's Bazar and Barishal does not maintain watch hour beyond sunset. Rajshahi, Saidpur and Jashore remain operational as per the flight schedule but not round the clock. Similarly Chattogram airport remains operational till 2200 Hour while Sylhet airport remains open till 2030 Hour. For the limitation of runway length and strength, wide body aircraft can only land at HISA, Chattogram and Sylhet airport. However, government has taken initiatives to upgrade all these airport alone with Cox's Bazar airport.

Inadequate Boarding Bridge. Normal operations at Hazrat Shahjalal International Airport are being hampered due to a lack of adequate boarding bridges. Every day, with only 8 boarding bridges, HISA supports the arrival and departure of international and domestic flights. Chattogram Airport has two boarding bridges, and Sylhet Airport has two to do the same. Passengers and baggage must be handled without bridges, which adds time and causes another flight to be delayed. If more than eight flights are operating at the same time, airlines must pick up and drop off passengers in the bay area at HISA.

Inadequate transit Facilities. Airports are missing with enough space for lounge, wireless Internet access throughout the terminal, computers for general use etc. There is also shortage of amusement activities for children at the airports. Furthermore, no airside transit hotel is available for transit passengers. There is also no duty-free shopping at these airports. It is necessary to determine what airports/airlines can do to improve the customer experience even further. Airport personnel, particularly customer service managers and others with responsibilities for managing and improving the customer experience, require training in management practices and an understanding of current trends, as well as information sources on customer service improvements and practical tools.

## The Way Forward

Fuel at affordable Price. The aviation industry of Bangladesh has been enjoying growing demand but the aviation fuel monopoly by Padma Oil seems to be a hindrance preventing it from reaching its potential. The national flag carrier, very often, takes fuel from operating stations like Hong Kong, Dubai, Abu Dhabi, Singapore, Bangkok etc. where it is found cheap and cost effective. Carrying extra fuel also burns additional fuel so, it is a double edged saw in terms of foreign exchange. In one hand, Biman has to pay other companies in terms of USD and again a portion of that fuel is burnt in the process of air transportation.

Infrastructure Development. The government's investment in its airports and faster road connectivity with the airports needs to be strengthened. Since the countries geographical depth is less, it is revealed sometime that reaching to the airport and going out of that takes longer time than the time required by land travel. To attract tourists within the country, the tourism sector should be developed and thanks to the Government that a master plan in this respect is getting finalized. To attract air travelers to use Bangladesh as a transit point, the Government needs to facilitate huge lounge and accommodation within the airport. This requirement would be met, to some extent, after the third terminal starts operation in 2023.

Liberalization of the Sky. With the coming up of the third terminal and commencement of Cox's Bazar as an international airport, Bangladesh is likely to experience substantial growth in commercial aviation. Bangladesh needs to endeavor to benefit from the huge population of the Asia Pacific region by revising all existing ASA and executing ASA with countries with business potential.

Easy Source of Financing. Air Transport industry is a capital intensive one and financing is a crucial feature of this market. Not only are the planes themselves expensive to procure, but they are also expensive to maintain. During COVID-19 Pandemic, aircraft maintenance was a new challenge. Sophisticated aircraft were not flying but they were to be kept under active storage, which was an expensive task for Biman Bangladesh Airlines. To facilitate growth of this potential sector, local banks may offer syndicated loan at affordable rate like the US Exim Bank and other financiers.

## Conclusion

Bangladesh is yet to place a concerted effort to benefit from the vast potentials of aviation sector. With a holistic approach and a forward-looking vision by the concerned stakeholders, the sector is expected to achieve desired growth in near future and accordingly, it would help contribute the economic growth of the country. The air transport industry of Bangladesh needs to maintain the pace with the global development in the same field. The present Government has given due importance to infrastructure development of the existing airports and is ensuring adequate operational facilities.

The direct and indirect contribution to the national economy by the air transport industry is immense and Biman Bangladesh Airlines with its 21 aircraft is playing the pivotal role in boosting the country's economy. Demand for air transportation is closely linked to the economic development of a country and at the same time, air transport is said to be the driver in an economy. The industry creates huge job opportunities, promotes businesses, promotes tourism, boosts economy by collecting and depositing tax, VAT, Excise duties etc. to the Government exchequer. Other two operational private airlines are also making their footprint in the development of air transport industry of Bangladesh.

Asia-Pacific region is said to be the region enjoying highest growth in terms of air travelers. Bangladesh, having its unique geographical position between the East and West can secure desired growth by emerging as the safest destination and transit point of these travelers. If Bangladesh can serve as an aviation hub with required transit facilities, the air transport industry would flourish as expected. Further research may be promoted to know the factors of customer satisfaction, requirement of transit passengers, the flow of potential transit passenger via Bangladesh etc.

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# Ownership Structure and Firm Performance – Evidence from the Listed Financial Institutions of Bangladesh

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## ABSTRACT

The ownership structure is a pivotal factor in determining the effectiveness of corporate governance. A considerable amount of research has already been invested in understanding this relationship and how it is reflected in firm performance. This study is an attempt to demonstrate how ownership and firm performance are related. Return on Asset (ROA) is taken as the measure of firm performance and institutional ownership, managerial ownership, foreign ownership as measures of ownership structure. Control variables included were company size and leverage ratio. Five-year data from 2016 to 2019 was collected from 19 listed financial institutions from the Dhaka Stock Exchange (DSE) of Bangladesh. Our findings show that, institutional ownership has a negative relationship with ROA but the relationship is not found to be significant. Managerial ownership and foreign ownership have a significant positive relationship with ROA. Among the control variables, company size has a positive relationship and leverage ratio has a negative relationship. Additional regression analyses have also been conducted with time dummy and integration effect of explanatory variables to ensure the reliability of our findings. Our findings are consistent with most of the literature which states the importance of having large managerial and foreign shareholding. However, we also recommend further examination of these aforementioned relationships, with increased sample size and more explanatory variables. The findings of the study will add valuable contribution to the existing literature and help policymaking bodies and academic researchers in their respective functional fields.

## KEYWORDS

Ownership Structure, Firms' Performance, ROA

## Introduction

The ownership structure generally consists of promoters/sponsors, managers, block holders, many financial institutions and firms, mutual funds, family members etc. Ownership structure of a company is an important subject of discussion among the researchers particularly due to the effect of agency theory. If the management is not given control of the firms, they might use every opportunity to ensure their self-interest is served which mostly hinders the principle of shareholder wealth maximization. Despite being a widely debated field of study, researchers are yet to reach any consensus (Fazlzadeh, 2011).

Some recent fraudulent cases (The Business Standard, 2021) against one of the financial institutions in the Dhaka Stock Exchange have raised questions about the shareholding pattern of these companies and how much of the firm performance is affected by it.

Large shareholding means more controlling power which leads to shareholders' maximization of value as suggested from Jensen and Meckling (1976). Large shareholders/owners will have both more opportunity and incentive to exert their control over the company is managed. Large managerial ownership would generally compromise the firm performance as they will be mostly focused on their self-interest while having large institutional and foreign ownership are supposed to keep those directors in check so that the firm strives for shareholder wealth maximization. Different research works have yielded different results. That's why we need to conduct more research to be able to draw a decisive conclusion.

Most of this research conducted in this field are from developed countries. The dynamics of the Bangladeshi market and its corporate governance are not similar to that of developed economies. How the different dynamics and natures of corporate governance will be reflected into this relationship is yet to be explored (Farooque et al., 2007).

In this paper, we will try to collect evidence from the 19 financial instructions in DSE and determine how the ownership structure affects the firm performance.

### The Objective of the Study

The purpose of this paper is to determine how differences in ownership structure affect the firm performance, keeping in mind the mediating effects of size and leverage as control variables.

The paper has a valuable contribution to the literature in this field. Firstly, research is scarce on this very topic especially in Bangladesh and this paper is an attempt to bridge this gap. Secondly, it shows how the ownership structure affects the accounting performance, not the market performance, which will therefore be able to better reflect the relationship. Thirdly, we will be evaluating the corporate governance of the financial institutions listed in DSE in terms of the ownership structure and its effect on accounting performance. In this way, accounting standard setters, professionals and policy makers can utilize the data to bring about positive changes.

## Literature Review

Berle and Means, back in 1932 pioneered the study of how ownership structure and firm performance are interlinked, which has therefrom been an inspiration to a plethora of researches conducted on across the world especially in the developing countries (Kapopoulos and Lazaretou, 2007).

Power and control of corporate entities are centered around the ownership structure. How corporations will deal with the agency costs will therefore be largely dependent on the ownership structure of those corporations (Farooque et al., 2007).

Cole and Mehran (1998) traced out an important aspect which states that managers will always try to find a way to maximize their self-interest even at the cost of shareholders' wealth. As a result of these rippling effects ownership structures have on corporate governance, this topic has drawn a wide range of debates among the researchers. Hossain M.I (2018), for instance, found a positive relationship between managerial shareholding and firm performance (ROA).

Clay (2001) carried out research on almost 9,000 datasets and came up with a positive relationship between institutional ownership and firm performance. Kao et al. (2019) also demonstrated the same result. However, mixed results are also found. For example, Charfeddine and Elmarzougui (2010) identified that there is a negative relationship between the variables, Farooque et al. (2007) and showed that this relationship is not significant.

When it comes to the relationship between foreign ownership and firm performance, most of the studies found a positive relationship between these variables. In line with these studies conducted across countries, Rahman K.A (2012) also showed a significant positive relationship.

Rashid M.M (2020) found that firm performance is increased both in accounting and market-based measures, by an increase in managerial or foreign ownership. However, institutional ownership had a positive effect only on accounting form performance (ROA). He also showed the mediating effect when he added control variables like board size and independence. Rasyid et al. (2019) also used both market and accounting based measures to study this relationship. When he applied ROA as an accounting measure, the relationship between institutional ownership and firm performance was not found to be significant. Katper et al. (2018) also found no consistent results when he applied panel data to study how different shareholding patterns affect how firms perform.

Most of the previous research works were done to assess firm performance sometimes by ROA- the accounting performance and Tobi's Q – the market performance). A number of studies applied both equally (see, for example, Farooque et al. (2007), Ozer (2014), Dakhlallh (2019)). Both methods have their own shortcomings. shortcomings. However, Joh (2003) used accounting performance as the indicators of firm performance. Market performance would be able to better reflect the firm performance in developed markets where the stock market is very efficient.

Developing countries do not always have an efficient capital market. In a country like Bangladesh, where the stock market is not yet as efficient as it should be due to the direct and indirect regulations. Mossman et al. (1998) pointed out an important fact which states that, it is accounting profitability rather than market-based measures like stock market capitalization, which determines the survivability of a firm. Therefore, we have used ROA and ROE as indicators of financial performance as was similarly done by Nazir and Malhotra (2016)

The reason might be that in developing countries like Bangladesh, India, Indonesia, the components of the governance system be it related to the managerial scheme, corporate control, or even board and audit quality - are not very effective in formulating a strong framework of regulation and monitoring.

Bangladesh is almost a perfect fit in this aforementioned scenario that we can further examine to determine how corporate governance is largely influenced by differences in ownership structures (Imam and Malik, 2007).

Studies conducted in Bangladesh do not seem to have produced considerable empirical evidence on how different ownership structures influence firm performance. Despite many researches have been carried out to understand this relationship, there is still a need for further clarification and reliability.

## Methodology

We have used secondary data sources as was appropriate for the research and made use of STATA software to conduct the analysis.

### Data Source and Sample

This study uses a secondary source of data- annual reports from the listed financial institutions of DSE. A period of 5 years- from 2015 to 2019 – is taken which means the sample size becomes 95. There are 23 financial institutions in DSE but 19 of them have been taken as other companies' 5-year data was not fully available.

Financial Highlights, Director's report, Components of Financial Statements including relevant etc. sections from the annual report plus the website of DSE have been used to gather all the data.

### Research Model

ROA = $\beta 0+\beta 1$ Managerial ownership + $\beta 2$ Institutional ownership + $\beta 3$ Foreign ownership+ $\beta 4$ Size + $\beta 5$ Leverage + $\varepsilon$

### Hypotheses Development

**Hypothesis 1**

Ceteris paribus, there is a positive relationship between ROA and Managerial ownership

**Hypothesis 2**

Ceteris paribus, there is a positive relationship between ROA and Institutional ownership

**Hypothesis 3**

Ceteris paribus, there is a positive relationship between ROA and Foreign ownership

**Hypothesis 4**

Ceteris paribus, there is a positive relationship between ROA and the Size of a company

**Hypothesis 5**

Ceteris paribus, there is a negative relationship between ROA and the Leverage of a company

The above hypotheses have been developed based on the careful study of the relevant literature. Laporsek et al. (2021) and Ahmed. N and Hadi. O (2017) used ROA and ROE as dependent variables in studying the relationship between the ownership structure and firm performance. In addition to them, many researchers – Imam, Mahmood & Malik, Mahfuja (2007) Rashid et al. (2010) and Dakhlallh et al. (2019) - used the same independent variables of this study.

**Table 1: Definition of Variables**

| Variables | | Explanation | Relationship expected |
|---|---|---|---|
| **Dependent variable** | **Names used in the analysis** | | |
| ROA | roa | Net income after tax/Total assets | + |
| **Independent variables** | | | |
| Managerial Ownership | manown | % Shareholding of sponsors, directors, and managers | + |
| Institutional Ownership | insown | % Shareholding of institutions (including banks, mutual banks, financial institutions, governments etc.) | + |
| Foreign Ownership | forown | % Shareholding of foreign investors | + |
| **Control variables** | | | |
| Size | size | Natural logarithm of total assets in millions | + |
| Leverage | leverage | Total financial liabilities/ total shareholder's equity | - |

## Findings and Analysis

From the able table of descriptive statistics, we can have an overall understanding of how all the variables substantiate to. Among the 95 observations, we come up with the following information:

In the financial institutions of the Dhaka Stock Exchange (DSE) of Bangladesh, ROA has a mean value of 1.31. ROA measures what percentage of every taka invested in the business is returned to profit. This value of ROA is quite good compared to ROA of all the banks in Bangladesh, which is lower than 1.

Looking at the explanatory variables, we see that managerial ownership has the highest mean value of 39.7 percent whereas the mean of institutional ownership is 24.7 percent. The mean of foreign ownership is very low, with a value of only 4.9 percent. The is a common shareholding pattern in most of the companies listed in DSE.

To increase the reliability and validity of the related studies in this paper, we have also included some control variables such as size (natural logarithm of total assets), leverage (the ratio of debt to equity).

