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Diversification's Effects on Liquidity

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When a firm is considering diversifying, many factors must be taken into account. One in particular is how undergoing diversification will affect the liquidity of the firm. When looking up the term liquidity, many definitions arise: the state of being liquid; the quality of being readily convertible into cash; available cash or the capacity to obtain it on demand. Likewise, diversification is listed under many definitions as well: to give variety to; to extend (business activities) into disparate fields; to distribute (investments) among different companies or securities in order to limit losses in the event of a fall in a particular market or industry. Throughout the course of this paper, I will touch up upon liquidity, diversity, and how diversity can affect liquidity in the global market. Diversifying can benefit firms tremendously; however, along with these benefits come additional risks.

Liquidity

As defined above, liquidity measures how much cash a company has and how easily it is able to pay off its debt. According to an article titled "Corporate Liquidity" by Dittmar, liquidity is defined as the ratio of cash and cash equivalents to net assets, where net assets are computed as assets less cash and equivalents.

This article touches up on two unique theories based upon liquidity. The first theory explained is the trade-off theory. This theory states that "firms trade off the costs and benefits of corporate liquidity to derive the optimal liquidity holdings (Dittmar)." On another note, the financing hierarchy theory states that "there is no optimal amount of cash, based on arguments similar to the pecking order theory of capital structure (Dittmar)." This theory explains how when a company becomes profitable, their debt will decrease as their cash will increase, therefore they will not need as much help with financing from outside the company.

What is the difference between these theories? Dittmar goes on to explain that the trade-off theory uses a more optimistic approach and predicts a positive relationship between investment and cash levels, whereas the hierarchy view takes a more pessimistic approach predicting a negative sign.

Next, the difficulties of managing liquidity will be discussed. A financial manager has a difficult role managing the liquidity of a firm. This role is difficult because it requires one to keep the firm from reaching a state of deficient liquidity. According to the article, "Liquidity management, operating performance, and corporate value: evidence from Japan and Taiwan" by Yung-Jang Wang, "a deficiency of liquidity implies that the firm is unable to take advantage of favorable discounts or profitable business opportunities as they come into being." In brief, what is being said is when a firm has liquidity insufficiency they are unable to control their debt and/or financial obligations. This is by no means a good sign for a firm and may in turn force them to sell their investments and/or properties and could possibly even lead to bankruptcy. That being said, liquidity needs to be effectively managed in order for a firm to remain profitable.

Furthermore, let me explain what is meant by liquidity risk. In reference to an online article, "Factors that affect bank liquidity," liquidity risk is "the risk that a bank won't be able to

raise cash at a reasonable cost when it needs to do so." This of course does not include unforeseen events such as fraud, natural disasters or equipment malfunction which could all affect liquidity if they were to occur. Since these kinds of events may occur it is always important for a firm to maintain reserves of liquidity.

Some factors discussed from this article that can influence liquidity include financial market access, financial condition, and balance sheet structure. When speaking of financial market access, smaller banks of course tend to have less access to financial markets than do larger banks; this is usually because smaller banks are not as well known. When financial condition is brought to the table, poor earnings and asset quality arise; both of these factors are major determinants in the financial condition of a firm and thus can negatively affect liquidity. Furthermore, this article stated, "Low earnings translate into less available cash and low quality assets or high levels of nonperforming assets damage earnings and lock a bank into assets with low marketability." The last factor discussed which affects liquidity is balance sheet structure. Simply put, balance sheet structure talks about banks adjusting their assets and liabilities to manage their liquidity. That being said, it is safe say that how a bank structures its balance sheet can affect its liquidity position. The more assets and liabilities a firm has in categories near the top of the balance sheet, the more liquid the firm is. The challenge for bank managers is to maintain a rational degree of liquidity while still structuring the balance sheet to earn a profit (Factors that affect Bank Liquidity). Now that liquidity has been discussed, we need to factor diversification into the equation before we can relate the terms properly.

