

Why PE Returns Should Be Risk-Adjusted

- Victor Wu, Lexington Partners

Lexington Partners, a leading independent manager of secondary private equity and co-investment funds, has developed research to risk-adjust private equity returns. Victor Wu, Principal, describes the methodologies and important findings of this research, which point to widespread practical applications for private equity participants.

Preqin: Tell us about the work you have done on risk-adjusted returns and what lead to your interest in this topic.

VW: While more attention has obviously been paid to the inherent risk of private equity recently, our work on risk-adjusted returns actually began in 2005 and was sparked by observations within our own portfolio, which is quite expansive and includes interests in over 950 funds, that “not all returns are created equal.” For example, we were increasingly aware of more risk being taken in buyout transactions, with more leverage and higher purchase price multiples, and yet the projected returns from these transactions did not seem to compensate for this additional risk. Also, we felt that secondaries, due to their unique characteristics (ability to analyze existing investments, negotiate discounts, assume less unfunded risk, build broad diversification) were generating attractive returns but with much lower levels of risk. We wanted to challenge our beliefs empirically and set out to develop a framework to assess risk-adjusted returns in private equity.

Preqin: Hadn't something like this already been done?

VW: I think that was our hope when we started! But we were surprised to learn that there had been relatively little

“quantitative” analysis of risk-adjusted returns in private equity. To be fair, I think the major reason for this has to do with the way private equity returns are reported. Unlike quoted equities, private equity values are only reported quarterly, are illiquid, and methodologies to derive mark-to-market values have been poorly defined. What this means for quantitative models is that there tends to be “positive serial correlation” where the private equity value reported in one quarter is more dependent on the previous quarter than has been observed in public markets. Said slightly differently, reported values in private equity tend to be smoother and understate true volatility. Even more recently, I think we have seen this – both in venture and private equity – where, in the second quarter of 2009, buyouts were marked up 3% while the S&P was up 15% and venture was actually marked slightly down while the NASDAQ was up 20%. And I think we're also familiar that the inverse holds in declining markets. Therefore, without some sort of adjustment for this serial correlation, risk measures for private equity would always seem to be better because the volatility would seem to be lower.

Preqin: So how did you adjust for this serial correlation in quarterly private equity values? And what were your findings?

VW: We called on the experts! I was fortunate to be able to work with Chris Geczy, a professor of finance at Wharton and member of the Economic Advisory Board of the NASDAQ. Leveraging work by Andrew Lo (2002), a professor from MIT and member of the National Bureau of Economic Research, we were able to “de-smooth” the private equity returns and calculate risk measures such as adjusted Sharpe ratios (how much return an investment manager is generating per unit of risk) and adjusted Sortino ratios (how much return an investment manager is generating per unit of downside risk). We used Thomson Financial's benchmark returns as our proxy for private equity, Lexington's returns for its mature secondary funds as our proxy for secondaries, and the Russell 3000 Index for public equities. We found then, and

continue to observe as we roll forward our analysis each quarter that, on a risk-adjusted basis, average private equity returns have underperformed public markets whereas first quartile private equity returns and secondaries have generally surpassed public markets.

Preqin: This all sounds very interesting. Where to from here? What do you plan to analyze next?

VW: These are all good questions. Actually, the next thing we did was look at the correlation between private and public equity returns. In this case, to adjust for serial correlation, we performed regression analysis by including lagging values of the Russell 3000 Index quarterly returns as independent variables. It's probably not as surprising in hindsight however we did observe a high degree of positive correlation between private and public equities. I think what has stood out from this analysis though is that secondaries tend to demonstrate less correlation to public equities and, in several vintages, negative correlation. This is an important finding in the context of portfolio management because it provides investors with opportunities to introduce less correlated asset classes into portfolios and therefore, as the Nobel Prize-winning economist Harry Markowitz was able to demonstrate, decrease overall portfolio risk.

Preqin: And, finally, what are the practical applications for the industry?

VW: First, it is worth noting that we have devised “a” methodology, however it is not perfect and is not intended to be a total solution. We have spoken to numerous market participants – both LPs and GPs – about our work and there seems to be genuine interest in further developing a framework to analyze risk in private equity. We will continue to look for new ways to measure performance and new applications for our research. However, in “getting the ball rolling,” we are hopeful that others will also join with us in quantitatively advancing the discussion of how we evaluate risk in private equity with the view that risk measures can be included prospectively as a powerful tool for differentiating managers.

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