In the following Pearson correlation matrix, we find that, ROA is negatively correlated with institutional ownership (-0.24), positively correlated with managerial ownership (0.34) and foreign ownership (0.27). Size (natural logarithm of total assets) is positively correlated whereas, leverage (the debt/equity ratio) is negatively correlated. The value of the correlation coefficient among the independent variables are quite low which indicates that is not a material multicollinearity problem.

### Table 2: Descriptive Statistics summarized

| Variables | No. of Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| **ROA** | 95 | 1.31 | 1.355 | -7.5 | 3.93 |
| **Managerial Ownership** | 95 | 39.647 | 16.721 | 2.02 | 82.23 |
| **Institutional Ownership** | 95 | 24.639 | 13.027 | 0 | 73.5 |
| **Foreign Ownership** | 95 | 4.847 | 7.558 | 0 | 25.05 |
| **Size** | 95 | 10.092 | .799 | 8.75 | 12.13 |
| **Leverage** | 95 | 5.899 | 6.278 | .56 | 59.01 |

### Table 3: Correlation Matrix

| Variables | ROA | Managerial Ownership | Institutional Ownership | Foreign Ownership | Size | Leverage |
|---|---|---|---|---|---|---|
| ROA | 1.000 | | | | | |
| Managerial Ownership | 0.336 | 1.000 | | | | |
| Institutional Ownership | -0.240 | -0.737 | 1.000 | | | |
| Foreign Ownership | 0.269 | -0.090 | -0.1231 | 1.000 | | |
| Size | 0.161 | 0.434 | -0.308 | 0.155 | 1.000 | |
| Leverage | -0.626 | 0.026 | -0.225 | 0.091 | 0.021 | 1.00 |

### Table 4: Multivariate Regression Analysis (level model)

| Variables | | ROA | |
|---|---|---|---|
| | | Coefficients | P>\|z\| |
| Managerial Ownership | manown | .02 | .022 |
| Institutional Ownership | insown | -.017 | .106 |
| Foreign Ownership | forown | .059 | 0.00 |
| Size | size | .065 | .593 |
| Leverage | leverage | -.152 | 0.00 |
| Constant | | .896 | .453 |
| No. of Observations | | 95 | |
| R-squared | | 65.7 | |
| F-test | | 34.158 | |
| Prob > F | | 0.000 | |

ROA = 0.896 + 0.02*Managerial ownership - 0.17*Institutional ownership + 0.059*Foreign ownership + 0.065*Size - 0.152*Leverage

R-square value is 65.7% which indicates that the independent variables of our study explain the change in the dependent variable (ROA) is quite well.

In hypothesis 1, we can see that there is a positive relationship (0.02) between ROA and Managerial ownership and the relationship is significant at 5% level. Therefore, we can reject the null hypothesis. The result is consistent with our literature of Hossain M.I (2018) which found a significant positive relationship between the variables. Managers usually get a bonus in cash or shares if the firm performs well financially. Therefore, managers have a strong incentive to enhance firm performance.

In hypothesis 2, we can see that there is a negative relationship (-.017) between ROA and institutional ownership, but the relationship is not significant at the 10% level. Therefore, using a significance level of 10%, we cannot reject the null hypothesis. However, we need to raise a flag here because the p-value is 11%, just above 10%. The literature about this particular relationship is not fixed as there are varying findings- some are negative, and some are positive. However, it is consistent with Farooque et al. (2007) and Rasyid et al. (2019) found the relationship to be not significant. The reason large institutional shareholding decreased firm performance can be explained by the fact these institutions are not fully invested in monitoring the firm performance until and unless they have a significant amount of shareholding percentage, which in this case was limited to 24.6%.

In hypothesis 3, the relationship between ROA and Foreign ownership is found to be positive (0.059) and the relationship is significant at 1% level. Therefore, we can reject the null hypothesis. The result is consistent with our literature of Hossain M.I (2012) and Kao et al. (2019) which found a significant positive relationship between the variables. Moreover, most of the studies reveal the same findings. Through active monitoring of foreign investors, firms tend to have stricter corporate governance and hence better performance. Despite the significant positive relationship, we need to be informed that the mean shareholding percentage of foreign ownership found in the study was 4.9% which is very small in comparison with managerial and institutional shareholding.

In hypothesis 4, we find a positive relationship (0.065) between ROA and the Size of a company. However, since the p-value is more than 10%, we cannot reject the null hypothesis. The result is consistent with most of the studies conducted in our literature especially with Farooque et al. (2007) which found a positive significant relationship. When a firm keeps growing, it has the advantage of operating at economies of scale and scope (Boardman and Vining, 1989), which is why the large size of a company usually is positively related to firm performance.

In hypothesis 5, we find a negative relationship (-0.152) between ROA and the Leverage ratio of a company, and the relationship is significant level 1% level. Therefore, we can reject the null hypothesis. Literature about this relationship has mixed findings. According to one aspect of agency theory, more debt is required to minimize this conflict, which helps to explain our finding.

**Table 5: Regression analysis using time dummy**

| Variables | | ROA | |
|---|---|---|---|
| | | Coefficients | P>\|z\| |
| Managerial Ownership | manown | .022 | .014 |
| Institutional Ownership | insown | -.015 | .156 |
| Foreign Ownership | forown | .058 | 0.00 |
| Size | size | .066 | .592 |
| Leverage | leverage | -.148 | 0.00 |
| 2015 (base year) | | | |
| 2016 | | .073 | .785 |
| 2017 | | -.218 | .419 |
| 2018 | | -0.35 | .198 |
| 2019 | | -.127 | .635 |
| Constant | | .867 | .473 |
| No. of Observations | | 95 | |
| R-squared | | 66.9 | |
| F-test | | 19.124 | |
| Prob > F | | 0.000 | |

## Additional Analysis

As evident from the above chart, the significance level and coefficient directional sign (positive or negative) do not change from the values that were found using the level model regression. Therefore, we can say that years have no significant effect on the firm performance.

We have used "manown_forown" as the joint effect of both managerial and foreign ownership to run a regression. As we can see, the significance level of the relationship between ROA and institutional ownership becomes significant. Other relationships of independent variables with ROA remain the same in terms of coefficient directional sign and significance level. Therefore, we can be confident that, the interaction of independent variables affects ROA.

### Multicollinearity Test

Using the Variance Inflation Factor (VIF) test, Multicollinearity has been tested. VIF values above 5 indicate a multicollinearity problem. Thus, we conclude that, the data is free from any multicollinearity problem as the mean VIF value is found to be 1.83.

### Test for the Presence of Heteroskedasticity

In the regression analysis with ROA as the dependent variable, the Breusch-Pagan test revealed that the null hypothesis (Ho: Constant variance) cannot be rejected as the value of P is .74 and the value of chi-square value is .11. Therefore, we can say that the data set did not face the problem of heteroscedasticity. The data was homoscedastic.

## Conclusion and Recommendation

As discussed, ownership structure and firm performance remain to be crucial elements of corporate governance mechanisms. Studies have been conducted both in developed and developing countries. In developing countries like Bangladesh in which neither the stock market is very efficient, nor the regulatory framework is sufficiently strong, the need for research in this very field is a must. The very goal of our study was to demonstrate this relationship.

This study demonstrates a positive relationship between firm performance with managerial ownership and foreign ownership. The relationship between firm performance and institutional ownership is found to be negative and insignificant. The findings of this paper are quite consistent with

**Table 6: Regression analysis using interaction effect of independent variables**

| Variables | | ROA | |
|---|---|---|---|
| | | Coefficients | P>\|z\| |
| Managerial Ownership and Foreign Ownership | manown_forown | .001 | .001 |
| Institutional Ownership | insown | -.035 | 0.00 |
| Size | forown | .107 | .368 |
| Leverage | size | -.163 | 0.00 |
| Constant | leverage | 1.827 | .146 |
| No. of Observations | | 95 | |
| R-squared | | 63.12 | |
| F-test | | 38.51 | |
| Prob > F | | 0.000 | |

**Table 7: Variance Inflation factor values to determine multicollinearity**

| Variables | VIF | 1/VIF |
|---|---|---|
| Managerial Ownership | 2.634 | .38 |
| Institutional Ownership | 2.899 | .345 |
| Foreign Ownership | 1.327 | .754 |
| Size | 1.157 | .865 |
| Leverage | 1.124 | .89 |
| Mean VIF | 1.828 | 0.6468. |

most of the literature available in this particular field of study and adds a valuable contribution to this area of literature.

This paper should be of particular interest to academics, regulators and various enthusiast parties who are keen to find how different shareholding patterns affect the firm performance. The findings of this paper can be used by them to make informed decisions about the financial institutions of DSE. However, there is room for using Tobin's Q or Earnings per share, which are more of market performance measures, as done in a considerable amount of literature and incorporating more explanatory variables.

We recommend that further studies should be conducted with increased sample size and more relevant independent variables by incorporating different industry and cultural-specific factors.

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## Appendix A

| Observation | Name |
|---|---|
| 1 | Bay Leasing & Investment Ltd. |
| 2 | Delta Brac Housing Finance Corp. Ltd |
| 3 | FAS Finance & Investment Ltd. |
| 4 | IDLC |
| 5 | IPDC |
| 6 | First Finance Ltd. |
| 7 | GSP Finance |
| 8 | International Leasing |
| 9 | Islamic Finance & Investment Ltd. |
| 10 | Lanka Bangla Finance Ltd. |
| 11 | MIDAS Financing Ltd. |
| 12 | National Housing Fin. and Inv. Ltd |
| 13 | Phoenix Finance and Investments Ltd. |
| 14 | Premier Leasing & Finance Limited |
| 15 | Prime Finance & Investment Ltd. |
| 16 | Union Capital Limited |
| 17 | United Finance Limited |
| 18 | Uttara Finance and Investments Limited |
| 19 | Investment Corporation of Bangladesh |

*Fig : Listed Financial Institutions of Dhaka Stock Exchange*

# Are Auditors Ready to Accept Audit Software? An Exploration of the Technology Readiness in Embracing Audit Software in Bangladesh

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## ABSTRACT

In the era of high-tech information technology, the present and future users of accounting and auditing services have increasing need for relevant, reliable, and timely information. Performing the manual based auditing to check printed documents manually, has progressively changed to auditing with the computer and auditing through the computer. As audit software is being used to improve the efficiency and effectiveness of the audit procedures, it is important to understand the behavior of the auditors who will use the audit software to make the audit process up-to-date. The aim of this study is to understand the software adoption behavior among the external auditors through the lenses of technology readiness theory. This study proposes a theoretical framework based on the technology readiness theory to accept audit software from Bangladesh context. Optimism and innovativeness function as mental enablers, while discomfort and insecurity function as mental inhibitors to accepting the audit software. Both optimism and innovativeness of auditors would positively impact the auditors' acceptance of audit technology, whereas discomfort and insecurity would negatively impact the acceptance. Further analysis and empirical research support may contribute to explore the stated paradigm and display the factors for the policy suggestions.

## KEYWORDS

Audit Software, Technology Readiness, Bangladesh

## Introduction

Accountants ensure accountability through the external audit process, safeguard and promote the public interest, and serve as gatekeepers (Akther, Fengju et al., 2019; Dontoh, Ronen et al., 2013). The audit of financial statements gives reasonable confidence that the financial statements as a whole are free of material misstatement and have been prepared in accordance with the relevant financial reporting framework. An external audit is meant to boost user confidence in an organization's financial statements while also serving the public interest (Akther and Xu 2021; IAASB 2009). According to agency theory, the desire for auditing stems from a conflict between the agent (administration) and the principal (owners) (Jensen and Meckling, 1976). Agency theory isolates owners from the business, and financial statement auditing serves as a monitoring tool to eliminate information asymmetry (Jensen and Meckling 1976; Xu and Akther 2019). As a result of the fall of titans such as Enron and WorldCom, uncountable vicissitudes have begun in the guiding architecture of statutory auditing since the introduction of the Sarbanes Oxley Act (SOX) in 2002, with the purpose of restoring confidence through financial statement auditing (Akther and Xu, 2020). In today's business climate, as information technology grows, rising expectations are redefining auditing by utilizing technology to perform real-time, on-demand, and even predictive audits to enhance users confidence. Auditors in e-data processing environments must learn to audit using computer-assisted auditing software.

The present and future users of accounting and auditing services have increasing need for relevant, reliable, and timely information and information technology provides the means to meet them. Performing the manual based auditing to check printed documents manually, has progressively changed to auditing with the computer and auditing through the computer. Auditors are now moving to auditing using the information technology and therefore integrating IT in audit; that will enhance the efficiency and effectiveness of the audit procedures. Computer-assisted audit tools and techniques (CAATTs) range from simple spread sheet application software to an advanced use of specialized audit software application that embed the use of databases and business intelligence applications (Braun and Davis, 2003). Generalized audit software, GAS can assist auditors in detecting financial statement misstatements, particularly in achieving the general audit objectives of data validity, completeness, ownership, valuation, accuracy, classification, and disclosure produced by accounting software (Debreceny et al., 2005). GAS examples include audit command language (ACL), IDEA, and ProAudit (Ahmi & Kent, 2013). These software packages enable auditors to query a variety of accounting systems and conduct a complete analysis of a client's financial data.

Although new technologies are adopted to improve the efficiency and effectiveness of various work processes, unfortunately, many technology-based initiatives never reach their full potential, and some are simply rejected (Burton-Jones & Hubona, 2006). Failed investments in technology may not only cause financial losses, but also lead to dissatisfaction among employees (Venkatesh and Davis, 2000). Hence, explaining and predicting user adoption of new technology is important. As Audit software is being used to improve the efficiency and effectiveness of the audit procedures, if auditors fail to reap the whole benefits of adopting, the project would go in a vein. It is important to understand behaviour of the end users, the auditors, who will use the audit software to make the audit process up-to-date and to provide the timely audit report and reducing the information asymmetry. Therefore auditor's adoption behaviour of audit technology i.e., audit software is the motivation of this study.

Technology readiness can be viewed as a gestalt resulting from four personality dimensions: optimism, innovativeness, discomfort, and insecurity. According to Parasuraman (2000), these personality dimensions affect people's tendency to embrace and use new technologies. Technology readiness index involves four dimension of technology acceptance namely optimism, innovativeness, discomfort and insecurity. Optimism and innovativeness function as mental enablers, while discomfort and insecurity function as mental inhibitors to accepting new technologies. In this respect, this study connected technology readiness theory towards the auditors' acceptance of audit software. This study proposes a framework based on the technology readiness theory to accept audit software from Bangladesh context. Both optimism and innovativeness of auditors positively impact the auditors' acceptance of audit technology, whereas discomfort and insecurity will negatively impact the acceptance. Further empirical study based on the stated topic may contribute to understand and elucidate the matter. The rest of the paper includes literature review in section 2.1, glimpses of the Bangladesh context in 2.2; followed by research method in section 2.3; discussion on technology readiness to embrace audit software in section 3 and concluding remarks in section 4.

