

How Does Mispricing Vary Across Market Capitalization and Liquidity Segments?

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ABSTRACT: Market mispricing is where the prices of a stock in the market appear not to correlate with its intrinsic or fundamental price. In traditional financial theory, and specifically the Efficient Market Hypothesis, deviations of this kind are supposed to be uncommon and short lived since rational investors are supposed to swiftly integrate the accessible data in prices. Empirical evidence has however indicated that mispricing is not present in all market's segments equally. Capitalization and liquidity variations seem to have an effect on the level of stock price accuracy.

Market capitalization ranks firms as big, medium and small-cap companies in terms of their overall market worth whereas liquidity is the way a stock can be traded without causing a tremendous movement in its price. Pricing anomalies have been identified to be more intense in small-cap and illiquid stocks than in the large-cap and well liquid stocks. The average returns have always been better than forecasted by the conventional asset pricing models when using smaller firms as they are known to give higher returns (Banz, 1981). On the same note, lower liquidity is associated with greater expected returns of stocks, thus liquidity is important in pricing assets (Amihud, 2002).

In this paper, the variation of mispricing between market capitalization and liquidity segment is reviewed. It deals with the propositions of market efficient explanations, information asymmetry, and structural market restriction. The article claims that mispricing is more intense in smaller and less liquid stocks because of the presence of less or no flow of information, transaction costs and the lack of arbitrage mechanisms.

1.INTRODUCTION

Financial markets have been referred to as efficient mechanisms whereby the information on stock price is complete. The Efficient Market Hypothesis (EMH) states that investors cannot make a consistent showing of abnormal returns since new information is quickly built into a price. Mispricing, which is a price that falls below the intrinsic value or above the market price, under this model should only be of a temporary nature which can be rectified by the rational investors. Variations in stock returns should consequently be based on variation in risk and not latent error in prices. In the case of perfect market efficiency, these systematic differences even in categories of firms would not be sustained over time.

Market capitalization is the amount of values of shares of a firm in the stock market. This value is typically used to classify firms into large-cap, mid-cap and small-cap firms. The big cap companies are usually established companies whose earnings are stable, those of big institutional ownership, and a wide coverage by analysts. The information of these firms is readily available due to the high attention given to them by investors, analysts and the media and readily reflected in prices. This means that the large-cap stocks can be said to be better priced.

Small-cap firms are, in contrast, less covered in analysts and are less institutionally covered. Data on such companies might not be distributed as much as well as updated regularly. This results in information asymmetry where there will be those information endowed investors and those who are not well informed. In the event of unequal distribution of information, the prices can take a long time before returning to basic values. Also, small-cap stocks can be more volatile and less predictable, potentially increase investment responses to news. These structural features are indicative that small firms might be more prone to mispricing as opposed to large ones.

The other factor that is very helpful in explaining mispricing variations is liquidity. Liquidity is a term which is used to define how readily, easily, a stock can be sold or bought without a notable change in price. Stocks with a high liquidity nature usually display

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large trading volumes and small bid-ask spreads, thus the investors can transact at a comparatively low cost. Pricing errors in these markets can be exploited effectively by the arbitrageurs to restore prices to their primary values.

Nevertheless, there is another situation with illiquid stocks. Their trading volumes tend to be low, bid ask spreads tend to be large, and transaction costs are large. These are what make it costly and more hazardous to investors to make use of mispricing.

More than this, the interplay of market capitalization and liquidity gives this argument more grounds. Large-cap stocks tend to be more liquid than small-cap stocks do. In small cap stocks, such set of limited availability of information and increased transaction costs combined leaves the environment in which mispricing can not only happen more often and enduringly. It can be harder to appraise fundamental value correctly by investors, and arbitrage will be less robust. Consequently, there might be no rapid correction of price variations in such segments as in other more liquid markets.

Such observations indicate that the mispricing is not well distributed in the financial markets. On the contrary, it seems to be systematically varying among market segments. Stocks of superior scale and high liquidity would be more priced efficiently and those of smaller scale and illiquidity might be more priced at variance of the fundamental value. This variability is relevant both to academic studies and investment plan.

2.THEORETICAL FRAMEWORK: WHY MISPRICING PERSISTS.

Financial theory suggests, though, that markets are efficient; nevertheless, over time, consistent anomalies of capitalization and liquidity segment of the market indicate that mispricing does exist. In order to explain the reason behind different mispricing in these segments, it is required to study the theoretical backgrounds of the market efficiency, the information asymmetry, the liquidity constraints and the behavioral finance. These models explain that small-cap and illiquid stocks could have stronger fundamental value deviations.

