**Liquidity, value of the firm and corporate finance**
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The theory of corporate finance has assumed that a company's market value is determined mainly by two variables: expected after tax operating cash flows/earnings and the risk associated with producing them.

But there is another important factor affecting a company's value, namely the liquidity of the company's own debt and equity securities.

A drop in the liquidity of financial assets causes a fall in their value. Less liquidity means investors expect higher returns on the asset causing the price to fall. On the other hand, an increase in liquidity of a company's stock and bonds can reduce the cost of capital and increase the market value. In short, firms can benefit by actively managing the liquidity of their securities.

The cost of liquidity has 3 components:
**Direct trading costs**: Brokerage, commissions, exchange fees, taxes.

**Price impact costs**: Premium paid while buying and the discount given when selling. The greater the potential disparity of information between the trading parties, the greater the risk that the party initiating the trade will take advantage of its counterparty. That means the counterparty will require greater compensation to do the trade. Market makers buy a stock and hold it in inventory, till buyers appear. During that period, they bear the risk that the price may fall. The greater the asymmetric information and the inventory risk, the wider is the bid ask spread. The potential price impact cost for the security can be assessed by the market depth, which is the largest trade that can be affected without moving the market price beyond the currently quoted bid and offer prices.

**Search and delay costs**: Opportunity costs of not trading while searching for better prices or when trying to "work" an order to reduce the price impact. Search and delay costs become particularly relevant in the case of block trades. Investors may search for counterparties and offload in small chunks instead of trying to dump the entire order on the market. The investor holds the risk of adverse price movements while holding the position as the order awaits execution.

The three components of liquidity cost tend to be correlated. Assets with high impact costs or bid ask spreads often have high search & delay costs and high brokerage commissions.

The expected return on any stock is an increasing function of its liquidity costs. This positive relationship is however concave and not linear. The additional returns for a given increase in liquidity costs become progressively smaller for incrementally less liquid assets. This is because less liquid assets are typically held by investors with longer investment horizons. Such investors effectively amortize their liquidity costs over a longer period. So, the liquidity costs per annum are lower. The resulting marginal increase in required return is smaller as one moves towards increasingly less liquid assets.

In the case of normally very liquid assets, a sudden and unexpected decrease in liquidity could have much larger price effects, precisely because such assets tend to be traded more frequently and thus incur more trading and market impact costs per annum.

Companies with greater stock liquidity seem to have higher P/E ratio after controlling for differences in predicted growth, dividend pay-out, beta risk and firm size.

There is a strong positive relationship between average stock returns and liquidity costs, when measured in terms of bid/ask spreads and price impact costs (as a percentage of price per unit of order size).

Restricted stock is very similar to company stock but for the fact that it cannot be traded always and is hence relatively illiquid.  A 1991 study revealed that the price of restricted stock is 34% lower on average compared to the price of the company stock.

T-bills and T Notes with less than 6 months to maturity are comparable instruments. But T Bills are more liquid.  So, the bid ask spread on T Bills is much smaller. Notes yield higher than the bills. There is similar yield difference between the more liquid on the run T Bills and the leas liquid off the run T Bills.

After controlling for risk, issuer characteristics and special features of the bonds, les liquid corporate bonds have higher yield spreads over Treasury instruments.

Liquidity may also change over time for a given security. Those stocks which declined the most on Black Monday, October 19, 1987, were those whose liquidity decreased the most as measured by the bid ask spread and the quoted depth.

At the end of February 2008, the yields of municipal bonds were substantially higher than those of T Bonds of similar duration, despite the low default rates. In normal times, municipal bond yields are significantly lower than those of Treasuries since their interest income is exempt from Federal and state taxes. Much of the dramatic increase in municipal bond yields was due to the loss in liquidity because of distress selling by hedge funds, the failure of municipal bond auctions, the drying up of the repo market and associated decline in trading volumes.