## Literature Review

CAATTs include audit automation software, electronic audit working papers software, generalized audit software, embedded audit modules, database SQL search & retrieval, and parallel simulation software etc. Auditors' acceptance of CAATTs usage is vital as it improves the efficiency and effectiveness of the audit process (Siew, Rosli et al. 2020). Using electronic working papers, generalized audit software, GAS, for supporting information retrieval and analysis, network security testing, continuous monitoring, audit reporting, databases of audit history, computer-based training, electronic commerce and internet security are the types of CAATTs embraced by auditors. Several computer-assisted auditing tools and techniques (CAATTs) have been developed to help auditors perform audits on computerized accounting data. One of the most common types of CAATTs is generalized audit software (GAS) (Singleton, 2006; Wehner and Jessup, 2005; Debreceny et al., 2005; Braun and Davis, 2003).

Generalized audit software (GAS) is the tool used by auditors to automate various audit tasks. As most accounting transactions are now computerized, auditing of accounting data is also expected to be computerized as well. While GAS is the most popular of computer assisted audit tools and techniques (CAATTs), research shows that there is

**Statement of Auditing Standards (USA); b International Standard on Auditing (UK and Ireland)**

| Usage of audit software | ISA[a] | SAS[b] |
|---|---|---|
| To Evaluate fraud risks | ISA 240.70 | AU 316.52 |
| Identifying journal entries and other adjustments to be tested | ISA 315.84 | AU 316.64 |
| To check accuracy of electronic files | ISA 500.11, ISA 500.36 | AU 308.33 |
| To re-perform procedures (i.e. aging of accounts receivable, etc.) | ISA 500.37 | AU 308.34 |
| Selecting sample transactions from key electronic files | ISA 240.70, ISA 330.19 | AU 327.19 |
| Sorting transactions with specific characteristics | ISA 240.70, ISA 330.19 | AU 327.61 |
| Testing an entire population instead of a sample | ISA 240.70, ISA 330.19 | AU 327.19, AU 327.27 |
| To obtain evidence about control effectiveness | ISA 330.30 | AU 316.54 |
| To evaluate inventory existence and completeness | ISA 240 | AU 314.11 |

[a] Statement of Auditing Standards (USA)
[b] International Standard on Auditing (UK and Ireland)

little evidence that GAS has been universally adopted by external auditors. GAS can assist auditors in detecting financial statement misstatements, particularly in achieving the general audit objectives of data validity, completeness, ownership, valuation, accuracy, classification, and disclosure produced by accounting software (Debreceny et al., 2005). GAS examples include audit command language (ACL), IDEA, and ProAudit. These software packages enable auditors to query a variety of accounting systems and conduct a complete analysis of a client's financial data (Debreceny et al., 2005). GAS usage has been encouraged by auditing standards (Ahmi & Kent, 2013). Janvrin et al. (2009) have identified and tested nine different functions of computer assisted audit technology and audit software originating from auditing standards. Although auditors' adoption of audit software is a beneficial choice for the auditors and the audit firms, little emphasis has been provided on the adoption behavior among the external auditors especially from the developing country context like Bangladesh. Table 1 shows the different usage of audit soft wares and the relevant audit standards.

## Bangladesh Context

Bangladesh's audit market ambiances with both local firms and a good flavour of the world's big four audit firms (Akther and Xu 2021) . In Bangladesh, global audit firms collaborate with local firms and operate under the names of their local affiliates rather than the global brand name (Belal, Spence, Carter, and Zhu, 2017). KPMG, the world's leading big four accounting firm, has a presence in Bangladesh through the local firm Rahman Rahman Haque (RRH). PwC's correspondent is the local firm S.F. Ahmed and Company, and Ernst and Young's correspondent is A Qasem and Company. In 2018, another accounting behemoth, Deloitte, entered the Bangladesh audit market with the Bangladeshi member firm Nurul Faruk Hasan and Co. to serve the fastest growing economy (Nufhas).

Bangladesh recently adopted the audit software. The Institute of Chartered Accountants of Bangladesh (ICAB) is a pioneer in inaugurating digital transformation in the audit industry of Bangladesh. Leaders of ICAB declared year 2021 as the year of automation and digitalisation. As a part of the automation process, the journey to adopt the auditing software began. The ICAB procured the software from a renowned Canadian technology firm and distributing it among the firms at a subsidised rate, and the institute will arrange training and necessary requisite to make the software useful for the auditors (Uddin Saif, 2021).

Certified accountants must be properly equipped with a variety of software applications and technologies because digital adoption improves audit quality, transparency, audit cycle times, and error and damage reduction. The case ware working papers and audit international Cloud software support a wide range of audits, from small simple audits to audits of publicly traded companies, as well as all types of audit scenarios. Previously, audit software such as e-audit, case ware, voyager etc. were used by the big four audit firms and some other firms affiliated with international audit firms. Some local firms used to use various computer-assisted audit techniques, but the number was relatively low. The country's professional accounting bodies, ICAB, have launched auditing software to assist local auditing firms in improving their efficiency, lowering costs, saving time, and ensuring transparency. The software will be adopted by 56 auditing firms in the initial phase, but it will be gradually adopted by all companies in the future. This software-based audit will undoubtedly reduce the hassle of maintaining audit document records while also shortening the time required for the traditional audit process, thereby lowering the cost and improving audit quality.

## Research Method

The Technology Readiness Theory serves as the foundation for this study. TR is defined as "people's proclivity to embrace and use new technologies to achieve goals in their personal and professional lives" (Parasuraman, 2000, p. 308). It consists of both positive and negative technological beliefs. This study provides a theoretical foundation for researchers to construct and integrate the variables that could influence Audit software adoption among external auditors, based on the Technology readiness theory and a review of the technology adoption literature in financial auditing. Readiness of technology to adopt audit software in a model (Figure 1).

## Technology Readiness to embrace audit software

Technology Readiness (TR) refers to "people's propensity to embrace and use new technologies to accomplish goals in home life and at work (Parasuraman, 2000, p. 308). It is a combination of positive and negative technology-related beliefs. These beliefs are assumed to vary among individuals. Collectively, these coexisting beliefs determine a person's predisposition to interact with new technology (Parasuraman & Colby, 2001). Furthermore, findings show that these beliefs can be categorized into four dimensions: optimism, innovativeness, discomfort, and insecurity (Parasuraman 2000). The following is the study's conceptual model:

### Optimism

Optimism generally captures the positive feelings about technology. Optimism is defined as a positive view of technology and a belief that new technology offers people increased control, flexibility, and efficiency in their lives" (Parasuraman & Colby, 2001, p. 34).

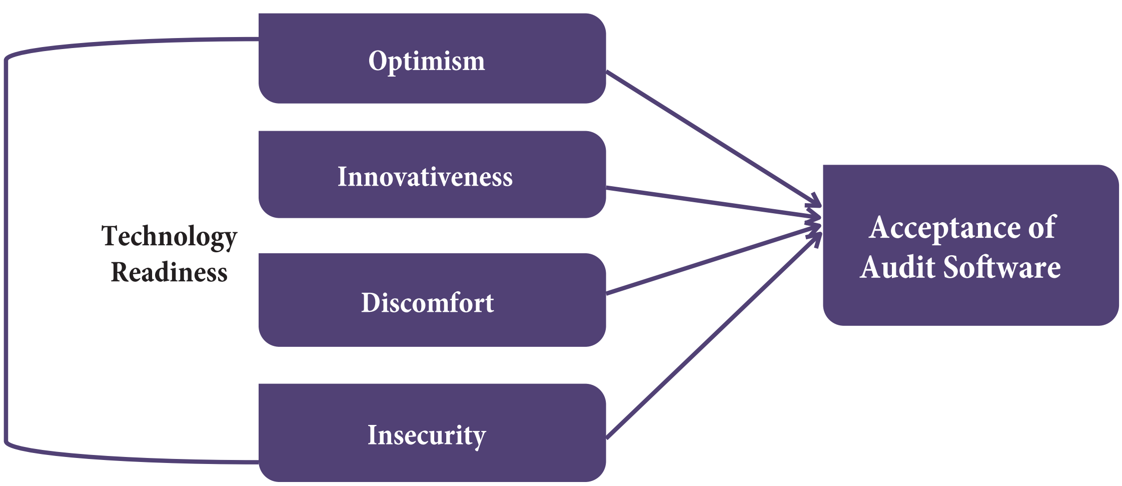
CAATTs permit auditors to increase their productivity as well as that of the audit function (Zhao, Yen et al., 2004). For example, usage of CAATTs and specially audit software may automate previously manual audit tests reducing total audit hours expended. They enable auditors to test 100 percent of the population rather than a sample, thereby increasing the reliability of conclusions based on that test (AICPA 2001; Curtis and Payne 2008). In addition, software may be used to select sample transactions meeting specific criteria, sort transactions with specific characteristics, obtain evidence about control effectiveness, and evaluate inventory existence and completeness (AICPA 2006). As Usage of Technology and software bring many advantages and make the audit task more efficient, Auditors would have some positive feeling and optimism regarding the acceptance of audit software. The more the auditors optimistic, the more the software will be adopted successfully.

### Innovativeness

Innovativeness is defined as "a tendency to be a technology pioneer and thought leader" (Parasuraman & Colby 2001, p. 36). This dimension generally measures to what degree individuals perceive themselves as being at the forefront of technology adoption.

Improving audit efficiency and effectiveness is particularly important in today's audit environment where auditors have enhanced responsibilities for detecting fraud due to SAS No. 99 requirements and internal control effectiveness as directed under Section 404 of the Sarbanes-Oxley Act and Public Company Accounting Oversight Board (PCAOB) Audit Standard No. 5. The traditional method of auditing allows auditors to build conclusions based upon a limited sample of a population, rather than an examination of all available or a large sample of

Figure 1: Technology Readiness to embrace audit softwar



data. Whereas CAATTs, addresses these problems. CAATTs, as it is commonly used, is the practice of analyzing large volumes of data looking for anomalies. A well designed CAATTs audit will not be a sample, but rather a complete review of all transactions. Using CAATTs the auditor will extract every transaction the business unit performed during the period reviewed. The auditor will then test that data to determine if there are any problems in the data. As today's business world is the technology oriented and most audit firms clients uses up-to-date technology, Auditors may fail to complete the audit procedures manually. Like many other industry auditors may want to be the technology leader to lead the business world and the capital market that affects the innovativeness of them. The more the auditors are innovative the more the audit software will be accepted successfully.

### Discomfort

Discomfort is defined as "a perceived lack of control over technology and a feeling of being overwhelmed by it" (Parasuraman & Colby 2001, p. 41). This dimension generally measures the fear and concerns people experience when confronted with technology.

Using new technology may create some problem and negative impact on the people's behavior. Auditors' professional judgment is an important consideration for auditing. If the manually auditing is a practice the instant switching of technology enabled and software based work may create some discomfort. Proper training and motivation may solve this problem. The less the auditors feel discomfort in using audit software the more the audit software will be accepted successfully.

### Insecurity

Insecurity is defined as a "distrust of technology and skepticism about its ability to work properly" (Parasuraman & Colby, 2001, p. 44). This dimension focuses on concerns people may have in face of technology-based transactions. Auditors provide reasonable assurance that client financial statements comply with a stated framework. Client's confidentiality is an important concern. Although auditors usage of audit software is an important concern proper security and reliability of using audit software is a concern for auditors. The less the auditors feel insecure in using audit software the more the audit software will be accepted successfully. The regulators should maintain the reliability of the system so that auditors can use it without any hassle and confidentiality is also maintained.

## Concluding Remarks

Optimism and innovativeness are drivers of technology readiness. A high score on these dimensions will increase overall technology readiness. Discomfort and insecurity, on the other hand, are inhibitors of technology readiness. Thus, a high score on these dimensions will reduce overall technology readiness. This study is a theoretical conception development regarding the acceptance of audit software in Bangladesh. The study sheds light on the auditors' perception of acceptance of audit technology specially the audit software. Proper steps can be taken to individually motivate the auditors to improve the optimism and innovativeness regarding the acceptance. Auditors with high optimism and innovativeness can be employed to the decision making process of adopting audit software. The technology insecurity and discomfort in using audit software should be reduced that may slowdown the overall acceptance of audit software. Proper training and motivation can act as arbitrator to escalate the overall acceptance. Further analysis and empirical research support may contribute to explore the stated paradigm and display the factors for the policy suggestions.

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# Empirical Study on Strength-based Leadership and Sustainable Employment in a Mediated Model

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## ABSTRACT

Considering the essence of the influence of appropriate leadership to ensure the sustainable employment of employees, this study aims to explore the relationship between strength-based leadership and sustainable employment in a mediation mechanism of employee wellbeing. The happy-productive theory that showed that satisfaction goes up when distress is low and vice versa, was used to design the research hypotheses. Data were collected from different manufacturing and service organizations to accurately obtain generalized results considering the organizations' diversified nature. Research collected primary data using cross-sectional data collection method. The study finds a significant influence of strength-based leadership on sustainable employment along with the mediation effect of employee wellbeing. This study incorporates practical implications for instigating traditional managers to practice strength-based leadership and provides directions for future research.

## KEYWORDS

Strength-based leadership; sustainable employment; employee wellbeing

## Introduction

As much as the world is turning into ultramodern, more and more new challenges are emerging in global companies (Uddin, Mahmood, Ostrovskiy, & Hwang, 2021). Moreover, with the continual advent of new technologies, processes, and systems these organizations face massive changes. Under this circumstance, workplaces are becoming complex where the employees must perform a wide range of distinctive duties and responsibilities to save their jobs (Azim, Fan, Uddin, Jilani, & Begum, 2019). Consequently, employees aspiring career growth frequently switch jobs that escalate recruitment cost and other related costs of recruiting organizations. Moreover, when managers focus on their subordinates' strengths undertaking several ongoing developmental activities, there would be sustainable employment (SE) (Ding & Yu, 2021). Organizations need to ensure SE for running their businesses smoothly to prevent shortage of sufficient manpower in crucial moment. Subordinates' strength based leadership (SSBL) is found positively associated with employees' life satisfaction, task related well-being, and reducing absenteeism (Duan, Ho, Tang, Li, & Zhang, 2014; Meyers & van Woerkom, 2017; Van Woerkom, Bakker, & Nishii, 2016). Strengths-based leaders always concentrate on spending money for identification, upliftment, and deployment of strengths so as to exert in the workstation to mobilize productivity and success of the organizations (Burkus, 2011; Ward, 2018). But, to best of the researchers' knowledge no study has been conducted yet investigating the influence of SSBL on SE along with the mediation effect of employee wellbeing (EW).

