

INTERNATIONALIZATION AND PERFORMANCE: EVIDENCE FROM BANGLADESHI BANKS

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ABSTRACT

Internationalization of banking institutions has been more evident to a greater extent recently due to the advancement of technology and global inter-connectedness of the business world. As the 'engine of economic growth' banks are the dominant players in Bangladesh financial market. Due to quick market saturation, highly competitive domestic market and need for innovation, banks in Bangladesh are tending to move towards international market. Using six financial performance measures and five internationalization variables, this paper examines the impact of different internationalization dimensions on financial performance of the banks. The study estimates 18 models on panel data of 35 scheduled banks for 2005 to 2014 using Dricoll-Kraay, Prais-Winsten alongside Fixed and Random Effect estimation techniques. Findings suggest that net effect of internationalization is on average negative for all banks however it is significantly negative for the SOBs compared to PCBs. The paper also finds that physical presence in foreign countries, level of internationalization banks place themselves and age of international operation have significant impact on most of the performance measures. This paper contributes to existing literatures by: using new dimensions to define internationalization, examining impact on six different performance measures, being the first study on internationalization of Bangladeshi banks, and generating some unique findings.

JEL classification codes: M16, M20, N20, F23, G20, L10

Key words: Internationalization, Degree of Internationalization, International Banking, Profitability, International Entry, International Expansion

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INTRODUCTION

Banks are considered as the engine of economic growth. While globalization is creating a borderless one global village for commodities and businesses, banks are one step ahead in this mission. This is because fund mobilization and delivery of banking products and services globally has become inevitably easier due to the advent of advanced technology. Bangladesh has an emerging economy where banking industry is considered as the major player as it mobilizes the largest amount of fund in the economy. The banking sector in Bangladesh is facing its fourth generation wave currently with seemingly reducing growth opportunity. In the advent of highly competitive market locally, exploring foreign market for better growth and business opportunity appears to be a promising alternative for Bangladeshi banks. Many of them have been showing consistent performance with respect to international banking activities for a fairly long period. Bringing innovation in products, services and operational aspects with global experience, banks with greater international exposure in Bangladesh can become more competitive, tap the untapped, deliver entrepreneurs and corporations with global quality solutions, and improve their risk-return trade-off.

Given this state, this paper aims to examine the impact of internationalization on financial performance of Bangladeshi banks. This study is going to contribute to the existing research and literature in few very important ways: (i) almost all available literatures define international banking in terms of 'foreign presence abroad' however this research, following a new approach, defines it using a wide variety of indicators, (ii) a set of new variables have been used to define 'degree of internationalization' in this research which would contribute to broaden the concept of internationalization by academics worldwide, (iii) a set of six financial performance measures have been used to understand the impact thoroughly while none of the existing literatures has used such large and comprehensive set as of now, and (iv) while there are a number of literatures on internationalization of banks especially on European and Latin American countries, this research is going to be the first contribution on bank internationalization issues in Bangladesh, (v) as a first study on internationalization issue on Bangladeshi banks, this would significantly help the scheduled banks to improvise their policies and strategies in practice and also the regulators to look into the internationalization issues with concrete insight to improvise the legal framework.

REVIEW OF LITERATURE

International banking is defined as the cross-border and cross-currency banking transaction operated by a commercial bank. The currency of denomination for transaction, customers' residence and booking office location of banks distinguish a commercial bank from pure domestic banking activity (Trivedi, 2012). Internationalization involves international banking through corresponding banking, agency banking, foreign branch, foreign subsidiaries and consortium banking. Some literatures measure internationalization based on the availability of presence of banks in foreign countries through subsidiary, branches etc. that are discussed in following sections. However, a broader conceptual definition of international banking involves all ranges and ways how a bank delivers international banking products and services to domestic or international clients either staying at home or reaching out into foreign countries (Trivedi, 2012). This research uses the broader and widely acceptable definition of internationalization – ranging from having a foreign trade product, offshore services at home to having collaborations, branches, joint ventures or subsidiaries abroad – all are considered as different forms of international banking activities performed by the Bangladeshi banks.

The concept of internationalization is constantly being explored, leading to different forms of results and theories within this area of research. Form of international exposure, strategy and drivers seem to be different for different types of organization. Literature has found that multinational banks (MNB) differently interact with internationalization compared to multinational enterprises (MNE), i.e. manufacturing firms, and thus a different set of explanations related to internationalization by banks have been observed (Cunha and Boehe, 2008). This chapter reviews the literature on internationalization of banks including its determinants, modes of international exposure, theoretical underpinning behind internationalization and its relationship with financial performance of the banks.

Determinants and Incentives of Internationalization

A number of factors work as incentives of internationalization for a particular bank. Generally, saturated domestic market, innovation in financial product, regulatory reforms, information technology advancement, globalization trend of international trade are major factors working behind the decision for international banking. According to Hollensen (2008), there are two sets of reasons of internationalization of a company: (i) Proactive - Profit and growth goals, Technology competence/Unique product, Economies of scale; Cost reduction, Foreign market opportunities/Market information, Managerial urge, Access to resources, and (ii) Reactive - Competitive pressures in the domestic market, Domestic market small and saturated, lowering sales, Overproduction/excess capacities, Unsolicited foreign market orders, Extend sales of seasonal products, Proximity to international customers, and psychological distance.

