Investment Insights

UBS Asset Management
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In this month's edition of Investment Insights, we explore the relevance of liquidity as an allocation driver for professional investors in their quest for enhanced returns. We ask:

- What is the illiquidity premium and how can it enhance returns?
- What are the structural drivers which inform that premium and will it persist?
- What type of investors should consider an allocation to illiquid assets?
- How best can investors access that premium?
- How can investors differentiate between different asset classes?

Our analysis highlights a number of key factors which investors need to be mindful of when forming their views of liquidity, such as the asymmetry of information and the significance of alpha when evaluating illiquid asset classes. In our view, we see enough evidence to suggest that illiquid assets are capable of generating higher returns and are therefore worthy of further consideration by professional investors.

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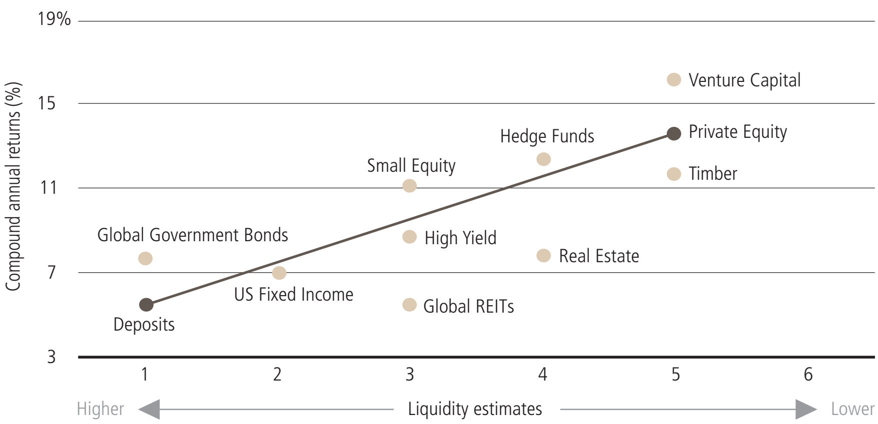
Liquidity: does less equal more?

Dan Heron, Richard Lloyd, Investment Solutions

Can assets that are difficult to price or sell really justify a place in investors' portfolios? In the quest for improved income and risk-adjusted returns, this question has been driving institutional investors' fast-growing interest in a broad range of illiquid asset classes including infrastructure, private credit, real estate and private equity. But how should investors approach making an allocation to illiquid assets? We believe the reward investors have historically enjoyed for accepting the risk of less easily tradable assets – the so-called "illiquidity premium"– makes it worth their while to explore illiquid options, though there are pitfalls and guidelines to keep in mind.

Expected asset class returns v liquidity



Source: "*Expected Returns,*" by Antti Ilmanen, 2011. Scatterplotting average asset returns 1990–2009 on (subjective) illiquidity estimates. Sources: Bloomberg, MSCI Barra, Ken French's website, Citigroup, Barclays Capital, JP Morgan, Bank of America Merrill Lynch, S&P GSCI, MIT-CRE, FTSE, Global Property Research, UBS, NCREIF, Hedge Fund Research, Cambridge Associates. For illustrative purposes only. Actual future results may differ materially from expectations.

As with any observed premium or excess return, before we incorporate it into an investment strategy we need to understand the structural reasons why the premium exists and is expected to persist in the future.

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In simple terms, we believe that the illiquidity premium exists because most investors place a high value on the utility of cash. As a result they demand a higher rate of return for assets which cannot be easily converted to cash at any time, i.e. those assets for which access to invested capital is limited and assets which may be difficult or costly to sell—particularly during periods of market stress. This relationship is clearly illustrated by Chart 1, developed in 2011 but still valid today.

We would also note that many classes of investors are effectively prohibited from holding illiquid investments for regulatory or other reasons. For example, regulated mutual funds are subject to regulatory liquidity requirements and are generally expected to satisfy redemption requests from investors immediately.

The higher rate of return demanded from illiquid assets can also be justified if we consider the opportunity costs which are borne by an investor. Holding these assets restricts investors' ability to rebalance portfolios in response to new information, to fulfil any short-term need for capital or to address changing circumstances that necessitate the sale of assets. With fewer data points and less transparency, illiquidity also makes it difficult for investors to evaluate the potential risk and return potential of assets and to make efficient allocation decisions based on the expected relationship between different asset classes.

In summary, we believe there are strong structural reasons why a general illiquidity premium should exist and, looking forward, is likely to persist.