2.1 Hypothesis of Efficient Market and its limitations.

The Efficient Market Hypothesis (EMH) is a postulation that prices of assets capture all the available information. This theory posits that it is impossible to systematically get abnormal returns because the prices respond quickly to new information by the investors (Fama, 1970). EMH is generally separated into three main types, i.e. weak-form efficiency, semi-strong form efficiency, and strong-form efficiency.

Under semi-strong form of full efficiency of markets, a market would effectively display returns variance between firms with different sizes or liquidity states, which could be explained by only difference in risk. But empirical evidence suggests otherwise. The continued surpassing of small-cap stocks disagrees with the assumption that markets are always correct in pricing securities (Banz, 1981).

The first weakness of EMH is that it presupposes rational behaviour of investors and the possibility to reap the benefits of arbitrage without incurring significant expenses. As a matter of fact, these assumptions might not be true especially in blocks where it is expensive to trade or where there is limited information. Consequently, this will in small-cap and illiquid stocks the pricing inefficiencies can be longer.

2.2 The asymmetry of information and firm size

Information asymmetry happens when there is better or timely information among some of the investors in comparison to others. The large-cap companies are usually high on analysis reviews, media coverage, and monitoring by institutions. Due to the widespread distribution of information, the prices are likely to respond speedily to any emerging change.

Small-cap firms on the other hand do not have as much of an analyst coverage or institutional involvement. Such restricted flow of information may cause slowness in price adjustment and the high risk of mispricing. Investors can be over-reactive or under-reactive to new information and deviate temporarily or permanently around fundamental value.

Moreover, small companies sometimes have more unpredictability when it comes to revenues and future development. The higher uncertainty might cause broader variations in the expectations of the investors, i.e., cause the high volatility and higher price deviations.

2.3 Arbitrage Constraints and Liquidity Constraints.

The adjustment of prices is affected by liquidity. Liquid markets enable investors to buy and sell cheaply and within the short run the arbitrageur is able to capitalize on price misjudgement. Illiquid stocks tend, however, to be more costly to transact in and greater spreads.

It has been demonstrated that illiquidity influences the expected returns and asset price (Amihud, 2002). Also, in high trading cost a business might not be willing to correct mispricing since the chances of risking profits minus the risk and cost might not yield profits more than otherwise.

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The idea of a limit to arbitrage is another reason why mispricing may be persistent. It is risky, and could take a lot of capital, arbitrage. Although investors might be aware of mispricing, they may still take no action in case the price movement might increase before they can rectify the situation. The weakness is applicable especially in small-cap and illiquid stocks where volatility, and the limitations to trading are higher (Shleifer and Vishny, 2012).

2.4 Behavioural Biases and Segmentation of the Markets.

Behavioural finance does not assume that investors are rational. The decision to trade is subject to psychological biases including overconfidence, herding and representativeness.

Investors may lack the ability to analyse short-term news effectively and respond to it appropriately, or they may simply follow prevailing market trends. Such behavioural tendencies can lead to temporary mispricing in the market. Small-cap and illiquid stocks are usually prone to behavioural distortion because these stocks are often controlled by retail investors and not large institutions. Behavioural explanations are hence complementary to structural explanations which implies that it is not just the frictions of the market but also mispricing as a result of investor psychology.

2.5 Overview of Theoretical Explanations.

The continuation of mispricing in the capitalization volume and liquidity levels of the market can be described by the various theoretical approaches. Efficient Market Hypothesis has been adopted to offer a standard of pricing efficiency (Fama, 1970) but evidence suggests some anomalies in the market through anomalies like the size effect, which dispute the assumptions (Banz, 1981). Studies on liquidity demonstrate that the trading cost affects the expected returns and the pricing efficiency (Amihud, 2002). Moreover, arbitrage constraints inhibit correctivity of investors in terms of mispricing (Shleifer and Vishny, 2012).

Collectively, these theories indicate that structural and behavioral reasons imply that mispricing is more probable to raise in little-cap and illiquid shares.

3. EMPIRICAL DATA OF MARKETS CAPITALIZATION AND MISPRICING.

Empirical studies have always proved that mispricing is not equally distributed among various firms of varied sizes. Although the traditional asset pricing theories consider returns to capture systematic risk only, there have been various studies that have recorded persistent returns variation between large and small stocks. These results are rather strong proofs that the firm size is an important factor in the market efficiency and possible mispricing.

3.1 The Size Effect

Among the studies that were conducted to find out the significance of the correlation between the firm size and stock returns was the project by Banz (1981). The research concentrated on the fact that the new firms got a much higher average return as compared to the large firms despite the market risk being controlled. This was referred to as the size effect. As per the standard financial theory, the increased returns must be matched with the increased systematic risk. Nevertheless, Banz (1981) depicted that size alone seemed to be the reason behind a component of difference in returns indicating that small-cap stock could have been mispriced compared to large-cap stock.