Diversification

When referring to diversification, the first term which comes to mind is expansion. With expansion come additional benefits and additional risks. According to an article titled, "Corporate diversification, ownership structure, and firm value" by Sheng-Syan Chena, we find that the level of diversification is positively related to firm size and negatively related to outside equity ownership; thus, larger firms are more diversified than smaller firms. There is no evidence that insider ownership has a significant impact on the level of diversification (Chena). As stated above, corporate diversification has both benefits and costs. Benefits come from the creation of internal capital markets, higher debt capacity and economies of scope (Chena). The costs of diversification stem mainly from agency problems (Chena). Chena discusses that, "Managers may diversify to protect their human capital to increase their private benefits or to entrench themselves." That being said, within a diversified firm, "managers may have easy access to capital through cross-subsidization which may lead to over-investment (Chena)." In addition, recent studies show that corporate diversification has been associated with significant value loss; the evidence in these studies suggests that the costs of diversification outweigh the benefits (Chena).

However, according to an article titled, "Corporate diversification and performance, evidence on production efficiency" by H. Young Baek, it is argued that internationally diversified firms gain value by overcoming restrictions such as tax codes in addition to being more valuable because they possess more flexibility (Baek). Moreover, coming from an article titled, "Strategic Cost of Diversification-Theory and Evidence" by Evgeny Lyandres, diversified firms are valued differently from stand-alone firms and can have potential benefits. One advantage is economies of scope; this may allow greater operating efficiency. In addition, early

studies often argued that diversification was valuable and diversified firms were more efficient than non-diversified firms (Singh).

Stijn Claessensa from, "When does corporate diversification matter to productivity and performance? Evidence from East Asia," discusses how economic development may affect diversification performance through its impact on learning and capital misallocation costs. If a market is in a more developed economy it has an advantage already because this economy is very likely to have accumulated more knowledge in place and have more peer firms to learn from each other on the contrary to markets in less developed countries. I found that increasing the level of economic development benefits diversification strategy, if internal organizational costs are reduced more than market transaction costs are. On the other hand, "increasing level of economic development produces unfavorable effects on diversification strategy, if market transaction costs are lowered more than internal organizational costs are (Claessensa)." However, firms in more developed economies are more likely to ultimately benefit from such diversification in the long run. Following diversification, we will discuss some ways that diversification can affect liquidity.

How Diversification affects Liquidity

Now that some of the different aspects concerning liquidity and diversification have been discussed, we can explore how diversification can affect liquidity. Diversifying a firm can have benefits as well as risks in regards to liquidity. According to Chun Chang from an article titled "Investment Opportunities, Liquidity Premium, and Conglomerate Mergers," it is shown that in a market with finite liquidity, both the benefits and the costs of diversification vary with the return and risk of the investment opportunities of the firm's divisions. It states how the benefits come from a reduced liquidity discount in the stock price of the merged firm; this event occurs when

shareholders anticipate less informed trading (Chang). Furthermore, according to Chang, "when costs are brought up we find they are the result of less efficient investments by the merged firm's divisions due to a less informative stock price."

In addition, we find that a key factor in organizing a business is how much we should diversify. Throughout this article, Chang explains the relation between a firm's diversification strategy and the liquidity premium in its stock return which is important for a number of different reasons. First, we find that liquidity premiums in security trading are said to have a significant impact on stock returns. Second, Chang states, "by relying on changes in the two key characteristics of investment opportunities, the theory developed here is capable of explaining the life cycle of diversification strategies for many firms: from focus to diversification and then back to focus again." This brings us to the third and final reason that "the merger benefits identified here are the same ones as those that presumably give rise to the popularity of stock index futures and asset securitization (Chang)." In a nutshell, if these types of financial innovations can create benefits, then conglomerate mergers should as well. In fact, Chang affirms that mergers may be the only way to realize the benefits in underdeveloped countries.

