

Private Equity Ownership and Firm Performance: A Framework for Interpreting the Evidence

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Keywords: private equity, leveraged buyouts, firm performance, stakeholder welfare

JEL Classifications: G32, G34, G23, L25

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Abstract

We review the evidence on the impact of private equity (PE) ownership on firms, stakeholders, and the economy. We organize this literature using a framework that emphasizes the costs and benefits of PE as an ownership form and implies five main predictions: (i) only some firms are natural PE targets; (ii) PE ownership is optimally temporary; (iii) debt is typically a cheaper source of capital than PE equity; (iv) PE activity is strongly cyclical; and (v) the PE model is a second-best response to underlying agency and contracting frictions. We use this framework to interpret existing evidence and to clarify when, and for whom, PE ownership creates value.

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1 Introduction

Since its beginnings in the U.S. in the early 1980s, private equity (PE) has grown to become a large and global financial market, managing trillions of dollars of assets on behalf of institutional investors around the world. PE funds have become the controlling owners of tens of thousands of companies, affecting the welfare of millions of workers, consumers, and taxpayers worldwide. As PE has grown in importance, it has also been increasingly scrutinized and criticized, in part because it is private, operating without the transparency and disclosure requirements of listed companies.

Academic research on PE has expanded in parallel. Starting with the pioneering contributions of Jensen (1986) and Jensen (1989), a large literature has examined the impact of PE ownership on firm performance and on the welfare of stakeholders. This work has been reviewed in several excellent recent surveys, including Sørensen & Yasuda (2023), Ivashina (2023), Jenkinson, Kim & Weisbach (2023), and Ljungqvist (2024).¹ Our contribution is different: rather than providing a comprehensive literature review, we develop a unifying economic framework for understanding the role of private equity in the economy, which we then use to organize and interpret the empirical evidence on PE ownership and firm performance.

We focus on evidence on how PE ownership affects portfolio-company performance, and only mention the evidence on financial returns insofar as it has implications for the cost of capital of PE-owned firms.² A large number of studies show that PE buyouts are followed by significant improvements in firm productivity and growth. These improvements have been linked to specific governance, financial, and operational “engineering” practices (Kaplan & Strömberg, 2009). But if such practices raise value, why do other owners not adopt them? And if they cannot, why do we not observe PE “eclipsing” other ownership forms (Jensen, 1989)? The answer, we argue, is that PE ownership delivers both benefits and costs. The benefit is the value created through active, informed, and empowered ownership. The costs stem from illiquidity and delegated portfolio management. In equilibrium, only firms for which the benefits exceed these costs should end up in PE ownership. This insight has implications for which firms PE funds acquire, the limited duration of PE ownership, their capital structure choices, and the cyclicity of PE markets.

Our framework also has implications for different stakeholders involved. For portfolio companies, PE ownership is valuable when active, informed, and concentrated control generates operational, governance, or financial improvements large enough to cover the higher

¹See also Gompers & Kaplan (2022) for a textbook treatment of PE.

²For excellent surveys of the risk and return to PE investment, see Korteweg (2019) and Kaplan & Sensoy (2015).

cost of private capital. For LPs and GPs, the same structure creates a trade-off between the excess returns generated from active ownership and the costs of illiquidity, fees, and delegated portfolio management. For other stakeholders, the real effects depend on whether PE’s high-powered incentives to generate excess returns generate negative externalities on them, e.g. due to incomplete contracts, regulatory loopholes, or abuse of market power. The evidence on these effects is mixed. On the one hand, PE owners have strong incentives to focus on shareholder value, which sometimes generates adverse outcomes for workers, customers, and taxpayers. On the other hand, the structure of PE funds implies that PE sponsors care about their reputational capital, which can make them internalize the potential externalities on other stakeholders.

We restrict the survey to the impact of private equity funds, which account for roughly 75% of PE transaction volume and are the focus of most empirical work. The structure of PE funds shapes the types of deals they pursue and thus the nature of their economic impact.³ We also focus on the (leveraged) buyout segment and do not cover Venture Capital (VC).⁴ Although buyout and VC funds share structural features, they target different firms and rely on different mechanisms: VC funds primarily finance new investment in young firms and often hold minority stakes, whereas buyout funds acquire control of more mature firms and focus on ownership and governance.⁵

Finally, the growing private capital market also includes segments such as private infrastructure, real estate and credit funds (see e.g. Block et al. 2024, Andonov, Kräussl & Rauh 2021). While not covered in this survey, we believe that similar trade-offs apply to these asset classes as well, and our framework may be extended to help understand the economic effects of private capital more broadly.

2 Overview of Private Equity

Most PE investments are undertaken by funds structured as finite-life, closed-end limited partnerships. PE fund managers act as General Partners (GPs) and fund investors as limited partners (LPs).⁶ Most LPs are institutional investors, such as pension funds, endowments,

³We believe more research is needed on differences between PE funds and other investors, such as conglomerates, family offices, and investment companies.

⁴For reviews of VC and entrepreneurial finance, see Da Rin, Hellmann & Puri (2013), Bernstein (2022), and Ewens & Farre-Mensa (2022).

⁵We do not explicitly cover growth equity either, which sits between VC and buyouts. Similar to VC, growth funds finance new equity investment in firms, often taking minority stakes. Similar to buyouts, it targets more mature and profitable businesses. Many of the studies we review, however, do not make a sharp distinction between buyout and growth equity.

⁶The full legal structure of PE funds is more complicated than this simplified exposition. For in-depth descriptions, see Ivashina (2023), Jenkinson, Kim & Weisbach (2023), and Talmor & Vasvari (2019).

insurance companies, and fund-of-funds (Lerner, Schoar & Wongsunwai, 2007), but high-net worth individuals and other retail investors are becoming more common (Balloch et al., 2025).

The GP is typically fully-owned by its partners, so that the key investment decisions are made by individuals who have a significant economic stake in the outcome. In the most common structure, the Limited Partnership dissolves after ten years, necessitating the divestment of all portfolio companies. With approval from the LPs, the fund may be extended for an additional two to three years, and sometimes longer. After committing capital, LPs have little say in how the GP manages their funds.

The initial phase of the fund’s life, known as the investment period, typically spans five to six years. During this period, the GPs may access commitments from the LPs to invest in new portfolio companies. As the investment period approaches its end, the GPs will start raising a successor fund, to try to ensure that they can make new investments.

During the investment period, the GP acquires a limited number of portfolio companies.⁷ Throughout this review, we rely on PitchBook as our primary data source to illustrate the empirical composition and dynamics of PE transactions for the years 1990–2022.⁸ The companies acquired can be listed firms which are taken private (“public-to-private buyouts”), non-listed firms owned by e.g. entrepreneurs or families (“private buyouts”), divisions of large corporations (“divisional buyouts”), or companies bought from other PE investors (secondary buyouts) – see Table 1, Panel A.

In a typical (leveraged) buyout, a PE fund acquires the entire firm, financed with a combination of fund equity and debt financing in the form of loans and bonds (Ivashina, 2023).⁹ The debt is backed by the assets and cash flows of the portfolio company, with no recourse to the PE fund.¹⁰ The goal of the PE owner is to increase the value of the portfolio company equity stake over a holding period of 3-7 years, after which the fund exits the company, pays back the debt, distributes remaining proceeds back to LPs (net of GP carried interest) and other shareholders (typically including management). Table 1, Panel D, shows the distribution across exit types – sales to a corporate buyer (strategic sale), public listings

⁷Jenkinson, Kim & Weisbach (2023) report an average (mean) number of portfolio companies of 14 (9.5) for North American buyout funds and 11 (7.8) for European buyout funds.

⁸PitchBook is a standard data source for constructing buyout samples in the empirical literature (Gandhi, Song & Upadrashta, 2026). CapitalIQ used in Strömberg (2008) is another. While such databases effectively capture documented institutional deal flow, recent evidence by Jang, Kim & Sufi (2025) demonstrates that they might undercount PE-owned firms.

⁹Following the Global Financial Crisis, heightened regulatory scrutiny and capital constraints led traditional banks to retreat from middle-market lending. This paved the way for arm’s-length private credit funds (direct lending) to replace banks as the primary providers of one-stop senior secured debt, particularly for mid-market buyouts (Block et al., 2024; Ivashina, 2025).

¹⁰In recent years, an increasing number of PE funds also borrow at the fund level, in the form of subscription lines (Albertus & Denes, 2024) and NAV loans (Reddy, 2024).