The continued existence of the effect of size brought up the question of the fullness of the Capital Asset Pricing Model (CAPM), which posits that market beta is the only predictor of assessed returns. Beta should not always be used to predict excess performance in case beta fully explained returns. The testimony was to the contrary.

3.2 The Fama-French Three-Factor Model.

To address the anomaly of size effect, Fama and French (1993) came up with the 3-factor model that broadened the CAPM to include the size and value factors. To provide the divergence of the returns between small and large-cap stocks, their model introduced so-called Small Minus Big (SMB) factor.

The fact that the size factor was included enhanced the model to explain the cross-sectional stock return variations (Fama and French, 1993). Nevertheless, the model explained the size-related returns differences statistically but failed to overcome the argument on whether the returns are returned to reflect risk or is a symptom of systematic mispricing.

There are also researchers who claim that small firms are more risk because business unknown is high, diversification is low and susceptibility to economic shocks is high. In this sense, an increase in returns only pays off investors who assume more risk. It is however others that indicate that the size premium could also indicate some behavioral biases, shortage of information and institutional constraints that are too big to allow full price efficiency.

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3.3 Post Earnings Announcement Drift and Firm Size.

The other significant source of empirical evidence is the literature on post-earnings announcement drift (PEAD). PEAD is the propensity of stock prices to persist in moving in the direction of several months following the announcement of an earnings surprise.

The studies have demonstrated that this effect is greater in the case of small-cap firms. Bernard and Thomas (1989) established that investors do not respond significantly on the earnings information resulting in slow adjustments of the price as time progresses. This underreaction was greatest in smaller firms, probably because of a reduced analyst coverage and slow dissemination of information (Bernard and Thomas, 1989).

This result implies that small-cap stocks may have prices that are more inefficient. In the event of full efficiency in the markets, the prices would adjust instantly to the new information on earnings. The fact that delayed reactions do exist implies that the issue of mispricing may still exist and still be very relevant especially in the firms that are characterized by less information being used.

3.4 Analyst Coverage and Information Efficiency

The efficiency of analysts will restore increased information efficiency in the stock price operation of an organization, and it will also depend on investors.

Empirical research also points out at the impact of the analyst coverage in decrease the mispricing. Large companies are more likely to be enabled by more financial analysts to track their performance and ensure their information flow enhances and drop diminishes. An improvement in analyst coverage has more scrutiny and this means the price will change more quickly and there would be a better precision in pricing.

Small-cap firms, conversely, frequently receive scanty attention by analysts. Hong, Lim, and Stein (2007) reported that the stock lowly covered by the analysts had greater momentum effect indicating slowness in diffusion of information (Hong et al., 2007). Delay in the information diffusion augments the chances of mispricing in the short run.

The correlation between the size of the firm and analyst coverage supports the thesis that the structural differences in information occur and cause the differences in the market efficiency among the size segments.

3.5 Results of Empirical Research on Size.

All in all, the empirical evidence contains strong indications that a small-cap stock would have stronger chances of having pricing anomalies than a large-cap stock. The size effect (Banz, 1981), the evolution of Fama-French model (Fama and French, 1993), as well as evidence on post-earnings announcement drift (Bernard and Thomas, 1989) all point to the fact that firm size has an impact on the pattern of returns.

Although part of these returns differences could be attributed to risk compensation, the fact that anomalies persist and adaptation of information in small firms is slower lead to the conclusion that mispricing is not an insignificant phenomenon. These results add up to the overall thesis that market capitalization relates well with pricing efficiency.

We will go further with this discussion by analyzing the empirical evidence about the issue of liquidity and its influence in mispricing in the next section.

4. LIQUIDITY AND MISPRICING EMPIRICAL EVIDENCE.

Although the size of firms accounts a significant amount of differences in returns among stocks, the question of liquidity has also come out as a significant factor that determines the level of efficiency in prices. Liquidity is the ability of an asset to be traded with ease to influence its price in a major way. Stocks with small bid-ask spread are said to be highly liquid, and those with low volume and big spreads, are said to be illiquid. Empirical studies do indicate that liquidity not only has an impact on expected returns but also on the extent of how prices are influenced by fundamental information.

4.1 The Illiquidity Premium

Amihud (2002) conducted one of the most significant liquidity and stock returns studies. The paper proposed a measure of illiquidity, involving the price change of volume, and identified that illiquid stocks made high expected returns as compared to liquid stocks (Amihud, 2002). The type of relationship is commonly referred to as illiquidity premium.

