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Post-Initial Public Offering Performance Drift: Evidence from Bangladesh

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This paper examines if there is any post-IPO performance drift in the stock market of Bangladesh using five different performance indicators. We use 300 firm-year observations of 50 IPO firms from the period of 2009 to 2014, compiled from the annual reports and prospectuses of these firms. The results show that there is a statistically significant decline in performance measured by operating ROA after going public. The results may indicate the 'window dressing' of the accounting numbers in the pre-IPO period.

Keywords: Initial Public Offering, Operating Performance, Alpha, Prospectus, Agency Theory.

JEL Classification: M41, E44, G14, G32

I. INTRODUCTION

Public limited companies are considered as vital organs of emerging economies like Bangladesh. They contribute towards building a more substantial capital market and strengthening the economy of the country. In December 2019, the Dhaka Stock Exchange (DSE) market capitalisation to Gross Domestic Product (GDP) was recorded at only 12 per cent, which was as high as 50.7 per cent in 2010. This ratio of the DSE market capitalisation to GDP is now the lowest in comparison to the emerging Asia-Pacific countries. Analysts suggest that it is essential to increase the participation of the private sectors to enlist themselves in the share markets of Bangladesh to improve this deteriorating scenario. To be enlisted in the share market, the first formal requirement is to go for an Initial Public Offering (IPO). In simple words, IPO is the process through which firms offer their shares to the institutional and individual investors publicly to gather capital, hence, giving these firms the status of a public limited company. Several reasons like expansion of business, meeting up non-current liabilities, gaining

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more visibility in the society, etc. are cited as some of the common impetus behind a firm becoming publicly listed. Before the IPO issuance, a prospectus is made publicly available to familiarize the potential investors with the offering companies. In fact, it is sometimes compared with the advertisement of the IPO committing firms towards the investors. The prospectus contains a considerable amount of information about the company, both financial and non-financial. The majority of the pre-IPO scenarios of the firms are demonstrated through the prospectus that usually contains the financial statements of at least the last two years prior to the commencement of the IPO. Before investing in IPO, investors have to assess the future profitability and operational effectiveness of the firms in the post-IPO years. Thus, investigating the changes in the operating performance of Bangladeshi companies when they make the transition from private to public ownership through IPO is of utmost interest to the individual investors in Bangladesh.

This paper compares the pre-IPO financial information with the next three post-IPO scenarios of the firms that went for IPO in Bangladesh. In order to do that, five important performance indicators are taken into consideration that captures both operational effectiveness and profitability of the firms after the IPO incidents. Next, the paper tests the significance of the changes in the post-IPO values of the collected indicators and draws a conclusion on different industries on how they performed after their IPO. If any significant deviation is observed in any one of these five indicators, further analysis is carried out mainly focusing on that variable on industry-to-industry comparison basis. It is believed that through this analysis, the post-IPO drift scenario in Bangladesh could be better understood by the policymakers and, most importantly, by the potential investors in the stock market. However, the presence or the extent of earnings management before the public offerings is beyond the scope of this paper. In short, this paper attempts to answer the following questions:

1. Is there any drift¹ in the growth rates of the operating performance and profitability indicators of the firms after the IPO incident in Bangladesh?
2. Does the agency theory hold true in the post-IPO performance scenario in Bangladesh?

¹Performance drifts can be either upward or downward. Thus, post-IPO drifts can go either in favour or against the interest of the investor. This paper shows the drifts in the form of a percentage change from the pre-IPO years.

Contributions of this paper arise from the fact that post-IPO performance drift has remained an unexplored area of research in the context of Bangladesh so far. This paper tries to fill this gap in research showing the post-IPO performances of sample firms taken from almost all the industries listed in the DSE and the Chittagong Stock Exchange (CSE). One of the untouched avenues of IPO scholarship in the context of Bangladesh is the employing/identification of agency theory and examining whether the hypothesis coined by the agency theory holds acceptable or not. Touching the agency hypothesis is another significant contribution of this paper. The authors believe that this paper will contribute to reducing the existing research-gap concerning the post-IPO operating performance drift in the context of an emerging economy like Bangladesh. To the best of the authors' knowledge, only a nominal number of researches have been conducted in the subject matter of IPO in Bangladesh, and most of these studies focused on underpricing, initial return and flipping (Hoque and Musa 2001, Islam 1999, 2014, Islam, Ali and Ahmad 2010, Islam and Munira 2004).

The rest of the paper is organised as follows. Section II illustrates the IPO performance literature in the context of Bangladesh as well as in the global context. Besides, this section briefly discusses the agency theory, which has been taken as the underlying theoretical framework of this research. Section III describes the data sources, while section IV explains the methodology. Section V presents and discusses the findings of the study. Finally, section VI concludes the paper.

