



LIQUIDITY AND THE MARKETS

THE VALUE OF BEING ABLE TO GET OUT

This headline in the *Financial Times* of Thursday, September 3 caught my eye:

Cerberus to bar withdrawals from two funds¹

The story begins by reporting that Cerberus, the investment group behind disastrous buyouts of both Chrysler and GMAC, is raising two new hedge funds and planning to bar investors in those funds from withdrawing money for three years. According to the FT story:

Cerberus officials said the new lock-ups were driven by a desire to avoid the situation they faced in December when they unilaterally halted redemption requests from the two [earlier] hedge funds to avoid a fire sale of their assets.²

While Cerberus's proposed exit restrictions don't quite have the finality of its namesake mythical creature's, they aren't trivial, either. In fairness, the firm has said that the new funds

¹ *Financial Times*, September 3, 2009. Also at <http://www.ft.com/cms/s/0/09f87c1a-9803-11de-8d3d-00144feabdc0.html>

² I particularly like the irony of departure restrictions from a firm called Cerberus. I imagine that the firm's founders chose that name to hint at aggressiveness or ferociousness. In Greek mythology Cerberus is the three-headed hound that guards the gate to the underworld. Cerberus would permit your shade to enter the underworld (although living humans couldn't pass), but Cerberus wouldn't let anyone out. Only Herakles and Orpheus, who realized that Cerberus was also easily duped, ever made the return trip.

Sometimes I wonder where these people get these names. Maybe it's inadvertent truth in advertising. One of my favorite hedge fund names is Peloton Partners. My guess is that the founders were bicycle racers, and they thought the name connoted speed and precision. In a bicycle road race, the peloton is the pack of riders making up the bulk of the race. So if you're in the peloton, you're just in the pack, no matter how fast you're moving. Not only that, if the racer next to you crashes, you're likely to go down, too.

will specialize in distressed investments. Such investments often take time to come to fruition. Forced sales, which could come about if many investors withdrew from the funds at the same time — as happened last year — could seriously hamper the investment strategy. So long as the nature of the underlying investments corresponds to the liquidity restriction, they could make sense. But liquidity is valuable. Investors in these funds, or any fund with severe withdrawal restrictions, should only go ahead if they're satisfied that the return potential of the vehicle is great enough to compensate them for the sacrifice of liquidity.

THE PREFERENCE FOR LIQUIDITY

Economists sometimes refer to the benefit of holding more liquid investments as “liquidity preference.” They most commonly use the term in connection with one hypothesis about why longer-term interest rates tend to be higher than shorter-term ones, but the concept has broader applications. To understand the idea behind liquidity preference, let's consider the basic argument of a 1986 academic paper by Yakov Amihud and Haim Mendelson.³

Amihud's and Mendelson's argument goes like this: Let's suppose we have the choice between two securities A and B. For simplicity, let's imagine that they're bonds, both from the same issuer and promising the same cash flows. The securities are identical, in fact, except that a holder could sell security A at a very low trading cost, and could only sell B by incurring large trading costs. That is, the first security is more liquid than the second.⁴ To measure liquidity, Amihud and Mendelson used bid-asked spread, the difference between the price at which a customer could sell the security to a dealer (the bid) and the higher price at which the customer could buy from a dealer (the asked).

A moment's reflection should be enough to show that B should be cheaper than A. Think of it this way. If the two were the same price, you would naturally prefer A to B, since A gives you everything B does, and also provides cheaper liquidity — that is, if you chose to sell your holding, you could sell A more easily. So B should be available at a lower price, since it has a meaningful disadvantage. Because it is cheaper but promises the same cash flows, B offers investors higher returns, aside from the effect of trading costs.

³ Amihud, Yakov and Haim Mendelson, “Asset Pricing and the Bid-Ask Spread,” *Journal of Financial Economics* **17**, No. 2, (December 1986), pp. 223-249.

⁴ This sort of assumption is typical in academic papers. The authors may make such assumptions even though they realize that they aren't realistic, because they either simplify the problem or focus the analysis on the topic of interest. In this case we assume the securities are identical because we want to set aside the analysis of the cash flows underlying the securities and concentrate instead on the effect of liquidity.

So how should an investor choose between A, which has greater liquidity, and B, which offers a higher return to compensate for its lack of liquidity? The decision turns on the investor's expected holding period. An investor with a long enough holding period will prefer the less liquid security, B, because given enough time the extra return will more than make up for the extra cost of selling the security later. Investors with short holding periods will prefer the lower transaction costs of A, and be willing to pay the higher price.

