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FIRM CHARACTERISTICS AND BANK INTERNATIONALIZATION IN AN EMERGING ECONOMY

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ABSTRACT

Following the developed economies, banks in the emerging economies also take strategic moves to internationalize in order to expand target market and boost profitability. This research examines how firm-level characteristics of banks effect their international activities in emerging economies, using the case of Bangladesh - a fast-growing emerging market. This paper utilizes regression with Driscoll-Kraay standard errors and FGLS on the data of 35 banks for the period from 2005 to 2014. The effect has been examined first for all banks, and then grouping the banks by state-owned banks (SOBs) and private commercial banks (PCBs). Findings suggest that bank size, domestic market coverage, and experience from international operations, by and large, induce banks to expand international activities while banks tend to adopt the strategy to reduce international exposure as they grow older. The paper finds substitution effects between domestic branch and foreign presence, and a minimal influence of profitability on internationalization. However, results for private commercial banks and state-owned banks differ substantially. The paper stresses the need for specific regulations to facilitate both internationalization and de-internationalization of banks in the emerging economies. Especially, de-internationalization is critical for banks losing money from internationalization. The paper contributes to the literature by: using new measures of internationalization moves, being the first examination on Bangladesh, and providing new insights for bank regulation in the emerging economies.

Contribution/ Originality: This study contributes to the existing literature by developing and using a unique and extensive set of internationalization measures, and by providing critical learning for bank management, especially in the emerging economies, on the influence of firm-level characteristics of banks on their international activities.

1. INTRODUCTION

Banks channel large volume of funds from surplus to deficit units in an economy, and thus, are considered to be a key driver of economic growth in any country. Without banking services facilitating international trade and business, globalization would have been economically futile. While developed economies are the major sources of bank internationalization globally, developing and emerging economies are also rapidly following the footprint.

The ability to achieve global connectedness in a cost-efficient way has triggered banks, both developed and emerging economies, to adopt significant strategic moves to tap growth and expansion opportunities. Topping the list of highly promising emerging economies globally, Bangladesh is currently one of the fastest growing countries in the world (IMF (International Monetary Fund), 2016) and is listed as one of the Next-11 highly potential emerging economies (Goldman Sachs, 2007). While the economy grows fast, the country is currently experiencing the wave of rapid bank internationalization as the banks are taking up strategies to capture global markets. The firm-level strategic moves of the banks are visible mainly because of too many banks chasing too few customers in the domestic market and thus, struggling to survive or facing slowdown in profitability and business growth. While more than 70 percent of Bangladeshi banks are already internationalizing themselves (Khan and Barua, 2016) there has been very little academic and policy attention on this issue.

As a case of fast growing emerging economies, this study examines the effects of firm-level characteristics of the banks on their internationalization activities. This study contributes to the existing literature in few ways: (i) unlike most of the existing studies, the paper uses a new and extensive set of internationalization measures, (ii) it offers new insights on the current bank internationalization wave and relevant inputs for regulators in Bangladesh, and (iv) it provides learning for other emerging economies on the role of firm-level characteristics on international banking activities.

2. REVIEW OF LITERATURE

Internationalization of banks can be broadly defined as the delivery of international banking products and services to domestic or international clients at home or abroad; depending on the currency of transaction, customers' and banks' office locations (Trivedi, 2012). This chapter reviews the literature and theories on the determinants bank internationalization with a brief focus on the modes of international entry and their impact.