II. LITERATURE REVIEW

Research on IPOs is not new in the field of accounting and finance. Over the last few decades, many research works have been conducted at the national and international levels on different aspects of IPO. Jain and Kini (1994) first explored the post-IPO operating performance of the firms. On the other hand, DeGeorge and Zeckhauser (1993) examined the operating performance of a particular type of IPO firms called reverse leveraged buyouts (LBOs) a few years prior to Jain and Kini. LBOs are the offering of shares publicly by a company which was previously re-privatised through leveraged buyout. Jain and Kini (1994) studied the US market and stated that the operating performance of a firm significantly declines subsequent to IPO. And, the decline is more salient for the companies which offer a higher percentage of ownership to the public than those of the holdings of the existing entrepreneurs or owners. They identified three major incentives which lead to the decline in the operating performance after IPOs. Increase in the agency

cost leading to the poor performance of IPO firms was the first argument delivered to support their conclusion. Second, window dressing the accounting numbers before going public also prove the companies to underperform in the post-IPO years. As most of the companies go for window dressing activities before IPO, after the issuance process the real situation of the company becomes crystal clear to the investors. Hence, a massive fallout in the stock price is experienced. These window dressing activities not only lead to the overstated performance in pre-IPO years but, unfortunately, these also contribute to the underperformance of the firm in the subsequent years. The third point argued by Jain and Kini focuses on the behavioural aspects of the managers of the IPO firms where they attempt to go for IPO at the time when the firm is performing well above the industry average and as the IPO formalities are complete the expected performance of the company declines even below the industry average.

Ritter and Welch (2002) put some reasons other than the expansion and meeting up of debts behind the firms going public. They mentioned that IPO creates the opportunity for the founders and initial shareholders to convert some proportion of their wealth into cash, and some non-financial reasons like increased publicity of the firms may increase the value of the firm. Their study on the US market also found that in the 1980s, only 19 per cent of the firms had negative earnings before going public, but this gradually increased to 37 per cent between 1995 and 1998. Zingales (1995) also argued that by going public, founders find a way for their company to acquire a higher value than what they would get from an outright sale. Chemmanur and Fulghieri (1999) stated that it is optimal for a firm to go public when its size becomes satisfactorily large. Lucas and McDonald (1990) developed an asymmetric information model, where they suggested that the firms delay their equity issue if they could understand that they are currently undervalued. Thus, it is clear that maximizing the company value is an authentic reason behind the firms going public. Unfortunately, in most of the cases, the firms underperform in the subsequent years, and the objective is not fulfilled accordingly in the long run.

Chan, Sit and Tong (1996) studied 110 IPOs that were floated in Hong Kong from 1990 to 1992 and found that the forecasted earnings reported in the prospectus, commonly termed by them as prospectus earnings forecasts (PEF), were quite significant for assessing the quality of the IPO candidates. Chen *et al.* (2001) found similar importance being given to the information contents in the prospectus. They showed that IPO candidates in Hong Kong include forward-looking earnings information in their prospectus, which is used as the basis by the

investors to decide whether to subscribe to the new issue or not. This information also measures the value of the IPO perceived by the investors. Cohen and Dean (2005) found that the legitimacy of the top management of the IPO firms is an essential signal of value to the potential IPO investors in the presence of significant information asymmetry between current owners of the firms and prospective IPO investors. On the conservative focus of reported earnings in the prospectus by the IPO firms in the United Kingdom, Ball and Shivakumar (2008) pointed that higher earnings reported may draw attention from the regulators and other policymakers, which may lead to unexpected scrutiny of the IPO firms. Gounopoulos (2011) studied IPOs of the Athens Stock Exchange and identified three factors that significantly affect the nature of the earnings forecast, such as company age, inside ownership, and the classification of the concerned industry. On the contrary, Rahim *et al.* (2013) listed seven variables in the context of Malaysia, of which offer size and the over subscription ratio (OSR) produced a significant impact on post-market flipping. However, the phenomena might be different based on the economic structure of the country being studied.