When one class of investors prefer one choice and another class prefer an alternative, financial economists describe the difference as a clientele effect. Amihud and Mendelson showed that in their setup we should expect such an effect. They also adduced empirical evidence that for long enough holding periods, securities with larger bid-asked spreads do, in fact, produce higher returns on average.

Amihud's and Mendelson's conclusions hang together both in logical terms and in the face of empirical evidence. Let's explore what they can tell us about a variety of investments, from stodgy old municipal bonds to, yes, hedge funds and private equity investments.

LIQUIDITY PRICING, FROM MUNI BONDS TO PRIVATE EQUITY

At Tiemann Investment Advisors, we include municipal bonds in many client portfolios. Broadly speaking, we do this where we believe that munis can fulfill a portion of a client's fixed income allocation in a cost- and tax-efficient manner. However, municipal bonds have historically had particularly high trading costs, with customer purchases often taking place at prices substantially above those at which other customers have recently sold the same bonds.

Muni bonds have high trading costs for a variety of reasons, but mostly because they are highly idiosyncratic. Each bond is unique, and comparing similar bonds to be sure that they really are a lot like one another can be labor-intensive. As a result, dealers buying bonds from selling investors and taking them into their own inventory bear a certain amount of risk. To trade munis profitably, dealers apply, and usually receive, sizeable bid-asked spreads.

Here's an example. Let's look at recent trading activity for a 5% California State General Obligation bond due February 1, 2019. This bond has been pre-refunded to February 1, 2012, making that earlier date its effective maturity. The Municipal Securities Rulemaking Board (MSRB) now has an on-line information service called Electronic Municipal Market Access (EMMA), which provides public access to disclosure statements and trade information on municipal bonds.⁵ A customer (most likely a real person) sold 20 bonds (\$20,000 face value) of

⁵ See this information at <http://www.emma.msrb.org>. The trade data for the example bond are at <http://emma.msrb.org/SecurityView/SecurityDetailsTrades.aspx?cusip=13062NA98>. The trade data come from FINRA's Trade Reporting and Compliance Engine (TRACE).

this issue on Friday, August 14, 2009 at a price of 107.23 (107.23% of face value). Several inter-dealer trades of a block of bonds of the same size took place later that day and during the first part of Monday, August 17, at prices ranging from 107.43 to 108.928. Finally, on August 17 a customer bought 20 bonds at a price of 109.428. While we don't know for certain that all the \$20,000 trades pertained to the same block, it's likely they did. In the end, the second customer paid 2.2%, or about \$440, more to buy the bonds than the seller had received in the original sale. Compared to a one-cent bid-asked spread and a \$20 round-trip commission on 175 shares of IBM (worth about the same amount) that's a very large transaction cost.

A muni bond dealer will tell you that 20 bonds (\$20,000 face value) is actually a small lot in the bond world, and so the large spread reflects the small size of the trade. There's something to that point. Looking further back into the trade history on our bond, we can see two trades of a 400-bond block (\$400,000 face value) on October 15, 2008. On that date, a customer sold 400 bonds at 105.767, and another bought 400 at 106.379, a difference of just 0.6% — but amounting to about \$2,450.

In general, it seems that smaller lots of municipal bonds are less liquid, and so they trade at wider bid-asked spreads. Based on Amihud's and Mendelson's logic, they should therefore be cheaper, and thus more attractive to long-term investors. This turns out to be the case. When I'm looking for municipal bonds for client portfolios, I often find that the yields available on small lots in the muni market are significantly higher (remember that in the bond world, lower prices and higher yields go together) than those on larger lots of similar bonds. Here's an example:

On September 14, 2009, Fidelity showed dealer offers of two different bonds issued by Solano County, California. They were the same general type of bond, both parts of the same issuance series, and both pre-refunded at par to November 1, 2012. A dealer offered \$50,000 face value of a 4-5/8% issue at a price of 111.551, for a yield to the refunding date of 0.867%. Also on offer was \$5,000 face value of a similar bond with a 5% coupon, at a price of 111.795, for a yield to the same refunding date of 1.143%. Aside from the lot size and coupon, these issues have basically identical investment characteristics. The smaller lot is simply cheaper, offering a yield more than 0.25% higher than the larger piece. The difference is that the small piece would be more difficult to sell at a reasonable price later.

At first, the idea that we can buy small lots of municipal bonds more cheaply than larger lots seemed odd to me. Odd lots of most securities trade at worse prices than round lots. On reflection, though, the difference makes sense. Remember that in the bond world, lower prices translate to higher yields. Since the smaller pieces are less liquid, Amihud and Mendelson would say that they should offer long-term holders higher returns, which in this case means higher yields. So long as we're likely to hold these small positions to maturity (completely avoiding any transaction cost in selling the bonds later), they can be a good deal.