Over the last few years many researchers became interested and began to use strength base approach in the human resource management area for developing employees' psychological climate (Ding, Yu, & Li, 2020). It supports positive psychology by marking off individuals' personal and interpersonal capacity in an organizational setting with a view to enhance excellent subjective experience (Burkus, 2011; Clifton & Harter, 2003). The main purpose of SBL is utilizing own strengths, and naturalizing usage of followers' strengths in realizing both personal and organizational goals (Ding & Yu, 2020a). According to Aguinis, Gottfredson, and Joo (2012), strengths-based leaders can handle employees' disabilities by re-designing jobs for those who are weak on certain competencies or facilitate an environment of working with members who possess that competencies. Leaders can keep employees psychologically sound emphasizing on their inner satisfaction which is most desirable things for continuous success of organization (Mahmood, Uddin, Ostrovskiy, & Orazalin, 2020). Committed and trustful employees are the outcome of sustainable employment (Roczniewska, Richter, Hasson, & Schwarz, 2020; Van der Klink et al., 2016). SE offers employees a financial and psychological wellbeing adding a stable and reliable workforce to the company in an employees' community (Bowen, 2020). Encouraging trustful relationship between employees and managers with committed HR practices, the scope of skill development and sharing knowledge promote high level EW (Vakkayil, Torre, & Giangreco, 2017).

To date, there is the dearth of the studies of the influence of SSBL at any setting (Ding & Yu, 2021; Ding et al., 2020). Moreover, no study investigated the influence of SSBL on SE. The unique contribution of the present study is not only the exploration of the influence of SSBL on SE, but also the examination of the mediation mechanism which endeavors the mediation effect of EW on the association between SSBL and SE. Hence, this study aims to explore the relationship between SBL and SE with a mediation mechanism of EW based on the happy-productive theory where the notion of this theory is that happy employees are devoted to bring more productivity for the organization (Ding et al., 2020; Lyubomirsky, King, & Diener, 2005).

The rest of the paper is structure as follows: the next section, literature review, describes the exogenous and endogenous variables. Section three illustrates theory and hypotheses development that draws the hypothetical relationships among the underlying variables followed by the hypothetical model. Section four illustrates research design, sampling design, data collection procedure, measurement tools and common method bias issues. Section five describes measurement issues and estimates of the hypotheses testing. Section six describes the findings in light of theory and empirical observations. Finally, we conclude by advocating the implications along with the notes for the future researchers.

## Literature Review

### Subordinates' Strength-based Leadership (SSBL)

Strength is an ability created when one most strong aptitude is clarified with exercise and combined with relevant expertise (Rath & Conchie, 2008). Person's strength refers to the distinguishing qualities which inspire people to do their greatest job. As an established and constructive leadership style the main principle of the subordinates' SSBL is to elevate the strength of followers at their task which pursue to encourage the recognition, growth and spend of strengths of followers to improve performance of supporters and organization (Ding & Yu, 2021). It is a definite form of leadership style that desires to promote efficiency, productivity, and advancement of a firm concentrating on constant development of its employees' strengths (Rath & Conchie, 2008). SSBL helps to enhance emotional commitment of team members that constitutes a particular use of positive psychology in leadership which suggests that strength is the greatest element of employees growth and development (Ding & Yu, 2020a).

### Sustainable Employment (SE)

SE can be defined as employing people in such a way so that employees will remain with organization for longer period by providing significant contribution. SE enables employees to have possible potentiality and environment to do their current and future job throughout the tenure with sound health and wellbeing (Leppink, Stoffers, Kleefstra, & Dormalen, 2016). According to United Nations, the common definition of sustainability is people should try to accomplish their present requirement without compromising the upcoming demand which relate to sustainable human resource management approach. It is the process of drawing attention, providing support, and retaining employees in such a manner that makes them obedient and committed human resources (Bowen, 2020). All the organizations are going to promote SE due to rely on skilled aging employee and minimize the employees retiring cost (Dam, Vuuren, & Kemps, 2016). More specifically, it can be defined as creating opportunity for employees to add significant contribution by their performances now and in future while addressing their health and hygiene issues (Roczniewska et al., 2020; Van der Klink et al., 2016).

### Employee Wellbeing (EW)

Wellbeing cannot be defined in a single word as it is illustrated in different ways with multiple dimensions and different disciplines such as sociology, anthropology, medicine, and psychology. EW is regarded as the most important issue of the 21st century for employees' contribution to outperform the competitors. Moreover, EW refers to psychological, physical and social wellbeing. Social wellbeing includes interpersonal relationship, involvement in community and social acceptance. Social interactions help to enhance creativity and innovation in workplace which build confidence and cooperative relationship among employees (Sakka & Ahammad, 2020). Experienced employees with the true sense of EW are the pivotal of a successful organization in this uncertain, technological and demanding global environment and their skilled work. Van der Klink et al. (2016) noted that wellbeing is not solely associated with individual achievements rather also related to the opportunities he/she had to select from.

## Theories and Hypothesis Development

The study has investigated the chemistry of SBL and SE in lens of happy-productive theory. The theory asserts that happy employees are more willing to attain productivity and success for the organizations (Lyubomirsky et al., 2005). Happy workers are supposed to be more satisfied and thus perform higher than their unhappy co-workers that is to say a compact link between happiness and performances (Cropanzano & Wright, 1999, 2001; Hosie & Sevastos, 2009; Wright & Cropanzano, 1997, 2000). Happy workers are more likely to exhibit positive emotions while less happy employees are more likely to be diffused with threats, more aggressive to co-workers, and more pessimistic (Cropanzano & Wright, 2001; Zelenski, Murphy, & Jenkins, 2008). Positive emotions are conducive to building and widening skills and social affinity to be more patronizing, helpful, and less outrageous (Fredrickson, 1998, 2001). In a nutshell, the happy-productive theory believes that more happy employees are suffering from less psychological distress and thus more productive in their workplaces.

### Subordinates' Strength-based Leadership and Employee Wellbeing

Strength-based leaders engaged with the determination, upliftment, and enhancement of the subordinates' strengths as well as improvement of individual and organizational performance (Ding & Yu, 2020a). These leaders place the employees in positions related to their expertise and competency that eventually enhance their performance (Key-Roberts, 2014). Through this leadership, employees assume that leaders give them freedom to exploit their strength at the workplace (Kong & Ho, 2015). As employees are given autonomy to utilize their strength in their work area, they can feel more self-confident and spontaneously participate in myriad developmental activities which are supported by happy-productive theory. This will keep their mind fresh and they can invest their time in thinking out of the box without taking much pressure and can play a crucial role for their wellbeing. It is also cited by Burkus (2011) that SBL is considered a significant element to EW. Therefore the following hypothesis has been developed:

**H1**. Subordinates' strength based leadership has significant influence on employee wellbeing

### Employee Wellbeing and Sustainable Employment

As employees spend a notable proportion of their time at work, any change in the work environment can have a significant impact on their well-being and physical soundness and as a result their work performance can be altered (Kalliath & Kalliath, 2012). By concentrating on the utilization of subordinates' strengths, leaders ultimately improve employees' current skills more rigorously that in turn increase their motivation and job satisfaction. They feel more naturalism in completing assigned jobs due to their expertise in the relevant field. Strengths make employees competent in bringing excellent job performance (Ding & Yu, 2020b). The employees when receive wholehearted support from their organization they feel better with the organization. Moreover, experienced and skilled employees are the prime element of a successful organization under this turbulent business environment when skilled employees feel better health and happiness within the organizational environment. If employees have positive welfare attitudes from their organizations, their sense of responsibility toward their organizations will increase and they will dedicate themselves for achieving competitive advantage to bring the organization in a sustainable place and this support the main theme of happy-productive theory (Cropanzano & Wright, 2001; Zelenski et al., 2008). Therefore, it can be stated that EW may lead to SE. Based on this arguments, we hypothesized that:

**H2**. Subordinates' strength based leadership has significant influence on sustainable employment.

### Mediation Effect of Employee Wellbeing on SSBL and SE

The SSBL stimulates followers to visualize their strengths by receiving performance feedback measured based on their strengths (Aguinis et al., 2012). Leaders' encouragement to perform according to employees' strengths can accelerate the achievement of organizational efficiency goal, productivity goal, and goal of continuously upgrading employees' skills (Mahmood et al., 2020). However, when employees' current and future skills development is almost affirmed and improved by the SSBL, they will be more loyal and committed to the organizations and thus organizations will not suffer employee turnover anxiety. Strength has positive relation with individual wellbeing and accomplishment. SSBL may facilitate SE by giving importance on the employee strengths (Ding & Yu, 2020a). Strength-based leaders help employees improving their current strength to a greater extent by taking different skill development activities. This sort of EW encourages them to stay with the organization for long. The higher the level of EW through SSBL, the higher the possibility of SE as higher level of EW can ensure more committed and loyal employees for the organization which goes with the notion of happy-productive theory (Cropanzano & Wright, 2001). Hence, it is hypothesized that:

**H3**. Employee wellbeing mediates the influence of subordinates' strength-based leadership on sustainable employment.

## Research Methodology

### Sample Design and Data Collection

Respondents' data were collected from different organizations, such as small, medium and large organizations in Chattogram to accurately obtain generalized results considering the organizations' diversified nature. Moreover, both manufacturing and service organizations were also considered while collecting data. The self-administered survey method was used in this study. For generating data, Chattogram was selected because it comprises a significant number of diversified organizations and it is also considered as commercial city and financial core center of Bangladesh (Azim et al., 2019). Due to the homogeneous nature of the respondents, the convenience sampling method was studied as pertinent (Saunders, Lewis, & Thornhill, 2019). The questionnaire was sent to pertinent departments and we briefly explained to the respondents how to respond to the questionnaire. Each firm was seen as a unit. To keep the accuracy of the respondents' responses, we assured confidentiality. We allocated 302 questionnaires and received 254 completed replies, representing a response rate of 84.11%. Both the estimated response rate (84.11%) and the sample size (254) were sufficient for conducting multivariate data analysis (Fan, Mahmood, & Uddin, 2018; Uddin, Priyankara, & Mahmood, 2019).

### Participants Information

Table-1 exhibits the demographic details of the respondents where 85% of the respondents were male and 15% were female. 9% of the total respondents hold a bachelor's degree, 88% completed a master's degree, and the rest 3% had other forms of study. Around 49% of the respondents were in the range of 30 to 40 years old, 33% of the respondents were over 40 years old, and the rest employees (18%) are 20 to 30 years old. Most of the respondents had work experience of 10 to 15 years, 29% of the total respondents had experience of 5 to 10 years, and the rest of the respondents had 1 to 5 years of experience. Organizations were classified in small, medium and large based on the number of employees. Here, maximum data were collected from small (39%) and large (48%) firms while only 13% were collected from firms in medium size.

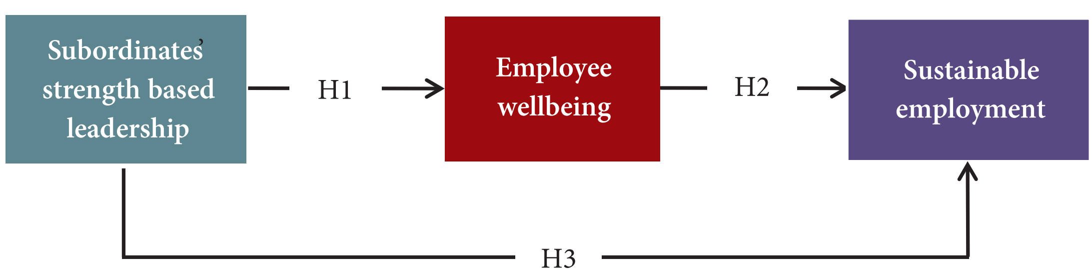
### Measurement Tools

Authors used multi-item scales from prior studies. Notably, all of those scale were reflective in nature.

### Subordinates' Strength-based Leadership

The five-item scale of SSBL was adopted from the study of Ding and Yu (2020a). A sample item includes "My leader provides me with the opportunity to let me know what I am good at".

Figure 1. Hypothetical Model



### Sustainable Employment

Sustainable employment was measured by three scales comprising of work engagement, employability, and affective commitment (Dam et al., 2016). The Schaufeli and Bakker's (2004) nine-item UBES scale was used to measure work engagement. To measure employability (Berntson, Sverke, and Marklund (2016) seven-item scale has been used. Affective commitment was computed with five items scale (Allen and Meyer (1990).

### Employee Well-being

The Psychological Well-Being Scale of Diener et al. (2009) made of eight-item was used to measure employee well-being. Sample items include: "I lead a purposeful and meaningful life".

### Response Bias

In a cross-sectional data collection, response bias is a common concern that limits the generalizability of the findings. Response bias refers to the same response or biased response which is aimed to please the researchers or the subject on which response were collected (Kock, Berbekova, & Assaf, 2021; Min, Park, & Kim, 2016). For truthful responses, we provided assurances to the respondents to their privacy and confidentiality. Initially, we confirmed that all the data would be retained private and only used as general rather than on definite firms (Mahmood, Uddin, & Fan, 2019; Uddin et al., 2019). Afterward, Harman's single factor test was used to find any variable that explained more than 50% of the variance. Accordingly, the predicted outcome was less than 50% of the total variance. The correlation test has been assessed to examine the interrelationships are outpaced 0.90. The results demonstrated that a maximum correlation between any two tests of 0.468. Therefore, there was no issue with response bias (Hair, Howard, & Nitzl, 2020).

## Findings

### Analytical Tools

Authors applied structure equation modeling (SEM) rather than traditional regression tools. The reason behind is its supremacy and robustness to provide holistic results through the integration of measurement model and structural model (Hair Jr., Hult, Ringle, & Sarstedt, 2017). The partial least square based, SmartPLS2, SEM was used in place of covariates based SEM because the purpose of the study is to ensure the prediction than the development of a theory (Hair et al., 2020; Hair Jr. et al., 2017).

### Measurement Model

For measurement purpose, each of the constructs' items was tested to check its applicability to consider it for their respective construct measurement.