A broad range of factors can trigger internationalization strategy of banks, e.g. diversification benefits (Jones, 1993), competitive advantage over domestic competitors (Cunha and Boehe, 2008), resource transfer (Canals, 1997), profitability prospect (Tripe, 2003), market seeking motives (Lensink and Hermes, 2004; Rahman and Anuar, 2011), and differential regulation benefits (Goldberg and Saunders, 1981; Li and Guisinger, 1992). Hollensen (2008) refer to two categories of reasons that generally induce companies to internationalize: (i) proactive involving profit and growth goals, technological competence, economies of scale and scope; cost savings, market penetration opportunities, management ambition, access to resources, and (ii) reactive - domestic market saturation and competition, dropping sales, excess production, unexpected foreign business opportunities, product seasonality, proximity to foreign customers, and psychological distance. Studies show that international entry can be induced by firm specific factors, e.g. adequacy of capital, risk taking ability, technological competence, human resources quality, access to information, management culture, and entrepreneurial quality (Porter, 1985; Canals, 1997; Smith and Walter, 1997). However, for banks especially, some macro and industry related factors also encourage internationalization, for example, sectoral reforms, a change in the strategic scope and intention to maximum utilization of tangible and intangible assets in growing markets (Amungo, 2014). At the international level, voluminous increase in trade, smoother flow of foreign investments, rapid financial globalization and liberalization also encourage banks to go international (Bonin *et al.*, 1998). Rahman and Anuar (2011) suggested that banks internationalize by following their customers to increase market power and profitability. However, risk diversification strategy is also often works as a major motivation for bank internationalization (Rugman, 1976; Lensink and Hermes, 2004) although it may hurt during financial crises (Berger *et al.*, 2015). In other studies, Tripe (2003) identified potential profitability, and Canals (1997) suggested customer service and resource transfer as the main incentives for bank internationalization. In addition to following customers, Lensink and Hermes (2004) identified defensive expansion, attractiveness of the host markets, imitation of competitors, and reduction of capital cost, as the motivations for bank internationalization.

A bank, as part of its strategies, may choose among several modes of international entry depending on the degree of control a firm looks for, available resources to be committed and the maximum risk it is ready to take (Amungo, 2014). There is a wide range of strategic choices for international entry by banks; for example, acquitting foreign assets, liabilities and investments, correspondent banking, agency banking, foreign branch, foreign subsidiary, consortium banking, placing resident representatives, and joint venture (Brimmer and Dahl, 1975; Khoury and Pal, 2000; Tschoegl, 2001; Slager, 2005; Cerutti *et al*., 2007; Trivedi, 2012; Buch *et al*., 2013). Smith and Walter (1997) presented a three dimensional matrix of "Client–Arena–Product" (CAP) framework for internationalization. Among different entry options available for banks, Slager (2005) referred to two major categories for international entry of banks: branch network, and alliances, and joint ventures. However, there may be other modes in addition to Slager's categories, for example, agencies, representative offices, and subsidiaries (Tschoegl, 2001). Cerutti *et al.* (2007) suggested that branch is a better choice than subsidiaries as it helps to avoid higher corporate tax, repatriate profit easily and has greater market opportunity underdeveloped markets. On the other hand, although highly capital intensive, acquisition can be a good choice when banks possess substantial experience and information on the intended market. Buch *et al.* (2013) suggested that 'branch' and 'subsidiary' approach are highly cost-intensive. Contrastingly, correspondent banking involves very minimal cost but it carries less effectiveness (Khoury and Pal, 2000). While there are several options available, the choice of particular entry modes is usually part of the internationalization strategies adopted by banks.

However, aggressive internationalization may have significant impacts on bank performance, as has been suggested some studies; although the findings still remain non-conclusive. Sullivan (1994) reviewed 17 studies and reported that 6 showed positive and 5 negative impacts of internationalization on performances while other 6 suggested no association between them. Negative impacts may be the result of several strategic failures, for example, selecting wrong market, strategic gaps, very high risk and competition, and human resources quality gap etc. Banks, doing business in too many international markets, are more likely to be negatively affected (Buch *et al*., 2013) and may see increased risk (Hejazi and Santor, 2005). Slager (2005) suggested that internationalization brings insignificant benefits to the shareholders. Apart from banks, adverse impacts on financial performance from internationalization is evident for other firm types also (Katrishen and Scordis, 1998; Capar and Kotabe, 2003). However, benefits of internationalization are also documented in several studies, for example, through geographical diversification strategy resulting in better risk-return trade-off (Berger *et al*., 2000; Buch *et al*., 2010) and improving local performance using the international experience (Kobrin, 1991).

