



## LIQUIDITY MANAGEMENT OF SELECTED PHARMACEUTICAL COMPANIES IN BANGLADESH: A COMPARATIVE STUDY

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### ABSTRACT

The concern of business owners and managers all over the world is to devise a strategy which will help in maintaining liquidity as well as to increase profitability and shareholders' wealth. Hence, it is of utmost important to keep a constant eye on liquidity position of the company as without it the company cannot survive. The main purpose of this paper was to measure and compare the liquidity position of selected pharmaceutical companies in Bangladesh. For this purpose, four corporations enlisted with the pharmaceutical industry of Dhaka Stock Exchange have been selected and the analysis covers a time period of 9 years viz: 2005 to 2013. For the purpose of investigation, purely secondary data are used. Statistical tools like: mean, standard deviation, co-efficient of variation, ratio analysis and Motaal's ultimate rank test have been applied to analyze the data. The study reveals that current assets, liquid assets and current liabilities of Square, Beximco, IBN Sina and GlaxoSmithkline showed a positive growth rate. Working capital position of Square, Beximco and GlaxoSmithkline showed a positive growth rate except IBN Sina whose working capital growth rate was negative which indicates unsound liquidity position. Average current ratio and quick ratio position of GlaxoSmithkline and Beximco found above satisfactory but those of IBN Sina and Square were far less than the ideal rule of thumb, i.e., 2 and 1, indicated an unsatisfactory liquidity position of the company during the years of study. On the other hand, according to Motaal's Ultimate Rank Test, the liquidity position of Beximco and IBN Sina seemed to be sound among the selected companies.

**Keywords:** Liquidity, Liquidity Risk, Profitability, Shareholder's Wealth, Working Capital.

### INTRODUCTION

Pharmaceutical is the core of Bangladesh's healthcare sector and serves as one of the most important manufacturing industries. Presently, the industry meets 97% of local demand and exports to more than 80 countries. The industry has been experiencing robust growth over the last few years (Annual Reports of Different Pharmaceutical Companies 2013).

Liquidity is the ability of a financial institution to honor all cash payment commitments as they fall due. The failure to meet payment obligations on time can trigger bankruptcy and gives creditors the right to take possession of the organization's assets. Liquidity risk is the risk which at some time an entity will not have enough cash or liquid assets to meet its cash obligations. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business (Bhunja 2010). Dilemma in liquidity management is to achieve desired tradeoff

between liquidity and profitability (Raheman and Nasr 2007). The recent trend is that many companies across different industries focus on working capital management efficiency (Barad 2010). According to Deloof (2003), the way that working capital is managed has a significant impact on profitability of firms.

It has also been proved that by minimizing the amount of funds tied up in current assets; firms can reduce financing costs and increase the funds available for expansion. Summers and Wilson (2000) report that in the UK corporate sector more than 80% of daily business transactions are on credit terms. Cote and Latham (1999) argued that the management of receivables, inventory and accounts payable have tremendous impact on cash flows, which in turn affect the profitability of firms. When there is a poor management of working capital, funds may be unnecessarily tied up in idle assets. It will affect profitability of the company (Panigrahi 2013).

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**Statement of the Problem:** Researchers found significant level of relationship between the profitability indices and various liquidity indices as well as working capital components (Quayyum 2011). Singh (2008) found that the size of inventory directly affects working capital and its management. Singh and Pandey (2008) studied the working capital components and found a significant impact of working capital management on profitability for Hindalco Industries Limited. As found by Lazaridis and Tryfonidis (2006), companies enjoy better pricing when they hold enough cash to purchase from own suppliers and thus they may enhance their profit. So, having enough liquidity also affects the profitability of the firm. The manager of a business entity is in a dilemma of achieving desired trade-off between liquidity and profitability in order to maximize the value of a firm (Padachi 2006). In particular, the profitability constraints were designed to capture the opportunity cost of excess liquidity (Agarwal 1988). The existence of an adequate liquidity and its careful management can make substantial difference between the success and failure of an enterprise. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meets its obligation (Eljelly 2004). Chakraborty (2008) evaluated the relationship between working capital and profitability of Indian pharmaceutical companies. He pointed out that, the inadequacy of working capital would keep fixed asset inoperative. In The theoretical importance of the working capital components over the profitability ratio is very clear that the lesser the time a firm needs to realize cash from its customers relative to the time it requires to pay off its creditors, the better it is for its liquidity position and thus reduces the risk of dependency on external and more expensive sources of capital (Besley et al. 1987). Furthermore, it is found from the above past studies that a very few studies have been conducted in Bangladesh and particularly no study have been conducted on the issue in Bangladesh. The present study is designed to measure the extent of liquidity management of pharmaceutical companies in Bangladesh. Keeping in view the importance of pharmaceutical sector in Bangladeshi's economic growth scenario, the study aims at evaluating the liquidity management of four leading pharmaceutical companies over a period of 9 years (2005 to 2013). More specifically the emphasis will be:

- (i) evaluating the management of working capital and its adequacy;
- (ii) comparing the liquidity position of the companies under study;
- (iii) finding out the areas of weakness in liquidity management and

(iv) providing suggestions to overcome the identified weaknesses and policy implications.

## MATERIALS AND METHODS

A sample size of four Bangladeshi pharmaceutical companies listed in DSE has been purposively selected for the study on the basis of their market share in this industry viz: (i) Square Pharmaceuticals Limited (ii) Beximco Pharmaceuticals Limited (iii) IBN Sina Pharmaceutical Industry Limited and (iv) GlaxoSmithkline Bangladesh Limited. The data for the study period 2005 to 2013 have been collected from secondary sources i.e., Annual reports of the selected companies. Editing, classification and tabulation of the financial data collected from the above mentioned-sources have been done by as per requirements of the present study. In case of financial analysis, current ratio and quick ratio have been used. To measure the liquidity status of firms Motaal's Comprehensive Test of Liquidity has been used. Motaal prescribes a comprehensive test for determining the soundness of a firm as regards liquidity position. According to him-a process of ranking is used to arrive at a more comprehensive measure of liquidity in which the following three ratios are combined in a point score:

- Working Capital (WC) to Current Asset

$$\text{Ratio} = \frac{\text{Working Capital} \times 100}{\text{Current Assets}}$$

- Stock to Current Asset Ratio =  $\frac{\text{Inventory or Stock} \times 100}{\text{Current Assets}}$

- Liquid Resources (LR) to Current Asset Ratio =  $\frac{\text{Liquid Resources or Quick Assets} \times 100}{\text{Current Assets}}$

## RESULTS AND DISCUSSION

### Profile of Companies under Study

*Square Pharmaceuticals Limited* was founded in 1958 by Samson H. Chowdhury along with three of his friends as a private firm. It went public in 1991 and is currently listed in Dhaka Stock Exchange. Square Pharmaceuticals Limited, the flagship company, is holding the strong leadership position in the pharmaceutical industry of Bangladesh since 1985 and it has been continuously in the 1<sup>st</sup> position among all national and multinational companies since 1985. Square Pharmaceuticals Limited has extended its range of services towards the highway of global market. It pioneered exports of drugs from Bangladesh in 1987 and has been exporting antibiotics and other pharmaceutical products. This extension in business and services have manifested the credibility of Square

Pharmaceuticals Limited and the company is now on its way to becoming a high performance global player.

**Beximco Pharmaceuticals Limited** is a part of the Beximco Group of Companies. The company was founded in 1976 and started operations in 1980, manufacturing products under the licenses of Bayer AG of Germany and Upjohn Inc. of USA. It has now grown to become a leading pharmaceutical company in Bangladesh and it supplies more than 10% of country's total drugs needs. Today Beximco Pharma manufactures and markets its own branded generics for several diseases including AIDS, cancer, asthma, hypertension, and diabetes for both national and international markets.

**The IBN Sina Pharmaceutical Industry Limited** was founded in 1983 in a campus of about 15 acres of land, about 56 km away from Dhaka city. The industry was established by the Trustee Board as a Limited company. Then it was converted into a public limited company in 1989. Now IBN Sina trust owns 50% share of the industry and the public shares the rest 50%. The commercial production was started on May, 1986 with only few standard finished pharmaceutical dosage forms. Since the beginning, IBN Sina was committed to provide high quality health care services in Bangladesh and within a very short period of time it achieved the target and fulfilled its commitment. It has also occupied a very prestigious position in the pharmaceutical field of Bangladesh for its quality and ethical standard.

**GlaxoSmithKline (GSK) Bangladesh Limited** carries with it an enviable image and reputation for the past 6

decades. A subsidiary of GlaxoSmithKline plc-one of the world's leading research-based pharmaceutical and healthcare companies-GSK Bangladesh, continues to be committed to improving the quality of human life by enabling people to do more, feel better and live longer. The company started its business in Bangladesh in 1956 and launched a plant for production in 1962 at Chittagong. The Company's principle activities include secondary manufacture of pharmaceutical products and marketing of vaccines, pharmaceutical healthcare products and health food drinks.