**Table 1. Participants' information**

| Variables | Classifications | Frequencies | Percentage |
|---|---|---|---|
| Gender | Male | 217 | 85 |
| | Female | 37 | 15 |
| Education | Bachelor | 22 | 9 |
| | Master | 224 | 88 |
| | Other | 8 | 3 |
| Age | 20 to 30 years | 46 | 18 |
| | 30 to 40 years | 124 | 49 |
| | 40 years and above | 84 | 33 |
| Experience | 1 to 5 years | 61 | 24 |
| | 5 to 10 years | 74 | 29 |
| | 10 to 15 years | 119 | 47 |
| Firms' size | Small | 100 | 39 |
| | Medium | 33 | 13 |
| | Large | 121 | 48 |

Table 2. Reliability and validity reporting

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 1 | | | | | | | | | | |
| 2. Years | .620** | 1 | | | | | | | | | |
| 3. Experience | -.073 | -.070 | 1 | | | | | | | | |
| 4. Education | .091 | .052 | .019 | 1 | | | | | | | |
| 5. Firms' size | -.004 | -.070 | .080 | .122 | 1 | | | | | | |
| 6. Gender | -.096 | .000 | -.030 | .037 | -.066 | 1 | | | | | |
| 7. EW | .061 | -.008 | .052 | .111 | .044 | -.113 | 0.723 | | | | |
| 8. SAco | .162** | .120 | .093 | .091 | -.122 | -.063 | .391** | 0.872 | | | |
| 9. SEem | -.026 | -.069 | .000 | .077 | -.002 | -.057 | .370** | .306** | 0.843 | | |
| 10. SEen | .142* | .079 | -.036 | .114 | -.069 | -.079 | .377** | .468** | .387** | 0.764 | |
| 11. SSBL | -.053 | -.060 | .065 | .111 | -.092 | -.069 | .202** | .320** | .356** | .348** | 0.898 |
| AVE | - | - | - | - | - | - | 0.523 | 0.760 | 0.711 | 0.584 | 0.807 |
| CR | - | - | - | - | - | - | 0.898 | 0.941 | 0.945 | 0.907 | 0.954 |

**,*. Correlation is significant at the 0.01 and 0.05 levels, EW- Employees' wellbeing, SAco- Sustainable affective commitment, SEem - Sustainable engagement, SEem. Sustainable employment, SSBL. Subordinates strengths'-based leadership

Internal consistency, convergent validity, and discriminant validity have been applied with a view to ensuring the suitability of the constructs' items (Hair et al., 2020; Hair Jr. et al., 2017). Composite reliability has been used to evaluate internal consistency. Since the composite reliability of all variables are predicted above the cut-off value (0.885), all items are considered reliable. In table 2, the average variance extracted (AVE) of each construct is above the minimum acceptable threshold limit of 0.50 which justifies the convergent validity (Hair Jr. et al., 2017). Again, the square root of the AVE of each construct is higher than the inter-correlation with other constructs which fulfills the requirements of the discriminant validity (Fornell & Larcker, 1981). Hence, there is no confusion of discriminant validity results.

### Hypothesis Testing

The hypotheses of the current study can be tested in two forms: one in the form of direct effect (independent variable on the dependent variable) and another in the form of the effect of the mediating variable on the nexus between independent variable and dependent variable (Uddin, Mahmood, & Fan, 2019; Uddin, Priyankara, & Mahmood, 2020). Therefore, the hypotheses testing outcomes are demonstrated as unmediated and mediated results.

### Direct Effect

Table 3 exhibits that the relationship between subordinates' SSBL and EW ($\beta = 0.224$, $t = 2.084$, $p < 0.038$), and the relationship between EW and SE ($\beta = 0.438$, $t = 3.928$, $p < 0.000$) are significant. Hence, it can be stated that all the predictor variables mentioned in Table 3 significantly influence their explained variables. Thus, both hypothesis 1 (influence of subordinates' strengths-based leadership on employee wellbeing) and hypothesis 2 (influence of employee wellbeing on sustainable employment) are supported.

Table 3. Hypothesis testing

| Hypothesis | Paths | β | STERR | T Statistics | p-Value | Decision |
|---|---|---|---|---|---|---|
| H1 | SSBL→EW | 0.224 | 0.099 | 2.084 | 0.038 | Accepted |
| H2 | EW→SE | 0.438 | 0.108 | 3.928 | 0.000 | Accepted |

SSBL-Subordinates strengths'-based leadership, SE-Sustainable employment, EW-Employees wellbeing

### Mediation Effect

The necessary condition of a mediation effect is to have a significant direct effect of the independent variable on the dependent variable before adding a mediating variable. Table 3 demonstrated that all the independent variables have significant effects on dependent variables. Sufficient conditions for a mediation effect are, first, that the independent variable must influence the mediating variable significantly; secondly, both independent variable and mediating variable must also predict the dependent variable significantly; and lastly, the significant direct effect of the independent variable on the dependent variable must disappear (for full mediation) or reduce (for partial mediation) when the mediating variable is used in the previous unmediated relationship (Fan et al., 2018; Uddin et al., 2019).

Table 4 displays the direct, indirect, and total effect of predictor variables on explained variables before and after using the mediating variables. Here, it is found that the necessary condition exists for a mediating effect, since the direct effects of independent variables on dependent variables before adding the mediating variable is significant. Furthermore, in Table 4 it is observed that the significant direct effect of the independent variable on the dependent variable reduced (from 0.438 to 0.356) when the mediating variable is used in the previous unmediated relationship. As a result, there is partial mediation of EW on the relationship between subordinates' SBL and SE.

SSBL-Subordinates strengths'-based leadership, SE-Sustainable employment, EW- Employees wellbeing, VIF-Variance inflation factor , NA- Not applicable

## Discussions

Extant literature has explained the significance of SSBL on employee outcomes and organizational utility, but little has provided with the examples of positive effects of SSBL (Ding et al., 2020). This study sought to examine the effects of SSBL on sustainable employment with the mediation effect of employee well-being. Here, the overall results suggest that subordinates' SBL is positively connected with SE ($\beta = 0.224$, $p < 0.038$) which was the assumption of H1. SSBL develop positive psychological attitudes in leadership which acknowledges that strength is the prime component of subordinates' growth and development that facilitate SE (Ding & Yu, 2020a). In the second hypothesis, it is believed that EW significantly influences SE and the result of this study also demonstrated a significant impact of EW on SE ($\beta = 0.438$, $p = 0.000$). This support that when there is extreme level of well-being perceived by employees they desire to remain with the organization for longer period and try to upgrade themselves with the emerging needs of the organization. This finding of the current study is also aligned with previous studies where it is referred that cultivating a work culture of giving importance on proper work-life balance, employee growth and development, health and hygiene issues, and employee participation can be a crucial factor to ensure compact employee well-being and superior organizational performance (Kalliath & Kalliath, 2012) and sustainable employment (Roczniewska et al., 2020). Finally, this study confirmed a partial mediation effect of EW on the relationship between SSBL and SE. Early studies also demonstrated that strengths-based interaction can simplify an individual well-being (Ding & Yu, 2020a). Therefore, the present study attests that the influence of subordinates' SBL on SE is facilitated if the

**Table 4. Mediating effect of EC**

| Hypothesis | Path | Direct Effect | t-value (p-value) | Indirect Effects (d) | Mediator | VIF | Decision |
|---|---|---|---|---|---|---|---|
| **Unmediated model** | SSBL → SE (c) | 0.450 | 3.928 (0.000) | NA | NA | | NA |
| **Mediated model** | SSBL → EW (a) | 0.224 | 2.084 (0.038) | | | | |
| | EW → SE (b) | 0.438 | 3.928 (0.000) | | | | Partial |
| | SSBL → SE (c') | 0.356 | 3.452 (0.001) | 0.098 | EW | 0.216 | mediation |

SSBL-Subordinates strengths'-based leadership, SE-Sustainable employment, EW- Employees wellbeing, VIF-Variance inflation factor , NA- Not applicable organization or the concerned management can amplify EW.

## Conclusion

SBL is positively connected with individuals' life satisfaction, task related well-being, reduction of absenteeism. Although several benefits of SSBL on individual and organizations, most of the institutions and managers are still reluctant to this significant leadership style and did not realize its importance. It is now demand of the present situation to lead based on employees' strengths and continuously develop and build sustainable strengths of the employees to be an effective organization in this changing environment. Further, for the long-term survival, and unceasing success of the organization, SE must be ensured to have a committed, loyal, skilled, and stable work force within organization. According to the findings of this study SE can be desired by practicing SSBL and thus continually take part in the development of employees skills. Through SSBL, leaders literally concentrates on the EW which tremendously put a great contribution in reducing employee turnover which in turn gratifies SE.

## Contributions

The present study provides an important insight through the replication of theoretical observations. Firstly, we examined the influence of SSBL on EW which was found significant. Moreover, the influence of EW and SE is also found significant. Secondly, we also found that the influence of SSBL on SE is partially mediated by EW. The findings confirm that theoretical observation of the SSBL is suitable in the context of Bangladesh, an emerging economy in the world. It endorses that the findings can be generalized in other emerging economies of the world. Finally, the mediated model postulates that the influence of SSBL on SE can be enhanced the existence of EW. Since the present study includes data from small, medium, and large organizations from both service and manufacturing firms, the study can be generalizable in other countries having same cultural backgrounds.

## Implications

This study has noted a significant contribution in the field of leadership by exploring relative consequences of SSBL in organizational settings. This study emphasizes on different employee skills development programs that can be initiated by the leaders for ensuring continuous development of the organization. Again, the current study is the first to examine the relationship between SSBL and SE. Based on the findings of this study, it is suggested to the managers or leaders of the organization to encourage their subordinates to take actions according to their abilities, strengths and thereby increase organizational competitiveness. Moreover, the organizations can arrange several SSBL training program so that the leaders can effectively identify, work on, and stimulate their subordinates for the best use of their capabilities.

## Limitations and future directions

Though there are many usefulness of this study, this study is not beyond limitations. Firstly, this study has been conducted in the context of Bangladesh. There might be different result if it is conducted in the context of developed countries or other developing countries, which can be focused by the future scholars. Secondly, cross-sectional data has been used for the purpose of data collection, which might raise the question of generalizability of the results. Hence, future researchers can conduct longitudinal study to mitigate the generalizability issue. Finally, the study has been measured SSBL using single dimension scale having five items. Future researches need to be conducted using more comprehensive scale to perfectly measure SSBL.

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BANGLADESH economia

# DISCUSSION AND OPINION

# Priority Sectors of Bangladesh's Blue Economy: Guiding the Future

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## ABSTRACT

Blue economy is of high priority for Bangladesh. The paper aims to highlight four priority sectors of Bangladesh's blue economy: exploration and exploitation of resources, furthering marine activities, protection of resources and technology acquisition. To facilitate the sectors, this paper finds some important issues that would guide the future of the country's blue economy – making a comprehensive multi-sectoral national blue economy policy along with national maritime strategy and legal frameworks, maintaining institutional harmonization at each level of governance and consistency in the agreed goals and objectives of blue economy, having a Marine Spatial Planning, surveying of sea resources, marine technological capacity building, maintaining standard maritime education, research and development with marine professionals, allocating adequate public and local funds and attracting foreign investments in blue economy sectors, e.g., in procuring technology, building marine and coastal constructions, as well as maintaining cooperation between and among littoral states and engaging with regional and global platforms through pursuing maritime diplomacy. The paper examines existing literature on blue economy. Literature is taken from different sources, e.g., government and non-government documents, academic journals, books and newspaper articles. The paper is qualitative in nature. It also relies on semi-structured interviews. The interviewees from academic and practitioner backgrounds were purposively selected based on their expertise.

## KEYWORDS

Blue Economy, Priority Sectors, Public Actors and their Roles, Blue Resources, Marine Spatial Planning

## Introduction

A set of literature contextualizes taxonomy of blue economy sectors[1] and summarizes that exploitation of resources and at the same time their protections are the priority sectors of blue economy. The paper identifies four priority sectors of Bangladesh's blue economy - exploration and exploitation of resources, furthering marine activities, protection of resources, and technology acquisition.

Ocean, conceiving pivotal strategic significance, is of high potential for power politics and geopolitical tension. Because ocean has the biggest source of offshore hydrocarbon reserves including gas, oil and living resources like fishes, herbs and corals. Exploration and exploitation of resources are thus ever increasingly being more prioritized. Consequently, furthering marine activities and the protection of resources have been two important priorities. As the taxonomy of blue economy sectors is being broadened, maritime activities are now ranging from marine fishing; deep-sea mining; shipping and surging sea-borne trade to mobilizing sustainable coastal urbanization; producing marine renewable energy; flourishing coastal and marine tourism and most importantly increasing research and innovation. Judicious management of increasing marine activities helps protect maritime resources from the risk of extinction and secular depletion. Settlement of maritime area; sovereignty and control over the settled area; problems of IUU fishing; marine pollution; ineffective and lack of marine regulation and non-traditional security menace[2] are some important issues that individual states are rigged with. Protection of resources through exercising best ocean governance practices is of contemporary demand which entails multiple level cooperation on regulation of the coastal marine environment, marine protected areas, maritime safety and security of ports and sea lanes of communication.[3] Cooperation is in dire need for technology acquisition, even for the developed nation. For a developing state, enhancing marine biotechnology or producing renewable energy is like a dream without having hi-tech capability. Hence, cooperation at the regional or plurilateral (e.g., IORA) level is essential.

A balance is crucial between furthering marine activities and the protection of resources. Since, blue economy is to respect ecosystem integrity, through developing a circular economy, it is to be steered and managed by public and private actors. Moreover, sustainable blue economy needs to be governed by public and private processes that are inclusive;[4] well-informed; precautionary and adaptive; accountable and transparent; holistic, cross-sectoral and long-term, innovative and proactive.

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1 Gunter A. Pauli, The Blue Economy 10 Years, 100 Innovations, 100 Million Jobs, New Mexico: Paradigm Publications, 2010; Economist Intelligence Unit (EIU), The Blue Economy: Growth, Opportunity, and a Sustainable Ocean Economy, London: EIU, 2015.

2 Christian Bueger and Timothy Edmunds, "Beyond Seablindness: A New Agenda for Maritime Security Studies", International Affairs, Vol. 93, No. 6, 2017, p. 1293; Sam Bateman, "Maritime Security Governance in the Indian Ocean Region", Journal of the Indian Ocean Region, Vol. 12, No. 1, 2016, p. 9.

3 Abul Kalam Azad, "Maritime Security of Bangladesh", in Mufleh R Osmani and Muzaffer Ahmad, Security in the Twenty First Century: A Bangladesh Perspective, Dhaka: BIISS, 2003, p. 165.