ONE SECRET OF DAVID SWENSEN'S SUCCESS

Liquidity-related clientele effects show up throughout the investment landscape. Yale University famously runs its endowment under the supervision of David Swensen, one of the most successful, and best-regarded, institutional investors of the current generation. Yale's endowment invests heavily in a variety of investments with less liquidity than traditional stocks and bonds. According to Mr. Swensen's book, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment* (Free Press, 2000), these investments include timberlands, private equity and venture capital partnerships, and hedge funds. Yale can make such investments successfully because of several structural advantages it enjoys as a University endowment. The portfolio's size justifies an expert investment staff for selecting and monitoring these investments. Its size also creates a market position conferring advantages in terms of access to investments and negotiation of terms. But perhaps most important, while Yale's endowment makes a substantial cash contribution to the University's operating budget each year, the endowment has an extraordinarily long investment horizon. Yale regards itself as a perpetual institution, so its endowment's investment horizon is effectively infinite. This means that Yale can commit to investments that offer no prospect of liquidity for a very long time — decades in some cases.

Mr. Swensen and his team have been exceptionally successful. Yale reported a year ago that for the ten years to June 30, 2008, its endowment had returned an annualized +16.3%. Over the same period, the S&P 500 returned +2.9% per year. So many individuals began to try to figure out how to replicate Yale's strategy that Mr. Swensen wrote a second book, *Unconventional Success: A Fundamental Approach to Personal Investment* (Free Press, 2005). In it, he basically says of Yale's strategy, "Don't try this at home." He cites the structural advantages a large, perpetual endowment enjoys in accessing and managing an array of investments that simply aren't suitable for individuals with liquidity requirements, finite time horizons, and no ability to hire a large, sophisticated professional staff. Mr. Swensen's prescription for individuals runs generally to public-market investments, focusing on the sound investment principles of asset allocation, diversification, and control of investment costs.

Yale's is a long-term investment strategy, but that does not mean it will perform well in all markets. Press reports indicate that Yale's final results for Fiscal 2009 (ended June 30, 2009) were probably about -30%, compared to -26.2% for the S&P 500, and around -15% for many institutions with more conventional stock-bond asset allocations. If so, then Yale's annualized return for the past eleven years is still about +11%, even after the big loss. Over the same period, the S&P 500 delivered a slight decline, about -2% total, or -0.2% annualized.

Last week University alumni received an email from Rick Levin, President of the institution, talking about the investment performance for the year and its implications for the University's budget and operations. One part of Dr. Levin's message is particularly relevant to our discussion of liquidity:

Although the publicly traded portion of our endowment declined no further in value between December and June 30, we continued to incur losses in the value of our illiquid investments in private equity and real estate. The precise final results for the 2008-09 fiscal year are still being compiled and will be announced later this month, but it is clear that we will report a June 30 value of the endowment of approximately \$16 billion. Only a small fraction of our endowment is invested in publicly traded securities, so the recent stock market rebound has not had a substantial effect on that number. The bulk of our endowment remains invested in illiquid assets, which have not begun to recover their value.⁶

Yale's Fiscal 2009 results show the wisdom of Mr. Swensen's advice for individuals. As Dr. Levin's letter points out, the endowment's emphasis on illiquid investments hurt its performance for the year. When stock markets around the world rebounded strongly starting in mid-March, Yale's endowment barely participated. The result is the loss of -30% for the year. Does the big loss in Fiscal 2009 invalidate Yale's strategy? No — it's big enough to pose challenges for Yale as an institution, but Yale's resilience is part of the reason Yale can pursue the Swensen strategy. The loss does, however, show the dark side of illiquid investment. It also validates Mr. Swensen's advice to individuals: diversify, control your costs, and don't risk losses from which you wouldn't be able to recover.

PROBLEMS IN ILLIQUID ASSETS CAN SPILL OVER INTO THE BROADER MARKET

Investors sometimes mistakenly assume that because they have liquid portfolios, they are reasonably safe from market disruptions. After all, the market for liquid securities is more or less continuous, at least during the trading day. If you really want to sell a liquid security, you'll generally be able to find someone willing to buy it at some price.