Table 1 exhibits the liquidity position of Square Pharmaceuticals Limited. It is found that growth rate of current assets and current liabilities were around 85% and 95% respectively in 9 years. The standard deviation of the current assets was 138.98 and the coefficient of variation was 28.59% which shows a slow growth of current assets during the period of study. As evident from the table, the current liabilities, working capital and quick assets are also changed in the similar fashion as that of current assets. The growth rate of current liabilities was 94.49 percent with a standard deviation of 98.38 and a CV of 31.80 percent. The growth rate of working capital was 70.54 percent with a SD of 64.94 and a CV of 36.73 percent. Higher the CV rates higher the variation of working capital but during the period CV rate is not so high. The quick assets have registered a growth rate of 66.53 percent with a SD of 94.52 and a CV of 33.16 percent.

**Table 1.** Liquidity Position of Square Pharmaceuticals Limited

<i>Tk. in Crores</i>						
Year	Current Assets	Current Liabilities	Current Assets - Current Liabilities (WC)	Quick Assets	Current Ratio	Quick Ratio
2005	324.25	194.99	129.26	209.76	1.66	1.08
2006	403.17	226.08	177.09	268.93	1.78	1.99
2007	368.25	255.56	112.69	213.83	1.44	0.84
2008	441.18	350.08	91.10	238.51	1.26	0.68
2009	384.35	264.09	120.26	174.48	1.46	0.66
2010	477.43	221.67	255.76	256.72	2.15	1.16
2011	702.22	466.82	235.40	448.05	1.50	0.96
2012	674.55	425.29	249.26	405.77	1.59	0.95
2013	599.67	379.24	220.43	349.30	1.58	0.92
Mean	486.12	309.31	176.81	285.04	1.60	0.94
Growth	275.42	184.25	91.17	139.54	-0.08	-0.15
Growth Rate (%)	84.94	94.49	70.54	66.53	-4.91	-14.38
SD	138.98	98.38	64.94	94.52	0.25	0.19
CV (%)	28.59	31.80	36.73	33.16	15.82	20.13

*Source: Annual Reports of Square Pharmaceutical Company from the Year 2005 to 2013*

When the liquidity ratios of Square Pharmaceuticals Limited were analyzed, it is found that both current ratio and quick ratio have registered a negative growth i.e. -4.91 and -14.38 percent respectively. The negative growth in both the ratios indicates that the liquidity position of the company has been degraded over the years. The average current ratio of the company was 1.60 and average quick ratio was 0.94, which is less than the ideal rule of thumb i.e. 2 and 1, indicates an unsatisfactory liquidity position of the company during the years of study. Moreover, CV percentages of current ratio and quick ratio indicate little bit instability in the liquidity position of the company.

Table 2 gives a detailed portrayal of liquidity position of Beximco Pharmaceuticals Limited. It is evident that

the current assets has shown a growth rate of around 155 percent whereas the current liabilities are grown around 75 percent which is near about 50 percent of the growth rate of current assets in 9 years. The standard deviation of the current assets was 240.41 and the coefficient of variation was 43.28% which shows a steady and slow growth of current assets during the period of study. The growth rate of current liabilities was 75.18 percent with a standard deviation of 73.92 and a CV of 27.50 percent. The growth rate of working capital was 354.80 percent with a SD of 197.18 and a CV of 68.76 percent. A positive growth in working capital and a higher CV rate indicates a lower growth of current liabilities as compared to current assets with a greater variation during the period.

**Table 2.** Liquidity Position of Beximco Pharmaceuticals Limited

Year	<i>Tk. in Crores</i>						
	Current Assets	Current Liabilities	Current Assets - Current Liabilities (WC)	Quick Assets	Current Ratio	Quick Ratio	
2005	349.58	250.18	99.40	181.21	1.40	0.72	
2006	335.74	252.74	83.00	160.30	1.33	0.63	
2007	292.38	162.80	129.58	127.13	1.80	0.78	
2008	286.19	260.20	25.99	135.66	1.10	0.52	
2009	691.67	232.15	459.52	519.38	2.98	2.25	
2010	619.17	251.32	367.85	420.79	2.46	1.67	
2011	714.85	264.82	450.03	485.66	2.70	1.83	
2012	819.74	306.49	513.25	576.34	2.67	1.88	
2013	890.34	438.26	452.08	649.15	2.03	1.48	
Mean	555.52	268.67	286.74	361.74	2.05	1.31	
Growth	540.76	188.08	352.68	467.94	0.63	0.76	
Growth Rate (%)	154.69	75.18	354.80	258.23	45.39	104.50	
SD	240.41	73.92	197.18	209.67	0.69	0.65	
CV (%)	43.28	27.50	68.76	57.96	33.41	49.38	