The traditional asset pricing theory posits that the greater the returns, the more it will attract additional liquidity risk on the part of the investors. In liquidity stressful markets, the sale of illiquid stocks can become more difficult, which puts investors at a higher risk of uncertainty. Nevertheless, the presence of an illiquidity premium also creates the likelihood that less liquid stocks would also be more prone to misprice. The cost of trading will be high and investors will be less likely to take advantage of the price deviations and misprice will continue to exist.

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4.2 Liquidity and Limits to Arbitrage.

Liquidity is a key determinant of the speed with which the issues of mispricing can be rectified. Arbitrageurs will be able to supply underpriced stocks at comparatively low costs in well-liquid markets or sell overpriced stocks at comparatively high costs. They are also encouraging core values in prices.

Contrarily, illiquid markets come with heavy restrictions. The magnitude of broader bid-ask spreads elevates transaction costs at the expense of profitability of arbitrage strategies. Moreover, illiquid stocks tend to be more volatile that makes risky to arbitrageurs. At times when investors are aware that a stock is being mispriced, they will not trade the stock because the price variation might continue going farther before it corrected.

Arbitrage, according to Shleifer and Vishny (2012), is risky and not practically viable especially in markets where capital limits and capital outflow can compel the arbitrageurs to close their positions too soon (Shleifer and Vishny, 2012). Such arbitrage constraints are particularly applicable to illiquid shares, whose prices can be volatile and extreme.

Consequently, mispricing can also occur longer in illiquid equities than it does in highly liquid equities.

4.3 Liquidity and Information Efficiency.

Liquidity also affects the rate at which information is absorbed in to prices. Institutional investors, algorithmic traders and analysts are more attracted to highly liquid stocks. These players access information quite fast, which plays a role in their faster adjustment of prices.

Illiquid stocks in contrast are frequently not given as much institutional attention. Reduced trading will reduce the inclusion of new information into prices. Slow information diffusion results in higher chances of temporary mispricing.

Pastor and Stambaugh (2003) also provided evidence that liquidity risk is reflected in the cross section of the stock returns. They discovered that the higher the sensitivity of stocks to the market-wide liquidity movements, the higher the expected returns are likely to be (Pastor and Stambaugh, 2003). This fact is indicative that liquidity is not a trading feature but also an important factor in determining asset prices.

Nevertheless, the liquidity premium may not always mean the markets are efficient enough. It can be an indication of both the compensation of risk and inopportune mispricing on the account of the trading friction.

4.4 Liquidity Interaction with market capitalization.

Market capitalization and liquidity are two very close concepts. Small-cap stocks are generally not as liquid as large-cap stocks. Thus, it is not always that easy to isolate the individual effects of firm size and liquidity on asset pricing. The empirical studies have reported that the most significant anomalies are found in both small and illiquid stocks. These stocks have low information coverage and high trading costs, a factor that makes the environment favourable to mispricing as it is much easier to do and last longer.

The liquidity of the large-cap stocks also has an advantage whereby the institutions would continuously monitor and participate in a significant amount of trading, which would mean that the stocks are heavily traded. They are the features of increased pricing efficiency and a decrease in mispricing.

This relationship between size and liquidity heightens the argument that the elements of structure of market segments are acting positively as it applies to the pricing behavior.

4.5 Overview of Empirical Evidence of Liquidity.

The empirical evidence is highly in persuading views that liquidity is significant in elucidating the variations in the returns of stocks and the pricing efficiency. The illiquid stocks are likely to have better expected returns (Amihud, 2002), have vulnerable exposure to the factors of liquidity risk (Pastor and Stambaugh, 2003), and bear more constraints to arbitrage (Shleifer and Vishny, 2012).

These results indicate that mispricing is likely to be sustainable in illiquid market sectors. In cases of high transaction costs and limited arbitrage, central prices can be far away the fundamental prices over a long period of time.

Along with the information about firm size, research on liquidity contributes to the conclusion that there is no randomness in the distribution of mispricing across markets. Rather, it can be seen to be higher in terms of small-cap and illiquid stocks.

The following paragraph will review behavioral reasons that this group of segments might be especially susceptible to continued mispricing.

5.BEHAVIOURAL EXPLANATIONS OF SIZE AND LIQUIDITY BASED MISPRICING.

Although behavioral finance makes more sense to the variation in mispricing amongst market segments, structural factors including the lack of information asymmetry and liquidity constraints explain part of the difference as well. The traditional financial theory is based on the assumption that investors are rational, and they objectively process the information. Nevertheless, psychological

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studies prove that the investors are also vulnerable to systematic cognitive biases. Such prejudices would skew the price patterns particularly in the areas of the market, where they have less institutions to monitor them.

5.1 Overreaction and Underreaction to Information.

Investor underreaction and overreaction of new information is one of the most recorded phenomenon in the financial market regarding the behaviours of individuals. Kahneman and Tversky (1979) demonstrated that people use mental shortcuts or heuristics in decisions that are made under uncertainty. Such heuristics may have foreseeable biases.