For many banks, diversification has always been an incentive to internationalize that can reduce the level of risk significantly. Jones (1993) studied multinational banks having no equity links to domestic British banks and concluded that they were established outside Britain in nineteenth century only from the motivation of geographical diversification. Geographical diversification and a higher ratio of foreign to total operations leads to a lower variability of earnings to book value and thus supporting internationalization as risk reducing attempt for banks (Rugman, 1976). Of course, internationalization may not reduce market risk and hence banks may be negatively affected by international expansion during financial crises (Berger et al., 2015). Internationalization in terms of higher foreign asset holding increases both cost and risk however in such cases banks enjoy higher market power at home country. A single case study on Brazilian BancoReal, reveals that the major motivation to internationalization was to develop its competitive advantage over its domestic competitors (Cunha and Boeche, 2008). Canals (1997) marked customer service and resource transfer as the main incentives for international activity whereas Tripe (2003) argued profitability as the noteworthy reason behind international expansion. A study on Malaysian banks produced “following the domestic clients” and “market seeking motives” as the driving forces of international expansion into the market where national clients have business operation (Rahman and Anuar, 2011). This result is also consistent with Lensink and Hermes (2004) who identified following the clients (defensive expansion), attractiveness of the host markets, imitation of competitors, reduction of capital cost, and risk diversification as the motivations for internationalization of banks. Differential regulation, cultural distances (Goldberg and Saunders, 1981; Mutinelli and Piscitello, 2001; and Li and Gusinger, 1992) are also found to be as motivations for decision to internationalize. Yuliya and Adela (2012) suggested following customers, increasing market power and high profitability as incentives of internationalization.

In addition, some firm specific factors such as adequacy of the institution's capital base, the institutional risk base, technology base, quality of human resources, information and market accessibility, management culture, quality of entrepreneurship are also suggested as essential attributes for exploiting the opportunities of internationalization (Porter, 1985; Canals, 1997; and Smith and Walter, 1997). This concept is

also supported by Cunha and Boech (2008) where they found that Banco Real could take the advantage of international exposure based on superior resources and capabilities.

However, some macro and industry related factors also motivate banks to go international. A study conducted by Amungo (2014) on factors influencing decision to enter foreign market and choice of entry mode examining five Nigerian banks shows that foreign market entry was triggered by the success of banking sector reforms in Nigeria, a shift in the strategic scope of the banks and a desire to exploit tangible and intangible assets in less developed but profitable banking markets. Again immense increase in trade, foreign direct investment, financial market globalization and liberalization, free convertibility of the banks worked as driving forces in the worldwide spread of foreign banking activities (Bonin et al., 1998). In a study on US banks having branch banking operation in Asia- Pacific countries, tax system, differential interest rate, barriers in entry, market imperfection in host country, governmental regulations, size and structure economy and financial market, skill and availability of human resource of host country are identified as the major drivers of taking internationalization decisions (Cho, 1986).

Modes of Foreign Entry and Exposure

There are a number of entry modes to go international for a bank including having foreign assets, liabilities and investments, correspondent banking, agency banking, foreign branch, foreign subsidiary, consortium banking, placing resident representatives, and joint venture establishments (Trivedi, 2012). Entry mode choice to foreign market is influenced by several factors as identified by (Amungo, 2014) which includes the level of control a firm seeks, the amount of resources it is ready to commit as well as the level of risk it is willing to take. In a more structured approach, a three dimensional matrix of “Client –Arena–Product” (CAP) framework can be used by banks for developing strategies of internationalization (Smith and Walter, 1997).

Although many literatures suggest “following clients abroad” as a defensive expansion approach, there are wide ranges of options to enter into a new market and implement foreign banking activities (Brimmer and Dahl, 1975). A good number of studies support that degrees of penetration is an important determinant of organizational forms along with regulation and institutional factors. Teschoegl (2001) stated that representative offices, agencies, branches and subsidiaries are primarily used as mode of internationalization by banks. In a study of 44 banks of 8 countries, Slager (2005) revealed two specific major modes in organizational form: branch network, and alliances and joint ventures for bank internationalization. Ceruttiet et al. (2007) confirms that branch is more attractive choice than subsidiaries due to the advantage of avoiding higher corporate tax, ease of repatriating profit and lesser market opportunity available in poor countries. On the other hand, although it involves higher investment commitment, acquisition is the most sufficient and identical mode of entry provided that bank has significant experience and knowledge about the new market (Yuliya and Adela, 2012). But both branches and subsidiaries are highly cost-intensive (Buch et al., 2011). Therefore, it is important to note that correspondent banking is the only option of exporting banking services without physical presence abroad although it is a poorer form of internationalization (Khoury, 1998).

Internationalization and Bank Performance

A number of literatures offer a variety of theoretical perspectives and empirical measurement approaches on the relationship of internationalization and bank performance. Out of 17 studies on the relationship between Degree of Internationalization (DOI) and financial performance, 6 shows positive, 5 negative and remaining 6 finds no relationship between the two (Sullivan, 1994). Such mixed relationship is also evident from the study of Hejazi and Santor (2005). This implies that DOI and firm performance is not always positively related though theoretically it is assumed that firm’s performance is enhanced by internationalization. In reality, sample size, measurement approaches of DOI, and the measures of performance used play a crucial role in such relationship. Hejazi and Santor (2005) in their study on Canadian banks over the period 1994 to 2004 found a significant positive relationship between DOI and performance but it was weak due to increased risk through internationalization. Slager (2005) argued that internationalization doesn’t have praiseworthy contribution to profitability and hence shareholders cannot gain through investment with the banks having international activities. Buch et al. (2011) in his study found that foreign presence in a large number of foreign countries is more likely to be negatively related to the banks benefit which means diversification benefits are compensated by the costs of maintaining a large international banking network. Using CAMELS rating approach on two large banks of Nordic and Baltic Sea region and Germany - Nordea and SEB, Antonsson and Arrhenius (2011) found very low rating which means those banks had good performance but required “little supervision”. In addition to Banks, the drop in financial performance due to internationalization is also evident across different service oriented firms in a broader scale (Capar and Kotabe, 2003; Katrishen and Scordis, 1998).

Although impact on profitability is mixed, there are other benefits as well. Diversification benefit has been common which is relatively more evident through better risk-return trade-off due to internationalization.