Table 1: Distribution of entry and exit types for buyout transactions

Panel A: Distribution of entry types by number of deals and deal value						
Entry type	Divisional	Indep. private	Public to private	Financial seller	Secondary buyout	Total
Number of deals	4,631	23,331	1,320	1,659	6,226	37,167
Fraction of deals	0.12	0.63	0.04	0.04	0.17	1.00
Fraction of deal value	0.17	0.28	0.27	0.04	0.25	1.00
Panel B: Cumulative exit shares for PE targets by months since initial buyout						
Months since initial buyout						
Exit type	24	60	72	96	120	180
Initial PE exit	0.07	0.40	0.50	0.67	0.77	0.87
Exit from PE	0.06	0.30	0.38	0.52	0.62	0.76
Panel C: Distributions of exit routes for initial and final PE exit						
Exit route	Distressed	IPO	Financial buyer	Strategic buyer	Secondary buyout	Total
Initial PE exit	0.08	0.06	0.09	0.51	0.26	1.00
Exit from PE	0.11	0.08	0.14	0.67	-	1.00
Panel D: Distribution of exit route by entry type						
Entry type	Distressed	IPO	Financial buyer	Strategic buyer	Secondary buyout	Total
Divisional	0.06	0.08	0.07	0.56	0.24	1.00
Indep. private	0.09	0.05	0.06	0.54	0.26	1.00
Public to Private	0.11	0.15	0.07	0.44	0.23	1.00
Financial Seller	0.08	0.03	0.08	0.44	0.37	1.00
Secondary	0.07	0.07	0.09	0.43	0.35	1.00
All	0.08	0.06	0.07	0.51	0.28	1.00

Table 1, Panel A provides the number and distribution of buyouts (number and deal size) by entry type. Panel B shows the time to exit, calculated using entry years for which sufficient time has passed to allow for a meaningful exit analysis. Initial PE exit refers to the time for the initial PE buyer to exit. Exit from PE refers to the firm exiting PE status. Panel C reports the distribution of exit routes for the initial PE exit and the final exit from PE ownership. Panel D shows the distribution of exit routes for PE entries across entry types. Financial buyer and financial seller are PE firms not operating with funds. Data sourced from PitchBook.

(IPO), and sales to another PE investor (Secondary buyout) – across different types of buyout transactions.

GPs are typically required to invest in the funds alongside LPs, with typical GP co-investments in the range of 2-5% of total committed capital. In addition to this stake, GPs are compensated through management fees, carried interest, and portfolio company fees. The management fee is designed to cover the ongoing operational expenses of the fund, and typically ranges from 1.5% to 2.5% applied to committed capital during the investment period and to invested capital thereafter. The carried interest typically amounts to 20% of profits (exit proceeds minus investment and management fees) and is typically only paid once LPs have received a return above a “hurdle rate” (often 8% per year).¹¹ Finally, PE funds often charge portfolio companies for various services, such as transaction and monitoring fees. Such fees average 1.75% of the transaction value, and are typically at least partly offset against the management fee (Phalippou, Rauch & Umler, 2018).

Since the early 1980s, the PE market has steadily grown over time, both in absolute terms and relative to the size of the economy. By 2021 PE assets under management amounted to USD 6.9 trillion, or around 5% of total listed equity capitalization (S&P Global, 2023). As seen from Table A1 PE activity has also spread across regions and industries. While most PE activity still occurs in North America and Western Europe, the fraction of transactions in the rest of the world has grown from 3% in the 1990s to 10% in the 2010s. In terms of industries, post-GFC growth has been particularly pronounced in “new economy” sectors such as IT and healthcare (Döskeland & Strömberg, 2018).

Apart from a general growth in financial activity, PE growth has been fueled by institutional investors allocating an increasing fraction of their assets to private capital.¹² Around this trend growth, PE activity is strongly pro-cyclical, with transaction volumes and fundraising being positively related to LBO leverage and valuation multiples (Axelson et al., 2013; Haddad, Loualiche & Plosser, 2017).

One reason for LPs to increase the allocation of capital to PE is that they expect attractive risk-adjusted returns. Estimating risk-adjusted returns in PE is challenging due to the illiquidity of the asset class, where regular market values are not observed (Kaplan & Sensory 2015; Korteweg 2019). Where there is more consensus is on how to estimate market-adjusted performance, where the PME methodology of Kaplan & Schoar (2005) and the corresponding direct alpha measure of Gredil, Griffiths & Stucke (2014) have become

¹¹See e.g. Metrick & Yasuda (2010) and Robinson & Sensory (2013) for data on fund terms.

¹²See Sørensen, Wang & Yang (2014) and Giommetti & Sørensen (2023) for models of how LPs determine PE allocations. Ivashina & Lerner (2018) document that the allocations of pension funds to PE and real estate almost doubled between 2008 and 2017.

standard in the academic literature.¹³ While estimates vary most studies find that net returns of buyout funds (i.e. after GP fee and carry) have been around 2-3% per annum above public market indices. PE returns have also been shown to be cyclical with vintage year PME being lower in years where PE fundraising is relatively high (Kaplan & Strömberg 2009; Brown et al. 2021).

3 The benefits of private equity ownership

3.1 The effects of PE ownership on firm performance

PE funds generate investment returns by increasing the value of portfolio company equity stakes (plus interim dividends) during the holding period. A common way to decompose the different components of value creation is the so-called “return bridge” (Ivashina, 2019). This decomposition defines firm value as the product of a valuation multiple times profits; where profits, in turn, depend on sales and profit margins, e.g.:

$$EV = \frac{EV}{EBITDA} \cdot \frac{EBITDA}{Sales} \cdot Sales, \quad (1)$$

$$E = EV - Debt + Cash$$

The value of the PE fund’s equity (E) stake can increase through four channels, corresponding to the terms in the bridge:

(1) multiple expansion, i.e. changes in the valuation multiple $EV/EBITDA$; (2) margin improvements, i.e. changes in $EBITDA/Sales$; (3) revenue growth, i.e. changes in $Sales$; and (4) deleveraging, i.e. increasing E by paying down $Debt$ and/or accumulating $Cash$.

The empirical literature has documented how PE adds value across these dimensions.

3.1.1 Effects on profitability, productivity, and asset efficiency

Much of the evidence on PE ownership and firm performance comes from public-to-private (P2P) transactions, where financial data are more readily available. Early empirical studies¹⁴ examining U.S. 1980s P2Ps document substantial post-buyout increases in operating margins and cash flow, together with substantial deleveraging through reductions in capital expenditures and asset sales of non-core units; broadly consistent with buyouts reducing agency costs of overinvestment and free cash flow (Jensen 1986; Jensen 1993). Subsequent

¹³Sørensen & Jagannathan (2018) show that under some theoretical assumptions, the Kaplan-Schoar PME is the correct benchmark for evaluating risk-adjusted returns.

¹⁴See Kaplan (1989b), Kaplan (1989c), Smith (1990), and Berger & Ofek (1996).

work on post-1980s P2P buyouts still reports positive, albeit more modest, profitability gains, with asset sales being a less important value driver compared to the 1980s studies (Guo, Hotchkiss & Song, 2011). Beyond P2Ps, Cohn, Hotchkiss & Towery (2022) document significant increases in profitability in a sample of U.S. private firm buyouts 1995-2009.

Using accounting data to study PE has some limitations, however. First, public financials are only available for a subset of buyouts (e.g. P2Ps that continue financial reporting post-buyout, or firms with public bonds outstanding). Second, studies can typically only follow firms for two to three years post-buyout, due to data limitations. Yet, the profitability in the first couple of years post buyout may not be very indicative of deal success; in fact, unlike listed companies, PE-owned companies may have incentives to low-ball reported profits for tax reasons (Katz, 2009). What ultimately matters for PE fund returns is the expected EBITDA at exit that forms the base for the exit valuation. With the exception of IPO exits, this value is seldom observed, as firms seldom submit financial statements for the fiscal year when they are sold.

This shortcoming can be overcome by performance data from other sources than mandatory financial disclosures. Davis et al. (2014) and Davis et al. (2025) use establishment-level data from the US Census covering the full nonfarm private sector to document large productivity gains, with the latter finding even larger effects when extending measurement beyond manufacturing. Davis et al. (2025) also show that P2P buyouts tend to be particularly restructuring-oriented: employment falls relative to comparable firms, but these adjustments are accompanied by sizable productivity improvements.

3.1.2 Effect on growth

A number of studies document positive effects of PE ownership on growth, particularly in private firm buyouts. Boucly, Sraer & Thesmar (2011) show that French buyout targets increase assets, sales, and employment by 10–20% more than comparable firms. Effects are concentrated among smaller companies, consistent with PE alleviating financial constraints. Likewise, Cohn, Hotchkiss & Towery (2022) find that sales growth for targets is roughly 60% above industry medians and Davis et al. (2025) report substantial abnormal employment growth—both organic and inorganic—alongside productivity gains in private-firm buyouts.

