Private Equity Fund Risk Management: An Overview

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I. Introduction

Private equity funds (PE funds) invest in assets that are not publicly traded or are currently public but acquired and taken private. While the investments are generally equity, they can also be private debt with few firms taking the whole issue. The private nature of the investments has important implications making PE firms different than other alternative investment vehicles including hedge funds. First, the term of the investment is longer, generally 5-10 years. Investors make a capital commitment at fund inception but with capital draws only as investments are ready to be made and return of capital when they are sold years later. During the investment period, the investor has no liquidity unless an alternative investor can be found.[1] PE funds earn management and performance fees, with the latter a certain percent of profits above a specified hurdle rate.[2] A complete discussion of PE funds and their risk return profile can be found in the literature.

Private equity firms hope to generate attractive returns due to several value-added propositions. First, the PE firms have expertise in the in businesses and industries they invest in, buying companies that are undervalued or mismanaged and can be turned around. Installation of new top management or fundamental changes to the business strategy including the shedding or purchase of assets is meant to result in the business being valued significantly higher. Second, private equity firms often use aggressive amounts of debt. This leads to higher expected return but with higher risk from the resulting capital structure. Finally, and not sufficiently emphasized, the PE focus is an intermediate time turnaround and subsequent sale as opposed to public companies that have a mix of short term (financial reporting) and long term objectives. Much research has focused on determining the alpha and beta of the high PE investments to determine the extent if any of manager skill.

The focus of this paper is how the risk function can add value to PE funds. This contrasts with earlier papers, Mazaheri (2008) that provided an overview of the function for discretionary strategies and Mazaheri (2018) that discussed the function for systematic trading strategies. The skill set for PE risk analysis is very different than both those roles with accounting, financial statement analysis, and corporate finance being central. Historical data and quant analysis are rarely used. Unlike public investments, private assets can't be easily sold and hence most of the value-added analysis has to occur prior to investing. Finally, portfolio construction in the context of public securities is not possible as often the whole asset is purchased, not allowing for sizing and resulting in concentration. PE funds are not levered with the exception of debt used to finance the purchase of the business. The complete focus on exit value and unimportance of intermediate marks and return volatility change the risk analysis and hedging when it is appropriate.

[1] Markets exist for exchange of PE fund shares but sales are often at a steep discount.

[2] For example, if the hurdle rate is 8% the performance fee is calculated on returns over 8%.

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PE fund risk management provides independent and transparent verification of deal team analysis and post investment deal evaluation and monitoring. The deal team is intricately vested to the investment, significantly more so than risk takers in public securities because of the larger size, lack of liquidity, and longer duration of the investment. This may lead to investment team blind spots resulting from significant effort spent on the investment analysis as well as investment performance-based compensation, making independent vetting of financial models and assumptions important. The vetting of the analysis by individuals not associated with the p&l gives additional credence on the investment thesis to the CIO and Investment Committee (IC).

In addition to financial risk, the full purchase of the asset and the subsequent public transparency of the transaction results in PE investments having reputational risk. A bad investment, even if it is small and does not materially impact the performance of the fund can damage the reputation of the PE firm.

The paper is organized as follows. Section II contains a discussion of the role of risk management in deal analysis prior to commitment. This includes contributing to structuring the deal for best risk reward. In Section III the monitoring of the investment performance is discussed. Due to lack of prices, this analysis is different than when the investments are public. Section IV contains a discussion of portfolio and deal loss analysis and hedging. In Section V, the role of risk management in exit strategy or sale of the investment is discussed. Section VI contains a discussion of the risk management organizational role. Our concluding remarks are in Section VII.

II. Deal Analysis Prior to Commitment

Investments or deals are they are commonly referred to in PE, are sourced from industry contacts, the investment community, and broader business network. Private deal analysis is significantly more labor intensive than public trade analysis because investments are larger and illiquid, with no room for error.

Deal analysis is for the most part in terms of a proforma or financial analysis, including income statements for the expected duration of the investment. Financial analysis of future time periods requires estimates of revenue and expenses with company and industry knowledge critical in modeling the growth of the company. Risk should independently review the financial analysis provided by the deal team as the rest of the organization including CIO do not take a deep dive in the analysis. The independent deal analysis provided by Risk adds value to the investment process by increasing the confidence of the IC and CIO in the investment analysis.

