

Q&A

EVCA Risk Measurement Guidelines

Q&A with Dr. Peter Cornelius, Chairman, EVCA Risk Measurement Guidelines Working Group and Partner, Economics and Strategy, Alpinvest Partners

PETJ: Please tell us about EVCA's Private Equity Fund Risk Measurement Guidelines Working Group and the process of setting up the working group and drafting the Risk Measurement Guidelines. When did it all start and what triggered its creation?

Peter Cornelius: The decision to set up a working group to study best practices in risk measurement and management in private equity was taken in early 2010. The key objective of the working group was to draft a set of guidelines that assist investors in measuring and managing risk in private equity, thus helping them optimise their exposure to the asset class. Importantly, the addressees of the guidelines are limited partners, not general partners. The starting point of the working group, which included some of the most experienced risk managers and practitioners in the industry, was the experience many investors had made during the financial crisis in 2008. Their cash-flow models typically assumed more or less normal market conditions, under which unfunded commitments were covered by distributions or other sources of liquidity. But as the parameters of their cash-flow models shifted rapidly upwards during the crisis, several investors experienced significant liquidity issues, and some of them were forced to liquidate assets at fire-sale prices. This experience suggested that there was an



urgent need for investors to upgrade their risk management systems in illiquid assets.

PETJ: The Solvency II Directive has stirred a lot of discussions within the industry. How important are the roles that Solvency II and its approach to modelling private equity risks have played in the creation of the guidelines? And generally how is Solvency II expected to impact private equity as an asset class?

PC: Solvency II provides different options for European insurers. While the industry response to Solvency II has focused primarily on the standard approach, under which private equity faces significant solvency capital requirements making the asset class more expensive for insurers, the risk measurement guidelines are particularly relevant for developing proprietary risk

models. Running such models requires the approval of the regulator, and the guidelines may help define a standard in this process. That said, the guidelines should not be seen as a direct response to Solvency II or any other set of specific regulations. Instead, the guidelines represent a general framework for measuring risk in an asset class, which shows characteristics that

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are fundamentally different from marketable instruments.

PETJ: *Basel III and the discussions around it were also supposed to have an impact on the industry – has Basel III affected the guidelines? Are there any other regulations, including AIFMD, that have affected the guidelines?*

PC: No. The key objective of the guidelines is to help limited partners put in place a framework to adequately measure and manage the idiosyncratic risks of private equity. Whether or not limited partners are regulated investors, such as insurance firms or banks, or are unregulated, for example, family offices or endowments, is of secondary importance from the perspective of the guidelines. Ironically, banks are the most heavily regulated industry, and yet we have seen spectacular failures time and time again. Conceivably, individual institutions may be in perfect compliance with existing regulation and may nevertheless come under severe stress.

PETJ: *How would you describe the guidelines in terms of providing a standard model with a list of detailed rules and parameters to calibrate internal models or as a principles-based model aiming to provide a conceptual basis instead?*

PC: The guidelines recognise that each portfolio of holdings of private equity funds has specific characteristics. As a result, the guidelines do not aim to calibrate specific models by using one-size-for-all parameters. Instead, the guidelines aim to help users identify their own exposure to the different risks that are relevant for private equity investors and how these risks should be measured. Thus, the guidelines are principles-based. They aim to provide a conceptual basis instead of a list of detailed rules or parameters to calibrate internal models.

PETJ: *How does the January 2013 version of the guidelines diverge from the original consultation paper released in January 2011 and what were the most important comments from constituents that you have incorporated in the final version?*

PC: The guidelines in their final version reflect many rounds of comments and suggestions the working group has received since the beginning of our work. The consultation process has been particularly important. Many investors have provided extremely helpful insights, which have been instrumental in finalising the guidelines. An area that attracted particular interest concerns the use of net asset values (NAV) versus cash flows and the net present value (NPV) of investments. In this process, the working group received invaluable support from a world-class academic advisory board consisting of Professors Ulf Axelson, London School of Economics, Morten Sørensen, Columbia Business School, and Per Strömberg, Stockholm School of Economics.