Literatures on commercial banks of United States also confirm these findings as institutions with more geographical diversification is likely to have better risk-return trade-off (Berger et al., 2000; Goldberg, 2001; Buch et al., 2010). Moreover, Internationalization allows banks to understand domestic market using international experience and contribute to improved performance (Kobrin, 1991).

There have been a great number of literatures on the banking sector of Bangladesh. Much of the focus of those has been on the performance issues of banks with different aspect, status and management of NPL, implementation and growth of e-banking etc. But after an extensive search, no single research has been found centered on internationalization of banks in Bangladesh even though the banks here are no longer confined to domestic operation. This study mainly focuses on international exposure of banking institutions currently operating in Bangladesh.

METHODOLOGY

Sample and Data

Among the total 56 scheduled banks operating in Bangladesh, 9 foreign commercial banks have been excluded since this study is focused on how the Bangladeshi banks are engaged in international banking activities. One state-owned specialized bank and one state-owned commercial bank have been excluded due to data unavailability. Moreover, 9 completely new commercial banks (beginning operation in 2013) have been excluded due to their very limited age of business. One private commercial bank was excluded for severe inconsistent data due to its business restructuring. Therefore, finally, a total of 35 scheduled banks including 29 Private Commercial Banks (23 Conventional plus 6 Islamic) and 6 State-owned Banks (5 commercial plus 1 specialized) have been surveyed. To acquire required data, a detailed questionnaire was administered to survey the 35 banks physically from May to December, 2015. The list of banks surveyed is provided in Appendix.

Data Accuracy and Verification

For all banks, long hour discussions with top level management members such as Vice Presidents or Heads of International Operation and/or Foreign Exchange Operations were made. Data accuracy re-checks and verification has been conducted by a second tier telephonic discussion with each of the respondents. A third tier verification was made accessing and acquiring necessary secondary information from Annual Reports, Newspapers and other published documents.

Model Design and Specification

Identification of variables for 'Internationalization' in this study is particularly crucial. Some variables of degree of internationalization have been identified based on literatures (Buch et al., 2011) and others are authors' selection based on logical arguments and available data. We have designed the following relationship:

$$Fp = f(LOI, FEtypes, FCpresence, IEage, Fclink, Banksize)$$

Where, Fp = Financial Performance which we measure by six well known and widely used ratios:

Return on Equity (ROE) = Net Income/Total Equity

Return on Asset (ROA) = Net Income/Total Asset

Net Profit Margin (NPM) = Net Income/Total Revenue

EBPT Margin (EBPTM) = Earnings before Provision and Tax/Total Revenue

OCF to Equity (OCFEQ) = Operating Cash Flow/Total Equity

OCF to Asset (OCFASS) = Operating Cash Flow/Total Asset

Level of Internationalization (LOI): Level of Internationalization is defined by at what level of internationalization a particular bank is operating at this moment. The 7 layers of internationalization are developed based on level of financial and fixed investment commitment, existence of physical presence, degree of vision to reach global clients, and degree of risks associated with the international exposures. These progressive layers of internationalization for banking sector is developed and used in this study following Rubaeva (2010) and Andersen (1993) that used similar idea for manufacturing industries, and Johanson and Wiedersheim-Paul (1975) in his classic study on international investment. Layers in this research for bank internationalization are defined as below:

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

When a particular bank has multiple layer involvement, the superior or higher layer involvement has been considered for the bank internationalization while estimating the model.

Modes of Exposure (FEtypes): This is defined as: in how many layers a bank is engaged. Layers have already been defined above. Therefore, this variable would count the number of modes banks are engaged in international banking activities.

Physical Presence in Foreign Countries (FCpresence): This variable considers the total number of foreign countries where banks have physical infrastructure and presence worldwide. Physical presence has been considered if banks have any of the following form: (i) Branch, (ii) Joint Venture (iii) Subsidiary. This variable is also used in different literatures (Cerutti, 2007; Buch et al., 2011; Teschoegl, 2001).

Age of International Exposure (IEage): This variable is measured by counting for how many years a bank is engaged in international banking activities starting from the first time inception of such activity.

Foreign Country Linkage (FClink): It is measured by the number of Foreign Countries with which banks have linkage virtually or physically.

Bank Size (ASSbr): The size of the banks is measured by Total Asset. Size of the banks may also be measured by number of total branches. Therefore a combined approach has been used measuring Total Asset per Branch. Moreover, since generating profitability from all branches largely depends on assets utilized for every branch for a bank, this variable is more logical compared to using only total asset. However, as the amount of Total Asset per Branch is large, log of these values have been used.

Using the above performance measures, we estimate the following 6 models for 3 separate groups: (i) all 35 Banks, (ii) 29 Private Commercial Banks and (iii) 6 State-owned Banks to examine the impact on public and private sector banks separately. Hence, we estimate total 18 equations for 3 groups in this paper

$$ROA_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (1)}$$

$$ROE_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (2)}$$

$$EBITM_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (3)}$$

$$NPM_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (4)}$$

$$OCFEQ_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (5)}$$

$$OCFASS_{it} = \alpha + \beta_1 \log ASSbr_{it} + \beta_2 LOI_{it} + \beta_3 FEtypes_{it} + \beta_4 FCpres_{it} + \beta_5 IEage_{it} + \beta_6 FClink_{it} + \epsilon \text{ ----- (6)}$$

To decide on the appropriate estimation technique, we run necessary diagnostic tests for all 18 equations and the p-values of the tests are reported below:

(i) **Group 1: All Banks (Table-1)**

TABLE 1. DIAGNOSTIC TESTS FOR MODEL CORRECTNESS - ALL BANKS

Test for	Test	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Model Selection	Hausman	0.126	0.5045	0.0000	0.0923	0.6315	0.0001
Primarily Suggested Method		Random Effect	Random Effect	Fixed Effect	Random Effect	Random Effect	Random Effect
Heteroskedasticity	Breusch-Pagan	0.0000*	0.0000*	0.0000*	0.0000*	0.0002*	0.0000*
Autocorrelation (AR1)	Woolridge	0.1215	0.0192*	0.9247	0.5268	0.088	0.062
Autocorrelation MA (q)	Cumby-Huizinga (Arellano-Bond)	-	0.2447 at q=1	-	-	-	-
Cross Section Dependence	Pesaran	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000
Final Estimation Method Used		Prais-Winsten CSE	Prais-Winsten CSE, (psar1)	Prais-Winsten CSE	Prais-Winsten CSE	Prais-Winsten CSE	Prais-Winsten CSE

Note: * significance at 5% indicating presence of the problem.