At some price. That's the problem. While you are very likely to find a willing buyer for IBM any time you want to sell it, the price that buyer is willing to offer might not be very interesting, or much like yesterday's price. This is especially true in an environment where too many sellers are looking for liquidity at the same time. That may be one reason our friends at Cerberus want to lock up their investors for such a long period. We don't know a great deal about Cerberus's investment strategy, but it's likely that parts of the strategy call for positions that are illiquid, or at least difficult to unwind. If so, then they are trying to forestall fund withdrawals that could force Cerberus to raise cash by selling liquid positions they would rather retain.

⁶ Richard C. Levin, email communication to alumni and friends of Yale University, September 10, 2009

Forced selling by large investors of their most liquid positions may well have been a factor in the market's plunge in the six months from mid-September, 2008 to mid-March of this year. From September 9, 2008 to March 9, 2009, the S&P 500 fell by -44%. In a typical story from October of 2008, Marketwatch reported:

Investors redeemed about \$43 billion from hedge funds in September and more withdrawals are expected through the rest of 2008, TrimTabs Investment Research, which tracks flows of investor money, said on Thursday.

A Goldman Sachs index of 50 stocks that are most heavily owned by hedge funds slumped 19% in September, while the Standard & Poor's 500 index dropped 9%. Another Goldman index, which monitors stocks that don't have many hedge fund investors, fell just 2% last month.

"Forced selling to cover redemptions and delevering by hedge funds has put downward pressure on selected stocks," David Kostin and his colleagues at Goldman wrote in a note to clients earlier this month.⁷

Yale, too, likely sold some of the most liquid investments in its portfolio to raise cash both for its commitments to University operations and to adjust its portfolio. Nor was Yale alone. Harvard's endowment seems to have been in that position too:

Harvard entered the worst financial crisis since the Great Depression with "recent oversized commitments to illiquid asset classes," and didn't have enough cash to meet "our obligations along with the needs of the university," [Harvard Management's Jane] Mendillo, who took over as CEO in July 2008, said in the six-page report. The endowment has returned an average of 8.9 percent annually in the decade ending June, beating the 4.5 percent gain of its benchmark.⁸

The violence of the stock market's plunge last fall and winter reflected a frightening period of financial and economic disruption. But the pace of the market's fall, and the strength of the rally that has been running since mid-March, suggest that forced selling was a major factor on the way down. Holdings of illiquid investments at institutions with large, ongoing cash flow commitments, like Yale and Harvard, may have forced them to sell more liquid holdings in spite

⁷ Alistair Barr, "Forced hedge fund selling crushes some stocks," Marketwatch, October 16, 2008. At <http://www.marketwatch.com/story/forced-hedge-fund-selling-knocks-some-stocks-off-kilter>

⁸ Gillian Wee, "Harvard Investments Lose 27.3%, Less Than Forecast," Bloomberg, September 10, 2009. At <http://www.bloomberg.com/apps/news?pid=20601103&sid=azaVNoupoSkA>

of the disadvantageous prices. Investors like Cerberus, driven both to reduce leverage and to meet redemptions, may also have been major sellers.

CONCLUSION

Investors with the ability to tolerate illiquidity can reasonably seek superior returns by identifying less liquid investments, which should offer a return premium to compensate for the difficulty of reducing them to cash. The Yale endowment has used this observation to create a distinctive investment approach, which exploits important structural advantages it enjoys. That doesn't mean, however, that individuals should try to copy Yale's investment approach. A giant University endowment and an individual investor are members of entirely different investment clienteles. An approach like Yale's requires advantages an individual investor does not have, and involves risks that most individuals aren't equipped to bear.

Many individual investors can still take advantage of differences in liquidity among sectors of the market. Long-term investors can make judicious commitments to smaller-capitalization stocks, as well as to value stocks, whose attractive prices may be due in part to their relative illiquidity. Small lots of bonds, such as the municipal issue in the example in this note, can occasionally be cheap enough to justify the difficulty of buying them. But remember that these types of investments only offer attractive returns in the context of a long-term, low-turnover investment strategy. Otherwise, trading costs could swamp any advantage you might create by purchasing cheap assets.

Understanding liquidity can also help us interpret market activity. Forced selling of liquid assets by investors that also held large, illiquid portfolios is likely to have been an important factor in the violent plunge in global equity markets last fall and winter. If so, then much of the drop may have been episodic, rather than systematic, in nature. Such episodes do occur from time to time, but absent indications of a renewal of the pressures that forced institutions into those sales, fears of a sudden recurrence may be overblown.

- Jonathan Tiemann
Menlo Park
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Tiemann Investment Advisors, LLC is an SEC-registered investment advisor based in Menlo Park, California. For more information, please send your request to information@tiemann.net or visit www.tiemann.net.

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