What kind of impact do these mergers have upon the firm? Chang explains that by linking the benefit and cost of a merger to the risk and return of the firm's investments, it may explain the life cycle of diversification strategies that many firms experience. These cycles are said for the business to start as a more focused business, then diversify into other businesses, and finally return to become more focused businesses again. Chang goes on to state that this seems to be consistent with the life cycle of diversification strategies that many firms follow.

This particular study found many connections between market liquidity and the efficiency of decision making at the firm's level. One connection discovered was how "low market liquidity induced by ownership concentration reduces market monitoring of managerial performance, which in turn lowers the level of managerial effort (Chang)." Another connection was how market liquidity affects large shareholders' incentive to intervene in poor-performing firms. In brief, these findings explain how ownership concentration affects stock liquidity.

In this article, it explains how by explicitly building firms' investment decisions into a market microstructure model, we have developed a theory of conglomerate mergers in which both the benefits and the costs of diversification are related to the characteristics of firms' investment opportunities. The benefits the author is referring to here come "from a reduced liquidity discount in the stock price of the merged firm when its shareholders anticipate less informed trading in the secondary market (Chang)." We find that the costs are the result of less efficient investment by the merged firm's divisions due to a less informative stock price. The benefits and the costs incurred vary with the means and the variances of the NPVs of the investment opportunities of the firm's divisions.

According to an article titled, "Liquidity and Firm Characteristics: Evidence from Mergers and Acquisitions" from www.journals.uchicago.edu, a number of studies have discovered relations between firm characteristics and market liquidity. For example, it is well known that larger firms are more liquid and recent evidence highlights the possible benefits to size from increased analyst coverage, more active market making, greater breadth of ownership, and higher trading volume. In addition, some studies suggest that there is link between operational diversification and liquidity. Since mergers and acquisitions can lead to substantial

changes in the size and scope of operations, we explore the relation between firm characteristics and liquidity by examining mergers and acquisitions (www.journals.uchicago.edu). The analysis of these factors is quite unique for a number of reasons.

The first reason is that, "while liquidity changes are not likely to be a deciding factor for these corporate transformations, the magnitudes of the transformations suggest potentially significant liquidity changes (www.journals.uchicago.edu)." We explore liquidity determinants by examining the relation between changes in firm characteristics and changes in liquidity. Second, we have to consider the measures of adverse selection and order. Third, there are currently no studies which document liquidity changes around mergers and acquisitions. We see the possibility that results are driven by firm characteristics that are omitted from our analysis but correlated with liquidity. Concisely, we find that mergers and acquisitions improve liquidity, on average.

Next we will touch up on how after examining cross-sectional variation in liquidity changes, we find that the liquidity improvements are positively related to analyst coverage, the number of market makers, trading volume, and breadth of ownership (www.journals.uchicago.edu). In addition, we find that "spreads decline more for mergers within the same industry, but only weak evidence that this is related to the degree of diversification of underlying returns (www.journals.uchicago.edu)." After looking at adverse selection and order processing costs, we find that analyst following and volume affect both order processing and adverse selection costs; on the contrary market making and corporate diversification affect only order processing costs, while the number of shareholders affects only adverse selection costs (www.journals.uchicago.edu). Furthermore, each of these effects

contributes to liquidity even when controlling for the others. Results from this article explain how diversification may in fact be quite harmful to liquidity of a firm. In particular, it explains how diversification reduces liquidity based on the effects of diversification on adverse selection and suggests links to order processing costs which should be considered.

This section will link liquidity to the characteristics that are likely to change as a result of a merger or acquisition. In particular, the article notes that mergers and acquisitions increase size and visibility, and therefore we expect breadth of ownership and volume to increase with increases in firm size. It goes on to state, "with fixed order processing costs and adverse selection costs distributed across larger volumes, spreads will decline." In addition, "diversified firms have reduced adverse selection costs since firm-level prices are less sensitive to information asymmetries arising in individual divisions." I discovered that since market makers hold undiversified portfolios, corporate diversification reduces inventory holding costs by reducing unpredictability. In addition, the reduction in either adverse selection costs or inventory holding costs would reduce spreads for diversifying firms (www.journals.uchicago.edu).