Strategic focus on international exposure of Bangladeshi banks is rapidly growing. The study by Khan and Barua (2016) provided a comprehensive picture on the rapidly expanding state of internationalization of the Bangladeshi banks while Barua *et al.* (2017) examined the impacts if internationalization on financial performance of the Bangladeshi banks. However, research on the effects of firm-level factors on the internationalization moves adopted by banks appear unavailable. This study intends to fulfill this gap.

3. DATA AND METHODOLOGY

To explore the effect of firm characteristics on international banking activities, the paper utilizes quantitative panel data analysis on the firm level survey data.

3.1. Sample and Data

There are 56 scheduled banks operating in Bangladesh as of 2015 from which nine foreign commercial banks have been excluded as this study is aimed to examine only the Bangladeshi banks. A detailed semi-structured physical questionnaire survey was administered on the rest 47 banks from May to December, 2015. Later, 12 banks were excluded due to very limited business history, and inconsistent and unavailability of data. Therefore, this study uses survey data on 35 scheduled banks including 29 Private Commercial Banks (PCBs) and 6 Sate-owned

Commercial Banks (SOBs). The list of the final 35 banks is provided in appendix Table A1. Data accuracy has been ensured by two tier checks: verifying survey data by telephone interviews with top level management members such as Vice Presidents or Heads of International Operation and Foreign Exchange Operations, and a second tier verification was made accessing and acquiring necessary secondary information from Annual Reports, Newspapers and other published documents.

3.2. Model Specification and Variables

This study uses internationalization and firm-specific variables based on previous literature (e.g. Buch *et al.* (2013)) theoretical relevance and available data. Hence, we develop the following relationship:

$$Bank\ Internationalization = f(Bank\ Size, Domestic\ Coverage, Financial\ Strength,$$

$$Age\ of\ Business,\ International\ Experience, Bank\ Type) \text{ ---------- (1)}$$

Which leads to the following equation,

$$BI_{it} = \propto + \beta_1 lnTot\_ASS_{it} + \beta_2 lnTot\_BRA_{it} + \beta_3 ROE_{it} + \beta_4 bAGE_{it} + \beta_5 IeAGE_{it} + \beta_6 bTYPE_{it} + \epsilon \text{ -------- (2)}$$

For i = bank, t = time, and ϵ = error term, where,

BI indicates Bank Internationalization as the dependent variable, represented by four internationalization indicators: Level of Internationalization (LOI), Modes of Exposure (FEtypes), Physical Presence in Foreign Countries (FCpres), and Foreign Country Linkage (FClink).

ROE denotes Return on Equity to capture financial strength measured by Net Income/Total Equity. A general expectation is highly profitable banks would be able to reinvest more and thus, would have higher capacity to increase foreign market expansion. However, there can be an opposite scenario as well since banks that are highly profitable in the domestic market may not chose to go or expand international as long as they generate desired level of return domestically.

lnTot_ASS denotes natural logarithm of total asset to capture the size of the banks. Natural logarithm is applied to scale down the absolute monetary values. Larger banks would have higher propensity to have higher levels of international banking activities because of their higher financial capacity and fewer scopes to expand in the domestic market. Moreover, larger banks are able to absolve potentially higher risk associated with the business operations in international markets that are less known than domestic market. Therefore, a very general expectation is that higher total asset would be associated with higher levels of internationalization.

lnTot_BRA denotes natural logarithm of total number of branches in the domestic market which captures the extent domestic market operation and coverage. Higher domestic coverage would, perhaps, indicate less opportunity to expand in the domestic market. With domestic market saturating and profit slowing down, banks would have incentives to go or expand in the international markets. Hence a positive association between overall internationalization and number of domestic branches is generally expected.

bAGE indicates age of the bank since its inception measured in years. Banks that are older have better experience and learning potentially coupled with fewer opportunities to expand in the domestic markets. This might incentivize banks to seek international markets for expansion and maintaining profitability. Thus, it is expected that bank age would be positively associated with overall internationalization of the banks.