*Source: Annual Reports of Beximco Pharmaceutical Company from the Year 2005 to 2013*

The quick assets have registered a growth rate of 258.23 percent with a SD of 209.67 and a CV of 57.96 percent. All these indicate a very good liquidity position of the company. When the liquidity ratios of Beximco Pharmaceuticals Limited were analyzed, it was found that both current ratio and quick ratio have registered a growth rate of 45.39 percent and 104.50 percent respectively. The positive growth in both the ratios indicates that the liquidity position of the company has been increased over the years. The average current ratio of the company was 2.05 and average quick ratio was 1.31, which is more than the ideal rule of thumb i.e. 2 and 1, indicates a satisfactory liquidity position of the company during the years of study but amount of quick assets were very high which means unnecessary tied up of capital in quick assets.

Table 3 gives an indication of the liquidity position of The IBN Sina Pharmaceutical Industry Limited. It reveals that the current assets has shown a growth rate of around 236 percent whereas the current liabilities are grown around 143 percent which is less than the growth rate of current assets in 9 years. The standard deviation of the current assets was 9.08 and the coefficient of variation was 39.37%, which shows a steady growth of current assets during the period of study. The growth rate of current liabilities was 143.37 percent with a standard deviation of 6.40 and a CV of 25.85 percent. The growth rate of working capital shows negative (-426.25). A CV rate of just -279.85 percent coupled with a negative growth in working capital indicates the company's unconsciousness about liquidity management.

**Table 3.** Liquidity Position of IBN Sina Pharmaceutical Industry Limited

<i>l Tk. in Crores</i>						
Year	Current Assets	Current Liabilities	Current Assets - Current Liabilities (WC)	Quick Assets	Current Ratio	Quick Ratio
2005	11.25	13.07	-1.83	6.09	0.86	0.47
2006	12.78	16.70	-3.92	7.56	0.77	0.45
2007	14.99	21.61	-6.62	9.14	0.69	0.42
2008	22.01	26.47	-4.45	16.01	0.83	0.60
2009	22.51	30.84	-8.34	16.28	0.73	0.53
2010	24.27	25.66	-1.39	17.63	0.95	0.69
2011	29.48	28.58	0.90	21.14	1.03	0.74
2012	32.45	28.12	4.33	21.95	1.15	0.78
2013	37.77	31.82	5.96	24.11	1.19	0.76
Mean	23.06	24.76	-1.71	15.55	0.91	0.60
Growth	26.52	18.74	7.78	18.01	0.33	0.29
Growth Rate (%)	235.80	143.37	-426.25	295.62	37.98	62.56
SD	9.08	6.40	4.78	6.56	0.18	0.14
CV (%)	39.37	25.85	-279.85	42.23	19.83	23.43

Source: Annual Reports of IBN Sina Pharmaceutical Company from the Year 2005 to 2013

The quick assets have registered a growth rate of 295.62 percent with a SD of 6.56 and a CV of 42.23 percent. Both current ratio and quick ratio have registered a positive growth i.e. 37.98 and 62.56 percent respectively. The positive growth in both the

ratios indicates that the liquidity position of the company has been increased over the years. The average current ratio of the company was 0.91 and average quick ratio was only 0.60 which indicate that the company should increase its investment in current assets.

**Table 4.** Liquidity Position of GlaxoSmithkline Bangladesh Limited

<i>Tk. in Crores</i>						
Year	Current Assets	Current Liabilities	Current Assets - Current Liabilities	Quick Assets	Current Ratio	Quick Ratio
2005	78.21	16.78	61.42	25.19	4.66	1.50
2006	67.59	10.19	57.40	14.88	6.63	1.46
2007	73.15	15.76	57.39	30.61	4.64	1.94
2008	101.85	34.40	67.45	42.23	2.96	1.23
2009	133.43	42.92	90.51	72.38	3.11	1.69
2010	182.42	70.74	111.68	112.89	2.58	1.60
2011	212.08	103.42	108.66	98.19	2.05	0.95
2012	256.64	143.39	113.25	150.68	1.79	1.05
2013	341.13	202.02	139.10	218.68	1.69	1.08
Mean	160.72	71.07	89.65	85.08	3.35	1.39
Growth	262.92	185.24	77.68	193.49	-2.97	-0.42
Growth Rate (%)	336.18	1103.61	126.47	768.14	-63.76	-27.87
SD	95.01	66.40	30.04	67.62	1.65	0.33
CV (%)	59.12	93.43	33.51	79.47	49.39	23.92