In addition to organic growth, PE-backed firms frequently grow through M&A. Add-on acquisitions occur in 26% of buyouts in Hammer et al. (2017) and 41% in Cohn, Hotchkiss & Towery (2022). Survey evidence from Gompers, Kaplan & Mukharlyamov (2016) highlights that roughly half of PE investors view add-ons as a major value driver, and several studies show that buy-and-build activity is positively related to investment performance (Nikoskelainen & Wright, 2007; Hammer et al., 2017; Bansraj, Smit & Volosovych, 2020). Davis et al. (2014)

also show that add-ons contribute significantly to productivity gains and job reallocation within firms.

In addition to PE ownership increasing growth in the buyout target, studies have also documented positive growth spillover effects on the industry as a whole (Bernstein et al., 2017; Aldatmaz & Brown, 2020) and on suppliers of PE-owned firms (Huylebroek & De Jonghe, 2025).

3.1.3 Multiple expansion

PE owners can benefit from multiple expansion by serving as intermediaries in corporate asset markets, benefiting from the “bid–ask spread” between acquisition and exit multiples. The importance of PE’s intermediation role is seen in Table 1, Panel D, showing that PE deals, including divisional buyouts, are frequently exited through a sale to another corporation, consistent with PE funds acting as an intermediary for industrial assets. The results in Guo, Hotchkiss & Song (2011) suggest that multiple expansion became a more important value driver in post-1980 P2Ps.

Since larger companies are likely to trade at higher multiples than smaller ones, one way to achieve multiple expansion is by merging several smaller companies into a larger company. Hammer et al. (2022) show that buy-and-build platforms trade at higher EV/sales multiples, while their add-ons are acquired at lower multiples, enabling potential valuation arbitrage. PE-backed firms have also been shown to have higher earnings quality than other private firms (Katz, 2009), which can increase exit valuations by increasing transparency and lowering asymmetric information to potential buyers.

In addition to increasing exit multiples, PE investors can also have an advantage in buying at more attractive entry multiples. Nary & Kaul (2023) argue that PE investors have a valuation advantage compared to strategic bidders, not (only) due to better valuation skills but because target firms are reluctant to share proprietary information with potential competitors. PE ownership may therefore serve as an intermediate ownership form when direct sales to strategic buyers are complicated by proprietary-information or regulatory concerns. Consistent with this, PE buyers frequently beat strategic buyers when bidding for the same firm, despite the latter benefiting from synergies (Gorbenko & Malenko, 2014); and strategic bidders earn higher returns in deals where they outbid PE competitors, suggesting that PE bidders are better at identifying promising targets (Dittmar, Li & Nain, 2012). There is also evidence suggesting that PE buyers are better at taking advantage of temporary undervaluation. Nary (2024) shows that PE funds, thanks to having committed fund capital, are better able to acquire distressed assets at discounts during periods when strategic buyers face financing constraints (Brown, James & Mooradian, 1994; Meier & Servaes, 2019).

Moreover, Bansraj et al. (2025) show that listed companies that become undervalued due to abnormal fund outflows are more likely to become P2P targets.

3.2 Private Equity “Engineering”

How do PE investors generate such value improvements in their portfolio companies? Kaplan & Strömberg (2009) describe the investment practices of PE funds, and classify them into three types of “engineering:” governance, financial, and operational.

3.2.1 PE governance engineering

Controlling ownership: In most buyouts, PE funds acquire a controlling equity stake, with minority holdings often retained by management or previous owners to align incentives.¹⁵ Control allows PE owners to redesign governance: they install smaller, more active boards, strengthen management incentives through equity, and reorient board agendas toward strategy rather than compliance.

Active boards: Boards in PE-owned companies differ markedly from public-company boards (e.g., Cornelli & Karakas, 2015; Gompers, Kaplan & Mukharlyamov, 2016). Boards are smaller than in listed companies, which may in itself make boards more effective (Yermack, 1996). Outside directors are replaced by PE representatives and hand-picked external members who bring professional expertise and strong financial stakes (Gilson & Gordon, 2020). A typical PE board consists of three PE representatives, one to two managers, and two to three external members (Gompers, Kaplan & Mukharlyamov, 2016). Compared to listed companies, PE boards devote more time and attention to strategy and value creation and less to compliance and communication with external stakeholders (Acharya, Kehoe & Reyner, 2009).

Fisman et al. (2014) show that better-informed boards are more insulated from the demands of uninformed investors, which enables them to focus more on creating long-term value. Consistent with PE boards having an informational advantage, Cornelli & Karakas (2015) show that CEO turnover in PE-backed firms is less tied to “hard” metrics such as earnings and more to “soft” information (Cornelli, Kominek & Ljungqvist, 2013), allowing boards to act on forward-looking assessments.¹⁶

Incentive compensation: PE-backed firms rely heavily on equity-based pay to align executives with shareholders. On average, their CEOs hold larger equity stakes than in

¹⁵The majority stake is sometimes split between several funds; a so-called “club deal” (Officer, Ozbas & Sensoy, 2010; Boone & Mulherin, 2011)

¹⁶Hard information is quantitative and easily transmitted; soft information is qualitative and transmitted through personal interaction (Liberti & Petersen, 2019).

public firms; Gompers, Kaplan & Mukharlyamov (2023) report average equity ownership of 5.5% (fully diluted), with cash compensation around \$3.4 million. CEO salary and bonus also rise following public-to-private transitions (Cronqvist & Fahlenbrach, 2013) and PE total compensation packages are substantially higher than in comparable non-PE-owned firms (Gompers, Kaplan & Mukharlyamov, 2023). Such pay packages would likely be met by resistance in listed companies, but are possible in PE-owned companies with concentrated ownership and boards fully aligned with shareholders (Jackson, 2013). Compensation structures often combine preferred equity (held by the PE fund) with common equity for management, making management’s stake riskier but with substantially higher upside (Jenkinson, Kim & Weisbach, 2023). PE ownership can also influence broader wage structures: Fang, Goldman & Roulet (2023) document reductions in within-firm wage inequality in a sample of French buyouts. One caveat, though, is that the strict government controls over wages and employment contracts in France may constrain PE’s ability to affect pay structures and results therefore may not generalize to less regulated labor markets.

3.2.2 PE operational engineering

Operational engineering is central to PE value creation. PE owners typically develop a value-creation plan jointly with management at the time of the buyout (Gompers, Kaplan & Mukharlyamov, 2016). Biesinger, Bircan & Ljungqvist (2020) show that plans commonly include asset upgrades, IT and logistics improvements, organizational changes, and top-line initiatives such as add-on acquisitions, marketing, new products, and pricing adjustments. Consistent with this, Gompers, Kaplan & Mukharlyamov (2016) find that business growth and operational improvements are the most important drivers of buyout returns.¹⁷

Because PE investment professionals typically come from finance or consulting (Acharya et al., 2013; Gompers, Kaplan & Mukharlyamov, 2016), the model relies on combining strong management with active and informed monitoring by the PE owners and board experts. Management typically leads the development of operational initiatives, while PE partners, expert advisors, and consultants provide challenge and oversight. PE owners implement detailed reporting systems with KPIs tied to operational initiatives to track progress (Acharya et al., 2013; Schenkel & Strömberg, 2024). Day-to-day operational decisions are delegated to managers, who are incentivized through equity stakes and performance pay tied to KPIs (Baker & Wruck, 1989; Wruck, 2008). This frees PE boards to focus on strategy, capital allocation, and acting as an informed sounding board for management (Acharya, Kehoe & Reyner, 2009).

¹⁷See Gompers & Kaplan (2022) for case examples.

Still, backgrounds of PE professionals have been shown to matter. For buyouts of fast-food chains, Bernstein & Sheen (2016) document larger quality improvements when PE partners have sector-specific operational experience. Acharya et al. (2013) find that deals led by partners with operational backgrounds outperform in deals relying on organic growth, whereas partners with financial expertise excel in deals driven by add-on acquisitions. Gompers, Kaplan & Mukharlyamov (2016) report that follow-on acquisitions are a significant value creation tool in about half of all PE deals, particularly for "buy-and-build" strategies that aim to consolidate an industry through a series of add-on acquisitions (Hammer et al., 2022).