Information asymmetry
Digging a little deeper we can look into the drivers of differences in liquidity between markets to understand how this is likely to impact on an investment strategy. One of the key drivers of liquidity, we believe, is the degree of information asymmetry between market participants; in layperson's terms, the degree to which price sensitive information is available to a privileged few or even one market participant versus markets where price sensitive information is available to all on an equal basis.

As investors in listed small cap equity and high yield debt will no doubt testify, trading on a public market is no guarantee of liquidity. Nonetheless, regulated developed world public equity markets offer, at least in theory, an even playing field which encourages investor participation and supports liquidity. In the UK, for example, publicly listed companies must give regular operating updates and price sensitive newsflow must be delivered to all at the same time via a regulated news service.

By contrast there is significant information asymmetry in private markets. For example, in the case of private equity the fundamental characteristics of revenue, earnings, cashflow, dividends, debt loads and interest costs are just as relevant as they are in valuing and analysing companies in public equity markets. But with no regulated market or requirement for equality then some market participants may have access to a much greater depth of information about the fundamentals, corporate strategy and economic performance on a given company or security than others. This clearly presents material risks to any market participant who has inferior access to information who, as a result, will be less likely to trade and provide liquidity.

The impact of asymmetric information as a key driver of liquidity becomes obvious at times of market stress. Why did the bid/ask spread widen so significantly in the interbank credit market in 2007 and effectively dry up in 2008? Mostly because lenders believed other market participants had price sensitive information about the creditworthiness of the borrower that was not in the public domain. And much of the information that was in the public domain wasn't trusted—so credibility of market information becomes as important as the information itself.

However, there are situations where additional considerations can come into play. If the market in a particular asset is illiquid for whatever reason investors may well prefer not to be owners of those assets. Consequently, they build an illiquidity discount into the purchase price. In such cases, the discount reflects the time it could take to find a buyer who recognizes the value attached to those assets and is willing to buy them at the right price.

Alpha not beta the key driver in illiquid markets
Passive investing strategies have become increasingly popular for liquid asset classes which benefit from a level playing field with frequent transactions and equality of information to all market participants. Liquidity and transparency allows investors to safely follow passive approaches and gain cheap access to market performance, or beta.
Conditions in illiquid markets are very different and require investors to rely on specialist investment expertise and fund manager skill, also known as alpha.

This alpha does not just mean superior stock selection. It may also include the ability to source favourable opportunities, based on superior information and relationships, an operating platform which improves risk management and the legal skills to structure deals in a way that mitigates risk and maximises recovery should it prove necessary. This can be illustrated by the typically covenant heavy financing documents

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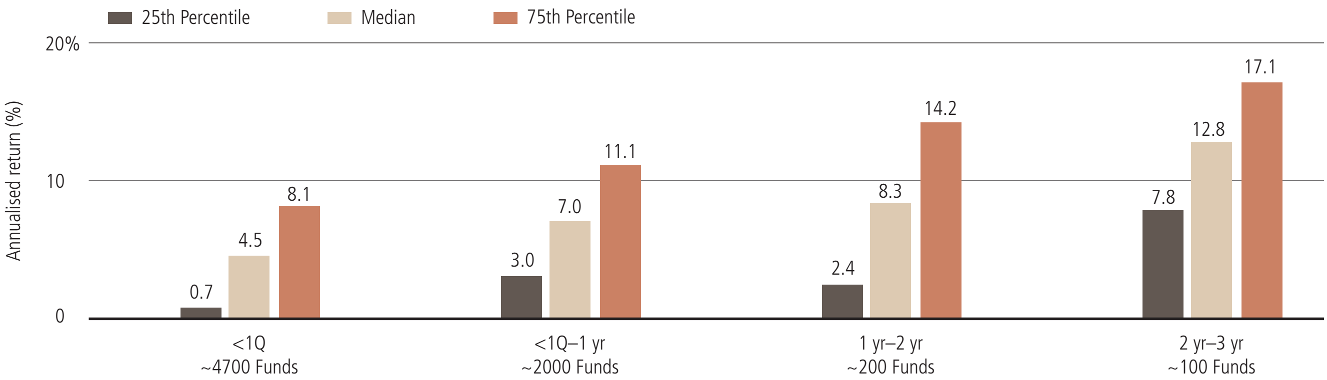
Hedge Fund Liquidity (redemption frequency) v Annualised Returns



Source: Blackstone: Barclays Strategic Consulting analysis based on data from HFR, BarclayHedge and HedgeFund.net Lockup period is aggregate of hard lock, redemption notice and redemption frequency.

governing the issuance of infrastructure debt can serve to facilitate lower default rates and higher recovery values than equivalently rated corporate debt.[1]

Finally, it is also possible to use illiquidity to generate alpha simply by being a willing buyer of those assets whose price is low because transaction levels in their particular market are low. In such cases, alpha is not derived from superior information but from a lack of willingness on the part of other investors to tie their capital up for an uncertain period of time.

