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## THE BENEFITS AND COSTS OF ILLIQUIDITY

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Illiquidity is a common feature of alternative investments, whether one chooses venture capital, private equity, or hedge funds. For hedge funds, the illiquidity can arise from the contracts an investor enters into, which may have one year or longer lock-ups, or it can arise from the type of investments that a hedge fund specialises in. A hedge fund's investments may include over-the-counter derivatives instruments, which may be difficult to value, or small-capitalisation stocks, which may trade infrequently, for example.

One difficulty in evaluating hedge funds is coming up with a framework in which their benefits and risks are compared with traditional investments in an appropriate fashion. In the last couple of years there has been a lot of progress in coming up with new risk assessment techniques to evaluate those hedge fund strategies that have highly asymmetric outcomes. This article will briefly discuss progress in another area: how to explicitly take into consideration the illiquid nature of alternative investments, particularly including hedge funds.

### The costs of illiquidity (or the benefits of illiquidity)

*Liquidity is overrated*

There is nothing inherently bad about an illiquid investment. As a matter of fact, David Swensen of Yale University's endowment, has noted that "American investors, particularly those with long time horizons, pay far too much for liquidity," according to an *Economist* (2000) article. With liquidity overpriced, Swensen advocates investments where an institution gets paid for illiquidity. One then uses diversification for risk control rather than paying for liquidity.

*Tick-by-tick evaluation of a good investment is painful*

One seemingly positive feature of a liquid investment is the ability to receive continuous pricing on that investment. But is that really a positive? Taleb (2001) provides an example that makes one reconsider that benefit.

Taleb notes that an investment with a 15% return and 10% volatility per year provides a 93% probability of making money in any given year. But this also translates into a 50% of chance of making money and a 50% chance of losing it in any given second.

The significance of losing money about half the time over the very short-term is that the joy of making money is not equivalent to the larger degree of pain one feels in losing money. If an investor is watching their investments tick-by-tick in an eight-hour day, Taleb points out that he or she will have 241 pleasurable minutes versus 239 unpleasant minutes in this example. If the trader feels the negative effect say 2.5 times more than the magnitude of the positive one, then that trader could easily become emotionally burned out. This would adversely affect the trader's ability to stay with a good investment.

In coming up with this example, Taleb was not advocating illiquid investments. But this example does show one potential disadvantage of a deeply liquid investment if an investor is unable to stand back from its daily movements.

*Predictability is at long timeframes*

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Professor John Cochrane of the University of Chicago notes that stock and bond returns have a substantial predictable component over long time horizons. Cochrane (1999) provides an example of an equity-forecasting model in which month-to-month returns are quite unpredictable. But at a five-year time horizon, the returns seem very predictable. His “results at different horizons are reflections of a single underlying phenomenon”.

Cochrane notes that “if daily returns are very slightly predictable by a slow-moving variable, that predictability adds over long horizons”.

One might wonder how many investors could take advantage of such return predictability if one needs a five-year time horizon to benefit from it. Perhaps it would be easier to do so if the investment were illiquid.

### The costs of (and caveats due to) illiquidity

#### *Investors cannot rebalance their portfolios*

In evaluating illiquid alternative investments, an investor should understand that one loses the ability to rebalance a portfolio should other superior investment opportunities arise. Terhaar *et al.* (2003) of UBS Global Asset Management also point out that when one establishes a policy portfolio, which includes allocations to illiquid investments, the actual weightings can deviate from the policy’s weightings because of liquidity constraints in entering and exiting investments.

When one chooses to invest in illiquid investments such as venture capital, real estate, and hedge funds, an investor needs to ensure that the range of allocations that may occur over time is acceptable.

The UBS researchers provide a summary of the results of simulating 1,000 10-year investment experiences, which include allocations to alternative investments:

“While the target policy risk is 10.1%, the expected or forecast risk is above 11.5% in 5% of the periods. This increase in expected risk occurs because the actual allocation to riskier alternative investments varies over time, due to the constrained ability to rebalance. The actual alternatives weight is greater than 28%, compared to the target of 20%, in 5% of the periods. This considerable difference is driven in large part by the huge swings in private equity allocation; whereas the target allocation is 5%, the actual weight exceeds 14% of the portfolio in 5% of the simulation periods.”

The researchers conclude that an investor must have a sufficiently high tolerance for risk to accept the “periodically elevated risk levels.” That investor must also have a long enough time horizon to ensure that they are able to benefit from the expected higher returns of the illiquid investments.

#### *Stale pricing*

Another signature aspect of investing in illiquid investments is that these investments may be marked based on old (or ‘stale’) prices. If one uses unadjusted historical data to compare liquid and illiquid investments, one may not be getting a true picture of the underlying economic relationship between these investments.

In Asness *et al.* (2001), the principals of AQR Capital Management have built a convincing argument that the lack of relationship of hedge fund indices to the S&P 500 has been largely

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due to the reporting of stale prices for hedge fund positions. The authors use the CSFB/Tremont hedge fund indices in their research.

When the authors regress the CSFB/Tremont Aggregate Hedge Fund Index's returns versus lagged returns of the equity market, they find a strong relationship between the hedge fund index and the S&P using data from January 1994 to September 2000. Because there is such a strong relationship once they compare the hedge fund index's returns to dated returns in the stock market, they infer that hedge funds making up the index may have been using stale pricing in evaluating their holdings.

#### *Valuation risk*

If a fund manager elects to imperfectly value a portfolio of illiquid securities, that manager risks the dire consequences of violating investor trust. Specifically, if a manager mismarks his or her portfolio beyond some threshold level above its true liquidation value, then that manager risks investors losing faith in that manager. The result can be that a massive liquidation occurs, causing the terminal value of the portfolio to plummet to a level beyond a more reasonable liquidation value. The market extracts a penalty for the fund's breach of trust. Weisman (2003) provides a methodology for evaluating what the premium should be for taking on this valuation risk.

#### **Conclusion**

As investors consider larger allocations to alternative investments, researchers are attempting to come up with proper ways of comparing their performance characteristics with traditional, deeply liquid investments. This article summarised some of the current literature on evaluating the costs and benefits resulting from the illiquid nature of most alternative investments.

There may be behavioral benefits to enforcing a long-term investment horizon on investors in illiquid investments. But assuming that an investor already has a long-term investment focus, that investor must decide whether the return premium one receives from holding illiquid investments is sufficient compensation for the added default, liquidation, and valuation risks one assumes.

*Author's Note: This article is excerpted from one that was originally published in *Intelligent Hedge Fund Investing* (Edited by Barry Schachter), Risk Books, London, 2004; and in *Risk Magazine*, November 2003.*

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