Principal–Agent Misalignment in Mid-Market Private Equity Portfolio Governance: An Empirical Analysis of Board Composition, Incentive Contracting, and Operational Value Creation

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Abstract. This study examines principal–agent misalignment within mid-market private equity (PE) portfolio governance structures, focusing on the mediating roles of board composition and incentive contracting mechanisms in driving operational value creation. Drawing on a longitudinal panel dataset of 214 PE-backed portfolio firms across twelve OECD economies (2015–2023), we employ fixed-effects regression and two-stage least squares (2SLS) instrumental variable estimation to mitigate endogeneity concerns. Our findings reveal that independent board director density and management equity co-investment ratios jointly moderate the relationship between GP oversight intensity and EBITDA margin expansion. Firms exhibiting contractual milestone-linked carried interest provisions demonstrate statistically significant outperformance in operational KPI achievement relative to time-based vesting cohorts. These results carry implications for LP due-diligence frameworks and regulatory disclosure standards governing alternative asset management.

Keywords: principal–agent theory, private equity portfolio governance, incentive contracting, board composition, operational value creation, carried interest provisions, mid-market buyouts, EBITDA margin optimization, alternative asset management

Introduction

The structural tension between general partners (GPs) and limited partners (LPs) in private equity portfolio governance represents one of the most persistent and consequential manifestations of principal–agent conflict in contemporary financial management. As global private equity assets under management surpassed $8.2 trillion in 2024 (Preqin, 2024), the governance architectures deployed within PE-backed portfolio companies have come under intensified scrutiny from institutional investors, regulatory bodies, and academic researchers alike. The central challenge—aligning the operational and strategic incentives of portfolio company management teams with the value-extraction timelines of fund sponsors—remains inadequately resolved in both theoretical modeling and practitioner frameworks. Existing literature has extensively documented agency costs in publicly listed corporations, yet the mid-market private equity context introduces distinct structural idiosyncrasies that complicate direct extrapolation. Unlike dispersed public equity ownership, PE governance is characterized by concentrated ownership, time-bound fund lifecycles, layered fee structures, and negotiated carried interest waterfalls, each of which generates heterogeneous incentive responses at the portfolio company level (Jensen, 1989; Kaplan & Strömberg, 2009; Acharya et al., 2013). Despite this complexity, empirical granularity on how specific board composition metrics and contractual incentive designs interact to determine post-acquisition operational performance remains notably sparse, particularly for sub-€500M enterprise value transactions classified as mid-market. The significance of this research gap has intensified in the 2024–2026 macroeconomic environment, in which elevated interest rates, compressed exit multiples, and prolonged holding periods have substantially raised the operational stakes of portfolio management. With debt-financed return amplification constrained by tighter credit markets, GPs are under mounting pressure to generate authentic operational alpha—measurable improvements in EBITDA margin, working capital efficiency, and revenue scalability—rather than relying on financial engineering or multiple expansion. In this context, the governance mechanisms through which GPs influence portfolio company behavior have become strategically central rather than merely procedural. This paper makes three primary contributions. First, it constructs and validates a novel composite Governance Intensity Index (GII) that integrates board independence ratios, GP-nominated director tenure, and management equity co-investment levels as a multidimensional proxy for active ownership. Second, it provides causal identification of the effect of milestone-linked carried interest structures on operational KPI achievement using 2SLS estimation with fund vintage year and jurisdiction-level regulatory heterogeneity as instruments. Third, it offers sector-stratified subgroup analyses across manufacturing, healthcare services, and technology-enabled business services verticals within the mid-market PE universe. The remainder of this paper is structured as follows. Section 2 reviews the theoretical foundations of principal–agent theory as applied to private equity governance. Section 3 describes the dataset construction, variable operationalization, and econometric identification strategy. Section 4 presents the core empirical findings and robustness checks. Section 5 conducts sector-stratified heterogeneity analyses. Section 6 discusses policy implications for LP due-diligence protocols and regulatory disclosure requirements. Section 7 concludes with limitations and directions for future research.

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