(ii) **Group 2: Private Commercial Banks (Table-2)**

TABLE 2. DIAGNOSTIC TESTS FOR MODEL CORRECTNESS – PCBS

Test for	Test	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Model Selection	Hausman	0.5018	0.8898	0.3129	0.1894	0.9529	0.4469
Primarily Suggested Method		Random Effect	Random Effect	Random Effect	Random Effect	Random Effect	Random Effect
Heteroskedasticity	Breusch-Pagan	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0662
Autocorrelation (AR1)	Woolridge	0.0000*	0.0012*	0.0000*	0.0000*	0.0000*	0.1947
Autocorrelation MA (q)	Cumby-Huizinga (Arellano-Bond)	0.0034* at q=7	0.2447 at q=1	0.8074 at q=1	0.9262 at q=1	0.2692 at q=1	0.0992 at q=1
Cross Section Dependence	Pesaran	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*
Final Estimation Method Used		Driscoll-Kraay SE, MA(7)	Prais-Winsten CSE, (psar1)	Prais-Winsten CSE, (psar1)	Prais-Winsten CSE, (psar1)	Prais-Winsten CSE, (psar1)	Prais-Winsten CSE

Note: * significance at 5% indicating presence of the problem.

(iii) **Group 3: State-owned Banks (Table-3)**

TABLE 3. DIAGNOSTIC TESTS FOR MODEL CORRECTNESS – SOBS

Test for	Test	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Model Selection	Hausman	0.1006	0.8242	0.0016	0.3361	0.0487	0.0343
Primarily Suggested Method		Random Effect	Random Effect	Fixed Effect	Random Effect	Fixed Effect	Fixed Effect
Heteroskedasticity	Breusch-Pagan	0.0002*	0.0000*	0.0000*	0.0000*	0.7298	0.4305
Autocorrelation (AR1)	Woolridge	0.3768	0.1277	0.0000*	0.0001*	0.2397	0.1064
Autocorrelation MA (q)	Cumby-Huizinga (Arellano-Bond)	-	-	0.2512 at q=1	0.2951 at q=1	-	-
Cross Section Dependence	Pesaran	0.0565	0.8293	0.5094	0.3621	0.5790	0.0991
Final Estimation Method Used		RE, (robust)	RE, (robust)	FE, (robust, cluster)	RE, (robust, cluster)	FE	FE

Note: * significance at 5% indicating presence of the problem.

Table-1, 2 and 3 clearly explains the problems each of the models suffer from and final estimation method followed to minimize all the problems associated with different models. The primary estimation method that should be used for this panel data has been determined using the Hausman test between Fixed Effect and Random Effect methods. It is noteworthy that for Group 1, all models suffer from heteroskedasticity and cross section dependence with Model-2 having first order autocorrelation in addition. Therefore, we estimate model-2 using Prais-Winsten Correlated Panels Corrected Standard Error estimation (PCSE) method with panel specific autocorrelation of first order (pasa1). We estimate other models using the similar Prais-Winsten PCSE without specifying any correlation order. The Prais-Winsten PCSE can tackle the problems of heteroskedasticity and cross-section dependence in addition to first order autocorrelation if specified. Based on the diagnostic results, we estimate all models for group-2 except model-1 using Prais-Winsten PCSE as these models suffer from heteroskedasticity and cross-section dependence but no autocorrelation. We proceed for testing for whether this higher order autocorrelation is in moving average nature MA (q). The Cumby-Huizinga test (Baum and Schaffer, 2013) using Arellano-Bond technique, suggests the existence of moving average autocorrelation up to lag order q=7 only for model-1 of group-2. To manage this MA(7) in addition to heteroskedasticity and cross-section dependence, we estimate this model using Driscoll-Kraay Standard Error regression technique. For group 3, all model suffers from Heteroskedasticity while in addition, only model 3 and 4 suffers from autocorrelation of order one (AR1). No cross section dependence is observed for any of the models. We estimate model 1 and 2 using basic Random Effect method using *vce*, *robust* to tackle their only problem of heteroskedasticity while model 3 and 4 are estimated using Fixed Effect and Random Effect respectively with both *robust* and *cluster* options that can correct the problems of both heteroskedasticity and autocorrelation of order one (AR1). As none of the problems is associated, model 5 and 6 are estimated by Fixed Effect method as suggested by Hausman test result. Note that Feasible Generalised Least Square Method (FGLS) also is an alternative method that can be used when models suffer from all three heteroskedasticity, autocorrelation (AR1) and cross section dependence problems but we do not use it since FGLS is feasible only when number of panel is less than time period ($N < T$). For group 1 and 2, $T > N$ and hence FGLS is not applicable while for group 3, although here $N < T$, FGLS is not needed since no cross-section dependence is identified for any of the models. We also found no presence of multicollinearity (mean VIF: 2.25 for Group-1, 2.32 for Group-2, 5.00 for Group-3). It is notable that for none of the models except model-1 of group-2, MA(q) is identified.

