

Abstract

For a long time, liquidity was considered a part of transaction cost just like commission and brokerage and was not considered while pricing assets. The standard asset pricing theory relies on certain assumptions like absence of arbitrage, opportunity and frictionless market. Arbitrage assumption fails to hold good without a frictionless market. Asset pricing theory argues that securities with same cash flow must have same price. However, with the introduction of transaction cost, this valuation may not be applicable and securities with same cash flow can have different prices. In 1986, Amihud and Mendelson examined the effect of liquidity on asset pricing, even though liquidity had long been an issue looked at by practitioners. They looked at the cross-sectional relationship between asset returns and illiquidity and find a significant positive relationship between the two. They showed that assets with lower liquidity in equilibrium will yield higher returns.

After establishing the role of liquidity in asset pricing in literature, academic literature took another leap forward with Chordia et al's work in 2001. They found the existence of market wide liquidity and liquidity of all stocks co-move together. Pastor and Stambaugh (2003) took the liquidity effect further, arguing that expected returns are related to a stock's fluctuations during aggregate liquidity shifts. Market liquidity or systematic liquidity constitutes a source of non-diversifiable risk. Pastor and Stambough (2003) show that average return on stocks with high sensitivities to aggregate market wide liquidity exceeds that of stocks with low sensitivities by 7.5 % annually. The factors which lead to liquidity premium are unknown. Except for size used by Pastor and Stambaugh (2005), other factors which affect the liquidity sensitivity are unknown. This study examines liquidity aspects of Indian stock market, its impact on stock prices and factors contributing illiquidity.

Objectives of this study are:

- (1) To examine the impact of firm characteristics on liquidity sensitivity;
- (2) To examine the relationship between ownership structure and liquidity sensitivity;
- (3) To examine the changes in liquidity sensitivity after introduction of derivative trading; and
- (4) To examine the impact of liquidity on market return.

The empirical analysis is based on all stocks excluding banks and financial firms that are listed in the Bombay Stock Exchange (BSE) during 1995 to 2007 and also actively traded during this study period. The final sample consists of 942 firms. Market liquidity has been measured by using price impact method. Unlike other liquidity measures, the price impact method is based on the observed price changes associated with trades. After measuring market liquidity, the sensitivity of the stocks to liquidity changes (liquidity beta) is measured for all the stocks. Stocks which are difficult to value are expected to be affected more when market level liquidity changes. Following earlier literature, the characteristics of firms which are difficult to value are identified. These variables include firms with high growth potential, or firms with smaller size, or firms with no dividend track record, younger firms and firms with low profitability. The relationship between the liquidity beta and firm characteristics are then examined to study to get further insight on illiquidity. Finally, the impact of introduction of derivative trading on liquidity and liquidity sensitivity of stocks are examined.

The findings and broad conclusions of the study are as follows:

Stocks of firms with high growth potential, or firms with smaller size, or firms which do not pay dividend, younger firms and firms with low profitability are more sensitive to fluctuation

in aggregate market liquidity. Leverage and external finance taken by the firm are not significant determinants of liquidity beta of the firm. Firms with higher Indian promoters and foreign institutional investors holding suffer less by liquidity shocks. There is negative relationship between FII holding and liquidity beta. For stocks with high liquidity, illiquidity increases after the introduction of derivative trading mainly on account of shift in trading volume; however, for stocks with low liquidity, illiquidity declines after the introduction of derivative trading. After controlling the volume, volatility and price changes, the liquidity beta has declined significantly after the introduction of derivative trading.

This study contributes to a rapidly growing literature that examines properties of liquidity and its role in asset pricing. The empirical side of this literature has documented that aggregate liquidity is time-varying [see, for example, Chordia, Roll, and Subrahmanyam (2000), Hasbrouck and Seppi (2001), and Huberman and Halka (2001)] and that it matters for asset pricing [Amihud (2002), Pastor and Stambaugh (2003), and Acharya and Pedersen (2005)]. This study also contributes to the literature by suggesting the determinants of liquidity beta. This study looks at the effect of derivative listing on liquidity beta which has not been studied before. This study also looks at determinant of commonality in liquidity and establishes the effect of difference in market structure on the determinants of commonality in liquidity.