Source: Annual Reports of GlaxoSmithkline Pharmaceutical Company from the Year 2005 to 2013

Table 4 reveals that in case of GlaxoSmithkline Bangladesh Limited, the current assets has shown a growth rate of 336.18 percent whereas the current liabilities are grown to the extent of 1103.61 percent in last 9 years. The standard deviation of the current assets was 95.01 and the coefficient of variation was 59.12 percent, which shows a steady growth of current assets during the period of study. The working capital has also registered a positive growth of 126.47 percent indicates that the company has always tried to maintain the required amount of working capital.

The quick assets have registered a positive growth rate of 768.14 percent with a SD of Tk. 67.62 crores and a CV of 79.47 percent indicates that during the period, company has invested enough money in liquid resources. When the liquidity ratios of the company were analyzed, it was found that both current ratio and quick ratio have registered a negative growth i.e. -63.76 and -27.87 percent respectively. The negative growth in both the ratios indicates that the liquidity

position of the company has been degraded over the years. The average current ratio of the company was 3.35 and average quick ratio was 1.39 - which indicates that the company maintains sufficient liquid resources.

#### **Motaal's Comprehensive Test of Liquidity:**

The higher the value of both working capitals to current asset ratio and liquid resources to current asset ratio relatively the more favorable will be the liquidity position of a firm and vice-versa. On the other hand, lower the value of stock to current assets ratio relatively the more favorable will be the liquidity position of the firm. The ranking of the above three ratios of a firm over a period of time is done in their order of preferences. Finally, the ultimate ranking is done on the basis of the principle that the lower the points score the more favorable will be the liquidity position and vice-versa (Agarwal and Kumar 2012).

Table 5, 6, 7, 8 and 9 are drawn for the purpose of Motaal's Comprehensive Test of Liquidity.

**Table 5.** Selected Ratios of Square Pharmaceuticals Limited

Year	Working Capital to Current Assets (%)	Stock/ Inventory to Current Assets (%)	Quick Assets/Liquid Resources to Current Assets (%)
2005	39.86	35.31	64.69
2006	34.68	36.60	63.40
2007	30.60	41.93	58.07
2008	20.65	45.94	54.06
2009	31.29	54.61	45.39
2010	53.57	46.23	53.77
2011	33.52	36.19	63.81
2012	36.95	39.85	60.15
2013	36.76	41.75	58.25
Mean	36.35	41.68	58.32
Growth	-3.10	6.44	-6.44
Growth Rate (%)	-7.79	18.24	-9.96
SD	9.22	6.62	6.62
CV (%)	25.36	15.87	11.34

*Source: Annual Reports of Square Pharmaceutical Company from the Year 2005 to 2013*

**Table 6.** Selected Ratios of Beximco Pharmaceuticals Limited

Year	Working Capital to Current Assets (%)	Stock/ Inventory to Current Assets (%)	Quick Assets/Liquid Resources to Current Assets (%)
2005	28.43	48.16	51.84
2006	24.72	52.26	47.74
2007	44.32	56.52	43.48
2008	9.08	52.60	47.40
2009	66.44	24.91	75.09
2010	59.41	32.04	67.96
2011	62.95	32.06	67.94
2012	62.61	29.69	70.31
2013	50.78	27.09	72.91
Mean	45.42	39.48	60.52
Growth	22.34	-21.07	21.07
Growth Rate (%)	78.57	-43.76	40.65
SD	20.33	12.61	12.61
CV (%)	44.77	31.95	20.84

Source: Annual Reports of Beximco Pharmaceutical Company from the Year 2005 to 2013