Data Characteristics

Banks under this study are heterogeneous in terms of both financial performance and internationalization variables. Asset per branch is as minimum as 0.126977 million USD and also there are banks with 142.87087 million USD. The mean profitability shows that although banks earn very high Earnings before Provision and Tax (EBPTM), it wipes away significantly and the remainder is reflected by ROA, ROE and NPM. This indicates the distortion effect of large amount of loan provisioning which drains the profitability of the banks every year. In fact, for many of the banks, this provisioning is rising.

TABLE 4. Descriptive Statistics of Performance Variables: All Banks

Variable	Observations	Mean	Std. Dev.	Min	Max
Return on Equity (ROE)	350	0.156045	0.730798	-4.46451	11.85179
Return on Asset (ROA)	350	0.010852	0.01191	-0.10279	0.051777
Net Profit Margin (NPM)	350	0.073222	1.072298	-12.2954	7.047085
EBPT Margin (EBPTM)	350	0.504718	1.389816	-1.94525	13.84973
OCF to Total Equity (OCFEQ)	350	0.452846	1.115214	-7.65368	8.46712
OCF to Total Asset (OCFASS)	350	0.034607	0.066071	-0.39654	0.47076
Asset per Branch (ASSbr)	350	13.799975	9.982365	0.126977	142.87087

Source: Survey data of this research.

TABLE 5. Descriptive Statistics of Internationalization Variables: All Banks

Variable	Obs	Mean	Std. Dev.	Min	Max
No. of Foreign Operation Layers (FEtypes)	350	2.4028	1.2302	0	5
No. of Foreign Countries in Linkage (FClink)	350	65.588	49.300	0	200
No. of Countries with Physical Existence (FCpresence)	350	0.6885	1.2077	0	5
Highest Level of International Operation (LOI)	350	3.9914	2.299	0	7
Age of International Operations (IEage)	350	16.76	10.518	0	42

Source: Survey data of this research.

As we can see that there are banks having wider link with 200 countries. The zero values indicate that our data period is 2005 to 2014 and there are some banks that started international banking activities from a year in between this data period leaving the previous years as zero. We can see that the average age of international banking experience in the industry is about 17 years. Banks also have the highest layer of international operation as we defined earlier indicating the value 7 for “Fully or majority owned subsidiary”.

ANALYSIS, RESULTS AND DISCUSSIONS

We present the estimation results by each group: All Banks, PCBs only and then SOBs.

Group – 1: All Banks

TABLE 6. ESTIMATION RESULTS FOR ALL BANKS

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Variables	ROA	ROE	EBPT Margin	NPM	OCFEQ	OCFASS
ASSbr	0.000 * (.0042) [.0008]	0.362 (.0595) [.0653]	0.078 *** (-.3152) [.1791]	0.003* (.5897) [.1958]	0.392 (-.0776) [.0907]	0.526 (-.0057) [.0090]
FClink	0.148 (-.0000) [.0000]	0.263 (.0039) [.0035]	0.031 ** (-.0020) [.0009]	0.660 (.0002) [.0004]	0.221 (.0017) [.0014]	0.248 (.0001) [.0001]
FCpresence	0.768 (.0002) [.0008]	0.355 (.0768) [.0830]	0.017 ** (-.1883) [.0790]	0.704 (.0142) [.0374]	0.034 ** (.1077) [.0508]	0.301 (.0028) [.0028]
Fetypes	0.137 (-.0014) [.0010]	0.440 (.0958) [.1242]	0.640 (.0280) [.0600]	0.006 * (-.1127) [.0413]	0.754 (.0223) [.0712]	0.508 (-.0026) [.0040]
LOI	0.259 (.0007) [.0006]	0.248 (-.0843) [.0730]	0.006 * (.1152) [.0423]	0.116 (.04026) [.0256]	0.150 (-.0627) [.04353]	0.706 (-.0007) [.0019756]
IEage	0.088 *** (-.0001) [.0001]	0.209 (-.2342) [.5373]	0.058 *** (-.0090) [.0048]	0.065 *** (.0070) [.0038]	0.413 (.0070) [.0086]	0.628 (.0002) [.0004]
Constant	0.031 (-.01259) [.0058]	0.469 (-.3929) [.5430]	0.042 (2.5068) [1.2356]	0.003 (-3.9212) [1.3138]	0.230 (.8720) [.7265]	0.273 (.0731) [.0666]
R Squared	0.5828	0.4140	0.4583	0.5394	0.3262	0.3174
N	290	290	290	290	290	290

Notes: * significant at 1%, ** significant at 5% and *** significant at 10%.

Figures in 1st bracket indicate coefficients and in 3rd bracket indicate standard errors.

Return on Asset, EBPT Margin and Net Profit Margin are significantly affected by asset per branch while for other performance measures found to be insignificant. Sign of impact is mixed as ROA and NPM are positively affected while EBPTM is negatively. It is usually expected since more asset per branch means larger bank size with the ability to capture more market share which in turn contributes to profitability positively. Both NPM and EBPT are income statement based measures and result suggests that negative impact on EBPT is reversed on NPM. This may be due to reduced loan provisioning overtime by the banks through improvement in loan recovery and administration and reduction in Non-Performing Loans. There are evidences recently that banks have improved significantly in lowering NPLs and classified loans although there still room for improvement. There are enormous literatures and evidences that Total Asset (measure for size) and Total Branches (measure for coverage and size) significantly affect the profitability of banks at the country or cross-country level. However, to see from a little different view, in this research, both these parameters have been combined to generate Total Asset per Branch. The logic is that for total profitability of a bank, every branch must be operating with adequate profitability where the amount or level of asset utilized for a branch is one of

the major determinants of profit generation by that branch. As we can see, although ROA is significantly affected, ROE has no significance of Asset per Branch indicating that ROE does not depend on coverage and asset size held by banks. This may indicate that many banks especially state owned banks have a large number of branches that have smaller asset invested (physical resources for example, office space, office equipment etc.) per branch but still generate relatively greater profit than those branches having larger asset in place. Validating this point, we can find no significance of asset per branch with cash generation by the banks (no significant impact on OCF to equity and OCF to asset).

