LIQUIDITY AND MARKET RETURN : A CASE OF NATIONAL STOCK EXCHANGE OF INDIA LTD.

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ABSTRACT

The study examines the impact of liquidity on market return. The turnover ratio has been taken as a proxy of the liquidity while the return of S&P CNX Nifty has been used. The study uses the monthly data for the period of five years spread over 2003-04 to 2007-08. It has been observed that almost all companies listed at NSE are being traded but the frequent trading is concentrated to the few companies. On an average, turnover ratio is sufficient to say the market is liquid; it is because of the large cap companies which have captured a huge part of the total trading. It has been found that the turnover ratio do not play any role in the market return.

I. INTRODUCTION

Every investor, whether individual or institutional, invest in the securities with the hope of getting positive return in the future. Before investing in any security, the investor takes in to account various macro and micro economic factors which also decide the extent of market return as well. These factors may be political stability, economic fundamentals, government policies, corporate results and transparency in the security market. The liquidity is also expected to affect the market return to the some extent.

Liquidity is an important part of the financial market. The growth and stability of a financial market depends on the availability of adequate liquidity. Liquidity is the lubricating agent that facilitates a frictionless smooth functioning of the financial markets. Liquidity is an essential part of a stock market as much as the efficiency is. While efficiency refers to the speed with which the prices in the market move to reflect the information flows, liquidity refers to the ease with which the buyers and sellers promptly transact with minimal impact on the price of a stock (L. Sharma). Liquidity, in case of security market, means frequency of trading of securities. Fast execution of order without incurring high extra charges is the symbol of high liquidity in the market. The liquidity has precisely been defined by Darst (1975) as the liquidity or marketability of a security is made up of two elements-the volume of securities which can be bought or sold at one time without significantly affecting its price and the amount of time needed to complete a desired transaction.

Although there are a number of studies relating to the liquidity position in the Indian stock market, there is negligible research regarding effect of liquidity on

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market return. Thus, this study is expected to be helpful in understanding the recent liquidity position at NSE and in investing decision of common investors.

It is expected that the liquidity positively affects the return in the market. The higher the liquidity ratio, the higher will be market return. Keeping this assumption in mind the present study is an attempt to analyze the liquidity position at NSE and its impact on market return. The paper has been organized as follows – the next section deals with the review of existing literatures in this regard. The third section provides hypothesis and the information about data collection and research methodology. Empirical analysis and results have been given in the fourth and fifth section respectively. The last section concludes the study.

II. REVIEW OF LITERATURES

Bekaert G. et al (2003) examined the impact of liquidity on expected return in the emerging market using a simple asset pricing model with liquidity and the market portfolio as risk factors, differentiating between integrated and segmented periods and concluded that the liquidity measure significantly predicts future returns, whereas alternative measures such as turnover do not. Consistent with liquidity being a priced factor, unexpected liquidity shocks are positively correlated with return shocks and negatively correlated with shocks to the dividend yield. Equity market liberalization significantly improves the level of liquidity, but has no significant effect on the relationship between liquidity and future returns.

Eleswarapu, V. et al studied the problem of illiquidity that afflicts the stocks listed on BSE. They studied on 250 firms over the five year period 1989 to 1993 and found evidence in favour of liquidity of a liquidity premium for stocks on the B.S.E. they also found that the trading frequency is positively related to number of shareholders and shares outstanding. In addition, the ownership structure seems to matter, with concentration in the hands of insiders and government bodies having a deleterious effect on liquidity.

Chordia, T. (2001) found that the order imbalance increases following market declines and vice versa, which reveals that investors are contrarians on aggregate. Order imbalances in either direction, excess buy or sell orders, reduce liquidity. Market-wide returns are strongly affected by contemporaneous and lagged order imbalances. Market returns reverse themselves after high negative imbalance, large negative return days. Even after controlling for aggregate volume and liquidity, market returns are affected by order imbalance.

Chordia, T. analyzed the relation between expected equity returns and the level as well as the volatility of trading activity (a proxy for liquidity). They found that there is a negative and strong cross-sectional relationship between stock returns and the variability of dollar trading volume and share turnover, after controlling for size, book to- market, momentum, and the level of dollar volume or share turnover.