Underreaction in stock markets can lead to sluggish character of prices in response to announcements of earnings or macroeconomic news by stock markets, whereas overreaction may result in continuous unceasing price movements. Studies examining post-earnings announcement drift indicate that traders tend to respond relatively insignificantly to earnings announcement and leave the stock prices to continue their unusual path following the announcement (Bernard and Thomas, 1989).

The effects are found to be more vociferous in small-cap stocks. Due to their less coverage and attention of the analysts and the institutional investors, the smaller firms experience slower information diffusion. Through this, investor biases can affect the price changes in a greater proportion, which can enhance the chances of mispricing in the short run.

5.2 Attention and Segmentation of investors.

There is unequal distribution of investors in the market. Megabucks stocks are generally given the media and analyst attention. Constant observational measures minimize the effects of individual behavioural predispositions since the response of institutional investors to new outcomes is speedy.

Conversely, one would not easily find small or liquid stocks that financiers may be interested in. This could lead to reduced speed of information processing as well as increase in price volatility due to limited coverage. According to Hong, Lim, and Stein (2000), stocks that have a low coverage by the analysts experience very strong momentum effects and this may indicate that information is moving slower in this area (Hong et al., 2000).

Behavioural biases like herding and trend-chasing may be more effective when investors are low and thus contribute more on prices. Recent trend in performance may cause temporary overvaluation or under-pricing of retail investors that are able to base their decision on trend as opposed to fundamental analysis.

5.3 Preference of Small-Cap Stocks.

It is also found in behavioural research that some investors are drawn to the stocks that may have lottery -like features. These are stocks that are relatively low priced, highly volatile and have the capability of generating very high returns. This may be common in small-cap stocks.

According to Barberis and Huang (2008), investors can overestimate the minor importance of extremely high payoffs as is the case with lottery tickets (Barberis and Huang, 2008). Such preference may cause overpricing of some small-capital stocks, particularly, the ones that have speculative potential of growth.

The reason behind this is that due to the volatile earnings and the potential volatility of small cap stocks, this makes them more attractive to speculative investors. Consequently, the difference in investor preference can also be a factor that leads to higher mispricing in small-cap segments.

5.4 Liquidity, Sentiment and Price Volatility.

Investor sentiment is another factor which interacts with liquidity. The illiquid stocks are more likely to be affected by the change in the investor mood since even minimal trades may produce substantial movements in the price. Illiquid stocks can become expensive at a very rapid rate when the overall mood of investors is positive. At times when things are bad, they can experience out-of-proportion losses.

According to Baker and Wurgler (2006), stocks that are harder to worth and to arbitrage (young, unprofitable and small firms) are more prone to investor sentiment (Baker and Wurgler, 2006). Such features tend to cross over with illiquid stocks.

This fact indicates that cognitive biases increase structural inefficiencies.

5.5 Interaction of Behavioral and Structural Factors.

Behavioral and structural factors support each other. The behavioral biases are more influential in an environment created by structural factors like limited liquidity and information asymmetry. Simultaneously, there are limits on arbitrage that can stop rational investors from fully correcting sentiment-based mispricing.

Illiquid and small-cap stocks combine a number of features that make them more susceptible to mispricing:

- Lower analyst coverage
- Higher uncertainty

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- Greater volatility
- Higher transaction costs
- Higher sentimentality.

These characteristics indicate that structural inefficiencies and bias in behaviors act together in the strongest mispricings in the market segments.

5.6 Overview of Behavioral Evidence.

The argument that mispricing differs according to the market capitalization and liquidity segments has good support by behavioral finance. The smaller and illiquid stocks have been said to be pricier to errors in price (investor underreaction and overreaction, Kahneman and Tversky, 1979), more prone to post-earnings drift (Bernard and Thomas, 1989) slow as well as slow information diffusion (Hong et al., 2000), predisposed to lottery preferences (Barberis and Huang, 2008), and sentiment based pricing (Baker and Wurgler, 2006).

Together with structural limits and liquidity constraints, behavioral biases can help to understand why the mispricing effect is more persistent in these segments than in large-cap and high-liquidity stocks.

The following part will combine the size and liquidity results and analyze how they affect each other in terms of market mispricing.

6.INTERACTIVE RELATIONSHIP BETWEEN LIQUIDITY AND CAPITALIZATION MARKETS.

Although market capitalization and liquidity have independent effects on pricing efficiency, the combination of the two variables gives a more in-depth insight into the way mispricing is dispersed in the financial markets. Both empirical and theoretical evidence proposes that sizes and liquidity do not determine mispricing; rather the combined impact is what does.