IeAGE denotes age of international exposure measured by the number of years a bank is engaged in international banking activities starting from the first time inception of such activities. Banks that have longer experience in operating in international markets would be expected to have higher internationalization activities than the ones that have fewer years of experience. It is because banks with longer international experience are

supposed to have better learning and experience on effective and efficient international banking activities. Therefore, a positive association between age of international experience and overall internationalization is generally expected.

bTYPE indicates the dummy variable for ownership type; 1 for privately owned or 0 for state-owned. The variable would explore the impact of ownership effect on overall internationalization activities. Generally, privately owned banks are supposed to have better dynamism in their operations, management and strategies, and thus, they are expected to have more internationalization activities than the state-owned banks. State-owned banks, especially in Bangladesh, have poor management, lack of vision, frequently intervened by the government and often carry losses for years. However, an opposite scenario may also be true. State-owned banks in Bangladesh are vastly experienced having 40 years of average banking age while the history of private banks is not older than 25 years on average. Therefore, state-owned banks already have a well-built relationship with international markets for a very long period of time, and often international customers and banks rely on these banks since they are backed by government. These banks are historically preferred to the private ones by the non-resident Bangladeshis living worldwide for remitting their money to Bangladesh. Therefore, it may not be surprising if state-owned banks appear to have higher internationalization activities.

This study uses four Bank Internationalization (BI) indicators following Barua *et al.* (2017) as dependent variable. A brief definition and measurement of the four measures is presented here:

Level of Internationalization (LOI): Level of Internationalization is defined by the level of internationalization a particular bank places itself in currently. The following 7 progressive layers of internationalization are developed based on level of and fixed investment commitment, physical presence, intention to reach global clients, and risks associated. Banks selects a particular or move from one to the other layer based on business strategies adopted.

Layer-1: All products and services offered as Foreign Trade Product from Bangladesh

Layer-2: Delivering Offshore Services from Bangladesh

Level-3: Engaging in Foreign Deposit/Lending/Investment from Bangladesh

Layer-4: Structured arrangements and collaboration through Correspondent or Agent Banking

Layer-5: Having Branch Network

Layer-6: Fixed set-up through Joint Venture with longer term business plan

Layer-7: Fully or majority owned subsidiary

The layers of internationalization are originally developed and used by Barua *et al.* (2017) based on similar works for manufacturing firms by Andersen (1993) and for international investment by Johanson and Wiedersheim-Paul (1975). In this study, each bank is given a total score from 1 to 7 based on all international banking activities falling under different layers presented above.

Modes of Exposure (FEtypes): This is defined as the number of ways banks are engaged in international banking. The number of ways are determined based on the number of layers (the layers of levels of internationalization developed above) a bank is operating in. This is also a strategic decision adopted by banks.

Physical Presence in Foreign Countries (FCpres): This reflects the total number of countries outside home where banks have physical infrastructure and presence. The study considers physical presence if a bank engaged through any of these three: (i) Branch, (ii) Joint Venture (iii) Subsidiary. The variable is also used in earlier studies (Tschoegl, 2001; Cerutti *et al.*, 2007; Buch *et al.*, 2013). Physical presence in foreign countries often involves very high financial and investment commitment and hence, is a significant strategic move from the banks.

Foreign Country Linkage (FClink): It is measured by the total number of countries with which banks have business linkage virtually or physically. Banks generally developed their global inter-connectedness based on the current and future strategic orientations.

Using the above internationalization measures, we estimate the following equations:

$$LOI_{it} = \propto + \beta_1 lnTot\_ASS_{it} + \beta_2 lnTot\_BRA_{it} + \beta_3 ROE_{it} + \beta_4 bAGE_{it} + \beta_5 IeAGE_{it} + \beta_6 bTYPE_{it} + \epsilon \text{ --------} (3)$$

$$FCpres_{it} = \propto + \beta_1 lnTot\_ASS_{it} + \beta_2 lnTot\_BRA_{it} + \beta_3 ROE_{it} + \beta_4 bAGE_{it} + \beta_5 IeAGE_{it} + \beta_6 bTYPE_{it} + \epsilon \text{ ----} (4)$$

$$FCtypes_{it} = \propto + \beta_1 lnTot\_ASS_{it} + \beta_2 lnTot\_BRA_{it} + \beta_3 ROE_{it} + \beta_4 bAGE_{it} + \beta_5 IeAGE_{it} + \beta_6 bTYPE_{it} + \epsilon \text{ ---} (5)$$

$$FClink_{it} = \propto + \beta_1 lnTot\_ASS_{it} + \beta_2 lnTot\_BRA_{it} + \beta_3 ROE_{it} + \beta_4 bAGE_{it} + \beta_5 IeAGE_{it} + \beta_6 bTYPE_{it} + \epsilon \text{ -----} (6)$$