While financial and consulting backgrounds dominate among PE deal teams, PE firms are increasingly building in-house operational and strategic expertise. This ranges from networks of experienced executives to full-time consultants and operating partners who can take direct management roles in portfolio companies (Matthews, Bye & Howland, 2009). As financial and governance engineering have become more commoditized, PE firms increasingly use in-house operating expertise as a differentiator (Kaplan & Strömberg, 2009). Given their fixed costs, however, such operating teams are more common among PE firms with more assets under management (Gompers, Kaplan & Mukharlyamov, 2016).

3.2.3 PE financial engineering

Financial engineering captures how PE owners create value by optimizing capital structure and lowering the cost of capital. Biesinger, Bircan & Ljungqvist (2020) show that capital-structure optimization is explicitly included in roughly 30% of value-creation plans.

Jensen argued that PE owners push firms toward more optimal leverage levels than public companies (Jensen 1986; Jensen 1989). In the trade-off model for optimal capital structure, debt creates value through tax shields and reduced managerial agency problems but raises expected financial distress costs. Kaplan (1989b), Schipper & Smith (1991), and Olbert & Severin (2023) document sizeable tax-shield benefits in buyouts, although Jenkinson & Stucke (2011) argue that this benefit ends up accruing to sellers through a higher acquisition price. While Jensen emphasized debt as a disciplinary device, PE firms rarely cite managerial discipline as a primary motive for leverage (Gompers, Kaplan & Mukharlyamov, 2016; Biesinger, Bircan & Ljungqvist, 2020). On the other side of the trade-off, evidence suggests that PE owners decrease the costs of financial distress in portfolio companies, thanks to their ability to inject new capital and greater restructuring expertise (Tykvová & Borell 2012; Hotchkiss, Smith & Strömberg 2021).

Apart from optimizing leverage levels, PE sponsors also help portfolio companies to obtain more favorable loan pricing and covenants (Ivashina & Kovner, 2011; Demiroglu & James,

2010), which has been tied to PE funds being able to build a reputation as repeat borrowers in credit markets (Malenko & Malenko, 2015). PE funds also time credit markets more actively by increasing leverage when credit is relatively cheaper (Shivdasani & Wang, 2011; Axelson et al., 2013).

3.3 Summary and outstanding questions

To summarize, numerous empirical studies have documented that PE ownership, on average, is associated with significant improvements in firm performance, and that these improvements are related to the governance, financial, and operational engineering that PE funds do. While operating performance does not necessarily translate to LP returns (Andrade & Kaplan, 1998), historical net returns of PE funds have exceeded public market indexes by 2–3 percentage points per year (Kaplan & Sensoy, 2015; Korteweg, 2019).

These observations raise a number of questions:

- If PE engineering leads to such value improvements, why don't other firms adopt the same practices? Or is there something special about *private* equity that prevents *public* firms from doing this?
- If PE owners are uniquely able to generate such improvements, why are not all firms PE-owned? Why don't PE investors hold on to their investments longer?
- Why are PE-backed companies so leveraged?
- Is it possible for PE funds to continue to deliver higher returns than public equity?
- What accounts for the cyclicity of PE markets?

In the remainder of this survey, we attempt to answer these questions by providing an economic framework for the costs and benefits of private equity.

4 The costs of private equity ownership

4.1 Why private equity is private

Effective PE engineering demands owners that have (i) very close interaction with management, (ii) the authority that comes from large or controlling stakes, and (iii) the ability to dedicate substantial time and resources to each portfolio firm. Since these conditions are rarely satisfied among public-company shareholders, listed firms will find it difficult to achieve the same benefits from active ownership that PE-backed companies have.

Public equity markets exist primarily to provide liquidity, enabling investors to diversify and rebalance at low cost.¹⁸ Private companies cannot offer this: selling private stakes is slow and/or often heavily discounted, leading investors to require higher expected returns and raising companies' cost of capital.

Adverse selection is the biggest obstacle to trading (Akerlof, 1970). Liquid markets, therefore, rely on reducing asymmetric information to encourage trading by uninformed investors (Glosten & Milgrom, 1985), e.g. through implementing securities laws, such as disclosure and insider-trading rules, that level the informational playing field between investors (Diamond & Verrecchia, 1991). But these same rules limit the extent to which public shareholders can be active owners. Insider trading rules discourage institutional investors from taking board seats and interacting with management even when they have the scale to do so (Bhide, 1993; Franks, 2020).

Active monitoring also requires concentrated ownership so that the benefits of intervention outweigh the costs (Edmans, 2014). But large stakes reduce diversification and flexibility, and monitoring benefits are partly shared with free-riding minority investors (Huddart, 1993; Admati, Pfleiderer & Zechner, 1994). Moreover, even an investor who is willing to give up liquidity to become a long-term, active blockholder in a listed firm must still respect minority protection rules (La Porta et al., 1997), which limit the ability to dictate board composition, compensation, acquisitions, divestitures, and capital structure changes. But these are precisely the levers of governance, operating, and financial engineering that lie at the core of the PE model of active ownership.

PE funds can be thought of as a solution to this problem: an intermediary that allows institutional investors to obtain the benefits of active ownership without sacrificing liquidity and diversification. Investors can allocate a modest share of their assets to illiquid PE funds, while still maintaining ample liquidity in the rest of the portfolio. In turn, PE funds acquire illiquid controlling stakes in a limited number of firms where they act as active and informed owners and create value through governance, operational, and financial engineering.

4.2 The costs of private equity

While PE funds may sound like a perfect solution to the active ownership problem, the PE fund structure is associated with significant costs.

First, allocations to PE funds still expose investors to illiquidity risk compared to public equity, for which they need to be compensated. Capital commitments force LPs to meet capital calls and wait for distributions, exposing them to both funding and market liquidity

¹⁸See Sørensen, Wang & Yang (2014) and Giommetti & Sørensen (2023) for models of illiquidity costs

risk (Robinson & Sensoy, 2016).¹⁹ Secondary markets for LP stakes provide only limited liquidity, with sales often happening at substantial discounts (Nadauld et al., 2019).

LPs will therefore demand a higher expected return for private compared to public equity, i.e. an *illiquidity premium*. A natural estimate of the size of this premium is the value-weighted net returns to PE fund investments, which historically have exceeded public equity by 2-3% per year (Kaplan & Sensoy, 2015; Korteweg, 2019).²⁰ Surveys of institutional investors indicate an illiquidity premium of this magnitude (Finlayson & Shih, 2012).

The illiquidity premium is not constant over time, however: there are times when investors are less willing to hold illiquid assets (e.g. after large market downturns), which increases the required returns for holding illiquid assets, generating the familiar “flight to liquidity” pattern (Acharya & Pedersen, 2005). Consistent with this phenomenon, PE funds raised in cold fundraising periods have been shown to generate higher market-adjusted returns (Kaplan & Schoar, 2005; Kaplan & Strömberg, 2009; Brown et al., 2021).

Second, LPs face costs of delegating PE investing to GPs. The standard fee structure with 2% management fees and 20% carry implies a total compensation of 5-7% of invested capital.²¹ This cost exceeds that of most other asset classes; in contrast, US actively managed mutual funds charge on average around 0.7% (French, 2008). Moreover, the lack of variation in fee levels across buyout funds implies that they are not simply compensation for GP skills; rather, the cost of fees and carry reflects the agency rents associated with delegated portfolio management. Optimal PE fund contracts must motivate GPs to search, monitor, and intervene in ways that align with LP interests, which requires them to be sufficiently compensated (Ewens, Jones & Rhodes-Kropf, 2013; Axelson, Strömberg & Weisbach, 2009; Maurin, Robinson & Strömberg, 2024). Moreover, as we discuss in subsection 5.5, some investment distortions will remain even in this “second-best” PE fund contract.

Combining the illiquidity premium of 2-3% and the costs of GP fees and carry of 5-7% implies a cost of private equity that is 7-10 percentage points higher than public equity. Hence, the value created by concentrated, informed ownership must be weighed against the illiquidity and agency costs inherent in the PE intermediation model. This insight leads to a number of implications, to which we now turn.

¹⁹See Maurin, Robinson & Strömberg (2024) and Gourier, Phalippou & Westerfield (2024) on liquidity risk in PE funds.

²⁰Using the model of Pastor & Stambaugh (2003), Franzoni, Nowak & Phalippou (2012) estimate a PE illiquidity premium of 3%.

²¹See Phalippou & Gottschalg (2009); Döskeland & Strömberg (2018); Stepstone Group (2016).