PETJ: *Why have you chosen the guidelines to focus on a value-at-risk (VaR) approach to risk measurement for portfolios of private equity funds? How is that approach different from other approaches and why has it been considered appropriate for investing in private equity funds?*

PC: The value-at-risk is one of the most important measures for financial risks, with concepts similar to VaR being used in many parts of financial regulation. The basic idea of VaR applies to illiquid assets as well: what is the maximum loss a portfolio may suffer in a given time period and within a given confidence interval? However, applying VaR analysis to illiquid assets, for which market prices do not exist, raises a number of important conceptual and statistical issues. In addressing these issues, the guidelines present two alternative approaches. One is based on changes

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in NAVs, the other one focuses on the volatility of cash flows. The latter uses historical cash-flow data over the entire lifecycle of funds and hence is more appropriate in terms of dealing with undrawn commitments.

PETJ: *How have you come up with the four main risks – funding risk, liquidity risk, market risk and capital risk? Are there any other risks that need to be considered?*

PC: Importantly, the guidelines focus on risks that are very specific for investors in private equity. There are other risks that are important, such as reputational risk or governance risk. But these risks need to be addressed by financial investors regardless of the asset class they invest in. As far as private equity investors are concerned, losses may first of all be caused by adverse movements in market prices, such as equity valuations or foreign exchange rates. However, in comparison with investors in publicly traded assets, LPs in private equity funds face significantly different challenges in measuring market risk and hedging the risk of adverse price movements. Similarly, there are fundamental differences in

determining the capital risk of fund investments – the risk that a fund fails to return the LP's capital (plus an expected return). These differences arise from the specific nature of fund investments where partnerships have a typical lifetime of 10–12 years. This leads us to the importance of liquidity risk: unlike in public markets where investors can continuously buy and sell assets, at least under normal market conditions, to rebalance their portfolios, this is not possible for private equity investors. While a secondary market has emerged over the past two decades, private equity remains a highly illiquid asset class. This means that investors cannot easily divest their stakes in funds, whether the desire to sell is motivated by liquidity factors in times of financial dislocations or by strategic considerations. Finally, as we have seen in the recent financial crisis, undrawn commitments can play a very important role. Today, funding risk, sometimes called commitment risk, ranks very prominently on risk managers' agendas.

PETJ: *The most widely used methodologies to measure the risk of private equity investments are based on the assessment of the volatility of NAVs and of cash flows. What is your recommendation in terms of selecting an appropriate methodology for specific portfolios? What modelling inputs should be included in the analysis?*

PC: NAV-time-series-based approaches assume that the risks of investments in private equity are mainly represented by the volatility of the fund's NAV series. Such approaches are relatively easy to implement and methodically they are appropriate for funds whose value derives mainly from the value of their existing underlying portfolio companies and for investors with a relatively limited allocation to private equity. By contrast, cash flow-based modelling methodologies are based on cash-flow projections, which are used to derive the NPV of investments under different scenarios. Cash flows are discounted



using appropriate risk-adjusted rates that quantify the risk inherent in the future cash flow. The cash flow-based approach is advantageous for investors with significant exposure to private equity and where unfunded commitments still represent a significant part of the investor's exposure.

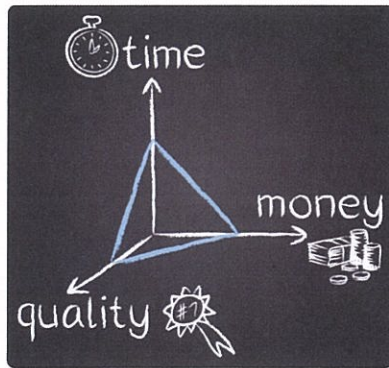
PETJ: *How important is stress-testing when using cash flow-based models? What are the most critical shocks that you would recommend to be used in stress-testing?*

PC: Stress-testing plays a critical role, given that historic cash-flow data can only have limited predictive power. Given these limits, it is not possible to anticipate outcomes with a degree of accuracy that is needed to measure and manage risk effectively. Therefore, it is important to evaluate and quantify the impact of shocks that would materially change projections. Parameters that should be subjected to stress testing when using cash flow-based models include the lifetime of funds, delayed repayments, lower IRRs, higher cash-flow volatility and a greater degree of correlation between funds.