Small-cap stocks are often not liquid as compared to large-cap stocks. This provides the overlap that implies that most of the firms within small-cap segment have an increased transaction cost, reduced trading volume and widened the bid and ask spreads. This illiquidity combined with limited information availability conditions will intensify persistent mispricing conditions.

6.1 Coefficients of Co-movement of Expected Returns.

Literature reveals that both small and illiquid stocks always show the highest abnormal returns. Fama and French (1993) established that size also contributes to the cross-sectional returns but the liquidity-based studies further established that trading frictions create an extra dimension in the asset pricing (Fama and French, 1993).

On the same note, it has been established that liquidity risk is priced in the cross-section of stock returns (Pastor & Stambaugh, 2003). In the event that these factors co-exist, it is common to find higher expected returns implying either offsets of joint risk or existence of greater mispricing.

Based on risk-based treatment, investors might insist on higher returns to have small and illiquid stocks as they become susceptible in adverse market situations. But, mispricing wise, these stocks might suffer slow information diffusion and arbitrage correction processes.

6.2 Information Diffusion and Monitoring.

The large and highly liquidated stocks are liked since they keep the constant supervision of the institutional investors, analysts, and algorithmic traders. A monitoring process enhances the price discovery and minimizes persistence of pricing errors.

Small and illiquid stocks, in their turn, do not get much attention. Hong, Lim, and Stein (2000), established that the momentum effects of stocks which are less covered by analysts are stronger and they may be characterized by slow diffusion of information (Hong et al., 2000). Information can be reflected in prices over time as opposed to instantly when the coverage by analysts is low and liquidity is scarce.

This interaction is that pricing efficiency is the strongest in large and liquid companies and the weakest in small and illiquid companies.

6.3 Arbitrage Constraints in Integrated Segments.

Arbitrage constraints are especially strong in situations where there is size and liquidity constraint. Shleifer and Vishny (2012) deny that risk, capital constraints and the danger of capital withdrawal can limit arbitrage. Such constraints are aggravated in illiquid markets.

In the case of a small illiquid stock, arbitrageurs have:

- Higher transaction costs
- Greater price volatility
- Short-selling difficulties

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- Funding risk

The cost of fixing mispricing could be more than the possible benefit even in case it is noted. Consequently, deviations in price would last longer than large-cap and well-liquid stocks, where operation of the practice of arbitrage is cheaper and effortless.

6.4 Debate on risk-based vs Mispricing.

A significant scholarly controversy is whether higher returns associated with certain market capitalization and liquidity segments is compensation of risk, or an indication of mispricing. Risk-based explanations believe that these firms are simply more risky, and therefore justify higher expected returns.

The empirical findings, however, indicate that behavioural, structural evidence indicates that, at least a portion of the return premium can indicate a continued presence of inefficiencies as well as pure risk premium. Diffusion of information slowness, effects of investor sentiment and arbitrage restraints are all factors that lead to pricing deviations.

This interplay between size and liquidity hence indicates the intricacy in asset pricing. Although the conventional models are trying to categorise these premiums as risk factors, empirical data points to the fact that market frictions and behavioural factors are significant.

6.5 Summary

The relationship between market capitalization and liquidity gives a good argument to the fact that there is no equal distribution of mispricing in financial markets. Mispricing is found to be the weakest in the large cap and well liquidated stocks and strongest in the small-cap and illiquid stocks. The features of the structure like the lack of information and high transaction costs, as well as behavioral biases and arbitrage limitations, dispose of conditions under which pricing errors may persist.

This cumulative view reinforces the main argument of this paper which is that market mispricing is not a random event but is found to be systematic across size and liquidity lines.

The following part will analyse how these findings can be applied in practical implications on investors and financial institutions.

7. EMPIRICAL CONSEQUENCES TO INVESTORS AND MARKET EFFICIENCY.

The results obtained in the previous sections prove that there is a systematic variation in mispricing across market capitalization and liquidity classes. The implications of these findings are of high importance to investors, portfolio managers and policymakers. The knowledge of the places where mispricing are more prone to take place can affect investment strategy and risk management and the regulatory methods of market supervision.

7.1 Implication on Individual Investors.

To individual investors, the greater presence of stronger mispricing in small-cap and illiquid stocks is an opportunity and threat. These segregated segments could result in high potential returns because of the sustained pricing anomalies, on the one hand. Excess returns could be delivered by investors in situations in which they can identify undervalued, small-cap or illiquid stocks. Nevertheless, such opportunities have to be carefully analyzed and risk tolerance is also necessary to exploit them. The price moves of small-cap and illiquid stocks are generally more tumultuous and can undergo greater alterations. When high returns compensate for risk, they should not be misunderstood as mispricing (Fama and French, 1993). Thus, the investors should differentiate between real underpricing and reasonable risk premiums.