Estimations are carried in three groups: first for all 35 Banks, and then for 29 PCBs and 6 SOBs respectively to examine the effects for public and private sector banks separately.

3.3. Estimation Method

To decide on the appropriate estimation technique, necessary diagnostic tests for all 12 equations have been conducted and the p-values of the tests are reported in appendix Table A2. Based on the diagnostic tests for heteroskedasticity, first-order autocorrelation (AR1), moving average autocorrelation (MA), and cross section dependence, regression with Driscoll Kraay Standard Errors (DKSE) is utilized for 'All Banks' and 'Private Commercial Banks (PCBs)' panels, since the two panels show the presence of moving average autocorrelation. On the other hand, Feasible Generalized Least Square (FGLS) is employed for the estimation on the panel of State-owned commercial banks (SOBs).

3.4. Data Characteristics

Data are collected mainly on bank characteristics, financial performance, and international banking activities. The following table 1 shows the main variables for which data are collected:

Table-1. Descriptive Statistics of Performance Variables: All Banks

Variable	Observations	Mean	Std. Dev.	Min	Max
Return on Equity (ROE)	350	0.12	0.20	-1.77	0.97
Total Asset (in 000s)	350	124433	134268	5730	917500
Number of Branches	350	201	299	12	1204
No. of Foreign Countries in Linkage (FClink)	350	66	49	2	200
No. of Foreign Operation Layers (FEtypes)	350	2.40	1.23	1	5
No. of Countries with Physical Existence (FCpres)	350	0.69	1.21	0	5
Highest Level of International Operation (LOI)	350	3.99	2.30	1	7
Age of International Operations (IEage)	350	16.76	10.52	1	42
Bank Age	350	19.96	12.05	4	55

Source: Survey data of this research.

Banks under this study are heterogeneous in terms of both financial performance and internationalization variables. The data suggests that Bangladeshi banks have adopted significantly heterogeneous moves in terms of internationalization. For example, banks have wider link with as much as 200 countries while with minimum link with merely 2 countries. We can see that the average age of international banking experience in the industry is about 17 years with very wide heterogeneity from 1 to 42 years' of experience. Age of banks also follows similar pattern. Banks have the highest layer of international operation as we defined earlier indicating the value 7 for "Fully or majority owned subsidiary" in contrast to the fact that there are also banks with merely international trade related services offered from home (value 1). Banks appear to have wider international activities by reaching foreign markets through as many as five modes of exposure.

4. ANALYSIS, RESULTS AND DISCUSSIONS

Table 2 presents the estimation results for all banks. Bank size, captured by total asset, remains highly significant for all internationalization indicators used as dependent variables. This imply that banks with larger size and asset base are more likely to adopt strategy to expand their international banking activities through physical presence or product offerings compared to the smaller ones. It is expected since larger banks have greater investment and risk taking ability and also enjoy greater economies of both scale and scope. Following total assets, number of branches also shows significantly positive impact on three internationalization indicators except physical presence abroad (FCpres). It makes sense since the banks already having greater domestic coverage approach towards domestic market exhaustion with limited remaining opportunities. The domestic market expansion opportunities become more restricted when competition is fierce, as is the current state of Bangladesh banking sector. Such situation pushes the banks to develop and adopt strategies to penetrate beyond the domestic market, and hence, induces the banks to trigger greater internationalization. However, in contrast to the other three internationalization indicators, number of branches show negative impact on physical presence (FCpres). This result may indicate the substitution effect of capital investment since both physical presence and branch set-up are highly cost-intensive and self-competing. In other words, having physical presence in the foreign markets require substantial amount of fixed investment, opening more branches in the domestic market would lock in more capital investments leaving less capacity to invest abroad, resulting in capital rationing.