III. HYPOTHESIS

H_0 = Liquidity do not affect the market return

H_1 = Liquidity affects the market return

Data Collection and Research Methodology

The study aims at analyzing the liquidity position NSE and its impact on the return. The return in S&P CNX Nifty has been taken as this index represents the companies experiencing huge trading. Hence, this would be the proper index to represent the return situation at NSE. On the other hand, there are various proxies available to test the liquidity in the market such as impact cost, turnover ratio, value traded ratio etc. We have used turnover ratio as a proxy of liquidity in the study which measures the trading relative to the size of the stock market. High turnover ratio is associated with low transaction cost. In other words it can be said that it refers to the degree of activity on a stock exchange. The study uses monthly average and annual average of Nifty index. The data on both variables have been collected from the website of RBI (www.rbi.org.in). In addition, the various publications SEBI have also been used for the collection of other necessary data. The study covers the period of five years spread over 2003-04 to 2007-08. the rationale behind the period starting from 2003-04 is this is the year when the market was come out from the effect of Asian crisis and FIIs also, besides other market participants, started to participate in the market with great zeal which in turn increase the turnover the market many fold compared to those of preceding years. The data, thus, collected have been analyzed using various statistical tools to arrive at fruitful inferences.

The monthly return has been calculated by using following formula –

$R_t = \text{Log } (I_t \ / \ I_{t-1})*100$

Where R_t indicates daily return, I_t is the value of index on day t and I_{t-1} is the value of the index on day $t-_{1.}$ This measure of return takes into account only appreciation/ depreciation in the index price and neglects the dividend yield.

On the other hand, turnover ratio has been calculated as the percentage share of turnover in the market capitalization of NSE.

IV. EMPIRICAL ANALYSIS

To be a liquid security, it is essential that there must be trading in that. This is the first step of checking liquidity. If trading is not taking place in the security, then there is no question of liquidity. The exhibit 1 provides year-wise break-up of the number of companies listed and the number of companies in which trading took place at NSE. The exhibit shows that from the trading point of view about all companies are liquid at NSE. On an average around 99 per cent of the companies listed witnessed trading during the study period. Except the year 2003-04, the percentage of such companies was more than 99 per cent. During 2003-04, it was slightly as below as 97.71 per cent.

Exhibit: 1 Companies listed and traded

Year	Companies Listed	Companies Traded	%age share
2003-04	787	769	97.71
2004-05	839	831	99.05
2005-06	929	920	99.03
2006-07	1084	1081	99.72
2007-08	1236	1229	99.43

But only trading in security is not an indication about a company to be liquid. There must be frequent trading so that security holder can sell his holding as and when he wants to do so without incurring any unnecessary cost and wasting time. The liquidity in a market can also be judged by looking at concentration of trading. The exhibit 2 shows the share of top 5, 10, 25, 50 and 100 companies in the total turnover of the market. It shows that top 5 companies covered more than 31 per cent of the total turnover and 91 per cent in case of top 100 companies during 2003-04. It is to be noted that 769 companies were traded in the same year. It can be said that out 769 companies, 669 companies were having negligible liquidity. However this figure has come steadily down over the year and during 2007-08, 18.37 per cent of the total turnover was captured by top 5 companies and 81 per cent by top 100 companies. But still it is not a good situation. A proper measure is required for broadening the base of trading which will not only help in stabilizing the market, but will also be helpful in increasing the liquidity in the market.

Exhibit: 2 Percentage Share of Top 'N' Securities

Year	5	10	25	50	100
2003-04	31.04	44.87	64.32	79.44	91.6
2004-05	25.88	41.65	57.98	72.4	84.26
2005-06	22.15	31.35	46.39	59.22	73.12
2006-07	18.49	28.44	48.57	66.57	82.24
2007-08	18.37	28.93	48.16	65.02	81.01