In addition, there are much greater transaction costs in illiquid stocks. Larger bid-ask spreads and decreased trading volumes decrease net returns. Cost of trading can over-ride the anticipated returns even though a stock is overpriced or under-priced. Subsequently, such opportunities may only help long-term investors who are also well-researched.

7.2 Implications of Institutional Investor.

Institutional investors including mutual funds and hedge funds are very instrumental in price discovery. They are in a better position to detect mispricing because they have more capital and tools of analysis. Nevertheless, their arbitration has restrictions that do not allow them to completely eliminate the pricing mistakes (Shleifer and Vishny, 2012).

The portfolio liquidity requirement may cause institutional investors to avoid highly illiquid stocks. Huge amounts of money are required for investment, hence they are restricted in terms of exposure to small cap illiquid companies. This control weaknesses of institutions contributes to the continuation of mispricing in these areas.

There are investment plans that specifically go after the size and the liquidity premiums. Small-cap exposure in diversified portfolios of factor-based investing can be used as an example. These strategies can result in more average returns, but more economic recessions and liquidity shocks.

Therefore, institutions will have to strike a balance between the probable gains of taking advantage of the mispricing and the drawbacks of inadequate liquidity and volatility.

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7.3 Market Performance Implications.

In a more global view, the mispricing difference between segments defies the homogeneous market efficiency. Efficient Market Hypothesis bodes upon the fact that markets are fast at capturing information into prices (Fama, 1970). Nonetheless, structural characteristics show that the variance of pricing efficiency varies.

Markets which are large and very liquid seem more akin to the semi-strong form of efficiency in which the public knowledge is quickly captured in the price. Smaller amounts, in turn, exhibit weaker and sluggish price-adjustment and greater behavioral effects in small-cap and illiquid ones.

This compartmentalized efficiency implies that there are no equal markets level in terms of efficiency. Rather, efficiency is based on availability of information, trading intensity, as well as, investor composition.

7.4 Regulatory and Policy Implications.

These findings can also be taken into account by the regulators when preparing disclosure and transparency requirements. Enhancing information access to small-cap firms may lead to a lower level of information asymmetry and to more accuracy in pricing. Better reporting standards and coverage by the analysts could help in transferring to more efficient pricing.

Moreover, the policies that enhance market liquidity, that is, by lowering transaction costs or promoting the market-making behavior, may assist in eliminating the legacy of mispricing. Through the reduction of trading frictions, arbitrage mechanisms are more efficient.

Mispricing may not be completely removed, and doing so might be impractical. Risk-based differences and behavioral biases are the intrinsic elements of financial markets. Thus, regulatory action can be targeted at reducing inefficiency instead of attaining an ideal price precision.

7.5 Portfolio Construction Implications.

The two factors of size and liquidity also influence the strategy of portfolio diversification. Thus, the investors who want greater expected returns may allocate a fraction of their portfolios to small-cap stocks or less liquid stocks. They should, however, consider liquidity risk keenly.

Liquidity will go down drastically in times when the market is experiencing stress. Pastor and Stambaugh (2003) demonstrate that liquidity risk is systematic and influences the returns that are expected within the market (Pastor & Stambaugh, 2003). Weak portfolios with high concentration of illiquid assets can be wiped out in bad times.

Hence, the best portfolio formation involves the positioning of possible mispricing gains and hazard management and liquidity control.

7.6 Conclusion on Practical implications.

The mispricing variance between market capitalization and liquidity segments has important real-life implications. Small-cap stocks and illiquid stocks could have high expected returns, but the expected returns are more volatile and expose the stock to higher trading costs and liquidity risk. These segments maintain pricing inefficiencies due to the institutional constraints and biases in behavior.

Meanwhile, highly liquid and large-cap stocks belong to stocks that show greater pricing efficiency because of the presence of extensive monitoring and minimal transaction costs. These disparities reveal the idea that there is no uniform efficiency applied to the market but rather it occurs in a systematic manner across structural segments.

The implications of these can enable investors and policymakers to make a better decision based on the level of risk exposure coupled with investment strategy as well as the design of the regulatory body.

A detailed conclusion scale and sum up of the major findings will be given in the last part of this paper.

8.CONCLUSION

Mispricing in the market across market capitalization and liquidity levels has been discussed in this paper. Although the traditional financial theory prescribes that the stock prices represent the overall information known, general empirical and theoretical evidence shows that pricing efficiency varies among the structural market segments. Mispricing is rather not equally distributed but instead, seems to be more weighted on the small-cap and illiquid stocks. This paper has clearly illustrated that behavioral and structural factors play a concurrent role in the tendency of price deviations to persist by combining the insights of the market efficiency theory with liquidity research and some behavioral finance.