Table-2. Results for All Banks

Dependent Variables	**LOI**	**FCpres**	**FEtypes**	**FClink**
Independent Variables	(equation-3)	(equation-4)	(equation-5)	(equation-6)
lnTot_ASS	.820***	.555***	.605***	8.205***
	(.065)	(.091)	(.044)	(1.543)
lnTot_BRA	.321***	-.136***	.159***	6.345***
	(.048)	(.043)	(.039)	(.594)
ROE	.262	-.111	.113	-13.301***
	(.449)	(.489)	(.201)	(3.648)
bAGE	-.035***	.005	-.056***	-.679***
	(.006)	(.005)	(.012)	(.079)
IeAGE	.051***	-.034***	.054***	.227
	(.014)	(.012)	(.014)	(.140)
bTYPE	-.670***	-1.930***	-.302***	-27.598***
	(.196)	(.081)	(.051)	(2.236)
Constant	-6.316***	-3.480***	-4.691***	-20.272
	(.590)	(1.101)	(.459)	(16.623)
R Squared	0.279	0.364	0.354	0.126
N	350	350	350	350

Note: Significance level: ***=1%, **=5%, and *=10%. Figures in parentheses indicate standard errors.

It is noticeable that profitability (ROE), by and large, shows insignificant impacts on international banking activities, except for the FClink (number of countries banks are linked with). This result refutes the general expectation that highly profitable banks would have higher degree of internationalization because of their greater financial strength and re-investment capability in expanding international banking activities. However, there is opposite evidence that internationalization has significant impact on financial performance (Barua *et al*., 2017). The only significance of ROE is found to be negative for FClink, which provides some indications that higher profitability induces banks to slash the less profit-generating markets to gain greater efficiency in order to sustain the level of profitability in the long run.

Bank age (bAGE) shows, by and large, significant and negative impact on three of the internationalization indicators indicating, perhaps, the learning curve effects. The result provides a very important implication. As banks become older, gain experience and grow bigger, they may take up strategies to curtail their wide market

coverage to cut down cost and concentrate on the best return generating markets. Bangladeshi banks are currently experiencing the fourth generation wave with on average 20 years of banking age, it may be time for many banks to aim for such efficiency and sustainability stepping away from less efficient and fewer return generating international markets. This argument is supported at least partially by the negative impact of the age of international experience (IeAGE) on FCpres. However, IeAGE, by and large, shows mixed results with positive impacts on LOI and FCtypes while it is insignificant for FClink. The majority positive significance may imply that greater learning and experience earned from the international markets encourages further expansion of international banking activities.

The rather surprising result is the significant negative impact of ownership type dummy suggesting that banks belonging to the private sector are likely to have less international banking activities. The result intuitively carry meaning in the sense that the state owned banks (SOBs) are the oldest (even more than 50 years age) and the largest ones in Bangladesh having continuous back-up from the governments. As a result, the SOBs have a long history of serving international trade and non-resident Bangladeshis living worldwide, and thus, hold the major market share. Contrastingly, PCBs are relatively new and have stepped into the internationalization wave not more than a decade. As a result, the international banking activities, operations and networks are highly likely to be much less than those of the SOBs despite the number of SOBs is less than that of the PCBs. A deeper look into this matter is carried by bank type and the results are presented in Table 3 and 4.

Table-3. Results for PCBs

Dependent Variables	**LOI**	**FCpres**	**FEtypes**	**FClink**
Independent Variables	(equation-3)	(equation-4)	(equation-5)	(equation-6)
lnTot_ASS	.830*** (.074)	.412*** (.100)	.550*** (.036)	4.477*** (1.454)
lnTot_BRA	.163*** (.043)	-.225*** (.025)	.106** (.040)	4.383*** (1.192)
ROE	1.076 (.745)	1.231** (.466)	.896*** (.279)	-12.438 (9.642)
bAGE	-.082*** (.015)	-.024** (.011)	-.067*** (.013)	.071 (.106)
IeAGE	.137*** (.029)	.077*** (.005)	.078*** (.016)	-.582** (.255)
Constant	-6.938*** (.585)	-3.932*** (1.114)	-4.433*** (.269)	.852 (12.436)
R Squared	0.219	0.167	0.264	0.015
No. of Observations	310	310	310	310

Note: Significance level: ***=1%, **=5%, and *=10%. Figures in parentheses indicate standard errors.