Complementing the baseline scenario is stress risk analysis, usually through adverse moves in the assumptions. Risk takers are often not sufficiently conservative with stress analysis because of their biases due to their involvement in the investment process and performance based compensation for investment professionals. Stress testing of future financials provides decision makers a better sense of losses should the investment thesis prove to be incorrect.

Not all private equity deals involve purchase of equity, particularly when more than one purchaser, possibly existing management of the firm is involved. In such circumstances, deal structure can greatly enhance risk adjusted returns of PE investors. Structuring the investment can creatively provide

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incentives to management and other stake holders. The risk function can help the deal team devise an attractive deal structure.

III. Investment Performance Monitoring

Deal performance monitoring allows for identification of areas of improvement and evaluation of company progress. For private investments, performance analysis is conducted by comparing financials to peers and targets set by the CIO and IC in collaboration with the investment deal team. The deal team has detailed knowledge of the business hence the analysis should be done collaboratively. The causes of deviations of financial performance from targets and peers should be understood.

Investors require periodic investment returns, generally quarterly, so the private investments need to be marked. Standard practice is to price private positions off public peers, with peers defined based on financial and business criteria. For additional integrity and due to conflicts of interest pricing is best conducted by someone not on the investment side, ideally Risk. The investment team should have important input in determining the criteria for peer determination and in certain cases selecting the peers.

IV. Portfolio and Deal Loss Analysis and Hedging

An important part of risk analysis for private investments is valuation-based stress testing conducted through financial models. The financial models are assumed to be correct and stress losses are calculated from adverse moves in baseline input values. The lack of early investor redemptions, longer investment horizon, and importance of final total return mean that loss analysis is motivated by providing information on averting poor exit valuations.

Excessive deal stress loss and in rare instances where investment tail exposures have aggregated may require hedging. An example would be large losses arising from a significant change in interest rates. Given the small number of investments, in many cases macro tail hedging is not appropriate. Hedging is most likely to add value to private investing if the fund is specialized such as in commodity or healthcare and financial instruments exist that economically enhance the final return of the investment.[3]

V. Exit Analysis

The objective of PE firms is medium term turnaround of the company and they are eager to exit investments once the full potential of the investment has been realized within the time frame outlined in the legal documents. There is often new capital that has been or is about to be raised for a new fund. The exit strategy and sale price are determined by the investment deal team with consultation with CIO

[3] The author's experience with private equity was at a commodity PE firm where hedging was possible because the impact of commodity prices was explicit and public hedge instruments traded.

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and IC. The exit valuation is determined in similar fashion to marking the position by comparison to public peers but more thoroughly as dollars and the investment return are at stake. Thorough valuation analysis is also helpful in convincing prospective buyers the company's worth.

The role of risk is complementary, ensuring the deal team analysis is complete, error free, and transparent. The independent role played by the risk team gives the various stakeholders added confidence.

VI. Risk Management Organizational Role

Organizational structure is essential to the success of the risk function due to its potentially adversarial role and lack of p&l. To be successful, the function requires unconditional support from senior management. In absence of such support it will be unable to influence decisions and may be circumvented by the deal teams.

The role of risk in the investment process greatly impacts its effectiveness. In the absence of a disciplined investment process, it is difficult for risk management to have the full information, influence decision making, and avoid marginalization. Regular and unfettered interaction with the deal team is essential as they have important information about the investments.

The CRO should report directly to the CIO and or the IC. This is for several reasons including recognition that Risk is part of the investment process. Competing risk takers will not cooperate nor respect a risk function that is aligned to only part of the investment team or reports to non-investment individual such as CFO or COO.

The compensation scheme of Risk and the CRO should incorporate the value the function adds and be consistent with the independence of the function. To provide the correct economic motivations, Risk compensation shouldn't be significantly aligned with performance fee as it will align risk management with higher returns and hence risk. While Risk compensation will have a call option profile on performance which can't be eliminated completely, moral hazards shouldn't be created.

VII. Concluding Remarks

The role of risk management at a PE firm was discussed. The function is well equipped to make significant contributions to the investment process as a set of additional eyes and ears, checking for reasonability in financial modeling and providing independent transparent analysis to the CIO and IC. The credibility of risk inside the organization and to outside stakeholders such as investors arises from its independence from p&l centers. In addition, the risk function has an important role in deal performance monitoring and macro hedging when appropriate.

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