4 Based on active and effective stakeholder engagement and participation.

For Bangladesh, blue economy refers to the direct and indirect activities in the seas, oceans and coasts using oceanic resources which subsequently contribute to sustainable; inclusive economic growth; employment; well-being; eradication of poverty; food and nutrition security and mitigation and adaptation of climate change. Blue economy also conceptualizes oceans and seas as 'Development Spaces' where spatial planning integrates conservation; sustainable use of living resources; oil and mineral wealth extraction; bio-prospecting; sustainable energy production and marine transport. Moreover, blue economy includes activities such as exploration and development of marine resources; appropriate use of ocean products and coastal spaces; provision of goods and services to support ocean activities and protection of the ocean environment. Blue economy requires not only a balanced approach between conservation, development and utilization of marine and coastal ecosystems but also entails fundamental and systemic changes in their policy-regulatory-management-governance frameworks.[5] Ensuring marine resource governance through policy formulation, planning, implementation at each level of blue economy activity is crucial.[6] For Bangladesh, besides exploration and exploitation of resources as well as increasing marine activities, blue economy is to be a marine-based economy that restores, protects and maintains the diversity, productivity, resilience, core functions and intrinsic value of marine ecosystems. And marine-based economy is to be based on clean technologies, renewable energy and circular material flows. Stakeholders, particularly public actors are to guide decision-making processes, educational and awareness-raising settings and mobilize commitments to the vision of a sustainable blue economy and act to turn that into a reality.

## First Priority: Exploration and Exploitation of Resources

Marine resources of Bangladesh are blessed with rich coastal and marine ecosystems, hosting a wide range of biodiversity e.g. fishes, shrimps, molluscs, crabs, mammals, seaweeds, micro or macroalgae, mussel, oyster, other shellfish, sea urchin, sea cucumber, etc. As a single species, Hilsa accounts for nearly half of total marine catches.[7] Others include live mud crab, finfishes, penaeid shrimps etc. Large pelagic fishes e.g. tuna and other species are yet to be harvested. Marine aquaculture is largely based on tiger shrimp and at limited scale with soft shell crab. Untapped microorganisms, under-exploited fisheries and other living resources of the Bay of Bengal (BoB) are of potential for marine-based biotechnology. Likewise, Bangladesh is blessed with diverse coastal habitats e.g. mangrove forests, salt marsh and seagrass beds. The exact amount of carbon stored by the ecosystems is yet to be ascertained.[8] No recent information on blue carbon sequestration by coastal habitats is available.

Within maritime territory of Bangladesh, there might be a number of rich oil and gas reserves which need to be explored and exploited in a coordinated manner. The foot of continental slope in the BoB is at an average distance of fifty nautical miles. Several estimations identify that the area is potentially rich in oil and gas. However, until now, Bangladesh drilled twenty wells in the offshore locations of the BoB but only two gas reserves were discovered. Approximately, twenty-six Trillion Cubic Feet (TCF) gas reserves have so far been discovered. Bangladesh has the potential to become one of the biggest sources of offshore hydrocarbon reserves. Discovery of the Krishna Godavari and Mahanandi Basins of India with potential reserve of 100 TCF of gas indicates that the prospect of hydrocarbon reserve in Bangladesh's part is probably high.[9] Besides, potential mineral resources are yet to be explored within the maritime boundaries of the BoB and in the coastal areas. There might be promising potentials of deposits of marine minerals from deep-sea mining at the seabed areas to explore the elements belonging to the categories like polymetallic sulphides, ferromanganese crusts, ferromanganese nodules and rare earth elements e.g. yttrium. Though no updated survey reports on heavy

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5 General Economics Division (GED), Seventh Five Year Plan (FY2016 – 2020): Accelerating Growth, Empowering Citizens, Dhaka, Bangladesh: Planning Commission, Government of the People's Republic of Bangladesh, 2015.

6 Lailufar Yasmin and Md. Rezwanul Haque Masud, "Maritime Security in the Indian Ocean Region: Bangladesh Cognition", in ASM Ali Ashraf, Intelligence, National Security and Foreign Policy, Dhaka: BILIA, 2016, pp. 169-182.

7 Sophie Arnaud-Haond, Jesús M. Arrieta and Carlos M. Duarte, "Marine Biodiversity and Gene Patents", Science, Vol. 331, No. 6024, 2011, pp. 1521-1522

8 M. Gulam Hussain, Pierre Failler, A. Al Karim and M. KhurshedAlam,"Review on Opportunities, Constraints and Challenges of Blue Economy Development in Bangladesh", Journal of Fisheries and Life Sciences, Vol. 2, No. 1, 2017, pp. 45-57.

9 Jack Detsche, "Bangladesh: Asia's New Energy Superpower?", The Diplomat, 14 November 2014.

minerals at the sea bed and beach region in Bangladesh is available, the entire coastal belt has been explored with the discovery of seventeen deposits of potentially valuable minerals such as zircon, rutile, ilmenite, leucoxene, kyanite, garnet, magnetite and monazite, etc. On the other hand, sources of renewable energy e.g. wind, wave, solar radiation, tide, water currents etc. at onshore areas and offshore islands in the region are yet to be explored. It is to inform that a wind generator with a capacity of 2 MW has already been installed in the coastal area of Kutubdia Island, Bangladesh, but it still remains inactive.[10] Besides, salt reserves in the onshore areas and offshore islands are important resources that are yet to be explored at a large scale.

## Second Priority: Furthering Marine Activities

Coming out of traditional fishing practices and exploiting potentials beyond existing fishing grounds, harvesting large pelagic fishes from deeper zones within 200 nautical miles of Exclusive Economic Zones and even up to the deep seas are of the essence for furthering resources exploration and exploitation activities. Conducting thorough survey to accomplish stock assessment of marine fishes is thus crucial. For marine aquaculture, two broad initiatives at the coastal areas are to be taken: (i) hatchery-based quality seed production and mariculture of important marine spp. viz. sea bass, grouper, marine eel, pomfret, mullets etc. and (ii) intensify soft shell crab farming using hatchery produced seeds. Specific initiatives include intensification of tiger shrimp farming; seabass, pomfret and grey mullet breeding and farming and saline tolerant tilapia or molobicus strain farming. For non-traditional marine living species, crucial is to identify suitable species and develop commercial cultural techniques. Also vital is to develop marine pearl culture at suitable inshore and coastal locations of Bangladesh, use nuclei placement at mental/gonad tissue at pearly mussels and most importantly, development and implementation of open water Integrated Multi Trophic Aquaculture in coastal Bangladesh to grow different finfish and shellfish with seaweeds in an integrated farm. Enhancing marine biotechnological tools for developing pharmaceutical drugs/chemicals and other products as human food are to be known. Conducting a thorough survey for recording estimates of carbon sequestration in vegetated estuaries and coastal habitat is essential. Also important is sequestering and storing carbon at mangroves, salt marsh and seagrass ecosystems.

To harness and identify more potential oil and gas reserves, establishing a logical plan and framework; conducting a thorough survey with the present boundary of the BoB; appointing qualified international companies to accelerate offshore exploration and drilling activities to ensure the country's future energy security, indeed, intensifying oil and gas extraction as well as explore and update potential mining are of the essence. Besides oil and gas, there might be promising potentials of deposits of marine minerals from deep sea mining at the seabed areas, the survey on heavy minerals availability at the sea bed and beach region is to be done. Also need is furthering exploration even to the onshore, offshore and deep-sea minerals mining. On marine renewable energy, undertaking initiatives of available sources at suitable sites, speeding up of implementation of already taken initiatives, technology transfer and training on renewable energy sources are essential.

As Bangladesh's international trade is mostly handled and rotated by coastal ports and seaborne transportations, enhancing port facilities, shipping and its related transport sectors are to be developed. For enhancing port facilities, the proposal to construct the Matarbari deep sea port on the Maheshkhali Island is a good initiative. The deep sea port will certainly reduce the dependency and congestion at Bangladesh's prime seaport at Chittagong and Mongla. It will also reduce the lead time in getting goods loaded and unloaded and boost the economy of the country. With respect to transportation, buying modern merchant ships, cargo fleets, strengthening local shipping companies for the expansion of fleet in terms of size and capacity and enhancing shipping and transport related activities are important. Although marine tourism is yet to have adequate earnings for Bangladesh, expansion of coastal tourism, tourism in sea beaches and existing and newly developed islands are of the future essence. In addition,

[10] "Blue Economy-Development of Sea Resources for Bangladesh", Ministry of Foreign Affairs, Bangladesh, 2019, available at https://mofa.gov.bd/site/page/8c5b2a3f-9873-4f27-8761-2737db83c2ec/OCEAN/nolink/Recent-Events, accessed on 13 March 2019.

engaging private parties with capital investment in coastal tourism, making national strategy for well-planned tourism, introducing small and medium sized luxury cruise and catamaran ships and construction of modern hotels, cottages and restaurants at the tourist spots along the onshore and offshore coastal locations are important.

Besides, shipbreaking, ship recycling and shipbuilding are important marine activities. Concentrated in Sitakund, shipbreaking activities present both challenges and opportunities for coastal zone management. By providing a significant source of steel, saving a substantial amount of money in foreign exchange and generating employment and large amounts of revenue for various government authorities through the payment of taxes, shipbreaking activities play an important role in the national economy of Bangladesh. However, it poses a serious threat to the environment through an epic proportion of industrial waste, toxic fumes and exposure to asbestos and other hazardous materials. Despite introducing new national policy and legislation in 2011 to improve the environmental and occupational health and safety standards in the shipbreaking yards, the enforcement of policies and laws is often non-existent.[11] In contrast, using the Intertidal Ship Recycling method with a natural and concrete slipway, ship recycling facility meets a wide range of stringent environmental and social criteria in Bangladesh. As these marine activities have major economic implications, thus, it should be promoted and nurtured in all possible ways with all eco-friendly infrastructure and compliance of international convention.

## Third Priority: Protection of Resources

Protection of resources comprises both protecting resources within a defined geographical maritime boundary of Bangladesh and surveillance to the boundary itself. While discussing protection of resources, usually Bangladesh needs to take some issues into consideration e.g. maritime piracy, illegal fishing and poaching, marine pollution, etc.

Marine fish biodiversity is declining day by day due to the use of estuarine set bag net, push net and beach seine fishing in the shallow coastal areas.[12] As a result, a good number of bottom trawls have already been converted to mid-water trawls to lessen the pressure on the demersal fish stocks to reduce the destruction of sea-bottom habitats and to exploit the mid-water fish stocks. Bangladesh usually imposes a temporary ban on fishing, particularly on Hilsa, in a certain period of the year. To maintain marine biodiversity and fish stocks at sustainable levels, several Marine Protected Areas are declared. Bangladesh has taken decision to install Vessel Tracking and Monitoring System with satellite communication links in fishing vessels in phases to monitor and control their manoeuvre at sea. As a trans-boundary species of the BoB, Hilsa's rehabilitation is needed and it requires a joint effort among Bangladesh, India and Myanmar to prevent the harvest of Hilsa juveniles and protect the mature brood stock during the banning period. Regulation can be adopted on indiscriminate harvesting of gravid mother shrimp, by trawling at the depth of 10-40 meters of inshore marine waters. It will certainly conserve the tiger shrimp brood stocks.

Marine pollution, due to shrimp farming, marine waste and litter, poses a serious threat to the depletion of marine resources of the country. Coastal shrimp farming has adverse environmental impacts on salinity, mangrove forest, water and soil quality, productivity of estuarine waters, agro-ecosystem, sedimentation and biodiversity. To mitigate negative impacts crucial is to undertake appropriate regulatory measures, proper management and ecological approach. Also important is to categorize coastal areas based on salinity level, improve traditional and semi-intensive culture systems, apply fertilizer at recommended doses, intensively monitor the environmental impact and establish procedures for EIA (Environmental Impact Assessment). Bangladesh faces the worst-case scenario of marine pollution because of plastic (waste) and marine litter. Formulation of different strategies and action plans at regional, national and local levels as well as raising awareness about littering through academic

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11 The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, IMO, 2009.

12 Md. Shahidul Islam, "Perspectives of the Coastal and Marine Fisheries of the Bay of Bengal, Bangladesh", Ocean & Coastal Management, Vol. 46, No. 8, pp. 763-796.

activities and information campaigns to convey effect of littering to the public for initiating a long-term behavioural change are vital to manage marine waste.

Strengthening maritime surveillance to protect resources from illegal maritime activities e.g. international piracy and IUU fishing and to maintain maritime safety and security of its maritime boundaries e.g. ports and sea lanes of communication is crucial. For maritime surveillance, Bangladesh Navy along with Bangladesh Coast Guard and Special Warfare Diving and Salvage (SWADS) play important role. Bangladeshi Navy has hundred and ten surface ships, craft and boats, including six guided missile frigates, two patrol frigates, six guided missile corvettes, thirty-eight minor surface combatants of various types, thirty auxiliaries and amphibious landing craft and thirty-two small response boats as surface assets. Besides, with two diesel-electric attack submarines and fixed-wing aircraft and rotorcraft, submarine branch and naval aviation wing are being respectively operated. With 150 commandos and 200 divers, SWADS is trying to maintain special reconnaissance, anti-piracy, counter insurgency, counter narcotics, counter terrorism, covert insertions/extractions, hostage rescue and personnel recovery, hydro-graphic reconnaissance, intelligence gathering, raid and underwater demolition. Headed by a Deputy Inspector General (DIG) of police, a unit of Bangladesh Police comprising 747 policemen has started working as a separate river police unit. The main goal of this unit is to provide safety and security in all inland waterways and ensure the maximum environmental standards on these routes.[13] However, the positive scenario is not reflected in all maritime forces. For example, Bangladesh Coast Guard lacks adequate resources particularly high-powered ships and other vehicles. At the same time, the river police cannot perform its duty due to lack of adequate number of modern water vessels, sophisticated arms and other equipment. Necessary initiatives to modernize these agencies for strengthening maritime surveillance are highly needed.

Besides, maritime surveillance requires maritime infrastructure building and regional cooperation. For maritime infrastructure building, Bangladesh Navy is currently setting up two new bases. One is at Rabanabad in Patuakhali named BNS Sher-e-Bangla and another is in Khilkhet of Dhaka named BNS Sheikh Mujib. In addition, an underwater expressway tunnel namely Karnaphully tunnel is under construction in Chittagong. Along with these, the upgradation of Chittagong and Mongla ports and construction of deep sea port in Payra and Matarbari will serve as the major strategic outpost for protecting Bangladesh's maritime boundaries and its resources. In parallel, regional cooperation for surveillance and information sharing is need of the hour. It is high time for South Asian littoral states including Myanmar to outline a coordinated regional approach. In this regard, also important for Bangladesh is to be a member state of Indian Ocean Tuna Commission.