5 The costs and benefits of PE ownership: Five implications

5.1 Implication I: Not all firms are suitable PE targets

Because PE ownership is costly, PE owners must generate gross excess returns of about 7–10 percentage points per year relative to public equity for PE ownership to be worthwhile. Active, informed ownership may benefit many firms, but only a subset generates value improvements large enough to justify these costs, as illustrated in Figure A1. This helps explain why PE is a niche, not a universal, ownership form.²²

Panel A of Table 1 shows that *public-to-private* (P2P) deals represent only 4% of transactions (though 27% of value). Most buyouts target *private firms* (63% of count), *corporate divisions* (12%), or firms already owned by financial sponsors, so-called *secondary buyouts* (21%). Within each category, PE funds should target firms where their active ownership can add the most value.

5.1.1 Public-to-private buyouts

Early work (e.g., Jensen 1989) argued that P2Ps corrected governance failures in listed firms—overinvestment, inefficient diversification, and weak managerial incentives. Consistent with this view, 1980s P2P targets exhibited high free cash flow and diversification discounts (Lehn & Poulsen, 1989; Opler & Titman, 1993; Mitchell & Lehn, 1990; Berger & Ofek, 1996), and iconic deals (e.g., Beatrice, RJR Nabisco; Baker 1992) involved highly inefficient conglomerates.

After the 1980s, governance in public firms improved (Kaplan, 1997), and P2Ps declined before recovering in the 2000s (Table A1). While the poorly-governed, inefficient P2P targets of the 1980s had largely disappeared, there still remained public firms in need of informed, long-horizon governance (Section 4.1), such as firms facing high information asymmetries or lacking informed analysts, making them illiquid and/or vulnerable to short-termist pressures. Ayash, Bartlett & Poulsen (2017) show that post-1990s P2Ps are increasingly growth-oriented rather than “classic LBOs.” Bharat & Dittmar (2010) find that P2P targets have lower trading volume, lower analyst coverage, lower market-to-book ratios, and are less financially constrained—consistent with targets being “neglected,” not impaired by agency problems. Hence, today’s P2P targets are not primarily firms facing free-cash-flow problems, but firms misunderstood or underappreciated by public investors.

²²Brown, Carnelli & Kenyon (2022) make a similar argument.

5.1.2 Buyouts of independent private firms

Private firms are the most common PE targets. Here the relevant frictions involve *financial constraints*, *entrepreneurial risk aversion*, and a *skills gap*.

First, small private firms face severe equity-financing frictions and limited access to external capital (Robb & Robinson, 2014). PE investors can relax these constraints through screening, monitoring, and governance design, similar to VC investors (Kaplan & Strömberg 2003; Kaplan & Strömberg 2004). Their reputation and repeated interaction with lenders improve debt availability and terms (Malenko & Malenko, 2015; Ivashina & Kovner, 2011; Demiroglu & James, 2010; Hotchkiss, Smith & Strömberg, 2021).

Second, founders’ undiversified wealth often leads to excessive risk aversion, limiting growth (Gonzalez et al., 2013; Herranz, Krasa & Villamil, 2015; Villalonga et al., 2015). By buying a stake, PE investors allow entrepreneurs to diversify, making riskier but value-enhancing strategies more feasible.²³

Third, PE investors upgrade management and professionalize operations. PE-owned firms resemble public firms in management quality, while many founder- or family-owned firms do not (Bloom, Sadun & Van Reenen, 2015). PE-backed firms offer higher-quality and higher-paid managers (Gompers, Kaplan & Mukharlyamov, 2023; Kaplan, Klebanov & Sørensen, 2012; Bennedsen et al., 2007). This pattern is consistent with the fixed-cost nature of managerial talent (Gabaix & Landier, 2008).

Finally, PE can increase a private company’s “sellability.” By improving management, reporting, and scale, PE owners reduce buyer uncertainty and broaden the potential buyer set (Nary & Kaul, 2023). This often results in multiple expansion at exit. Growth—both organic (Acharya et al., 2013) and inorganic (Hammer et al. 2017; Hammer et al. 2022)—is strongly associated with such valuation increases.

5.1.3 Divisional buyouts

Divisional buyouts account for 12% of deals and 17% of deal value in our PitchBook sample (Table 1, Panel A). They arise when conglomerates shed divisions that have become “corporate orphans”—businesses that receive too little attention, misallocated capital, or weak incentives. Prior work documents inefficiencies in internal capital markets (Seru, 2014), limited managerial bandwidth (Schoar, 2002), and shifting strategic focus (Matsusaka, 2001).

Empirically, they generate gains both for sellers (Hite & Vetsuypens, 1989) and for PE buyers (Hege et al., 2018). PE is more likely to purchase divisions outside the parent’s core, with weak incentives or high R&D needs (Kaul, Nary & Singh, 2018), matching the

²³See also Schenkel & Strömberg (2024) for interview evidence.

“corporate orphan” narrative. Post-buyout, value creation mirrors that in private-firm buyouts: governance upgrades, investment in growth, and improving stand-alone viability (Baker & Wruck, 1989).

5.2 Implication II: PE holding periods are limited

While the entry of an active PE owner in a company leads to substantial change in governance, strategy, and financial structure, the marginal value of PE engineering is likely to decline over time. Even if a company might always benefit from active ownership, there will be a point after which the benefits of PE ownership no longer exceed its costs. Figure A2 illustrates this in stylized form for a typical buyout. At this point, exit to a cheaper ownership form is optimal. This logic explains why PE holding periods are limited. Panel B of Table 1 shows that the median time a specific PE owner holds a company (Initial PE exit) is around 6 years, with 40% of companies exited within 5 years and 33% held more than 8 years. Including subsequent PE owners, the median total time a firm spends under PE ownership (Exit from PE) is around 8 years.

The limited holding periods by individual PE owners are reinforced by the 10-year limited partnership structure, which forces GPs to exit portfolio companies before the end of the fund’s life. The benefit of the fixed-life is to prevent GPs from holding on to portfolio companies beyond the point where costs exceed benefits. Since the costs and benefits of PE ownership cannot be directly contracted on, it is a second-best solution, however, which may force a GP to exit a company prematurely because the fund life is ending. Because some companies would benefit from continued PE ownership, forced exits can lead PE funds to sell companies to other PE funds, i.e. Secondary Buyouts (SBOs).

Consistent with these firms benefiting from continued PE ownership, Davis et al. (2025) document significant performance improvements following SBOs, particularly in employment growth and capital reallocation. Firms pursuing value creation strategies that take longer to execute should be more likely to exit in SBOs. For example, Hammer et al. (2017) show that companies pursuing buy-and-build strategies are more likely to be exited in SBOs. Consistent with this, Panel D shows that SBOs are more likely than other buyout types to be sold to a subsequent PE owner in tertiary buyouts.

Different PE owners may also bring distinct capabilities, creating gains from sequential PE ownership. For example, a domestic mid-market PE fund may focus on professionalizing family firms or transforming corporate divisions into a stand-alone company, while a global large-cap fund may have an advantage in growing domestic firms into large international players. Degeorge, Martin & Phalippou (2016) document that SBOs between PE firms with

complementary skills are associated with better performance.

The downside of SBOs is that they can force a premature exit of a profitable PE investment, effectively shifting rents from LPs in the selling fund to those in the buying fund. To limit this, GPs may try to extend the fund life or move assets into continuation vehicles (Ivashina, Mayer & Phalippou, 2025), which have been growing in popularity in recent years. SBOs and continuation funds both highlight how second-best solutions to the GP–LP agency problem can cause investment distortions, which we will discuss in subsection 5.5.

5.3 Implication III: Debt is cheaper than (private) equity

Private equity costs incentivize PE investors to minimize equity contributions and rely more on cheaper funding, particularly debt to finance acquisitions. This explains why buyouts are leveraged.

The difference in the optimal capital structure trade-off for a listed and PE-owned firm is illustrated in Figure 1. Because of the additional cost of private equity, the optimal leverage level will be higher for PE-owned companies. Given the additional cost of PE, buyout investors are willing to tolerate a higher risk of financial distress than an otherwise identical listed company would. Figure 1 also illustrates the high hurdle rates of 20-25% (Gompers, Kaplan & Mukharlyamov, 2016) that PE funds use when evaluating equity investments: they result from a combination of the additional cost of private equity plus compensation for the additional financial risk imposed by higher leverage levels.

Axelsson et al. (2013) document that a typical buyout uses roughly two-thirds debt (D/EV), while public firms rely on about one-third. Profitability, volatility, and growth opportunities explain little of the variation in buyout leverage, and buyout leverage is unrelated to the leverage of public firms in the same industry-region-year. This is consistent with the explanation for buyout leverage being distinct from traditional trade-off or pecking-order theories, where firm characteristics drive optimal leverage. Instead, the key friction is on the investor side: private equity has additional costs, which makes debt a cheaper alternative.