When companies take actions designed to increase the liquidity of their securities, investors' expected returns fall and market value of the firm rises. For example, moving from OTC to exchange trading can increase the price of a stock.

Stock prices respond to market wide liquidity shocks as well as general market price shocks. When markets become less liquid, investors shift from less liquid to more liquid securities. This worsens the decline of small company stock prices while cushioning the negative impact on large, liquid stocks.

The price of a security both stock and bond is affected by the level of its liquidity and its liquidity risk as measured by its exposure to market wide liquidity shocks and by the response of its own liquidity to the market return. So, beta which measures the sensitivity to market returns needs to be suitably adjusted.

An increase in corporate leverage has the potential to cause a reduction in the liquidity of the company's stock and as result increase the cost of equity capital. For companies with a leveraged capital structure, management should compare the tax and control benefits of higher debt with the costs of lower liquidity. Illiquidity costs can be thought of as another form of financial distress costs.

The fees investment bankers charge during a public issue seem to decrease with the liquidity of the stock.

If a company issues more types of securities, it may be better able to meet the needs of different investor segments. But the more the types of securities and the smaller the issue size of each security, the lower the liquidity. A study of publicly traded companies with deep in the money warrants revealed that on the day the warrants expired, the price of the stock increased significantly.

The costlier the trading in the stock, the greater the potential role of dividends in providing liquidity to the shareholders. Dividend increases are likely to be the most valuable for stocks with low liquidity when the alternative of generating cash flows by selling the stock is more expensive. After companies start paying dividends, the liquidity of earlier illiquid stocks seems to increase. The market reaction is more positive for stocks with smaller market capitalization and which tend to have higher liquidity costs.

Companies incur liquidity costs when buying back their stock. So, stock repurchases are costlier to carry out when the firm's shares are relatively illiquid. If the company is suspected of using private information to its advantage, the liquidity of the stock may decrease. So, stock repurchases are likely to be taken by companies with relatively liquid stock.

Dividends are the better option for less liquid stocks while share repurchases are more applicable for companies with more liquid stock. The dramatic increase in overall stock market liquidity during the past 15 years has been a contributing factor to the relative decline in dividend payments and a surge in stock buybacks.

The liquidity of stocks can be enhanced by increasing the investor base especially by adding small individual investors who trade the stock without private information. An increase in the number of uninformed investors can increase P/E and the stock price.

Reducing the minimum trading unit or lot size is another way to increase the investor base. Another way to do this is to do a stock split. The average stock price reaction to stock splits is positive. Advertising the company's products and services increases the company's visibility and attracts smaller, less informed investors. Companies can also increase liquidity by inducing more dealers to make a market in their securities.

Better disclosures and more transparent financial statements can improve the liquidity of the company's stock. Management forecasts and regular communication with analysts and buy side investors can also improve the stock's liquidity. Greater analyst coverage tends to precede stock market liquidity. Greater dispersion of analyst forecasts for a given company which is assumed to reflect greater information asymmetry is associated with reduced liquidity.

There is an optimal level of liquidity for any firm. There are costs associated with increasing liquidity. Investors need to be provided more information. Detailed disclosures may also erode the company's competitive advantage by providing competitors information about the company's strategy. Most efforts to improve liquidity involve an increase in the number and turnover of shareholders. This leads to a reduction in the stability and concentration of ownership. As a result, investors' incentive to monitor managers reduces. Indeed, the decision to take a company public is effectively a decision to sacrifice much of the incentive and governance benefits of private companies for the liquidity provided by a well-diversified base of public investors. These agency costs must be kept in mind while trying to increase the liquidity of the company's shares.

**Concluding notes**

Within limits, corporate managers can increase the market value of their companies by pursuing polices that increase liquidity. These include lower leverage ratios, substitution of dividends for stock repurchases, more effective disclosures and increase in investor base. The lower the liquidity, higher the required returns and lower the P/E, all other things being equal.