June 2017

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Pemberton Perspectives

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Discussing some key investment themes in European private debt

Private Debt Illiquidity Premium

As a Private Debt Manager, most of our investments are privately negotiated and not readily tradable on an exchange and are therefore classified as "illiquid" by investors. Potential investors often ask whether the investment returns for our loan investments provide adequate compensation for this illiquidity risk.

This query is most often raised by family offices and well-funded pension funds which have a higher risk tolerance and high return expectations. They are concerned about forgoing the opportunity to sell an illiquid asset and invest in a liquid high-yielding investment such as publicly listed equity. Insurance companies with a lower risk tolerance approach this issue differently and first attempt to match the duration of their assets with their liability profile and then maximise the return on their invested assets.

"Illiquidity should be viewed as a risk premium to be exploited and harvested, be that through direct lending, distressed debt, commercial real estate debt or other means."

Illiquidity should be viewed as a risk premium to be exploited and harvested, be that through direct lending, distressed debt, commercial real estate debt or other means. The required compensation for illiquidity differs by investor type and is in effect the increased return that an individual investor requires to compensate them for the opportunity cost of not being able to invest their marginal investment dollar in a liquid/tradable asset while also bearing the risk of loss on the illiquid investment.

We have applied the findings of the Ang Study[1] for a 3.5 year illquidity period and calculate an Illiquidity Risk Premium ("IRP") of 315 bps. We then add this IRP to the Risk-free rate of 46 bps and the Expected Credit Losses of 100 bps and derive an Expected Alpha of 164 bps for the Pemberton European Mid-Market Debt Fund.

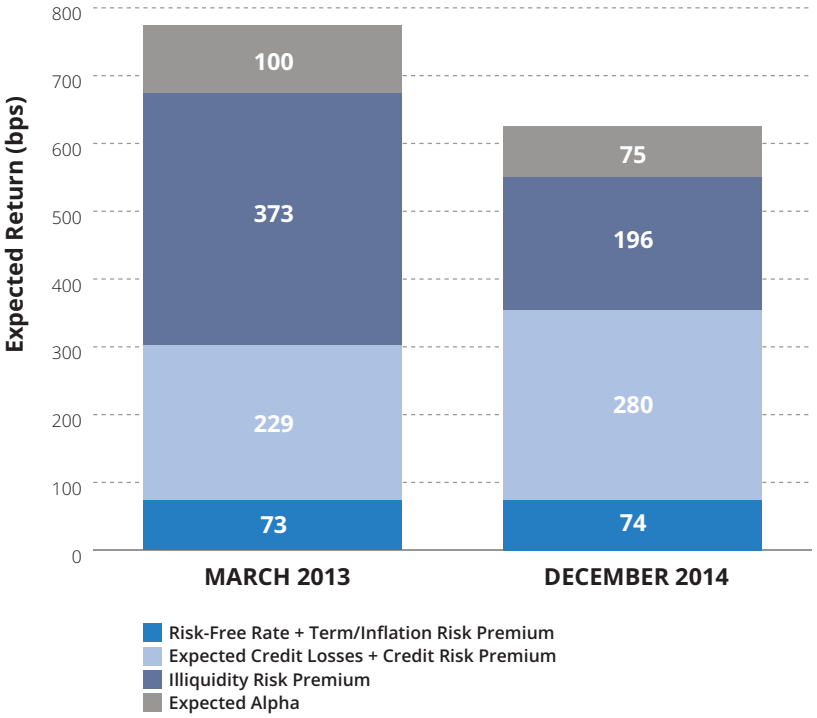
[1] Ang, A., Papanikolaou and D., Westerfield, M.M., 2014, "Portfolio Choice with Illiquid Assets", *Management Science*

Review of Existing Market Research

"WTW concluded that whilst the IRP on offer in European Direct Lending had declined significantly (from 373 bps to 196 bps) since they initially recommended the strategy, it remained reasonable at the start of 2015."

Willis Towers Watson ("WTW") published "Understanding and measuring the illiquidity risk premium" (March 2016). In this study, several European Direct Lending Funds were analysed and the expected returns were decomposed into four components: Risk-free rate, Expected Credit Losses, Illiquidity Risk Premium ("IRP") and Expected Alpha. The expected returns decreased from 775 bps at the end of 2013 to 625 bps at the end of 2014 and within these, the Expected Credit Losses component increased from 229 to 280 bps. The Risk-free rate + term/inflation risk premium was relatively unchanged at 73-74 bps. WTW allocates approximately 75-100 bps to Expected Alpha with the balance accruing to the Illiquidity Risk Premium. WTW concluded that whilst the IRP on offer in European Direct Lending had declined significantly (from 373 bps to 196 bps) since they initially recommended the strategy, it remained reasonable at the start of 2015. WTW does not explain why the 196 bps is reasonable. (See Figure 1 Source: Willis Towers Watson (March 2016))