As a result, PE owners choose a debt level that involves higher expected risk of financial distress than would otherwise have been optimal. Hotchkiss, Smith & Strömberg (2021) show that PE-owned borrowers in syndicated loan markets indeed have higher default probabilities than other borrowers due to their higher leverage. On the other hand, Hotchkiss, Smith & Strömberg (2021) also show that PE-backed firms have more favorable post-default outcomes, consistent with lower costs of financial distress (Kaplan, 1989a; Andrade & Kaplan, 1998).

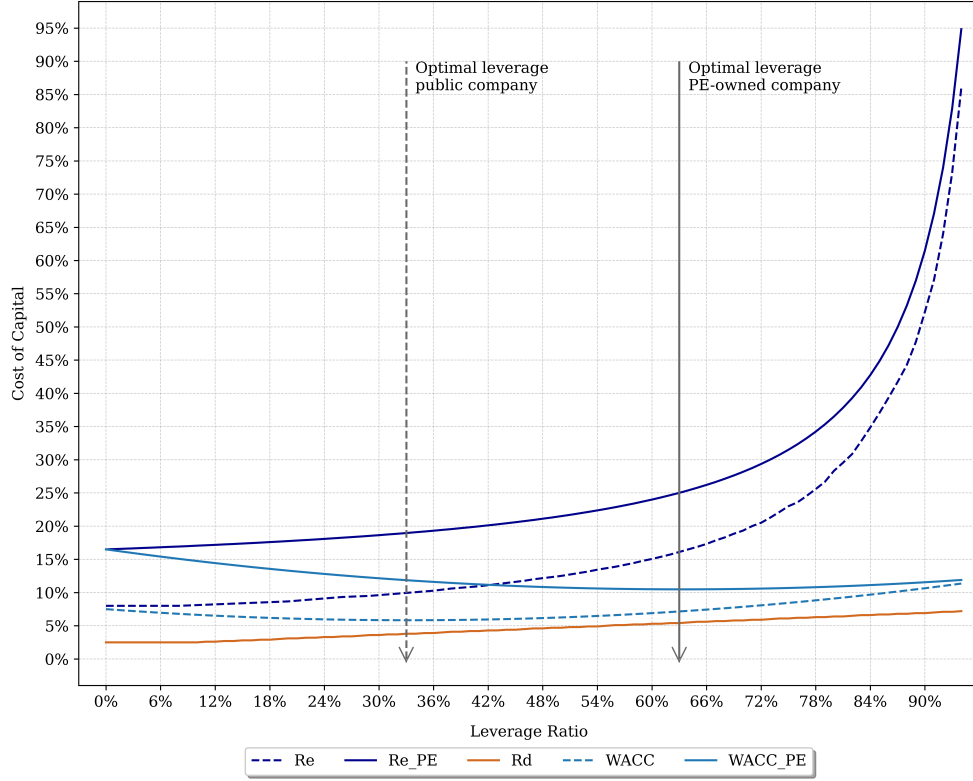


Figure 1: The trade-off model with private equity. The figure illustrates the difference in optimal leverage between a listed firm and a PE-owned firm in a simple trade-off model. The x-axis shows the leverage ratio $L = \frac{D}{D+E}$ and the y-axis shows the resulting costs of capital. R_d is the cost of debt, which increases with leverage. The cost of equity for the listed firm is $R_e = R_a + (R_a - R_d) \times \frac{D}{E}$. As in the classical trade-off model (Myers, 2001), leverage creates tax benefits but also increases expected financial distress costs. Firm value is given by $V_L = V_U + \text{PVTS} - \text{COFD}$, where PVTS denotes the present value of tax shields and COFD denotes the present value of financial distress costs. For the PE-owned firm, the cost of private equity is $R_{PE} = R_e + C_{PE}$. Because the extra private-equity cost applies to the equity-financed part of the firm, the weighted average cost of capital becomes $\text{WACC}_{PE} = \text{WACC} + (1 - L) \times C_{PE}$. The optimal trade-off for the PE-owned firm occurs when $\frac{\partial \text{PVTS}}{\partial L} + C_{PE} = \frac{\partial \text{COFD}}{\partial L}$, which implies a higher leverage level than for the listed firm.

5.4 Implication IV: PE activity, returns, value-added, and holding periods will be cyclical

If debt is cheaper than private equity, then greater access to leverage reduces the unlevered return a PE owner must generate to meet LPs' required returns. As illustrated in Figure 2, when firms have higher debt capacity and/or debt market conditions are favorable, the number of viable buyout targets increases. At the same time, competition among bidders — both PE funds and strategic buyers — compresses excess returns, effectively shifting the curve downward and reducing the set of viable targets. This implies that the *average unlevered value-added* of buyouts should be lower in periods when borrowing is easier, since deals with weaker underlying improvement potential can still meet required equity returns through cheaper leverage.

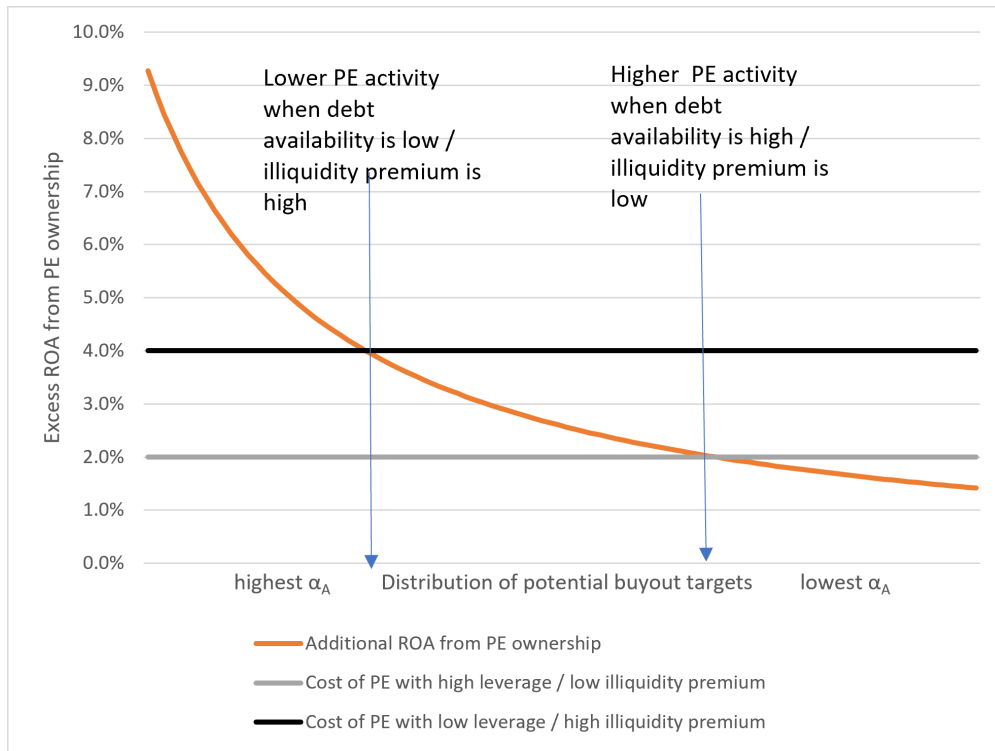


Figure 2: Effect of changing liquidity premium and leverage on PE activity. The figure illustrates the effect of changes in the illiquidity premium and/or leverage on the economic viability of potential PE targets. The y-axis measures the excess return on assets generated during PE ownership, α_A , for a given firm. The x-axis measures the distribution of potential buyout targets, sorted from the firms with the highest to the lowest α_A . The horizontal lines show the minimum α_A , denoted $\hat{\alpha}_A$, that is required to cover the costs of private equity $C_{PE} = \phi + \lambda$, where ϕ represents the costs of delegated portfolio management (fees and carry) and λ is the illiquidity premium required by LPs. Given a leverage level L , we have $\hat{\alpha}_A = (1 - L) \times C_{PE}$. The top horizontal line represents “cold” market conditions when λ is high and/or L is low, whereas the bottom line represents “hot” market conditions when λ is low and/or L is high.

A lower illiquidity premium has similar implications. If investors are more willing to bear illiquidity risk, or if PE becomes more liquid (e.g., earlier distributions, better secondary markets), LPs require less excess return. Unlike the leverage channel, this affects both unlevered and levered returns: a lower illiquidity premium predicts higher PE activity, lower performance improvements at the portfolio-company level, and lower net returns to LPs.