Total number of foreign countries (FCLink) linked with the banks' international operation network is found to be insignificantly affecting the financial performance of the banks only except EBPTM. This indicates that earnings of the banks in terms of its total service revenue is insignificant on average however the negative impact on EBPTM certainly indicates some tendency that profit of the banks may not be increasing rather decreasing with expansion in international banking network. This finding of FCLink on earnings is well supported by Foreign Country Physical Presence (FCpresence) where the FCpresence variable shows significant negative impact on EBPTM. Of course, FCpresence has a positive impact on OCF to Equity ratio (OCFEQ). This indicates that physical existence with large investment in foreign countries (for example, opening subsidiary companies, branches) may have a positive contribution to generate higher cash flow over time but effectively it significantly reduces the earning performance through lowering EBPTM. This is probably because such physical presence is highly cost-sensitive (Buch et al., 2011) and it may decline profitability of higher operating cost. This is a notable finding which means banks having greater number of countries with physical presence are experiencing its negative effect on their earnings. As the survey data of this study shows, three-fourth of Bangladeshi banks have already had such physical presence internationally and therefore, perhaps are inherently loosing from their physical presence in other countries as they are not contributing in the bottom-line effectively. Such finding is evident from a case study of ICB Islami Bank in Bangladesh which had to close down its foreign operation 4 years loss after experiencing continuous loss.

Evidence of significant negative impact on earnings due to internationalization is further demonstrated by the variable FEtypes (the number of types of international banking or products banks offer). Findings suggest that larger number of ways in becoming internationally linked and expanding their international activities in fact significantly reduces their bottom line – net profit after tax. This is so critical because returns to all stockholders effectively depends on the size of the net profit and result suggest that FEtypes in reality reduce return to the stockholders. NPM means the share of net profit in total service revenue. Growing number of foreign activities may generate increased total service income however significantly increased operational expenses may essentially have a negative impact on the net profit margin.

The LOI (highest layer of internationalization a bank engaged with) is highly significant and having positive impact on the EBPTM of the banks. It shows at least some signal that banks engaged in higher level of internationalization experience enhanced profitability. This is logical since usually banks move towards foreign countries where higher profit and business generation opportunity exists. And before taking any such action, they rigorously assess how much opportunity exists there so that they do not fail. Therefore, banks having different levels of engagement are already well-justified from business point of view and they are doing well.

On the other hand, usually, the more experienced a bank in its business, the higher is supposed to be its efficiency and effectiveness and thus maximizing net benefit in terms of cost-benefit measures due to learning curve effect. But result suggests that the experience or age of serving through international products, services and operation reflected by IEage variable, is having significantly mixed impact on the bottom lines of the banks. The impact is found to be strongly significant on two measures of profitability: ROA and EBPTM while negative on NPM. This has very important implication reflecting that over time, banks might have failed to take significant learning and expertise from their international operations. Since the IEage variable is measured by number of years banks have passed since the launching of international banking activities, as time went by, banks failed have learning curve effect to enhance their business and operational performance rather this age of international operation shows negative impact on ROA and EBPTM. Moreover, it also indicates that as time passes, many factors associate with the increased international activities may have an average negative impact on profitability. However, a positive impact on NPM may be due to the distortion effect of provisioning for classified loans and NPLs, and taxes. It can be seen that ROE and NPM are better explained by the variables used in the estimations for PCBs.

Group-2: Private Commercial Banks (PCBs)

We examine the findings estimating the models only for Private Commercial Banks (PCBs) and the results are below:

TABLE 7. ESTIMATION RESULTS FOR PCBS

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Variables	ROA	ROE	EBPT Margin	NPM	OCFEQ	OCFASS
ASSbr	0.208 (-.0014) [.0011]	0.044** (-.1509) [.0750]	0.483 (-.0902) [.1286]	0.466 (-.0467) [.0641]	0.275 (-.5460) [.5000]	0.390 (.0058) [.0067]
FClink	0.665 (-0.0000) [0.0000]	0.088 *** (-.0003) [.0002]	0.680 (.0018) [.0044]	0.811 (.0004) [.0017]	0.816 (.0004) [.0017]	0.749 (.0000) [.0001]
FCpresence	0.009*** (.0006) [.0002]	0.463 (.0107) [.0146]	0.134 (-.1338) [.0894]	0.105 (-.0624) [.0385]	0.057*** (.1479) [.0776]	0.546 (.0017) [.0029]
FEtypes	0.000* (.0014) [.0002]	0.253 (.0217) [.0190]	0.390 (-.1275) [.1485]	0.569 (-.0454) [.0797]	0.526 (.05667) [.0893]	0.436 (-.0034) [.0044]
LOI	0.056 *** (-.0003) [.0002]	0.898 (.0017) [.0132]	0.074*** (.1838) [.1028]	0.070*** (.0950) [.0525]	0.128 (-.0944) [.0620]	0.975 (-.0001) [.0023]
IEage	[0.022] ** (-.0001) [.0000]	0.015** (-.0064) [.0026]	0.576 (-.0039) [.0070]	0.373 (-.0054) [.0061]	0.429 (-.01158) [.01465]	0.827 (.0001) [.0004]
Constant	0.007 (.0220) [.0075]	0.022 (1.2696) [.5562]	0.289 (.8438) [.7962]	0.240 (.4344) [.3701]	0.226 (4.5542) [3.7576]	0.967 (-.0021) [.0511]
R Squared	0.4819	0.3918	0.4216	0.4068	0.3400	0.3263
N	290	290	290	290	290	290

Notes: * significant at 1%, ** significant at 5% and *** significant at 10%.