## Fourth Priority: Technology Acquisition

For sustainable exploration and exploitation of marine resources, the merit of utilizing technologies is undeniable and technology acquisition is considered as an important priority sector for Bangladesh's blue economy. For marine fish stock assessment, equipped with the latest technology of fisheries and other oceanographic research, a survey vessel, 'RV MeenSandhani' was procured from Malaysia in 2016. It is capable to assess fish stock up to 200 metre depth only.[14] A Norwegian vessel named Nansen research vessel had arrived in 2018 to carry out an acoustic survey in the maritime boundary of Bangladesh. The vessel can explore the availability of pelagic, mesopelagic and bottom fish up to 1000 metre depth.[15] Afterward, the country is to adopt appropriate deep sea fishing technologies i.e. long line and hook fishing, improved, faster and eco-friendly fishing trawlers and using supporting gears, crafts and vessels for harvesting large pelagic fish. Adopting various marine aquaculture farming technologies from China, Myanmar, Philippines and Vietnam like domestication of shrimp brood stocks,

13 "Vision of River Police", River Police Website, available at http://www.riverpolice.gov.bd/vision.php, accessed on 03 March 2020.

14 Sohel Parvez, "Marine survey in Bay from August 2", The Daily Star, 27 July 2018.

15 "Norwegian research vessel arrives in Ctg for acoustic survey", banglanews24.com, 31 July 2018, available at https://www.banglanews24.com/english/business/article/69936/Norwegian-research-vessel-arrives-in-Ctg-foracoustic-survey, accessed on 25 March 2019.

Specific Pathogen Free seed and brood stock production, semi-intensive farming, development of hatchery breeding is vital also. Instead of using manually operated local equipment, the adoption of mechanical equipment (water pump, leveler, etc.) and reliable weather forecasting technology and transfer of recent advance production techniques from Europe and North America are also significant to enhance the salt production. Besides, though shipping is the best way to move goods, the industry has to embrace and adopt clean fuel, clean air and noise reduction technologies from the perspective of its carbon footprint. In this regard, these industry needs to adopt blue technology and biotechnology.

Essentially, exploration and exploitation of natural resources specially exploring the petroleum and natural gas in the BoB as well as utilizing renewable energy including wind power, wave energy, tidal energy, Ocean Thermal Energy Conversion and biofuel from marine algae and sea grasses require comprehensive technological and technical knowhow for effectively exploring, drilling and extracting marine resources. In this respect, Bangladesh needs to acquire sophisticated ocean technology like electronics, miniaturization of equipment, acoustic techniques, earth orbiting satellites, computers lasers fishing gear, marine propulsion system, imaging and physical sensors, advanced materials (i.e., metallic, ceramic, polymeric and composite materials), information and communication technologies, big data analytics, autonomous systems, biotechnology, nanotechnology, subsea engineering, new technologies for deep seabed mining Vessel Traffic Management Information System and ocean observing systems.

## Guiding the Future of Bangladesh's Blue Economy

Marine affairs of Bangladesh are characterized by sectoral policies. Recently, public actors of blue economy sectors are reviewing and developing their policies and strategies without taking necessary considerations of inherent interconnections across the sectors that share a common space.[16] It justifies the necessity to come up with a comprehensive multi-sectoral national blue economy policy which can guide various sectors through a common policy building on trade-offs and synergies. To formulate such a policy, Bangladesh can follow seven steps. First, setting agenda, raising the necessary level of awareness and sensitization about blue economy. Second, coordination in formulating policy which includes participation of multi-stakeholder. Third, building national ownership for policy formulation process. Fourth, addressing all relevant sectors while identifying high-priority sectors. Fifth, designing policy which includes legal and institutional issues. Sixth, implementation of policy through developing a plan of action and mobilizing resources. Finally, setting up a monitoring and evaluation framework to assess implementation progress. To implement the national blue economy policy, it is essential to formulate and strengthen legal frameworks. In this aspect, enacting 'Bangladesh Maritime Zone Acts' while protecting rights in maritime resources and integrating maritime security boundaries is crucial.

The challenge regarding formulation and implementation of a multi-sectoral national blue economy policy is to maintain institutional harmonization at each level of governance and consistency in the agreed goals and objectives of blue economy. In this connection, setting up a coordinating institution would inevitably be a positive step in the direction. With respect to institution building, the most critical point perhaps is to ensure that all the concerned actors and their interests are represented. In building institution, Bangladesh can consider different options to coordinate different organizations and agencies. Firstly, it can build up several institutions to coordinate all the maritime activities. Like, Department of Ocean Development for marine research and development agenda; National Ocean Ministerial Board to oversee the implementation, prioritization, budgetary allocation, regional cooperation and the further development of ocean policy; National Ocean Advisory Committee to advise the ministerial board on cross-sectoral ocean issues and National Ocean Office to do the main administrative coordination between government organizations and commercial operator. Secondly, Bangladesh can pursue the footprint of Mauritius and Seychelles by establishing a designated Ministry of Blue Economy. Thirdly, it can also establish a separate department for blue economy through comprising representatives from all other ministries

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16 Moutushi Islam and Lam-ya Mostaque, "Blue Economy and Bangladesh: Lessons and Policy Implications", BIISS Journal, Vol. 39, No. 2, 2018.

relevant to ocean management. Fourth, it can also think of building a National Maritime Commission/Council (NMC) as a unifying interagency/ministerial body with monitoring cells to bring together policy and operational agencies with a view to ensure the proper outcome from the overall activities. Whatever options Bangladesh chooses, it needs to ensure that the institution must be endowed with legal powers to reap the benefits of the blue economy.

At the operational level, a multi-sectoral national blue economy policy needs to be pursued through a nationally integrated maritime strategy. Over the years, there has been a growing concern among coastal countries to adopt maritime strategies for implementing ocean policy. However, having an integrated strategy does not completely dismal sectoral strategies rather complement it. It should be achieved through step by step process. Recently, Maritime Special Planning (MSP) is gaining attention as a new integrated strategic approach to sustainably manage marine resources by integrating socio-economic and environmental concerns at the same management platform. With a growing interest in marine affairs, MSP can deliver a strategic framework for achieving blue economy policy goals for Bangladesh. In the planning and development of MSP, it can learn lessons from countries like Australia, Germany and Belgium who have successfully implemented MSP to boost economic activities in the ocean. For the proper management of marine resources, MSP also needs to develop alternative thinking regarding marine living and non-living resources. For example, it must look for other important uses of fish parts, e.g., fish oil, fish liver residue and fish ensilage, fish maws, fish hydrolysates and peptone. In addition, with the momentum of the fast-increasing aquaculture and huge success in inland aquaculture, Bangladesh should replicate such expertise in sea aquaculture for seaweed, pearl and oyster. Besides, strengthening regional fisheries bodies, national fisheries management agencies, fishing community and fish workers organizations, regulating and controlling harvesting as well as diversifying fishing areas to avert risks associated with overfishing of certain fish stocks are critical for sustainable and equitable use and management of marine resources through MSP.

The development of MSP and multi-sectoral ocean policy also require surveying marine resources. Indeed, Bangladesh still does not know how many varieties of fish, the number of trawlers and the exact amount of marine resources exist beneath the BoB as no surveys have been conducted during the last three decades.[17] Before anything, a comprehensive, multi-client, consolidated and pragmatic survey of marine resources is needed which can well unveil the vastness of marine resources to the whole nation, quantity of the resources that can be exploited, their different industrial benefits and potentiality of the exports. In this respect, Energy and Mineral Resources Division's moves towards conducting a multi-client survey, Petro Bangla and the United States Geological Survey (USGS)'s joint survey to identify potentials of oil and gas exploration in the offshore areas, the arrival of Norwegian vessel and procurement of RV MeenSandhani from Malaysia to assess fish stock have been a good start.

The proper interpretation of the survey findings as well as the activities in different priority sectors of blue economy indicate the necessity of preparing maritime professionals, e.g., legal practitioners, environmentalists, mariners, engineers, oceanographers, hydrographers, researchers, academicians and many more through marine education and research. Numbers of institutions have offered graduates, postgraduate and course related to maritime affairs but these institutions often lack standard education. Consequently, the education system of Bangladesh fails to project itself as a prospective maritime country with vast potentialities. In this regard, the country needs either to establish a central single controlling body like the Indian Institute of Maritime Studies or declare BSMRMU as a central body to maintain maritime education standard. Such a central body needs to foster maritime studies in secondary and higher secondary level, develop new interdisciplinary and multidisciplinary educational approaches towards the oceans, initiate extensive new training about applicable international law and legislation as well as regional and sub-regional instruments and policies for officials involved in relevant blue economy sectors and ensuring equitable and beneficial collaboration between Bangladesh's newly established institutions and other universities of China, UK, France, Germany, Japan, Australia and the USA to develop high-tech multi-disciplinary education system.

Marine professionalism and development of the blue economy need to be firmly embedded in marine research and development. Thus, Bangladesh should conduct mid and long-term research on preservation, processing and quality control of marine products. The country needs to conduct academic study on fisheries, aquaculture as well as discovery and utilization of off-shore and deep-sea minerals. Bangladesh necessitates study on physical oceanography, ocean currents, waves and interaction between water and atmosphere, offshore wind and tidal industry and prospect of different marine industries. In this respect, establishment of a research laboratory solely dedicated to marine research and exploration of ocean resources in BUET is a welcoming step. Despite this, Bangladesh Institute of Maritime Research and Development (BIMRAD) should focus more on research projects solely dedicated to the blue economy. Sound research in these sectors also requires sufficient funds, while undertaking the following two steps.

(a) The first step is ensuring enough budget for research in national budget plan. The government's initiative to fund 1,400 crore project for strengthening marine research efforts to explore untapped resources from the Bay is a welcoming step. In allocating fund, government can follow Systematic Investment Plan (SIP) where a significant amount of funding could be provided to researchers for a year and based on the progress, further funding can be extended.

(b) The second step is harnessing the financial support from the international agency. For example, Bangladesh can take the opportunities from the flagship Horizon 2020 programme of the EU which funds blue economy related research and innovation in Europe and beyond.

Essentially, exploration and exploitation of marine resources depend on marine technological capacity building. However, it is an expensive affair. Bangladesh can explore two possible options. First is asking for public finance to enhance the status of Bangladesh in marine technology. Second is seeking foreign direct investment and going for foreign assistance in the form of loans and grants. But experts opine that efforts should be rendered for creating maximum funds and revenues from local sources.[18]

The development of Bangladesh's blue economy also depends on building of marine and coastal construction as well as lots of activities related to seas and coasts. However, such kind of marine affairs become too expensive for a developing country like Bangladesh. Therefore, Bangladesh should make an all-out effort to attract foreign investors in the sectors like port, exploring oil and gas in its offshore, offshore LNG platforms, coastal energy hubs and special economic zones, climate adaptation and resilient new industrial complexes, infrastructures, buildings and networks of services mushrooming in Cox's Bazar, Kutubdia, Maheshkhali, Patuakhali, Khulna and Mongla areas.

Scholars note that aspects of marine pollution, fisheries management, protection and preservation of marine environment, marine scientific research, marine safety, enforcement responsibilities and disaster management can be addressed through maritime cooperation between and among the littoral states. Considering these issues, through pursuing maritime diplomacy, Bangladesh needs to build partnerships among and between stakeholders across countries, oceans and international systems on blue economy. It should be based on mutual trust and respect, common area of interest, equitable sharing of benefits to secure sustained and beneficial outcomes for all blue economy-centric enterprise. In this respect, Bangladesh must value partnership building to develop a regional cooperative management regime for straddling and highly migratory fish stocks, quick regional response for jointly protecting regional MPA, joint patrolling for surveillance and exchange of intelligence and joint hydrography and seismic survey for regional maritime scientific research programme. Besides, it needs to promote consultations at regional and international levels to aggregate views and facilitate sharing of legal, policy and institutional expertise among states to achieve objectives of blue economy. In building partnerships, Bangladesh needs to

17 Sohel Parvez, "Marine survey in Bay from August 2", The Daily Star, 27 July 2018.

engage actively with institutions like IORA, BIMSTEC, IONS, etc. at regional level and international level with World Bank, European Development Bank, United Nations Educational, Scientific and Cultural Organization, United Nations Environment Programme and the EU.

## Conclusions and Recommendations

After the settlement of maritime delimitation dispute with the neighbouring countries, there has been a growing concern in Bangladesh to adopt and implement the blue economy concept, methods and plans to develop long term vision and secure financial investments for sustainable use of their coastal and ocean spaces. In this regard, integrating economic, environmental and social concerns at the same management platform is essential.

Based on the nature of activities, the paper identifies four groups of priority sectors of Bangladesh's blue economy, e.g., exploration and exploitation of resources, furthering marine activities, protection of resources and technology acquisition. Exploration and exploitation of resources include harnessing the potential of large pelagic fishes, marine aquaculture and other non-living resources like mangrove forests, salt marsh and seagrass beds, oil, gas, polymetallic sulphides, ferromanganese crusts and ferromanganese nodules of the BoB. Marine activities can be structured into two aspects: furthering resources exploration or exploitation activities and increasing maritime-related services like trade through establishing deep sea port, tourism, shipbuilding, shipbreaking and ship recycling. Moreover, due to wide range of marine activities, the country is rigged with risk of extinction and the secular depletion of ocean resources. As a result, protection of resources has been the third priority sector. Moreover, regulation of coastal marine environment, MPAs, maritime survey and surveillance also entail multiple-level cooperation, especially for technology acquisition. Thus, technology acquisition is the last priority sector.

Bangladesh is yet to harness the full potential of its marine-based economic activities and resources due to the lack of proper coordination, national blue economy policy and management approach, MSP, human capital, institutional arrangement, research, technology, proper monitoring and evaluation frameworks. With this respect, formulating a national blue economy policy along with the development of nationally integrated maritime strategy and legal frameworks like, 'Bangladesh Maritime Zone Act' is need of the hours. Besides, maintaining institutional harmonization at each level of governance and consistency in the agreed goals and objectives of blue economy through proper institution building like, National Maritime Commission/Council (NMC) or Ministry of Blue Economy or Department of Blue Economy or a set of institutions to bring together policy and operational agencies is crucial. Furthermore, making a comprehensive MSP, surveying of sea resources, marine technological capacity building, maintaining standard maritime education, research and development with marine professionals, allocating adequate public and local funds and attracting foreign investments in blue economy sectors, e.g. in building marine and coastal constructions is also crucial. Besides, for full-fledged development of blue economy also required is to maintain cooperation between and among littoral states and engaging with regional and global platforms through pursuing maritime diplomacy.