A large literature shows that buyout volume, leverage, and pricing rise when credit is abundant. Kaplan & Stein (1993) document that the expansion of the U.S. junk-bond market in the 1980s coincided with higher buyout activity, transaction multiples, and leverage. Axelson, Strömberg & Weisbach (2009) confirm globally (1980–2008) that tighter high-yield spreads are associated with higher D/EBITDA and EV/EBITDA ratios. PE funds are also more likely to outbid strategic buyers during hot credit markets (Martos-Vila, Rhodes-Kropf & Harford, 2019; Gorbenko & Malenko, 2014).

The liquidity premium also appears to drive PE activity. Kaplan & Strömberg (2009) and Brown et al. (2021) show that fundraising is negatively related to subsequent market-adjusted returns (PME; Kaplan & Schoar 2005). Because realized PMEs reflect expected excess returns, this implies a lower illiquidity premium leading to increased PE fundraising, consistent with Haddad, Loualiche & Plosser (2017) and Maurin, Robinson & Strömberg (2024).

Axelson et al. (2013) show that, contrary to Modigliani–Miller intuition, net PE returns do not increase with leverage; instead, leverage availability raises prices to the point where expected returns merely cover the PE cost of capital, leading to a negative relation between leverage and net equity returns. This suggests that hot credit markets coincide with periods when investors require a lower compensation for illiquid investments.

Periods of easy credit and a low liquidity premium have been shown to be associated with lower value added in companies. Higher leverage allows a PE fund to generate the same equity return with a smaller asset return. As a result, in hot credit markets, PE funds will acquire more marginal targets, which increases buyout activity and decreases buyout productivity gains. Consistent with this, Davis et al. (2025) report that productivity gains are larger for buyouts undertaken when credit is tight and smaller when credit is easy.

Combining this with Implications II and III also yields predictions about holding periods. When leverage is cheaper or the illiquidity premium falls, PE ownership can remain economically viable for longer, as shown in Figure A3. While this prediction has not been tested explicitly, it is broadly consistent with evidence that leveraged recapitalizations (Bhardwaj, Gupta & Howell, 2025) and secondary buyouts (Kaplan & Strömberg, 2025) become more common as credit spreads decrease: as credit market conditions improve, PE owners can lever up portfolio companies allowing for a longer optimal holding period.

5.5 Implication V: The PE model is “second-best”

Since delegated portfolio management leads to agency conflicts, PE fund contracts are structured to align interests between LPs and GPs. Contracts can typically only achieve a second-best outcome, however, and some agency distortions will likely remain. In addition, aligning LP and GP interests may come at the expense of other stakeholders.

5.5.1 LP-GP agency problems

Return manipulation and LP capital misallocation: The illiquidity of PE implies that there is no observable market value of investments between transactions. This opens up the possibility that GPs may manipulate NAVs and returns, which in turn can lead to misallocation of capital. Barber & Yasuda (2017) and Brown, Gredil & Kaplan (2019) document that fund NAVs are upward biased during the time when the GP is raising follow-on funds, particularly for PE firms with lower reputation. The infrequent updating of NAVs also makes reported PE fund returns smoother, which can potentially lead institutional investors to over-allocate to PE (Stafford, 2022). The difficulty in measuring risk-adjusted returns can also lead to an incentive for GPs to misrepresent historical returns and/or understate fees (Morris & Phalippou, 2012).

Whether this behavior leads to misallocation of LP capital is less clear. Several studies document that net PE returns differ systematically across different LPs (Cavagnaro et al. 2019; Lerner, Schoar & Wongsunwai 2007; Dyck & Pomorski 2016). While this could be a sign of less sophisticated investors making allocation mistakes, such differences could also result in some LPs having higher tolerance for illiquidity risk (Maurin, Robinson & Strömberg, 2024) or having larger economies of scale in investing (Da Rin & Phalippou 2017; Dyck & Pomorski 2016). Moreover, results in Brown, Gredil & Kaplan (2019) suggest that LPs do not respond to NAV manipulation.

Suboptimal investment and exit behavior: The finite lifespan of funds can make GPs exit portfolio companies prematurely. Arcot et al. (2015) show that secondary buyout exits are more likely towards the end of a fund’s life, and that such “pressured” sales occur at lower valuations. Less established GPs have also been found to exit successful portfolio firms earlier to convince their LPs to commit to their next fund (Gompers, 1996). Finally, liquidity-constrained PE partners have an incentive to exit companies prematurely to receive earlier carried interest payments (Robinson & Sensoy, 2013).

Axelson, Strömberg & Weisbach (2009) argue theoretically that the limited time to deploy LPs’ committed capital can lead GPs to overinvest in unprofitable projects. Consistent with their model, Arcot et al. (2015) and Degeorge, Martin & Phalippou (2016) show that funds

with a high amount of uninvested capital at the end of their investment period are more likely to acquire companies through SBOs that subsequently underperform.

5.5.2 PE Short-termism

One concern with the limited PE fund life is that it promotes short-termist behavior, where GPs (and possibly also LPs) have an incentive to sacrifice long-term firm value for their own short-term gain.

Research has looked for evidence of short-termism by studying the performance of firms after the PE exit. Holthausen & Larcker (1996) and Cao & Lerner (2009) find that IPOs of PE-backed companies (“reverse LBOs”) perform as well or better as other IPOs, both in terms of stock returns and financial performance metrics. Looking at exits through strategic sales, Harford & Kolasinski (2014) find that public companies benefit on average when acquiring companies from PE owners.

Lerner, Sørensen & Strömberg (2011) argue that short-termism should be most visible in innovation and R&D, which lowers profits in the short-term while payoffs happen long into the future. Contrary to this hypothesis, they find that the quality of patents – measured by subsequent citations – increases after buyouts. Similarly, Harford & Kolasinski (2014) find no difference in capital investment post-buyout compared to comparable public firms.

Dividend recapitalizations have also been proposed as a sign of short-termism: PE owners drain the company of cash for short-term gain, causing future underinvestment and financial distress. While dividend recapitalizations increase leverage, which mechanically increases default risk (Bhardwaj, Gupta & Howell, 2025), Harford & Kolasinski (2014) and Hotchkiss, Smith & Strömberg (2021) show that companies undertaking dividend recapitalizations in fact have lower subsequent default probabilities than comparable firms.²⁴

Despite short-termism being a commonly voiced concern in media and policy debates (Ballou, 2023), it has not yet found much empirical support. PE investment returns crucially depend on exit valuations, which are determined by future expected long-term cash flows. The need to sell to sophisticated buyers — typically strategic acquirers or other PE funds — combined with PE firms’ reputational concerns as repeat players in deal markets, counteracts short-termist behavior, even given the agency issues inherent in the PE model.

5.5.3 Stakeholder externalities

As previously discussed, the PE ownership model is geared towards maximizing shareholder value. However, shareholder value may deviate from the value to other stakeholders in the

²⁴Selection may partly explain these patterns (Bhardwaj, Gupta & Howell, 2025).

presence of externalities. Indeed, Shleifer & Summers (1988) discuss how leveraged buyouts can create value for shareholders by extracting value through breaking implicit contracts with employees, suppliers, and customers.

Employees: The literature shows that buyouts lead to reallocation across workplaces (Davis et al., 2014) and some job losses (Antoni, Maug & Obernberger, 2019). Negative employment effects at the firm level are small and heterogeneous. Davis et al. (2025) show employment losses in P2P transactions, while private firms experience similar employment gains. Olsson & Tåg (2017) underscore that the effect of PE buyouts on the unemployment of affected workers is limited. There is, however, a stronger effect for some workers who perform routine tasks in less productive firms. Herkenhoff et al. (2025) provide related worker-level evidence, finding that post-buyout earnings and employment dynamics are more consistent with the reallocation of workers across plants than with PE exploiting local labor-market power or selectively extracting rents from managers and top earners. Cohn, Nestoriak & Wardlaw (2021) show that PE buyouts significantly reduce workplace injuries, suggesting that active PE monitoring improves safety compliance. The overall effect on employees' health is, however, negligible (Garcia-Gomez, Maug & Obernberger, 2020). Gornall et al. (2025) show that employee satisfaction with compensation and firm culture is negatively affected by buyouts. Recent evidence linking PitchBook to IRS tax data suggests that negative effects on earnings are concentrated among owner-employees who realize large capital gains at buyout, with at most small effects for rank-and-file workers (Isen et al., 2025). Also, the evidence in Fang, Goldman & Roulet (2023) suggests that PE ownership is associated with a decrease in wage inequality within firms, though this evidence comes from France, where strict government controls over wages and employment contracts may constrain PE's ability to affect pay structures in ways that would not apply in less regulated labor markets.