Figures in 1st bracket indicate coefficients and in 3rd bracket indicate standard errors.

Asset per branch is negative to ROE indicating lesser profitability against the asset invested of per branch by the PCBs. FClink shows negative impact on ROE suggesting that more number of international linkage has been draining profitability. If we compare with the results of all banks (group-1) and can see that FClink had similar impact on profitability. This suggests that it truly has a draining impact. As we find, increased FCpresence causes improvements profitability and cash flow generation as it shows significant positive impact ROA and OCF to Equity. Previous results for all banks also support this result where this variable had greater coefficient on profitability. However, the finding on LOI graduation by banks have strong positive impact on EBPTM and supports the findings from the all bank estimation although there is some sign of negative impact on ROE. In addition, there is no affect found for any internationalization variable on OCF measures. It can be seen that ROE and EBPT are better explained by the variables used in the estimations for PCBs.

Group-3: State Owned Banks (SOBs)

We estimate the models for only State Owned Banks and the results are as follows:

TABLE 8. ESTIMATION RESULTS FOR SOBS

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Dependent Variables	ROA	ROE	EBPT Margin	NPM	OCFEQ	OCFASS
ASSbr	0.000 * (.0068) [.0013]	0.115 (.1187) [.0752]	0.000 * (2.5947) [.2622]	0.000 * (1.0962) [.2209]	0.310 (.4899) [.4769]	0.004 * (.0973) [.0322]
FClink	0.361 (-.0000) [.0000]	0.000 * (.0120) [.0030]	0.783 (-.1220) [.4190]	0.485 (.0023) [.0032]	0.530 (.0811) [.1283]	0.339 (-.0084) [.0087]
FCpresence	0.020 ** (.0042) [.0018]	0.112 (-.2051) [.1289]	0.912 (.0159) [.1371]	0.101 (.3472) [.2117]	0.569 (.5629) [.9820]	0.744 (-.0217) [.0663]
FEtypes	0.001 * (-.0119) [.0037]	0.449 (.10151) [.1342]	0.544 (.2670) [.4109]	0.013 ** (-1.0702) [.4298]	0.760 (-.4218) [1.3741]	0.961 (.0045) [.0927]
LOI	0.024 ** (.0018) [.0008]	0.452 (-.0851) [.1131]	0.320 (-1.677) [1.5179]	0.006 * (.3217) [.1173]	0.026 ** (-3.6487) [1.5887]	0.918 (-.0111) [.1072]
IEage	0.092 *** (.0002) [.0001]	0.001 * (-.02634) [.0080]	0.029 ** (-.4527) [.1491]	0.067 *** (.0474) [.0259]	0.581 (-.05797) [.1043278]	0.895 (-.0009) [.0070]
Constant	0.001 (-.0211) [.0066]	0.525 (-.4149) [.6531]	0.675 (18.4501) [41.4895]	0.000 (-7.0591) [1.1836]	0.333 (13.2699) [13.5691]	0.719 (.3310) [.9156]
R Squared	0.3923	0.3740	0.4193	0.3455	0.3005	0.3263
N	60	60	60	60	60	60

Notes: * significant at 1%, ** significant at 5% and *** significant at 10%.

Figures in 1st bracket indicate coefficients and in 3rd bracket indicate standard errors.

For SOBs, asset per branch on an average has a significant positive impact on almost all measures of performance. However, the increase in number of countries in their international banking portfolio as well as physical set-up and operational presence in foreign countries show a strong positive and significant impact on ROE and ROA respectively although for other measures they are insignificant. This is at least an indication that SOBs are able to boost profitability through their international banking activities. However, the more SOBs become diversified in terms of number products they offer or number of ways they engage in international banking activities represented by FEtypes, it significantly contributes in draining profitability (ROA and NPM) for them. The LOI, the highest layer of internationalization a bank has, shows on average positive impact on profitability enhancing ROA and NPM however, simultaneously it does show a negative effect on operating cash flow (OCFEQ) perhaps due to higher cash outflow incurred in attaining higher level of internationalization. Age of international banking activities shows a mixed impact on profitability as it shows significant positive impact on ROA and NPM while having negative impact on ROE and EBPTM. It can be seen that ROA and EBPT are better explained by the variables used in the estimations for SOBs.

To clearly understand the overall effect of internationalization we summarize the effects in the following sections.

Net Effect of Internationalization

We calculate the net effect of internationalization combining the different impacts found for each group. For each model of each group, we add the coefficients of the significant internationalization variables the result in net significant effect of internationalization on banks:

TABLE 9.NET EFFECT OF INTERNATIONALIZATION (NET COEFFICIENT VALUE)

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
<i>Dependent Variables</i>	ROA	ROE	EBPT Margin	NPM	OCFEQ	OCFASS
All Banks	-0.0001	0	-0.0841	-0.1057	.1077	0
PCBs	0.0016	-0.0067	0.1838	0.095	0.1479	0
SOBs	-0.0057	-0.01434	-.4527	-0.7011	-3.6487	0

Table-9 shows that for all banks, net effect is negative as different significant internationalization variables have net negative coefficient value for ROA, EBPTM and NPM with a marginal positive effect on cash flow indicator OCFEQ. This profitability reducing net impact of internationalization is also strongly supported by all the way negative coefficients for SOBs on 4 major financial performance variables. PCBs are on average performing significantly better in terms of improvement in profitability by internationalization of their banking business except for ROE. This finding is logical since private commercial banks (PCBs) are completely profit driven entities while state owned banks (SOBs) are not. Faced with higher degree of competition, PCBs engage in business where considerable profit opportunity is available and thus move to international destinations based on potential market opportunities. They are on average more efficient and effective in managing banking operations and utilizing resources compared to SOBs. SOBs in Bangladesh, as they are state owned, are often poorly managed with severe lack of dynamism, crippled with very high Non-Performing Loans, face frequent interventions from the government and have a consistent history of large scale loss-making over the years. There evidences that government banks (e.g. Agrani Bank Limited) have closed down their foreign operation as they have been incurring loss consistently. Therefore, PCBs are able to accrue more benefits from dynamically expanding and managing business internationally.