Coming to the IPO scenario in Bangladesh, it was observed by the Share Market Inquiry Committee in 2011 that out of a wide array of IPO issues, only a handful amount of the floats was intended towards exploiting the marginal investors (Dube 2012). Meanwhile, an earlier study on IPO underpricing in Bangladesh, Islam (1999) found that the initial average return was 116% in the IPO market, while it was very low in the secondary market. Hoque and Musa (2001) showed the presence of underpricing analogous to the Islam (1999) study and said that there is an abnormal initial return to the investors due to the issue price restrictions imposed by the Bangladesh Securities and Exchange Commission (BSEC). Islam and Munira (2004) studied IPOs flipping in Bangladesh and found 177% flipping in the very first quarter after the initial trading, and there was a presence of negative influence of the size of the issue on this observed flipping. Islam, Ali and Ahmad (2010) also found that 87 per cent of times, there was underpricing of IPOs, and in only 11 per cent cases, they observed overpricing. A study conducted recently by Islam (2014) found that there is a significant positive influence of offer size, method of issue, market capitalisation, oversubscription rate, float, underwriter's reputation, and ownership retention on the short run IPO underpricing. Interestingly, they observed insignificant influence of size of the firm and offer timing on the level of IPO underpricing, and they noticed the signalling theory to be the deciding theory behind the IPO underpricing phenomena in Bangladesh.

In the existing literature of corporate governance, agency theory and agency cost are two important terms that are frequently used and well cited to support the findings of the analysis. In this paper, the agency theory has been used as the underlying theoretical framework to support the findings regarding post-IPO performance drift of the firms enlisted in the DSE and CSE. Discussion on the idea behind the agency theory leads to think the institutional and individual shareholders of the IPO issuing companies as the “Principles” and the managers inside the companies as the “Agents.” The Agents are supposed to undertake actions that should maximize the wealth of the Principles. But due to the opportunistic behaviour of the managers of the IPO firms, the wealth (proxied by post-IPO performance in this case) of the shareholders declines and hence the term “Agency Cost” is introduced. Jensen and Meckling (1976) argued that the agency problem arises as the management ownership declines when a firm goes public. This phenomenon occurs due to a conflict of interest between the initial owners and the shareholders. Thus, the managers become more inclined to increase their perquisite consumptions than to the actual benefit of the shareholders as a whole. An example of perquisite consumption can be the usage of the proceeds from the IPO in non-value maximizing projects. Jensen and Meckling's (1976) agency hypothesis and Leland and Pyle's (1977) signalling hypothesis claim that the operating performance of firms follows the managerial ownership retention rate of the firm. According to the agency hypothesis, incentives to undertake non-value maximizing projects are less where there is higher ownership retention by managers. Thus, this paper also tests the hypothesis whether higher ownership retention by managers leads to better post-IPO performance in the context of Bangladesh or not.

III. DATA SOURCES AND SAMPLE DESCRIPTION

The initial sample of this study comprised the firms that committed IPOs from 2009 to 2014. Fifty-eight companies fulfilled the following criteria to be considered as the sample for this paper: (1) non-bank firms, (2) non-insurance firms, and (3) none of them having any kind of mutual funds or any real estate investment trusts. The financial sector of Bangladesh is excluded/left out due to its different regulatory and compliance frameworks. To illustrate, banking sector is regulated by the Bank Company Act 1991 and different SROs issued time to time by the Bangladesh Bank, while non-bank financial institutions and insurance companies are left out as they are regulated under different acts, such as Financial Institution Act 1993, Insurance Act 2010, etc. To focus on the non-financial sector

of Bangladesh only, this study dropped a rather closely regulated financial sector from the sample. All the necessary data were compiled from the respective prospectus and annual reports of the selected companies. A total of 50 firms were finally taken as the sample of this study based on the availability of information on the internet.

TABLE I
SAMPLE SUMMARY STATISTICS

Panel A: Number of Issues Per Year		
Year	Total Number of Issues	Issues Considered in the Study
2009	6	4
2010	7	5
2011	6	5
2012	8	8
2013	14	12
2014	17	16
Total	58	50
Panel B: Characteristics of IPO Samples		
Descriptive Measure	Mean	
No. of shares issued (million)	26.8	
Alpha (%)	.61	

The summary statistics regarding the sample is shown in Table I. As can be seen from Table I, the maximum number of firms committed IPOs during the year 2014. The proportion of the equity of the firm retained by the original owners, even after the issuance of IPO, is denoted by *Alpha*. The mean value of Alpha being 61% suggests that the existing original owners continue to retain a handsome stake in the companies even after the issuance of IPOs. This particular figure helps identify the dominance of family members in the board of directors of the IPO firms in Bangladesh, and this dominance might lead to underperformance or drift in the post-IPO periods. This has been investigated in this study comparing the post-IPO performance of the firms that had average Alpha of more than or equal to 61% and less than 61% (see Table II).

The industry-wise sample statistics is described in Table II, in terms of average number of shares issued and the average values of Alpha.