The results for PCBs in Table 3 supports the results for all banks presented in Table 2, especially for total asset, number of branches, and bank age. However, for PCBs, ROE shows significant positive impact for two internationalization variables (FCpresence and FEtypes) evidencing supports for the argument presented before that higher profitability enables banks to re-invest more and expand into international markets. Age of international experience (IeAge), following the all bank results, shows significant positive impacts on three of the four internationalization variables. This result, by and large, reconfirms the previous argument that private banks are, perhaps, encouraged to increase international banking activities by greater learning and experience.

While results for PCBs are in line with the results of all banks, results differ significantly for SOBs as reported in Table 4. Asset size and profitability show no significant influence on the international banking activities. However, number branches show overall significant and positive impacts on all internationalization variables. It supports the argument pitched before that banks tend to move internationally when exhausted with the domestic markets, as is the case for SOBs in Bangladesh having the largest number of branches (more than 4500 branches on average) and thereby, covering almost the whole of Bangladesh. Bank age has very little influence on international banking showing negative impact on FClink.

Table-4. Results for SOBs

Dependent Variables	LOI	FCpres	FEtypes	FClink
Independent Variables	(equation-3)	(equation-4)	(equation-5)	(equation-6)
lnTot_ASS	.046 (.221)	.310 (.822)	-.027 (.350)	-.416 (3.458)
lnTot_BRA	2.894*** (.500)	2.980* (1.800)	3.194*** (.629)	14.018*** (6.513)
ROE	.023 (.048)	.009 (.070)	.007 (.025)	.090 (.234)
bAGE	-.002 (.026)	-.044 (.117)	-.052 (.040)	-2.157*** (.390)
IeAGE	-.023*** (.004)	-.009 (.064)	.042*** (.012)	1.640*** (.049)
Constant	-12.956*** (2.265)	-18.534** (8.249)	-16.891*** (1.835)	-15.806*** (20.382)
R Squared	0.879	0.563	0.876	0.779
No. of Observations	40	40	40	40

Note: Significance level: ***=1%, **=5%, and *=10%. Figures in parentheses indicate standard errors.

The negative impact again supports the arguments discussed before that as banks grow older, they tend to achieve greater efficiency and sustainability by cutting down less efficient and lower return generating networks. This argument makes sense since SOBs are on average more than 40 years old in Bangladesh. Although age of international experience (IeAge) shows a little mixed results for SOBs, majority of the impacts appear positive (on three of the four internationalization variables), which follow the results of PCBs and all banks. This, it reconfirms the previous argument that SOBs, perhaps, are also encouraged to further their international banking by greater learning and experience gained from the on-going international operations.

5. CONCLUSION

This paper examines the impacts of firm-level characteristics on four international banking measures of Bangladeshi banks employing FGLS and regression with DKSE. Overall findings on all banks suggest that bank size, domestic market coverage, and learning from current international operations, by and large, induce greater expansion of international banking while banks tend to reduce international exposure as they grow older. This paper finds minimal positive influence of profitability on international banking activities; evident only for the private commercial banks (PCBs). PCBs, by and large, follow the overall results for all banks while state owned banks (SOBs) differ noticeably. Bank size and profitability show no effect on the international banking activities of the SOBs while domestic coverage and bank age show positive and negative impacts, respectively. However, yet SOBs appear to be encouraged to increase international banking activities through the experiences and learning gained from current operations. The findings in this paper provide a clear indication that the awareness and understanding of the bank owners and top managements regarding the influence of bank characteristics on internationalization is critical. Because international banking is often a strategic matter, failure to understand this issue may result in inappropriate or wrong strategic move. On the other hand, Bangladesh, like many other emerging economies, lacks significantly in terms of availability of specific regulatory frameworks to monitor and facilitate international banking activities of the banks. As competition is becoming fierce in the domestic market and banks are increasingly taking up strategies to go international, the paper stresses the need for specific regulation to monitor and facilitate smooth implementations of internationalization or de-internationalization strategies for the banking sector in the emerging economies, particularly in Bangladesh. Smooth de-internationalization avenue, i.e. exit avenue, is critical especially for banks that are losing money due to adverse changes in either firm-specific characteristics or international market environment. Therefore, having a strong regulatory framework specifically for international banking activities is inevitable to keep the banking sector sustainably growing.

