Assessing the liquidity risk in private equity

Private markets are, by conventional wisdom, described as “illiquid”, as opposed to so-called “liquid” traditional assets. Consequently, the part of the value created by fund managers compensates their investors for bearing the illiquidity risk. Ang et al. (2017) quantify the liquidity factor beta of 0.5 for private equity investments. However, the “wait and see” is not a viable investment strategy in private markets. Only active ownership creates value and generates performance. Holding private companies for three to five years is a pre-condition to create value. To contribute to the ongoing debate about private markets “illiquidity premium”, this paper proposes a new approach to liquidity as a dimension of private equity investing, along with risk and return. Along those lines, the liquidity risk associated with private equity lies in the variation of holding periods over time.
To assess this risk, an equivalent to holding periods can be approached by calculating an average time-to-liquidity, which is a function of multiples and IRRs. Thanks to the high quality of the data provided by eFront Insight, it is possible to evaluate the average time-exposure of investors and estimate the variations around this average.

First approach

For our analysis we will use US private equity as our test-case, given its relative maturity, and to avoid distortions related to foreign exchange. Within this, we will take four investment strategies:

- Small and medium-sized leveraged buy-outs;
- Early-stage venture capital;
- Later stage venture capital and;
- Distressed debt (DD).

These strategies are sufficiently diversified to provide a perspective on the full lifecycle of private companies. We will focus on smaller and medium-sized buyouts as they are less subject to dividend recaps than larger deals, helping to limit (but not eliminate) biases when analyzing data. The cut-off date is 2009 as funds are considered fully or largely realized.

The average time-to-liquidity of private equity fund investors (Fig. 1) ranges from 3.62 years in the buyout sample to 4.73 years for early-stage venture. The highest dispersion is also in early-stage venture, as the shortest time-to-liquidity was 2.86 years for the vintage year (VY) 1997 and 7.86 for the VY 2000. The lowest dispersion is in late-stage venture, with respectively 4.43 years for the VY 1998 and 6.04 years for the VY 2007.

This first analysis provides no obvious direct link between the time-to-liquidity and the multiple of invested capital, measured by the total value to paid-in (TVPI) ratio (Fig. 1). Shorter exposure seems to lead to higher multiples when it comes to transfers of ownership (i.e. buyouts and distressed debt), and somehow also in the case of capital increase. However, longer exposure does not necessarily translate into worse performance – except in the case of early-stage venture capital.

2The formula is: ln(MOIC)/ln(1+IRR).
Not surprisingly, there is also no direct connection between the risk (measured as the spread between top quartile and bottom quartile TVPI) and the time-to-liquidity (Fig. 2). The risk seems to decrease with time when it comes to the buyout sample, while it increases in the case of distressed debt. The relationship seems inconclusive when it comes to both venture capital samples.

Thanks to the method above, it is possible to measure the average time exposure of private equity fund investors and to quantify the risk of receiving the capital back earlier or later than expected. Nevertheless, the findings are not as clear cut as expected. Does this mean that the method is not reliable enough?
Further analysis

Specific factors could explain some of the puzzling findings above. First, the average takes into account a broader range of vintage years than the ones captured individually. Second, even small and medium-sized buyouts are not entirely immune from operating dividend recaps, which could bias some conclusions. Third, US venture capital was affected by an unusual episode of boom and bust related to the Internet bubble in the late 1990s and early 2000s. A closer look at the buyout and early-stage venture samples provides additional insights.

There is no obvious direct link between time-to-liquidity and performance.

First, there is a direct link between risk and return. If the relationship between the TVPI and the TVPI spread looks weak (Fig. 3), a clearer picture emerges when focusing on the Distributed to Paid-In (DPI) and the risk (Fig. 4).

Figure 3 – TVPI and TVPI spread of US Small and mid-sized LBO

Source: eFront Insight, as of Q4, 2018.
This relationship is robust whether the relationship uses the spread between funds of the top 5% and bottom 5% or top and bottom quartile. The relationship is confirmed and even stronger with early-stage venture, which is not affected by exogenous factors such as dividend recaps (Fig. 5).
What about the relationships between returns and time-to-liquidity (Fig. 6) and risk and time-to-liquidity (Fig. 7)? They are fairly weak. The logical conclusion is that time-to-liquidity is indeed a separate dimension of investing, besides risk and return. Another is that if the liquidity risk of private equity – that is, the variation over time of time-to-liquidity – is compensated by an equivalent source of return, that source of performance remains to be identified.

**Figure 6** – DPI and time-to-liquidity of US early stage venture capital

![Graph showing the relationship between DPI and time-to-liquidity.](source)

Source: eFront Insight, as of Q4, 2018.

**Figure 7** – DPI spread and time-to-liquidity of US early stage venture capital

![Graph showing the relationship between DPI spread and time-to-liquidity.](source)

Source: eFront Insight, as of Q4, 2018.
Conclusion

We propose a view on liquidity risk in private equity that is complimentary to the well-established “illiquidity premium” debate associated with private equity investing. It is measured as the variation of time-to-liquidity over time. Keeping track of these deviations and predicting the future liquidity needs in itself is crucial for institutional investors eager to calibrate their cash reserves and plan their payout schedules. The focus can then shift to concretely assess the value creation and the source of performance of fund managers, which justify the holding periods inherent to private markets.

Note

The aim of this newsletter is to provide readers with elements of analysis and understanding of the private finance universe, based only on data collected by eFront Insight. It does not intend to draw any definitive conclusion, nor judge the performance of fund managers. By providing a guided reasoning, FrontLine hopes to contribute to the overall progress of understanding of the asset class in a short monthly format, with all the limits that this entails.
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