TABLE II
INDUSTRY-WISE SAMPLE STATISTICS

Name of the Industry	Number of Companies	Avg. No. of shares issued (in millions)	Average Alpha
Textile	15	29	.64
Engineering	10	26.9	.61
Pharmaceuticals & Chemicals	8	18.93	.63
Others	5	25.62	.51
Food & Allied	3	22.1	.36
Fuel and Power	3	21.2	.73
Telecommunication	2	50	.87
Travel and Leisure	2	40.5	.71
Cement	2	21	.53

The financial data for total five years for each firm were collected to apply the procedures to generate the comments. The year in which the firm offered IPO was considered the Year 0. The previous year of offering IPO was considered Year -1. And the three post-IPO years were identified as Year +1, +2 and +3, respectively. The data for year -1 and 0 were collected from the prospectus issued by the firms. And the data for the next three years were collected from the next three consecutive audited annual reports. The values of total 14 variables have been collected for every firm for each of the five years to calculate various measures of performance. All the variables are summarised in Table III.

TABLE III
VARIABLES TAKEN UNDER CONSIDERATION

1. Sales	8. EPS
2. Cost of Goods Sold	9. Total Asset
3. Gross Profit	10. Total Equity
4. Operating Expense	11. Total Liability
5. Operating Profit	12. Non-Current Liability
6. Finance Cost	13. Operating Cash Flow
7. Net Profit	14. Capital Expenditure

IV. METHODOLOGY

To measure the post-IPO performance drift of the 50 IPO firms, we calculated the following five performance measures widely used in Accounting and Finance: (1) operating return on assets, (2) operating cash flows deflated by total assets, (3) gross profit ratio, (4) net profit ratio, and (5) operating expense to sales ratio. The significance of taking these variables as the performance measures is briefly described below:

Operating return on assets: This variable is computed by dividing the operating income (before depreciation and taxes) by total assets at the end of the fiscal year. Operating income is calculated by subtracting the cost of goods sold, selling, and general and administrative expenses from the net sales. This variable is widely used as the operating performance measure for firms.

Operating cash flows deflated by total assets: This variable is used to determine the efficiency of asset utilisation of a company. Operating cash flow is divided by the total asset to determine the value of this variable. Cash flow is a primary component to calculate the firm value through the net-present-value method. Thus, the operating cash flow deflated by assets is a good indicator of operating performance.

Gross profit and net profit ratio: These ratios have been taken to check the effect of finance cost, depreciation, tax, and other administrative expenses of the firms after they become public.

Operating expense to sales ratio: This ratio is determined by dividing the sales amount from operating expenses. The pattern of this ratio, over the years, can tell us the trend of operating expenses in relation to the sales. This ratio is an effective measure of operating performance considered in this type of studies.

The data for five years has been taken for each of the firms where $Y = -1$ represents the year prior to the IPO issue. $Y = 0$ represents the issue year of the IPO, and $Y = +1, +2$ and $+3$ represents the next three subsequent years. $Y = -1$ has been considered as the base year throughout this study. The percentage changes in each of the variables compared to the base year -1 are used to comment on the overall change in the operating performances of the selected firms.

This study observed the results in three different levels, by categorising the observations according to various groups, to check the results more precisely. First, the change in the operating performance has been observed in Table V, considering all the 50 firms which offered IPOs from 2009 to 2014. Second, a more in-depth

observation has been done. In this stage, we have categorised the firms according to their respective industries under which they operate. And then, we have identified the change in the operating performance for each of the industries separately along with their level of significance and corresponding p-value. The firms have been separated into six groups. Finally, the companies were again divided into two groups based on their values of Alpha, and their performances are depicted in Table VII.

V. FINDINGS

5.1 Descriptive Statistics

It is essential to get an overall idea on how the sample firms performed under different performance indicators from Year -1 to Year +3. As can be seen from Table IV, in terms of the Operating ROA figures, there are clear evidence of declining performance and post-IPO performance drift. The operating cash flow shows increased values in the post three IPO years, but it grew at a decreasing rate which should be considered as well. Gross profit and net profit ratio maintained positive growth after the IPO year, but this might be the result of a corresponding increase in the capital expenditure and investment in new ventures by the firm. One important thing to look at here is the last indicator which is Operating Expense to sales Ratio. This ratio increased after the IPO year, but it should be kept in mind that an increased value of this indicator implies poor performance by the managers to control the expenditures required to generate a subsequent increase in sales. So, a declining ratio would be a more favourable indicator of a strong control over the operating expenditure of the firm. Therefore, after a close scrutiny of the descriptive statistics, it can be inferred that the operating performance of the sample firms showed a mixed pattern of performance drift after the IPO incident. While important variables like ROA and Operating Expense to sales ratio are indicating a poor performance, gross profit and net profit ratio are showing a rather good performance sign. As this study considered sample firms from almost all the industries, a mixed result is evident here. So, the presence of window dressing and earnings management is difficult to establish under these diverse circumstances.