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APPENDIX

Appendix Table-A1. List of Banks Surveyed

Sl	Bank Name	Sl	Bank Name
	State-owned Commercial Banks (SOBs)	18	Mutual Trust Bank Limited
1	Sonali Bank Limited	19	The Premier Bank Limited
2	Janata Bank Limited	20	United Commercial Bank Limited
3	Agrani Bank Limited	21	Trust Bank Limited
4	Rupali Bank Limited	22	National Bank Limited
5	BASIC Bank Limited	23	NCC Bank Limited
6	Bangladesh Krishi BankLimited	24	One Bank Limited
	Private Commercial Banks	25	Prime Bank Limited
7	AB Bank Limited	26	Pubali Bank Limited
8	Bangladesh Commerce Bank Ltd.	27	Southeast Bank Limited
9	Bank Asia Limited	28	The City Bank Limited
10	BRAC Bank Limited	29	Islami Bank Bangladesh Ltd.
11	Dhaka Bank Limited	30	Al-ArafahIslami Bank Limited
12	Dutch Bangla Bank Limited	31	Export Import Bank of Bangladesh Ltd.
13	Eastern Bank Limited	32	Social Islami Bank Limited
14	IFIC Bank Limited	33	Shahjalal Islami Bank Limited
15	Jamuna Bank Limited	34	First Security Islami Bank Limited
16	Mercantile Bank Limited	35	Union Bank Limited
17	Uttara Bank Limited		

Appendix Table-A2. Diagnostic Tests (P-values reported)

ALL BANKS	**Test**	**Equation 3**	**Equation 4**	**Equation 5**	**Equation 6**
Heteroskedasticity	Modified Wald	0.000	0.000	0.000	0.000
Heteroskedasticity	Breusch-Pagan	0.110	0.000	0.006	0.758
Autocorrelation (AR1)	Woolridge	0.000	0.000	0.004	0.000
Autocorrelation MA (q) (at default lag 2)	Cumby-Huizinga (Arellano-Bond)	0.000	0.023	0.000	0.013
Cross Section Dependence	Pesaran	0.000	0.000	0.000	0.000
SOBs	Test	Equation 3	Equation 4	Equation 5	Equation 6
Heteroskedasticity	Modified Wald	0.000	0.000	0.001	0.000
Heteroskedasticity	Breusch-Pagan	0.953	0.436	0.001	0.112
Autocorrelation (AR1)	Woolridge	0.000	0.003	0.000	0.017
Autocorrelation MA (q) (at default lag 2)	Cumby-Huizinga (Arellano-Bond)	0.199	0.201	0.369	0.201
Cross Section Dependence	Pesaran	0.3292	0.299	0.917	0.323
PCBs	Test	Equation 3	Equation 4	Equation 5	Equation 6
Heteroskedasticity	Modified Wald	0.000	0.000	0.000	0.0000
Heteroskedasticity	Breusch-Pagan	0.000	0.000	0.000	0.0000
Autocorrelation (AR1)	Woolridge	0.000	0.000	0.000	0.0000
Autocorrelation MA (q) (at default lag 2)	Cumby-Huizinga (Arellano-Bond)	0.000	0.023	0.000	0.018
Cross Section Dependence	Pesaran	0.000	0.000	0.011	0.004

Note: * p-value <.05 indicates significance at 5% and presence of the problem.