Figure 1: European Direct Lending Expected Return Decomposition (bps)



The WTW approach is somewhat arbitrary in relation to the illqudity risk premium (the IRP is the residual value) and they do not develop a model for calculating the cost of illiquidity. Another study of the illiquidity risk premium was completed by Ang, Papanikolaou and Westerfield (2014)[2] (the "Ang Study"). They developed a highly stylised model with an investor who consumes a certain amount of wealth and invests the rest in liquid and illiquid assets. The illiquid asset can only be traded (converted into liquid wealth) at random times. The more wealth that is invested in the illiquid asset the greater the probability that at a certain time the investor will not have enough liquid wealth to consume ("probability of having nothing to eat").

[2] Ang (2014) "Asset Management: A Systematic Approach to Factor Investing", *Oxford University Press* describes the model and the results from Ang et al. (2014) in simpler language. Ang defines the illiquidity premium as the "certainty equivalent"

"The required illiquidity premium is the premium the investor requires as compensation for not being able to trade for an expected period." (Ang et al 2014)

Therefore, the investor requires compensation for holding the illiquid asset. The Ang Study creates a financial forecast for different investor types and models investment returns based on an exisitng investment portfolio, a forecast liaiblity profile and expected future inflows. The investment portoflio is assumed to be 60% public equity and 40% government bonds prior to the introduction of illiquid assets.

Figure 2 shows this compensation derived under the specific model assumptions, which is denoted as the required liquidity premium. This is the premium the investor requires as compensation for not being able to trade for an expected period of time.

"For holding periods of around 5 years, which is also the average holding period for private equity investments, the net required compensation is over 4% per annum".

The table shows that investors require large premia for holding illiquid assets instead of liquid assets. For holding periods of around 5 years, which is also the average holding period for private equity investments[3], the net required compensation is over 4% per annum. It is important to note that these numbers result from specific model assumptions. This model for instance assumes that an investor has no intermediate income. For a very mature pension fund, which receives almost no contributions, the required illiquidity premia could be of the same order of magnitude as in Figure 2. However, for a younger pension fund with regular contributions or an insurance company with regular premium income the required illiquidity premia will be lower than the ones reported in this example.

Figure 2: Required Annual Liquidity Premium for Various Horizons Source: Ang (2014)

Expected period over which the asset cannot be traded	Required liquidity premium (Yearly)
10 years	6.0%
5 years	4.3%
2 years	2.0%
1/2 year	0.7%
Always tradable	0.0%

Deconstructing the Investment Return – European Direct Lending

Under Solvency II, Standard Formula, European Insurers apply a Solvency Capital Requirement of 3% per year of modified duration for all Unrated Assets including SME Loans, Leveraged Loans, and Commericial Real Estate Debt. Investors calculate the modified duration by analysing the repayment rate of the asset class subset. S&P LCD has published the repayment rates of European Leveraged Loans from 2005 to 2015 and on average the loans are repaid after three to four years[4]. Insurers often apply a modified duration of 3.5 years to European Mid-Market Direct Lending.

[3] Private equity contracts usually span a 10-year period. The effective average holding period is shorter, because dividends and capital are returned to the investor before the end date of the investment (see for instance Driessen, Lin, and Phalippou, 2012)
[4] S&P Capital IQ as at 4th March 2016

"The Illiquidity Risk Premium assumes an average life 3–5 years as a measure of the illiquidity or "lock-up". When applying the Ang Study, this results in 315 bps IRP."

In order to deconstruct the investment return of a European Mid-Market Direct Lending Portfolio, we applied the WTW approach and incorporated the illiquidity premum from the Ang Study. As of year-end 2016, we calculated the Risk-free rate plus term/inflation risk premium to be 46 bps, the Expected Credit Losses plus credit risk premium of 100 bps, the Illiquidty Risk Premium of 315 bps and derived the Expected Alpha of 164 bps assuming a 625 bps Net Investment Return to the Investor. The Net Investment Return of 625 bps is an estimate of the Internal Rate of Return (IRR) achieved by an investor after deduction for all asset management and fund administration costs. It is also the Net Return used by WTW in the March 2016 study of European Direct Lending.