TABLE IV
SUMMARY STATISTICS OF THE PERFORMANCE INDICATORS

Performance Indicators	Measure	Year -1	Year 0	Year 1	Year 2	Year 3
Operating Return on Assets	Mean	20.47%	23.22%	21.86%	21.80%	21.57%
	Std. Dev.	14.01%	14.61%	14.10%	13.29%	12.79%
Operating Cash Flow to Total Asset	Mean	1.20%	4.98%	5.88%	5.32%	5.02%
	Std. Dev.	9.95%	10.15%	8.92%	10.46%	8.89%
Gross Profit Ratio	Mean	28.74%	30.82%	30.61%	31.23%	30.84%
	Std. Dev.	17.05%	17.86%	17.56%	16.96%	16.50%
Net Profit Ratio	Mean	12.81%	13.79%	15.52%	17.29%	15.59%
	Std. Dev.	14.51%	12.51%	13.63%	13.74%	12.72%
Operating Expense to Sales Ratio	Mean	8.49%	9.02%	8.24%	9.07%	9.64%
	Std. Dev.	8.87%	10.78%	7.40%	8.03%	8.39%

5.2 Evidence on Overall Operating Performance Changes

The mean changes in the operating performance of the IPO issuing firms from 2009 to 2014, as a whole, are shown in percentage form in Table V. Year -1 has been considered as the base year in all the cases. Panel 1 of Table V reflects the decreasing rate of increase in the operating return on assets of the firms. In Year 0, the operating return on assets was 3.17 per cent higher than the base year, but in year three, the ROA was only 0.19 per cent higher than the base year-1. The results point to the declining performance of the IPO firms in terms of Operating ROA, although statistically these drifts were not found to be significant. This panel has been further analysed in the next section. A separate sectoral analysis of the operating ROA variable will help identify the direction of drift on an industry level.

Panel 2 in Table V reflects the changes in cash flows to total assets. The indicator has increased in the post-IPO years relative to the base year. However, the increase in year +3 was less than Year 0 (3.45% compared to 3.81%). It indicates that the sample firms maintained their performance relative to the base year, and statistically, these drifts were significant.

As can be seen from panel 3 of Table V, the gross profit ratio of the firms experienced a downward drift in the post-IPO periods. It increased by 2.62% in the Year 0, while in Year +3 this amount increased by merely 0.79% higher after the issuing year. The gross profit ratio had a negative change in Year +1 (-0.04%), which indicates that the firms could not sustain this rise in the gross profit margin

immediately after the issuing Year 0. But statistically, these values are not significant.

Panel 4 shows that in the post-IPO years, net profit ratio has increased quite remarkably compared to the base year. The first three values are statistically significant and hence prove that the profitability of the sample firms increased in the post-IPO years. So, it is not appropriate to generalize that all firms performed poorly after going for IPO in Bangladesh. However, it is suspected that the decline in the operating expenses to sales ratio caused the net profit ratio to be higher although this cannot be supported unanimously as the values are not statistically significant in panel 5.

Thus, the above discussions imply a declining performance in the category of ROA but not in other indicators. So, it is not directly justifiable to assume that there has been the presence of window dressing activity prior to the IPO commencement. Instead, the findings show that most of the indicators maintained the pre-IPO growth rate except the operating ROA.

TABLE V
**OPERATING PERFORMANCE OF THE OVERALL IPO FIRMS UNDER
STUDY**

Measure of Operating Performance (Mean)	Year Relative to Completion of IPO			
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
Panel 1: Operating Return on Assets				
<i>Mean in Year -1 = 20.4%</i>				
Mean Change (%)	3.17	.02	1.28	.19
P-value	.007*	.425	.604	.981
Panel 2: Operating Cash Flow to Total Asset				
<i>Mean in Year -1 = 1.17</i>				
Mean Change (%)	3.81	4.13	3.94	3.45
P-value	.023*	.008*	.004*	.027*
Panel 3: Gross Profit Ratio				
<i>Mean in Year -1 = 28.74%</i>				
Mean Change (%)	2.62	-0.04	2.39	0.79
P-value	.068	.267	.148	.735

(Contd. TABLE V)

Measure of Operating Performance (Mean)	Year Relative to Completion of IPO			
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
Panel 4: Net Profit Ratio				
<i>Mean</i> in Year -1 =				
Mean Change (%)	1.48	1.93	4.56	2.30
P-value	.020*	.025*	.006*	.201
Panel 5: Operating Expense to Sales Ratio				
<i>Mean</i> in Year -1 = 12.81%				
Mean Change (%)	0.69	-0.73	-0.56	-3.17
P-value	.132	.655	.339	.121

Note:* denotes significance at 5% level for Wilcoxon Signed Ranks Test.