So how can we determine whether diversification affects liquidity positively or negatively? To sum it up let me post an excellent page-long excerpt from (www.journals.uchicago.edu). After researching numerous articles this one in particular caught my interest in answering this question:

"Whether the effect of changes in the scope of operations induced by mergers or acquisitions is more consistent with the positive or negative effects of diversification is an empirical question - and empirical evidence on the effects of firm diversification on liquidity is mixed. Consider two studies that examine this issue by studying corporate spin-offs: find that proxies for information asymmetry decline after spin-offs, while find that spin-offs lead to increased asymmetric information problems. Thomas (2002), and Clarke, Fee and Thomas (2002) compare diversified and non-diversified firms and provide evidence that non-diversified firms have greater information asymmetry. We believe additional empirical evidence on the relation between firm diversification and liquidity is particularly beneficial in light of these mixed empirical results. The underlying firm characteristics related to market activity typically derives their link to liquidity through their effect on volume. For example, increased analyst coverage leads to increased trading volume which improves liquidity (Irvine (2003)). To acknowledge these links and to determine whether volume has any additional effect after what is induced into volume by the analyzed firm characteristics, we compare volume to the number of analysts, market makers and shareholders. Taken together, the multivariate analysis confirms that changes in firm characteristics affect liquidity. In particular, the evidence suggests that firms benefit from any increase in analysts, market makers, shareholders, and residual volume. The evidence also suggests that there is a benefit to liquidity from focusing mergers. Furthermore, while our evidence suggests focusing mergers are beneficial, the evidence is not consistent with existing theories since we find no evidence that changes in diversification are related to adverse selection. In this paper we study the relation between firm characteristics and liquidity by examining mergers and acquisitions. In particular, we first document the changes in liquidity typically induced by mergers or acquisitions. We then examine the relation between individual firm changes in characteristics and the resulting changes in liquidity. This provides quoted depth is an important variable to consider – one could reduce quoted spreads and reduce quoted depth in such a way that liquidity is not improved. An analysis that implicitly controls for other characteristics of firms and allows us to consider multiple relations simultaneously. We find that the combined firm is more liquid after the event than the bidder before the event. Spreads and spread components drop and depth increases. In addition, volume, the number of analysts, the number of market makers, and the number of shareholders increase and changes in these variables are negatively related to changes in spreads and spread components. We also find that spreads decline for mergers in the same industry and that the effect is driven by changes in order processing costs. Our results make a number of contributions to existing research on mergers and acquisitions and on the determinants of liquidity. First, this paper documents the dramatic changes in liquidity that accompany mergers and acquisitions. We also highlight the changes in a number of firm characteristics, such as analyst following and breadth of ownership, that have not been previously examined. Second, we consider the change in multiple firm characteristics in a single analysis of liquidity. We are able to show, for example, that even though analyst following is closely related to the number of shareholders, both these variables make independent contributions to liquidity. Finally, we provide additional evidence on the relation between diversification and liquidity. In particular, we provide some evidence that focus is beneficial to liquidity and that the benefits seem unrelated to adverse selection. Our results point to some needed additional research. Clearly, the relation between diversification and liquidity needs further study. Our results are best viewed not as contradicting existing research, but as providing contrasting results that indicate just how much needs to be done."

This excerpt sums it up best indeed that there is no yes or no answer to whether diversification will affect liquidity. It depends on many factors. As we conclude, let me refer to where we started. Liquidity, diversification, and the relation of these two terms are all important to a firm being successful in the marketplace today. After researching numerous scholarly articles from around the nation, we find that diversification will bring both costs and benefits to the liquidity of a firm. Although there may be no yes or no answers to this phenomenon, there still is mystery. Maybe someday, when we are with our own firms, we may be able to better understand this complex question.

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