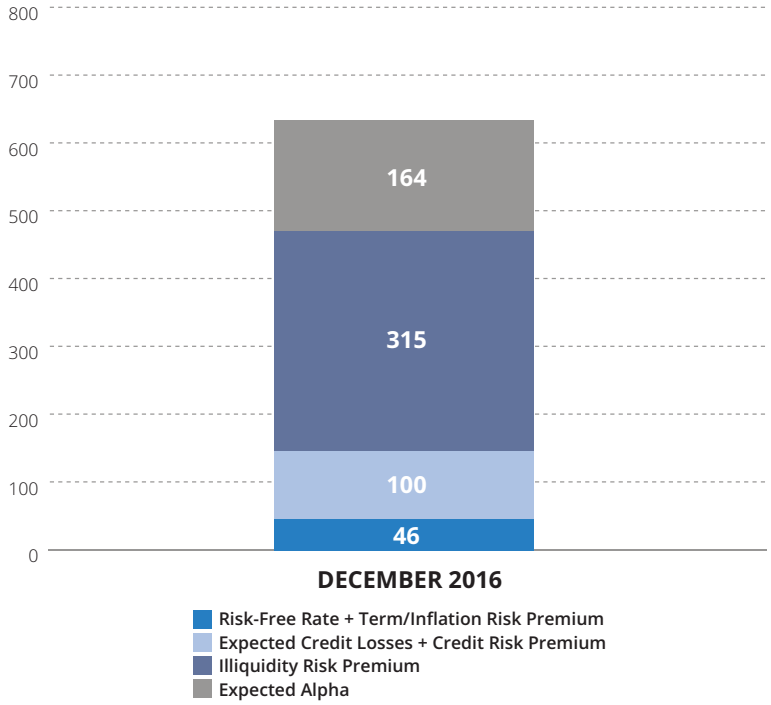
The Expected Credit Losses plus credit risk premium of 100 bps is an estimate based on the RBS Mid-Market Average Loss Rate of 51 bps between 2008 and 2014[5] and the Alcentra average loss rate of 32 bps on its European Leveraged Loan Portfolio between 2003 and 2011[6]. We have taken the average of these, 42 bps, doubled this amount to be conservative and rounded up to 100 bps.

"The Expected Alpha of 164 bps can be attributed to credit selection; accessing loans with lower expected losses and higher relative investment returns."

The Illiquidty Risk Premium assumes an average life 3.5 years as a measure of the illiquidity or "lock-up". When applying the Ang Study for a 3.5 year lock-up this results in 315 bps IRP. This premium is based on a model for an investor which relies on the investment income to pay current expenses and with limited inflows such as a mature pension fund or a university endowment fund. The IRP for a young pension fund with ongoing contributions or an insurance company with increasing premium income would be signigicantly lower.

The Expected Alpha of 164 bps can be attributed to credit selection; accessing hard-to-find secured loans with substantial collateral, strong covenants, lower expected losses and higher relative investment returns.

Figure 3: European Direct Lending – Illiquidity Risk Premium (bps) Source: ECB (Risk-free) and Pemberton Capital Advisors LLP



[5] RBS Annual Reports and Financial Supplements 2008 – June 2015
[6] Alcentra European Floating Rate Income Fund Prospectus – January 2012

Private Debt Illiquidity Premium

Summary

"The main finding of the Ang Study is that Illiquidity Risk Premium varies between investors and this is influenced by the longevity and shape of their liabilities and the amount of future income."

Investors in private debt are becoming increasingly experienced and are asking tough questions. One recurring question is whether they are being properly compensated for the illiquidty risk.

We have researched this topic and have found the Ang Study to be the most insightful. The main finding of the Ang Study is that the Illiquidity Risk Premium varies between investors and this is influenced by the longevity and shape of their liabilties and the amount of future income (for example pension contributions or insurance premiums).

We have applied the findings of the Ang Study for a 3.5 year illiquidity period and calculate an IRP of 315 bps. We then add this IRP to the Risk-free rate of 46 bps and the Expected Credit Losses of 100 bps and derive an Expected Alpha of 164 bps for the Pemberton European Mid-Market Debt Fund.

"We derive an Expected Alpha of 164 bps for the Pemberton European Mid-Market Debt Fund."

This Illiquidity Risk Premium is based on a stylised model for an investor which relies on the investment income to pay current expenses and with limited inflows such as a mature pension fund or a university endowment fund. The IRP for a young penion fund with ongoing contributions or an insurance company with increasing premium income would be significantly lower.

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GENERAL DISCLAIMER

These are just a few of our thoughts based on our experiences in the market.

We'd love to hear your views as we revisit some of these themes over the coming months for our Pemberton Perspectives series. So please feel free to contact our Head Of Investor Relations, Mike Anderson on +44 (0)20 7993 9311 or mike.anderson@pembertonam.com with any questions or comments.