The values in the table represent the median and mean change/growth in variables measuring the operating performance, in percentage form, for 50 IPO firms during the period 2009 to 2014. The data have been collected from the prospectus and next three consecutive annual reports. Year -1 is the fiscal year which represents the preceding year from which the firm went public. And this year -1 has been considered the base year while calculating the percentage changes in the next years. Wilcoxon Signed Ranks Test is used to provide the P-values at 5% level of significance. In this case, all the mean values corresponding to Year -1 are compared with the mean values calculated in Year 0, Year +1, +2 and +3 pairwise.

5.3 Sectoral Analysis Focusing on Operating ROA

In continuation to the analysis derived from the earlier section, this section focuses on the sectoral analysis of the IPO firms based on the suspected indicator ROA that has shown some performance drift in the post-IPO years (see Table V). Starting from panel 1 in Table VI, the operating ROA declined gradually in the case of the textile industry. In panel 2, a decline occurred in Year +1 but subsequently recovered in the following years in the case of engineering industry. The operating ROA of the pharmaceuticals and chemicals industry, shown in panel 3, declined by 9.23% in the Year +3 from 15.62% in Year 0 compared to the base year. Panel 4, representing the food and allied industry, shows that the mean operating ROA was 6.43% lower in the third year compared to the base year. However, panel 5 shows that the operating ROA was 8% higher in the 3rd year than the base year. It means that the fuel and power industry was the best performing industry among the sample industries considered in this study. Finally, Panel 6, representing the rest of the industries, shows a dramatic fall in the ROA in the post-IPO years.

TABLE VI
SECTORAL ANALYSIS FOCUSING ON ROA

Measure of Operating Performance (Mean)	Year Relative to Completion of IPO			
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
Panel 1: Operating Performance Change in Textile Industry				
<i>Mean in Year -1 = 20%</i>				
Mean Change (%)	1.34	1.21	1.39	0.23
Panel 2: Operating Performance Change in Engineering Industry				
<i>Mean in Year -1 = 14.55%</i>				
Mean Change (%)	1.45	-0.99	1.86	1.77
Panel 3: Operating Performance Change in Pharmaceuticals and Chemicals industry				
<i>Mean in Year -1 = 18.06%</i>				
Mean Change (%)	15.62	5.22	9.79	9.23
Panel 4: Operating Performance Change in Food and Allied Industry				
<i>Mean in Year -1 = 23.05%</i>				
Mean Change (%)	2.96	-6.18	-2.52	-6.43
Panel 5: Operating Performance Change in Fuel and Power Industry				
<i>Mean in Year -1 = 27%</i>				
Mean Change (%)	1.39	2.14	.57	8
Panel 6: Operating Performance Change in Rest of the Industries				
<i>Mean in Year -1 = 28.76%</i>				
Mean Change (%)	-0.05	-1.02	-1.45	-5.59

The values in the table represent the sectoral mean change/growth in the variables measuring the operating ROA, in percentage form, for 50 IPO firms under consideration during the period from 2009 to 2014. The data have been collected from the prospectus and the next three consecutive annual reports. Year -1 is the fiscal year, which represents the preceding year from which the firm went public. And this Year -1 has been considered the base year while calculating the percentage changes in the next years.

Based on the above discussions and findings, it can be concluded that although the IPO offering firms had a lucrative operating performance change in the operating ROA in the Year 0, the issuing year, most of the industries shown above were not able to retain this growth in the next consecutive three post-IPO years. And, that is why the percentage changes in operating ROA indicator in the third year for these industries were less than that of the issuing year. But this finding does not hold in the case of the fuel and power industry as this industry recorded quite satisfactory growth in the post-IPO years. Due to mixed results, it is quite difficult to say whether this drift of operating ROA is due to window dressing activities or not. However, as discussed in the literature review section, the agency problem can be a potential reason for such kind of post-IPO drift. The next section sheds light on this issue.

5.4 Operating Performance Change When Split by Mean Alpha

A logical query might be why it is essential to go for splitting the analysis based on differential values of *Alpha*. The answer to this depends on the agency theory. In this study, the agency theory is used as the underlying theoretical framework, and this theory assumes that when a firm goes into public ownership, the performance may decline depending on the percentage of ownership retained by the original owners of the firm. If the rate of ownership retained by the original owners is very high (i.e., concentrated ownership), the motivation of the managers will be high to operate the firm more efficiently. On the other hand, if this percentage is low (i.e., more dispersed ownership), the firms' managers will not have the urgency to drive performance high. This happens due to the opportunistic behaviour of the managers to shrink or underperform intentionally when the ownership of the firm is dispersed among many small individual owners (Jensen and Meckling 1976).