Quantifying the illiquidity premium
So what sort of 'premium' for illiquidity are we talking about? UBS Hedge Fund Solutions conducted a study of 234 hedge funds on the HFS platform to determine if there was a relationship between hedge fund performance and liquidity of the underlying investments. Using redemption frequency as a proxy for the liquidity of underlying holdings, the study determined that each month of illiquidity translates to approximately 20bp of additional return.

These findings are broadly consistent with a separate analysis of the investment histories of nearly 1400 private equity funds over a 24 year period derived from the holdings of over 200 institutional investors. The resulting analysis showed private equity funds' median return net of fees outperforming its public equity market counterpart (S&P 500) by over 3% per year.

Isolating the illiquidity premium
There may, of course, be other factors at work here other than a straightforward reward for embracing illiquidity. In the late 1980s Harvard's Michael C. Jensen ascribed the additional returns generated by less liquid private companies over publicly traded equity to greater capital efficiency and higher leverage.

Indeed, even if we are able to say unequivocally that illiquid assets have outperformed over the long-term, and provide at least some empirical evidence of the scale of outperformance, attributing that outperformance precisely to illiquidity is not straightforward.

After all, all asset classes are a collection of differing risk premia in varying amounts. Illiquidity is therefore intertwined with a host of other risk premia such as volatility and size. (In the case of small cap equity and the well-researched 'small cap premium'—one can speculate on how much of the premium is a function of illiquidity and how much of size.) Further complicating accurate measurement is the fact that liquidity is not a constant, but multi-dimensional and variable over time.

Does measuring illiquidity matter?
While attempting to isolate and measure the illiquidity premium may occupy academics for many years to come, we would argue that there is sufficient evidence that illiquid assets generate higher returns to justify consideration. We see the key focus for investors as the total potential return for all the potential risks—including illiquidity—within the context of each investor's broader investment objectives and constraints.

And more importantly than whether or not the illiquidity premium can be precisely measured is the fact that illiquidity can be harvested. It has been suggested that illiquidity is "in essence a transfer of economic rents from illiquid risk avoiders to risk takers." But for 'risk takers' who understand and can tolerate those risks we believe that selected illiquid assets may offer attractive returns for the risks assumed. In our opinion that should be a powerful catalyst for those professional investors who are able to take a longer term view to explore further what illiquid assets have to offer. At the very least, long-term investors appear to have a clear advantage in exploiting the higher potential returns generally offered by illiquid assets to their benefit.

[1] Moody's Infrastructure Default and Recovery Rates, 1983-2013. Past performance is not indicative of future results.

Further reading
If you would like to read more about liquidity and its portfolio implications across the asset classes, please contact your UBS Asset Management representative or visit our website at **www.ubs.com/am.**

References

- Jain, S (2016) *"Investment Considerations in Illiquid Assets"* Alternative Investment Analyst Review
- Ilmanen, A. (2011). *"Liquidity Factor and illiquidity premium"* from Expected returns: An investor's guide to harvesting market rewards. pp. 359–374. John Wiley & Sons
- *Preqin* Private Debt Database 2015, Bank of America Merrill Lynch.
- Rajan, Amin (2015) *"The rise of Private Debt as an Institutional Asset Class"* for ICG
- UBS Hedge Fund Solutions (2015) *"The Hedge Fund Illiquidity Premium"*
- Harris R, Jenkinson T and Kaplan S (2013) *"Private Equity Performance: What Do We Know?"* Journal of Finance
- Jensen, Michael C (1989) *"Eclipse of the Public Corporation"* Harvard Business Review
- Harris R, Jenkinson T, Kaplan S, Stucke R (2014) *"Has Persistence Persisted in Private Equity? Evidence from Buyout and Venture Capital Funds"*
- Blackstone: *"Patient Capital, Private Opportunity. The benefits and challenges of illiquid alternatives"*

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