PETJ: *How important is the impact of diversification on the risk profile of the portfolio of funds held by an investor? The guidelines state that diversification over vintage years is one of the most effective ways of mitigating risks. Would you say that this has been the industry practice so far and what other ways of mitigating the risk are recommended by the guidelines and by you?*

PC: Diversification is critical in investing and private equity is no different. Statistically, it can be shown that diversification reduces risk substantially in private equity portfolios. There are several dimensions along which private equity portfolios can be diversified: vintage years, stages, geographies, industries, and strategies. For instance, a growth capital fund raised in 2006 targeting emerging Asia shows fundamentally different risk return characteristics from a large buyout fund, which was raised in 2004 to acquire assets in the US market. As a matter of course, effective diversification requires screening and monitoring investment opportunities across the globe in different market segments. In reality, few limited partners have the resources to do that, however; instead many investors focus on those markets they know best. While diversification is generally based on observed correlations, it is important to take into account the limitations of this approach. A well-known problem in this regard is the concept of stale prices. Therefore, it is advisable to also look at implied correlations, an approach that is based on systemic factors, such as value drivers, which can be mapped to each fund and/or portfolio companies.

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PETJ: *How important is the validation and verification of models and why? Should it necessarily be done by an external party and how often should models be validated and verified after initial verification done prior to actual reliance on the model? What other alternative methods for verification can be used where pure back-testing is not feasible?*

PC: The accuracy and robustness of risk management frameworks must be reassessed regularly. As the financial crisis has shown, risk is not static but dynamic. Hence, risk measurement and modelling need to be dynamic, too. Risk measurement approaches have to incorporate relevant past data, but they should evolve with new information and adapt to a changing environment. To be objective and unbiased, the verification and validation process should be conducted independently. This can be done internally by independent qualified staff, or the modelling is subjected to an external review. Ideally, the quality of a model should be determined using back-testing. In private equity, however, the scarcity of data can be a major obstacle. This challenge is particularly important for

investors who are new to the asset class. And especially in venture capital, the past does not always provide a reliable yardstick for the future. In overcoming these challenges, sensitivity analysis, stress-testing, qualitative assessment and judgement can play a very useful role.

PETJ: *The guidelines introduced the concept of qualitative assessment. How can qualitative assessment fill in gaps in data and what is the best way of incorporating qualitative data in risk models? Is it possible to translate qualitative data into quantification? What other ways of overcoming data scarcity would you suggest?*

PC: As important as quantitative risk measurement is, in private equity risk managers often face important data constraints. This does not mean, however, that effective risk management cannot be done. Rather, the risk manager has to work with the set of information that is available to him, and this includes qualitative assessments. Understandably, many risk managers feel uncomfortable using qualitative data, as they fear that such information may be inconsistent and hence result in distorted conclusions. However, this discomfort can be mitigated by employing classification schemes for limited partnerships. In fact, a growing number of LPs are using proprietary fund grading systems that take into account qualitative assessments. In such systems, funds are benchmarked against their peers, which makes it essential to define the appropriate peer group to extract information from the grading of funds. At the same time, there have been attempts by external agencies to provide private equity fund ratings. While such ratings are common in the mutual funds industry, in private equity such ratings are more challenging, however, given the limited number of objective criteria that can be used in a standardised fashion.

PETJ: *What are the major challenges in applying the guidelines?*

PC: Probably the most important challenge in implementing the guidelines lies in the nature of the asset class itself – the limited amount of data that is available to the risk manager. Importantly, investment professionals and risk managers alike have to give up their ‘liquid investment’ mindset. Instead, they have to learn to work with a set of information, which is incomplete and at least to some degree qualitative. This makes it even more important to constantly validate and verify the underlying assumptions, requiring an institutional framework that is conducive to an independent and objective assessment.

PETJ: *What impact do you expect that the guidelines would have on the industry as a whole and what types of investors is likely to adopt the guidelines? Are you aware of LPs that have already adopted or are planning to adopt the guidelines?*

PC: While it is too early to assess the potential impact of the guidelines on the risk measurement practices in the limited partner community, it is encouraging to note that some investors already have in place systems that are consistent with the guidelines. Importantly, this includes investors that are not subject to a particular set of regulations – instead, their risk-measurement approaches are guided by the objective to maximise risk-adjusted returns given their individual risk appetite and liability structure. Finally, I would emphasise that the guidelines are a living document. As investors continue to gain experience and academic research on risk management in illiquid assets continues to advance, the guidelines will need to be revisited. Risk is dynamic, not static, and so should be the guidelines. ✓



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