In order to test the above arguments that are put forward by the agency theory, this section identifies the effect of agency cost in the operating performance by dividing the issuing firms into two groups. The first group contains the firms having the above average Alpha ($\geq 61\%$), and the second group includes the firms having below-average Alpha ($< 61\%$) values. Note that the average value of 61% in Alpha is calculated in Table I. Then the change in the operating performance has been compared to check whether there is any effect of this management ownership in the operating performance or not. The results presented in Table VII show that the firms with lower Alpha rate perform better than the firms having higher Alpha, though none of them is performing satisfactorily in the post-IPO

years. In other words, the firms with higher public ownership (*lower Alpha rate*) are performing comparatively better than the firms having higher family ownership (*higher Alpha rate*) in the post-IPO years.

TABLE VII
OPERATING PERFORMANCE OF IPO FIRMS SPLIT BY MEAN ALPHA

Measure of Operating Performance	Years Relative to Completion of IPO									
	-1 to 0		-1 to +1		-1 to +2		-1 to +3			
	Alpha ≥ 61%	Alpha < 61%	Alpha ≥ 61%	Alpha < 61%	Alpha ≥ 61%	Alpha < 61%	Alpha ≥ 61%	Alpha < 61%		
Panel 1: Operating Return on Assets										
Mean in Year -1=	≥ 20.61%	< 20.58								
Mean Change (%)			3.24	3.38	0.31	0.29	1.11	1.63	-0.06	0.37
P-value			.131	.024*	.407	.778	.849	.478	.459	.421
Panel 2: Operating Cash Flow to Total Asset										
Mean in Year -1=	≥ 1.23%	< 1.42%								
Mean Change (%)			3.90	3.60	4.20	3.90	4.01	3.85	3.46	3.14
P-value			.046*	.372	.088	.036*	.002	.433	.469	.011*
Panel 3: Gross Profit Ratio										
Mean in Year -1=	≥ 28.82%	< 28.90%								
Mean Change (%)			2.76	2.85	0.47	0.08	2.31	2.69	0.65	0.91
P-value			.228	.140	.391	.398	.409	.191	.840	.494
Panel 4: Net Profit Ratio										
Mean in Year -1=	≥ 13.01%	< 13.05%								
Mean Change (%)			1.53	1.45	2.04	1.91	4.59	4.71	2.23	2.38
P-value			.238	.033*	.376	.014*	.144	.004*	.904	.035*
Panel 5: Operating Expense to Sales Ratio										
Mean in Year -1=	≥ 8.44%	< 8.55%								
Mean Change (%)			0.80	0.78	-0.52	-0.72	0.64	0.48	-3.28	-3.36
			.304	.249	.977	.546	.328	.709	.065	.809

* denotes significance at 5% level for Wilcoxon Signed Ranks Test

The values in the table represent the mean change/growth in variables measuring the operating performance, in percentage form, for 50 IPO firms during the period from 2009 to 2014. All the observations have been divided into two groups based on the mean Alpha. Alpha represents the proportion of the ownership retained by the initial investors, even after the issuance of IPOs. The data have been collected from the prospectus and the next three consecutive annual reports. Year -1 is the fiscal year which represents the preceding year from which the firm went public. And this Year -1 has been considered the base year while calculating the percentage changes in the next years. Wilcoxon Signed Ranks Test is used to provide the P-values at 5% level of significance. In this case, all the mean values corresponding to Year -1 are compared with the mean values calculated in Year 0, Year +1, +2 and +3 pairwise.

Panel 1 of Table VII shows that the operating ROA decreased by 3.30% (-0.06 – 3.24) in the third year compared to the Year 0 for the firms with above-average values of Alpha, whereas the operating ROA decreased by 3.01% (0.37 – 3.38) in the third year for the firms with below-average values of Alpha. This indicates that the firms which distributed more proportion of their shares to the public performed better than the firms that retained a significant amount of ownership within the original family owners and management, although both groups experienced a sharp decline. The gross profit ratio, shown in panel 3, also decreased in a more significant percentage in the higher Alpha firms than the lower Alpha firms. Panel 4 shows that the net profit ratio increased in the 3rd year by 0.93% (2.38 – 1.45) in the lower Alpha firms, while it increased by 0.70% (2.23 – 1.53) in the higher Alpha firms. The Operating Expense to sales ratio shows that the higher Alpha firms were able to decrease this ratio by 4.08% (-3.28 – 0.8), while this rate of decrease was 4.14% (-3.36 – 0.78) in case of lower Alpha firms. This suggests that lower Alpha firms were able to reduce Operating Expense more than the higher Alpha firms, and this proves their higher level of operating efficiency.