**Table 7.** Selected Ratios of IBN Sina Pharmaceutical Industry Limited

Year	Working Capital to Current Assets (%)	Stock/ Inventory to Current Assets (%)	Quick Assets/Liquid Resources to Current Assets (%)
2005	-16.23	45.83	54.17
2006	-30.70	40.81	59.19
2007	-44.14	39.01	60.99
2008	-20.23	27.27	72.73
2009	-37.05	27.65	72.35
2010	-5.71	27.36	72.64
2011	3.05	28.29	71.71
2012	13.33	32.36	67.64
2013	15.77	36.18	63.82
Mean	-13.55	33.86	66.14
Growth	31.99	-9.65	9.65
Growth Rate (%)	-197.15	-21.06	17.81
SD	21.66	6.90	6.90
CV (%)	-159.89	20.38	10.43

Source: Annual Reports of IBN Sina Pharmaceutical Company from the Year 2005 to 2013

**Table 8.** Selected Ratios of GlaxoSmithkline Bangladesh Limited

Year	Working Capital to Current Assets (%)	Stock/ Inventory to Current Assets (%)	Quick Assets/Liquid Resources to Current Assets (%)
2005	78.54	67.79	32.21
2006	84.92	77.99	22.01
2007	78.45	58.15	41.85
2008	66.22	58.54	41.46
2009	67.84	45.76	54.24
2010	61.22	38.11	61.89
2011	51.24	53.70	46.30
2012	44.13	41.29	58.71
2013	40.78	35.90	64.10
Mean	63.70	53.02	46.98
Growth	-37.76	-31.90	31.90
Growth Rate (%)	-48.08	-47.05	99.03
SD	15.74	14.16	14.16
CV (%)	24.71	26.71	30.15

Source: Annual Reports of GlaxoSmithkline Pharmaceutical Company from the Year 2005 to 2013

**Table 9.** Summary of the Motaal's Comprehensive Test of Liquidity

Company	Working Capital to Current Assets Ratio (%)	Rank	Stock to Current Assets Ratio (%)	Rank	Liquid Resources to Current Assets Ratio (%)	Rank	Total Rank	Ultimate Rank
Square	36.35	3	41.68	3	58.32	3	9	2
Beximco	45.42	2	39.48	2	60.52	2	6	1
IBN Sina	-13.55	4	33.86	1	66.14	1	6	1
Glaxo	63.70	1	52.02	4	46.98	4	9	2

Source: Table-5, 6,7 and 8

From Table 5 to Table 9 expose that on the basis of Motaal's ultimate rank test of Liquidity, Beximco Pharmaceuticals Limited and IBN Sina Pharmaceutical Industry Limited are jointly awarded Rank 1 whereas Square Pharmaceuticals Limited and GlaxoSmithkline Bangladesh Limited jointly have ranked 2.

## CONCLUSION AND RECOMMENDATIONS

Pharmaceutical industry in our country is a profitable sector. It is due to the reason that the firms in the industry are very competitive and has gained efficiency in managing its resources competently. The present study found that in all the cases the average (mean) of current assets are much more than the average of current liabilities which in long run will helpful for the companies to maintain the adequate level of liquidity. If we consider working capital and quick assets

position among the companies, it is evident that Beximco Pharmaceuticals Limited stands at first position, Square Pharmaceuticals Limited at second position, GlaxoSmithkline Bangladesh Limited at third position and IBN Sina Pharmaceutical Industry Limited at fourth position. On the contrary, GlaxoSmithkline Bangladesh Limited stands at best position and IBN Sina Pharmaceutical Industry Limited stands at the worst position on the basis of average current ratios and quick ratios among the selected companies. Moreover, Motaals liquidity test reveals that Beximco Pharmaceuticals Limited and IBN Sina Pharmaceutical Industry Limited are jointly occupied the first position. However, following few suggestions are given by the researchers for the companies to maintain the ideal level of liquidity:

- (i) In one case (IBN Sina) we have come across with negative working capital. Negative working capital indicates lower cost of working capital



(another way is higher profitability) but at the same time, it indicates poor liquidity (worried situation for the creditors, etc.) or we can say company is overburdened with current liabilities, which is does not a good sign for any situation (especially in a period of recession, etc).

- (ii) Current ratio and quick ratio of Square and IBN Sian were not up to the mark under the study period. So these two companies should increase their investment in current assets as well as try to reduce current liabilities.
- (iii) Companies should ensure that the percentage of inventories in current assets is as low as possible.

Despite the efforts to provide a meaningful understanding and evaluation of liquidity, the study is not without limitations. Furthermore, the data for this study were collected from only four pharmaceutical companies in Bangladesh. Thus, the findings may not generalize to other industrial contexts or other countries; research in other settings might yield different results. In this regard, replicating this study in different settings would be worthwhile to establish the validity and universality of the present findings across different contexts.

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