8.1 Reconsideration of Market Efficiency.

Efficient Market Hypothesis gives the basis of the knowledge on pricing assets (Fama, 1970). This theory would argue that the stock prices react quickly to new information and therefore there is not much room to misprice systematically. But there are some

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anomalies, which are empirical, to the application of this assumption. The size effect was originally discovered in a study by Banz (1981) which showed that historically small-cap stocks received higher average returns than large-cap stocks. The implication of this observation is that either small firms are always riskier or the relevant information has not been fully factored in prices.

In the same times, studies on liquidity have established that high expected returns go to stocks that trade less frequently (Amihud, 2002). The market can also be efficient provided higher returns are just a compensation on liquidity risk. The occurrence of the liquidity-based pattern of returns also, however, makes it a possibility that the trading frictions do not allow complete price changes. These results suggest that not all markets have the same efficiency but the efficiency varies according to market structures.

8.2 Significance of Structural Factors.

Firm-specific elements like size and liquidity are also determined to be crucial in determining the rate and precision in submitting price changes. Large-cap shares have advantages of comprehensive analyst attention, institutional oversight and extensive trade. These characteristics enhance the acceleration of diffusion of information and augmented arbitrage. Consequently, huge liquid stocks should have their pricing errors corrected within a short period.

On the contrary, small-cap stocks are likely to have higher information asymmetry and low analyst coverage. Illiquid stocks have increased transaction costs, and the spread of bid-ask increases. These make it more expensive and dangerous to arbitrage, which enables mispricing to remain. The idea of limits to arbitrage is what rationale investors cannot get rid of pricing variations in areas that become more volatile and constrained in terms of funding (Shleifer and Vishny, 1997).

These effects are further enhanced by the interaction of size and liquidity. Small-cap stocks are often less liquid, that is, both informational and trading frictions are present at once. Such overlap leads to a situation whereby mispricing can happen more often and be allowed to persist longer.

8.3 Behavioral Influences and market segmentation.

Besides the structural factors, behavioral biases are also causes of mispricing variations. Investors often do not take rational decisions, as they are subject to cognitive biases (overconfidence, herding, sentimentalizing trading, etc.). The effects of these biases might be more pronounced in small-cap and illiquid stocks, where the institutional monitoring is less effective, and the involvement of retail investors is greater.

The more challenging to value or arbitrage stocks such as those of small and illiquid firms are more likely to be sensitive to investor sentiment (Baker and Wurgler, 2006). Such stocks will be overvalued when optimism is high but a steep fall may be experienced when the mood is pessimistic. Behavioural biases in combination with structural constraints increase pricing inefficiencies in these segment.

Thus, mispricing, is not only a consequence of risk-based compensation but also a process of psychological factors and market frictions. This holistic approach explains the persistence of pricing differences in particular market segments.

8.4 Risk-Based Would Misprice vs. Mispricing Explanations.

A major controversy in the pricing of assets is whether more return in small-cap and illiquid shares is an adjustment of risk or mispricing. The risk-based models like the Fama-French model believes that other factors of returns reflect the exposure to systematic risks (Fama and French, 1993). In this perspective an increase in the expected returns could be an indication of a real economic risk and not inefficiency.

Nevertheless, slow information diffusion, distorting behaviour and limits to arbitrage indicate that the issue of mispricing cannot be fully disregarded. Although some portion of the premium of returns can be utilized as compensation to the investors against risk, empirical evidence suggests that structural inefficiencies and investor actions will also play a significant role towards the variation in returns.

This difference is critical in the explanation of asset pricing irregularities. Risk compensation may be accompanied by mispricing, which means that it would be hard to centrally pin such returns premiums.

8.5 Final Implications

The conclusion of this paper points at the view that market efficiency is not universal but instead segmented. Highly liquid stocks of large size portfolios have better pricing efficiency as they are heavily monitored, and transaction costs are low and serve as their active arbitrage. Small-cap and illiquid stocks on the contrary exhibit greater and more sustained mispricing because the flow of information is less prominent, trading frictions are more pronounced, and behavioral influences are greater.

To investors, it means that the chance of abnormal returns is possibly more appropriate in small-cap and illiquid parts, but at a greater risk and liquidity restriction. To the policymakers, to increase the level of transparency and to decrease the trading frictions can bring in more accurate pricing but not totally likely to bring an end to the mispricing.

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To sum up, market mispricing is systematically varying across the structural market properties. The combination of size, liquidity, asymmetry of information, trading restrictions, and behavior biases also explains why deviations in pricing are located in few segments. It is important to learn these differences both in academic research and real world investment decision making.

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