Thus, the findings discussed above conclude that the assumption of the agency theory is not directly supported in the macroeconomic context of Bangladesh: the IPOs characterised by higher equity retention do not seem to perform substantially better than firms with lower levels of equity retention. Bonardo *et al.* (2007) found a very similar type of findings in the context of Italian IPO-firms in the period of 1995-1999.

The calculations using the mean as the measure of central tendency presented in table VII prove that the firms which retained more of the ownership within the initial owners or managers, even after the public offerings, did not outperform the firms which distributed a significant portion of the ownership to the public. The greater demand for information, greater demand for transparency, greater monitoring, etc. can be some of the reasons behind the better performance of the firms having more public ownership. Moreover, it is reasonable to assume that the governance quality cannot be appropriately maintained in the firms having greater family ownership.

VI. CONCLUSION

In an attempt to fill the gap of scholarly research in the post-IPO performance drift in Bangladesh, this paper analyses 50 IPO firms listed in the DSE and CSE during the period 2009-2014. To identify the drift in performance (both positive

and negative), five indicators have been thoroughly analyzed, and the results are mixed. While one indicator (operating ROA) shows a clear presence of post-IPO performance drift in the form of negative growth, other indicators show positive drift as well. Thus, in order to show whether the negative growth in operating ROA is present in all the industries or not, a separate sectoral analysis focusing on this indicator has been carried out. Results show that except for the fuel and power industry, all the major industries suffered from a pessimistic growth rate in their operating ROA. The study also found that the two important variables, gross profit ratio and net profit ratio, showed very optimistic performance among the sample firms, which indicates that the firms did quite well in the post-IPO years in terms of profitability. Numerous earlier studies based on different country settings including the United Kingdom and the United States documented that the operating performances of IPO firms decline in the post-IPO years. Findings of the present study, based on the firms in Bangladesh, are not entirely consistent with these studies. It happens as several firms, especially firms under the fuel and power industry, managed to sustain their operating performance in the post-IPO years. Hence, the post-IPO performance drift cannot be unambiguously supported under the reported findings based on the sample firms analysed in Bangladesh. The presence of earnings management and window dressing activities is difficult to establish under the given circumstances and beyond the scope of this study.

The agency theory, which is the underlying theoretical framework in this study, is tested as well using a measure called Alpha. Though previous studies documented that the operating performances of the firms decline as the public ownership increases, the scenario in Bangladesh is not consistent with these theories. The firms that distributed greater portion of the ownership to the public are found to be performing better than the firms which retained a higher portion of ownership to the existing owners and managers after the public offerings. Thus, the results derived in this study reject the hypothesis assumed under agency theory that highly dispersed public firms perform poorly after IPO incidents. Instead, it is found that the firms having more public ownership and less family control (denoted by lower Alpha) perform better than the firms with more concentrated ownership (denoted by higher Alpha). Thus, the dissatisfactory operating performance in the post-IPO years can hardly be considered the result of agency cost in the perspective of Bangladesh. It has significant implications in the IPO scholarship in Bangladesh. To the best of the authors' knowledge, no prior research shed light on IPO, particularly focusing on the concept of agency theory for the case of Bangladesh.

So, it is quite logical that a rational investor might ask, what is the exact reason behind the decline in the operating ROA? Based on the findings of this study, it is difficult to directly say that it is due to the presence of unethical financial statement manipulation. Rather, it might be the result of unprofessional behaviour from the managerial positions of those firms. Due to poor managerial performance in the area of operational effectiveness, most of the firms did showcase a pessimistic growth in their operating ROA. But investors might get confidence from the fact that the profitability measures of the IPO firms showcased a very optimistic growth rate in the post-IPO years, and it is definitely a good indicator identified in this study.

It is expected that this study will work as an impetus for future research to go for finding the presence of earnings management and window dressing activities prior to IPO issuance in the macroeconomic context of Bangladesh. One of the limitations of this study is that it did not analyse the financial sectors of Bangladesh. Further studies can be conducted in the perspective of the financial sector. These would help the investors to gather a holistic view of the post-IPO performance scenario in Bangladesh. The paper suggests undertaking investigative research to find out the exact reasons behind the invalidity of the agency theory in post-IPO drift in Bangladesh.

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