We can infer that internationalization, from an overall scale, has negative effect on the financial performance of the banking sector in Bangladesh. The negative effect is perhaps due to the overriding high magnitude negative effect of SOBs over the relatively less magnitude positive impact of the PCBs.

Internationalization Variables and Summary of their Impacts

TABLE 10. INTERNATIONALIZATION VARIABLES AND THEIR SUMMARIZED IMPACT

	Fclink	FCpresence	FETypes	LOI	IEage
All Banks	1 EBPTM (-)	2 EBPTM (-), OCFEQ (+)	1 NPM (-)	1 EBPTM (+)	3 ROA (-), EBPTM (-), NPM (+)
PCBs	1 ROE (-)	2 ROA (+), OCFEQ (+)	1 ROA (+)	3 ROA (-), EBPTM (+), NPM (+)	2 ROA (-), ROE (-)
SOBs	1 ROE (+)	1 ROA (+)	2 ROA (-), NPM (-)	3 ROA (+), NPM (+) OCFEQ (-)	4 ROA (+), ROE (-), EBPTM (-), NPM (+)

*Notes: * sign in the parenthesis indicate direction of impact. Number in cells indicate number of performance variables significantly affected by a particular internationalization variable and sign in parenthesis shows the direction of the effect.*

Overall, for all banks, this study finds that internationalization variables have relatively lesser or no effect on ROE for across all groups however ROE shows strong effects separately for PCBs and SOBs.

Different internationalization variables have much greater and stronger influence on income based performance measures. On the other hand, internationalization variables have very minimal impact on cash flow based performance measure of the banks where only OCF to Equity shows some responsiveness. When segregated, the results of PCBs clearly shows dominating the results of all banks group in terms of number of performance variables affected and its direction. The overall positive impact of internationalization is led by primarily age of international banking (IEAge), layer of internationalization (LOI) and foreign country physical presence (FCpresence) for the PCBs while ROA is the main variable that experienced impact from 4 out of 5 internationalization variables.

For SOBs, ROA and NPM are mostly influenced by the internationalization variables followed by some effect on ROE and EBPTM. Table -10 clearly shows that age of international banking, layer of internationalization where banks place themselves and physical presence in foreign countries are the most influencing variables compared to other two dimensions of internationalization. Although foreign country presence seems to be cost intensive, for both SOBs and PCBs FC presence shows positive impact on ROA. If we look at each group separately more FC presence indicates global reach to customers which enhances its profitability. However, when estimated for all banks, the effect reverses on EBPTM while impact on ROA is insignificant. The negative effect on profitability indicators may arise due to management inefficiency and shocks such as adverse changes in banking regulations, operating with losses etc. (e.g. EXIM Bank Limited and Agrani Bank Limited closed down their money exchange houses in Australia and UK due to huge loss; the exchange houses were subsidiaries of the banks). However, although the overall effect is negative, more than half of the banks studied do not have any FC presence and thus we may prefer the separate results for PCBs and SOBs since they provide more particular outcome. We notice that FC link shows negative impact over profitability for all bank estimation and PCBs while for SOBs the effect is positive. The Bank age and experience (IEAge) in foreign operation may have a strong linkage in this finding since most of the SOBs are vastly experienced for almost 35-40 years and all of them have international operation since inception. From that perspective, PCBs are relatively new and have limited age of foreign operation.

Finally, considering the number of performance variables significantly impacted by internationalization, the direction and magnitude of the impact, as described in table-9 and table-10, we find that on average net magnitude of effect of internationalization is negative while there are also substantial evidences of positive influences. The positive impact is basically evident for PCBs and negative impact is overwhelmingly evident for SOBs. However, the overall impact appears with negative magnitude of net burden from internationalization.

CONCLUSION

Internationalization can reduce performance has a number of literature supports (e.g. Slager, 2005; Antonsson & Arrhenius, 2011) and our findings also support them using a wider set of performance and internationalization variables. However, some studies show positive impact of internationalization on banks (Hejazi & Santor, 2005; Sullivan, 1994). Our research, examining the impact of five internationalization variables on six financial performance measures, suggests that the impacts are wide and diverse across performance measures and internationalization variables. Internationalization better explains ROA, EBPT margin and NPM across bank groups. However, on average, the net effect of internationalization is negative resulting in net burden on the overall banking sector. As PCBs are more sophisticated and well-managed, this research finds that PCBs are gaining highly from internationalization while SOBs are losing in contrast. But interestingly, the overall effect is negative when combined indicating, perhaps, overriding effect of SOBs. Therefore, this research suggests that the process and strategies of internationalization must be reassessed by the banks, for example: any expansion of internationalization should be done through cost-effective channels such as offshore activities, agent banking or correspondent banking, and in some particular cases Branch network etc. Although the research does not directly respond to government policy aspects, it is suggested that Bangladesh Bank – the central bank of Bangladesh must look into the rising trend and age of bank internationalization in Bangladesh. It should have a little watch over the cost-intensive international expansion of the banks so that banks can better manage such foreign operations. Moreover, due to globalization, the internationalization pace is expected to be faster in the coming days and hence Bangladesh Bank should begin to think and design appropriate policy framework and guidelines to facilitate a resilient bank internationalization wave. While doing so, the riskiness must be well-considered by the regulator and thus proper supervision must be placed so that banks do not internationalize heavily in an unbalanced manner and later suffer from potential international financial crises.

APPENDIX

TABLE 1. LIST OF BANKS SURVEYED

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

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