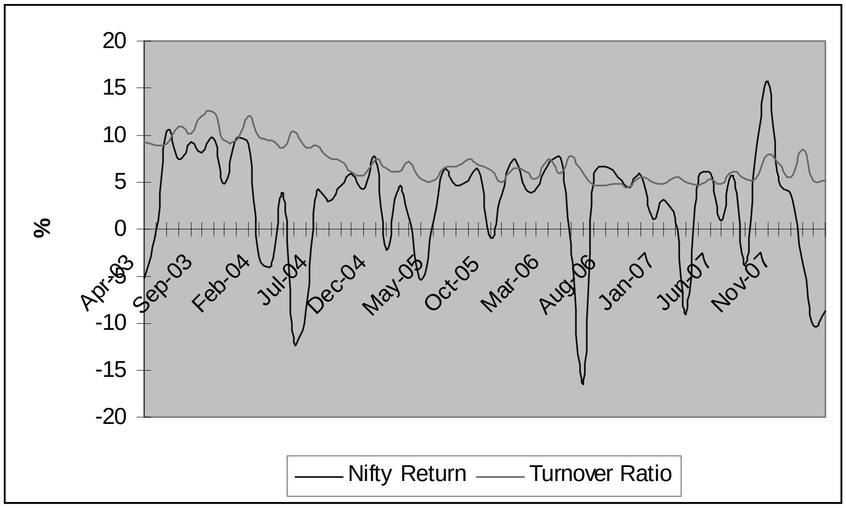
Turnover ratio is considered as one of the measures of liquidity. This is calculated as the percentage share of turnover in total market capitalization of the market. It measures the trading relative to the size of the market. There is a reverse relationship between turnover ratio and transaction cost. Higher the ratio, the lower will be transaction cost. The exhibit 3 depicts the year-wise beak-up of market capitalization, turnover and turnover ratio. It shows that market capitalization has registered tremendous hike more than 400 per cent during very short span of time from Rs. 1120976 crore during 2003-04 to Rs. 4858122 crore during 2007-08.

Exhibit: 3 Ratio of Turnover to Market Capitalization

Year	Market capitalization	Turnover	Turnover Ratio
2003-04	1120976	1099534	98.09
2004-05	1585585	1140072	71.90
2005-06	2813201	1569558	55.79
2006-07	3367350	1945287	57.77
2007-08	4858122	3551038	73.09

So far as the turnover is concerned, it was steadily increased from Rs. 1099534 crore during 2003-04 to Rs. 1945287 crore during 2006-07. During 2007-08, it was increased sharply and settled at Rs. 3551038 crore which was increased by more than 82 per cent over those of its preceding year. On an average the turnover ratio was about 71 per cent. This ratio was the highest during 2003-04 with 98.09 per cent. It was in 70s during 2004-05 and 2007-08 and 50s during 2005-06 and 2006-07. The ratio depicts that market is highly liquid, but it should be noted that high turnover is because of huge trading in the only top 100 companies.

Figure: Monthly Return and Turnover Ratio



The above figure shows the monthly movement of Nifty return and turnover ratio. The turnover ratio shows calm movement but high fluctuation can be seen in the movement of Nifty return. The highest negative return was in June 2006 with -16.49 per cent followed by May 2004, February 2008 and March 2007 with -11.95, -10.13 and -9.03 per cent respectively. Whereas the highest positive return was in October 2007 with 15.78 per cent followed by June 2003 with 10.38 per cent. During 2003-04, six months withnessed more than 8 per cent return.

V. RESULT

In this section we have examined the impact of liquidity on the return of Nifty using monthly average of Nifty index and monthly figure of turnover ratio (TR) for five years from 2003-04 to the latest completed year 2007-08. the correlation between the two variables is as low as 0.14 which is also clear from the figure. The exhibit 4 shows the descriptive statistics of the variables which statistically proves that the return has been highly fluctuating in nature while turnover ratio has been comparatively stable.

Exhibit: 4 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	S.D.
Return	60	-16.49	15.78	2.577	6.152
TR	60	4.41	12.47	7.057	2.078

Exhibit: 5 Regression Result

variable	Coefficient	t-value	p-value
Constant	-0.498	-0.176	0.861
TR	0.436	1.133	0.262

F: 1.283

R^2: 0.022

The regression result given exhibit 5 shows that the result is not significant. The turnover ratio fails to predict the future value of return and it does not have any impact on the return. The result, thus, accepts the null hypothesis and rejects the alternative one. The R^2 is also at the negligible level.

VI. CONCLUSION

It has been observed that almost all companies listed at NSE are experiencing trading but the frequent trading is concentrated to the few companies. On an average turnover ratio is sufficient to say the market to liquid but it is due to the large cap companies which have captured a huge part of the total trading. On this observation the market can not be said a liquid one. Some measures are required for broadening the trading base which will not only help in stabilizing the market but will also be in the interest of the common investors. It has been found that the turnover ratio do not play any role in the market return.

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