[18] M Ziauddin Alamgir and M Mojahid Hossain Chowdhury, "Maritime Education and National Economic Growth: Bangladesh Perspective", Bangladesh Maritime Journal, Vol. 3, No. 1, 2019, p. 37.

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# BOOK REVIEW

# Munim Kumar Barai, Bangladesh's Economic and Social Progress: From a Basket Case to a Development Model. Palgrave Macmillan, 2020, pp. i-xxxvii, 1–426. ISBN 978-981-15-1682-5 (Hardcover)

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## PREFACE

Bangladesh, once which was considered a "Basket Case" or a malignant "Test Case of Development", is now turned into a "development outlier" for its sustainable development since independence in 1971. Bangladesh is now a $ 324 billion economy taking 38th place in the world GDP (gross domestic product) ranking and is projected to become an economy of $ 700 billion by 2030, which will take the 26th position. The per capita income has also been increased to around $ 2,000. Consequently, Bangladesh is assumed to be the next Asian's emerging tiger. Besides, the country has made sustainable progress in eradicating poverty from 44.2 per cent in 1991 to 20.5 per cent in 2019. The life expectancy of its population is increased to 72.8 years on average, and the literacy rate is also increased to 72.3 per cent. In its GDP growth, Bangladesh broke the 6 per cent growth trap in 2015 and kept the growth rate's pace over 7 per cent since then. Bangladesh is already branded as a "lower-middle-income" country. It is graduating from the category of the "Least Developed Country (LDC)" and is likely to achieve full status as a "developing country" by 2024. It has now set the vision to be a "developed economy" by 2041. Bangladesh was at the forefront in achieving the millennium development goals (MDGs) and subsequently has embraced the sustainable development goals (SDGs) to achieve by 2030. The picture of the economic and social progress of the country is impressive indeed. Therefore, Bangladesh is now viewed as a "development surprise", or "unexpected success", or "Bangladesh paradox", or "development miracle", or "development puzzle". How does this turn-around from the "basket case" to the "development outlier" occur over the years? The answer to this question will be found in this edited book.

The edited book "Bangladesh's Economic and Social Progress: From a Basket Case to a Development Model" provides an inclusive narrative of the evolution of Bangladesh from a basket case to a development model in terms of economic and social progress since its arduous journey began in 1971. This book documents the social and economic factors that have allowed Bangladesh to reach a "development surprise" and capture the development glory across various economic and social sectors. It also offers a systematic and empirical analysis of the development story of Bangladesh. At the same time, this book tries to identify the present and future challenges for sustainable development and proposes some way forward. The organisation of the book and the central insights of the chapters are provided in the next section.

## THE ORGANISATION OF THE BOOK AND KEY INSIGHTS OF THE CHAPTERS

The book consists of five parts, containing a total of 13 chapters authored by 23 scholars.

## Part-I

The first part covers only the "Introduction" chapter. The introduction chapter gives a holistic view of the various contesting economic development theories that help to provide a theoretical account of Bangladesh's economic and social development. However, the author constructs a development model for Bangladesh called the "Solidarity Economic Development Model", where the government, non-government organisations, private sector, and households are signified in the development process. Besides, this chapter provides a picture of the economic and social progress of Bangladesh, recognising some development factors such as economic growth, structural shift in GDP and employment, poverty reduction, financial inclusion, rapid urbanisation, success in agriculture and food production, externalisation of Bangladesh economy, empowerment of women, GO-NGOs partnership, and advances in various socio-economic indicators like population growth, life expectancy, adult literacy rate, reduction of crude death rate, and human development Index. Moreover, the chapter has highlighted some "other factors" which has an unseen role in the development process of Bangladesh at various points of time, such as density of population, access to production and information technology, speed in sharing information at a low/no cost, the role of returnee migrants, and big push investment in megaprojects.

## Part II

Part II draws the boundary of Bangladesh's development covering poverty reduction, growth, social development, climate-resilient development, education, healthcare, and life expectancy in three different chapters.

In chapter 2, the authors discuss the distinct features of Bangladesh's development trajectory, including social development, demographic change, and poverty reduction, and argue that this distinct development trajectory results from a consistency of that development typology. Besides, the authors give attention to the sources of this progress through a political economy lens.

Climate change has both positive and negative links with development. Therefore, in Chapter 3, the authors set an agenda for climate-resilient and inclusive development in Bangladesh. This chapter describes the inclusiveness in the development process and then delineates how Bangladesh is pursuing a climate-resilient form of development. The authors argue that the key development objectives are to be met by achieving socially inclusive, sustainable and climate-resilient development. Therefore, a compelling argument is made in favour of making a transition toward a climate-resilient, low-carbon economy and green development.

The authors in Chapter 4 examine three vital variables of the social development of Bangladesh - education, health and life expectancy, and offer a model of the triadic connection between them, where there is a positive correlation with each other. Besides, the authors show how such a development model in Bangladesh is aligned with the sustainable development goals (SDGs). The authors also argue that development takes place as a collective effort of the state and non-state organisations, which necessitates everyone's participation in transforming the world.

## Part -III

Part III depicts the development of the financial sector, financial inclusion, and foreign remittance as a development factor of Bangladesh into three different chapters.

The financial sector in Bangladesh has attained a reasonable level of progress and stability since the country's independence in 1971. Chapter 5 provides an account of the evolution of the banking and non-banking financial sectors of Bangladesh since its emergence, highlighting structural, institutional, policy and legal reforms. This chapter also covers an empirical analysis of the relationship between financial system development and the economic growth of Bangladesh.

Financial inclusion plays a vital role for promoting sustainable and inclusive economic growth. Equitable allocation of finance is also a main argument of the recent development theories to ensure sustainable economic growth. However, Bangladesh is made mentionable progress in financial inclusion with the collective efforts of the government, central bank, and development agencies. Consequently, Chapter 6 aims to assess the degree of financial inclusion and its contribution to Bangladesh's development. Fourteen years' inclusion data set ranging from 2004 to 2017 was considered by the authors for analysis. The finding reflects mentionable progress in financial inclusion in Bangladesh and establishes a connection between financial inclusion and development indicators. A few policy recommendations are offered at the end of the chapter.

Like financial inclusion, foreign remittance is also considered one of the development dynamics in Bangladesh. It is a net surplus source of foreign exchange inflow and an essential contributor to the country's GDP growth. Remittance has a developmental impact on the socio-economic factors of the country. It helps to improve living conditions and housing, nutrition, education, healthcare, poverty reduction, social security, and investing activities of the recipient households. It also helps the country to avoid imbalances in the current account of the balance of payment. Therefore, Chapter 7 depicts the magnitude and direction of migration and remittance in Bangladesh and the development role of the remittances to the Bangladesh economy.

## Part IV

Part IV describes the development in the economic sector of Bangladesh, focusing on agriculture, ready-made garments, and light engineering sectors. Three distinct chapters are included in this part.

Chapter 8 delineates the significance of the agriculture sector for the economic development of Bangladesh. The impact of the agriculture sector is multidimensional, most notably for reduction of poverty, a transformation of rural economy and creating agriculture-led industrialisation. However, in 1972, agriculture contributed about 60 per cent of the total GDP, declining over the years and reaching 13.65 per cent in 2019. The service sector is taking the place of the declining agriculture sector, which contributes currently above 50 per cent of the total GDP. Despite this, the country has earned self-sufficiency in food grain production for its large population from the agricultural sector that played a critical role in eradicating rural poverty. Therefore, the authors revisit the trend of agriculture development in Bangladesh in this chapter and examine the feasibility of agriculture to lead the industrialisation of the country. The critical drivers of agricultural growth are identified in this chapter, along with the root causes of the recent slowdown of the sector and failure to facilitate industrialisation. After examining, it is agreed that the economic development of Bangladesh depends critically on modernising the agriculture sector instead of neglecting it due to having its crucial role for alleviating rural poverty and ensuring food safety. Consequently, the authors argue that a dynamic transformation in Bangladesh can be achieved by adopting an "agriculture first" strategy. Adoption of modern technology, proper channelling of formal financing to the agriculture sector, and limiting the decline of arable land are few policy options are recommended in this chapter.

Chapter 9 documents the growth trajectory and development impact of the ready-made garments (RMG) industry in Bangladesh. At the beginning of the 1980s, the RMG sector took place the position of foreign income earning source when the jute and jute goods were losing their traditional market and prospect of foreign income earnings. Currently, it is the single largest source of earning foreign currency by generating more than 80 per cent of the total export. More than 4 million people are directly engaged in this sector. The RMG sector has turned as an "industry of fortune" that laid the foundation for the industrialisation of the country. Bangladesh is now branding as a "development case" through RMG export. Nonetheless, the journey towards this fortune has not been easy. Against this backdrop, this chapter reveals the story of the "development case" of the RMG sector in Bangladesh—its historical evolution, major challenges, and measures to overcome those challenges. It also discusses the growth pattern and the impact of the industry on employment creation, women's empowerment in society, the introduction of backward and forward linkage sectors, and poverty reduction in Bangladesh. The chapter also points out the avenues to overcome the challenges for the sustainability and growth of the industry.

Likewise ready-made garments industry, Chapter 10 describes the importance, current status, and prospects of the light engineering sector (LES) in Bangladesh. The authors observe that the LES in Bangladesh has expanded massively during the last couple of years and contributed to the GDP, exports, and employment generation. The abundance of low-cost labor and high local demand is the main reason behind the bright prospects of LES in Bangladesh. Despite this, the sector faces many impediments that need to mitigate for further development. Against this backdrop, in this chapter, the authors comprehensively narrate the evolution and expansion of LES in Bangladesh's economy and analyse its economic contribution. Besides, drawing on the prospect of the LES in Bangladesh's economy, they also identify the major impediments and offer remedial measures for the sector's future development. Arrangement of free training by the government for the low-educated and unskilled labour, arrangement of financing facility, cash incentive, develop marketing channel with ICT application are the key recommendations for further progress of the sector. Undeniably, the LES is an area where Bangladesh has immense development potential and future employment avenues for its large population.

## Part V

Part V deals with the role of the government and non-government organisations in the economic development of Bangladesh. This part comprises two chapters.

The author in Chapter 11 attempts to explain the "development puzzle" of Bangladesh in the context of government policy initiatives taken towards the country's economic and social progress. The author lists down and explains the key development initiatives of the government that includes government's development plans, pro-poor public expenditure policies, human resource development policies, public sector development policies, NGOs engagement policies, foreign employment policies, disaster management policies, financial inclusion, national integrity strategy, and enactment of the Whistle Blower Protection Act, 2011. In addition, the author attempts to provide an account of a new area of discussion in the context of civil servants' accountability. This segment describes various initiatives that the government has taken to break the iceberg of the bureaucratic process and make civil servants more active and accountable to get the government agenda done within the targeted timeframe. Medium-term budgetary framework, simplification of service process through innovation, enactment of the public service act, annual performance agreement, digitalisation of office activities using E-Nothi, virtual grievance redress system, self-financing the mega projects, country-wide infrastructure expansion are the key measures taken by the government for civil servants' accountability.

Along with the government, NGOs are also an important player in the development of Bangladesh. NGOs have contributed to the positive social changes and development in Bangladesh. Therefore, in Chapter 12, the authors document the role of NGOs in the socio-economic development of the country. This chapter sheds light on the evolution of NGOs in Bangladesh and appraises the evolutionary change and its contributions to the country's socio-economic development that includes social welfare, relief, rehabilitation, microfinance, education, healthcare, legal rights, women empowerment, agriculture, and socially responsible businesses. At the end of the chapter, the authors have taken the Bangladesh Rural Advancement Committee (BRAC) as a role model to substantiate and validate the success of the NGOs in Bangladesh.

## Part VI

Part VI concludes the book. After acknowledging Bangladesh's development surprise, the author in Chapter 13, the only chapter in this part, highlights some of the critical challenges to the sustainable and genuine inclusive development of Bangladesh and the way forward. Key challenges include poor governance, corruption, the fragility of the state, infrastructure bottlenecks, quality human capital, shortage of employment, rising religious extremism and rising inequality. On the contrary, the major way forward includes the creation of human capital with equal emphasis on reaping the demographic dividend, making the most of the country's location for its geostrategic position in the South Asia region, adaptation with the technology, advancing innovation-driven economy for the next stage of development, building institutions for free and democratic society for sustaining Bangladesh's progress in the future.

## Strengths of the Book

This edited book has captured the striking socio-economic factors and features to demonstrate the "development surprise" of Bangladesh. It accumulates most of the success stories of Bangladesh's economic and social progress in one place for the interested parties and stakeholders to understand the country's development path in a plausible way. Each development feature of the book is written with a holistic focus, including relevant facts and figures. Importantly, the facts, figures and arguments are supported by necessary references put at the end of each chapter. The book will provide the readers with a thorough and deep understanding of Bangladesh's evolution from a "basket case" to a "development surprise" and the way forward for the second stage of sustainable, inclusive and innovation-driven development. Finally, a development model is offered in the book titled the "Solidarity Economic Development Model" to theorise the development surprise of Bangladesh.

## Why this Book is Important

Undoubtedly, it is a bold initiative by the editor to accumulate the socio-economic success stories of Bangladesh in one place when Bangladesh is enjoying the status of a "middle-income country" and marching towards the "developed economy". In this momentum, this book is highly useful to the policymakers and the government of Bangladesh to take the necessary policy measures for the next stage of development to arrive at its future destination. On the other hand, researchers can identify research gap(s) in the respective area of development for further contribution to the sustainable economic development of Bangladesh. The development theories and the theoretical development model of the book can also help the researchers to theorise the research findings related to economic development.

Further, the book could be helpful to professional accountants to understand their roles and duties in the development trajectory of Bangladesh. Professional accountants, through their involvement, can play a pivotal role in ensuring accountability, transparency, and governance in the respective development area because the governance crisis and corruption are the most significant obstacles in Bangladesh's sustainable growth. Besides, accounting professionals can contribute to the implementation of the development projects cost-effectively that can ensure value for money of the government's expenditure. Moreover, professional accountants' ethical and professional integrity, both in public practice and private service, can immensely contribute to the country's development path. Furthermore, the development stories of the book can be a role model to the other developing economy to follow.

Nevertheless, the book could be enriched if it covers the role of foreign and private investments in the country's economic progress. Besides, the contribution of microfinance to Bangladesh's economy is lightly covered in the book.

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