Customers: The high-powered incentives of PE ownership may interact with weak competition or regulation in ways that transfer surplus from customers. Whether this occurs depends in part on how transparent the market is. In transparent settings such as restaurants, PE ownership improves operations and drives strong sales growth, largely through higher quantities sold (Bernstein & Sheen, 2016; Fracassi, Previtro & Sheen, 2022). In more opaque, regulated, or quasi-public markets, the picture is less favorable: PE-owned for-profit colleges have worse educational outcomes, higher tuition, and more indebted students (Eaton, Howell & Yannelis, 2020), and PE-owned nursing homes show higher mortality and selection of lower-risk patients on average (Gupta et al., 2024), though Gandhi, Song & Upadrashta (2026) show that in markets with high consumer transparency — such as Medicare's public quality ratings — PE-backed nursing homes in competitive markets increase nurse staffing and improve quality. Gao, Kim & Sevilir (2025) find similar patterns in hospitals: administrative

costs fall but patient satisfaction declines. Similar concerns around acquisitions arise outside PE as well, for example in dialysis facilities and ambulance services (Eliason et al., 2019; Knutsson & Tyrefors, 2022).

Taxpayers: As a part of financial engineering, Olbert & Severin (2023) show that PE firms engage more actively in tax planning. While portfolio firms’ increased investment increases the overall tax base, this only partly offsets the revenue loss, so the overall effect on public finances is negative.

Environment: Bellon (2025) shows that PE-owned oil-and-gas firms reduce pollution and flaring. Once regulatory incentives for environmentally friendly behavior are removed, however, the effect disappears, consistent with evidence that pollution taxes drive reductions in emissions and green R&D investment (Martinsson et al., 2024; Brown, Martinsson & Thomann, 2022). Shive & Forster (2020) find more broadly that private firms emit fewer greenhouse gases and face fewer environmental penalties than comparable public firms, suggesting that private ownership may reduce the short-termist pressures that contribute to pollution. Abraham, Olbert & Vasvari (2024) show that LP demand can complement regulation, driving voluntary ESG disclosure and improvements in portfolio firm performance on environmental, social, and governance dimensions. Duevski, Rastogi & Yao (2025) provide causal evidence that E&S-concerned LPs transmit preferences through capital supply, reducing PE allocation to dirty sectors and increasing ESG hiring in portfolio companies.

Financial stability: Despite PE investments being cyclical and highly leveraged, PE ownership does not appear to increase industry volatility (Bernstein et al., 2017). PE-owned firms have been found to perform better during financial crises (Bernstein, Lerner & Mezzanotti, 2019) and resolve distress more quickly (Hotchkiss, Smith & Strömberg, 2021). Moreover, Johnston-Ross, Ma & Puri (2021) find that PE investments in weak banks have a positive impact on the stability of the financial sector.

6 Conclusions

The PE fund structure enables institutional investors to obtain the benefits of active, informed, and concentrated ownership—without sacrificing liquidity and diversification at the portfolio level. Pension funds, endowments, and insurers allocate a modest share of their assets to illiquid PE funds while maintaining liquidity elsewhere. PE ensures strong governance but it comes at a high cost, due to illiquidity and high fees. Our review focuses on the costs and benefits of PE ownership and the empirical evidence on firm performance and stakeholder outcomes. Across studies, PE ownership can generate sizable improvements in productivity, profitability, and growth, but only in a subset of firms and at a non-trivial cost in the form

of fees, carry, and illiquidity premium.

The framework leads to several implications. First, not all firms are natural PE targets: the gains from governance, financial, and operational engineering must be large enough to justify PE’s higher cost of capital. Second, PE ownership will only be temporary. Once the marginal value of active ownership falls below its costs, it becomes optimal to exit to a cheaper ownership form. Third, debt is typically cheaper than PE capital, which explains why leverage plays such a central role in buyouts and why PE returns are sensitive to credit conditions. Fourth, PE activity is cyclical: when credit is abundant and investors are more willing to bear illiquidity risk, more firms clear the hurdle for PE ownership, and holding periods and exit routes adjust accordingly. Finally, the stakeholder evidence underscores that PE is a second-best solution. In many competitive and relatively transparent markets, the benefits from better governance and more disciplined investment seem to dominate, and we see improved performance with limited evidence of systematic harm. In more opaque, regulated, or subsidized sectors, the same high-powered incentives can interact with weak contracts and oversight in ways that shift surplus from taxpayers or vulnerable consumers to firms and investors. These patterns suggest that PE does not qualify as a superior ownership form. Instead it is a powerful and costly means of governance whose welfare effects depend on selection, market structure, and regulation.

Several questions remain open. First, while PE tends to create value in competitive and transparent markets and extract it in opaque or regulated ones, we lack a systematic understanding of which specific features of market structure and regulation drive this heterogeneity — and how policy could shift the balance toward value creation. Second, LP preferences — particularly on ESG — are increasingly shaping PE allocation and engagement, but whether this represents a durable shift in the PE model or a cyclical phenomenon remains unclear. In general, most evidence on PE’s real effects comes from specific time periods, geographies, and sectors. We predict that new insights will emerge and old results will be overturned as more and better data becomes available.

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A Additional Figures and Tables

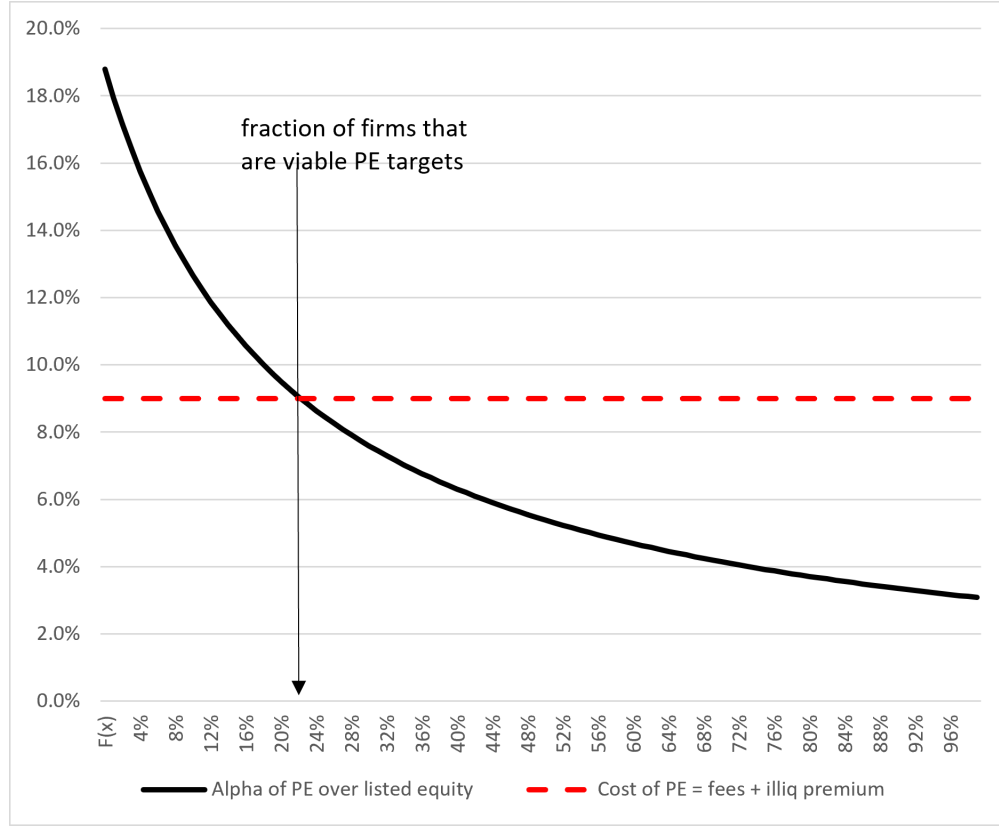


Figure A1: Trade-off between PE benefits and costs. The figure illustrates how the costs and benefits of private equity ownership determine the fraction of viable buyout targets. The y-axis measures the excess return on equity α_E generated by PE ownership. The x-axis measures the distribution of potential buyout targets, sorted from the firms having the highest α_E to the ones having the lowest. The horizontal dashed line measures the cost of PE ownership, $C_{PE} = \phi + \lambda$, where ϕ represents the costs of delegated portfolio management (fees and carry) and λ is the illiquidity premium required by LPs. A buyout target is economically viable if $\alpha_E \geq C_{PE}$.

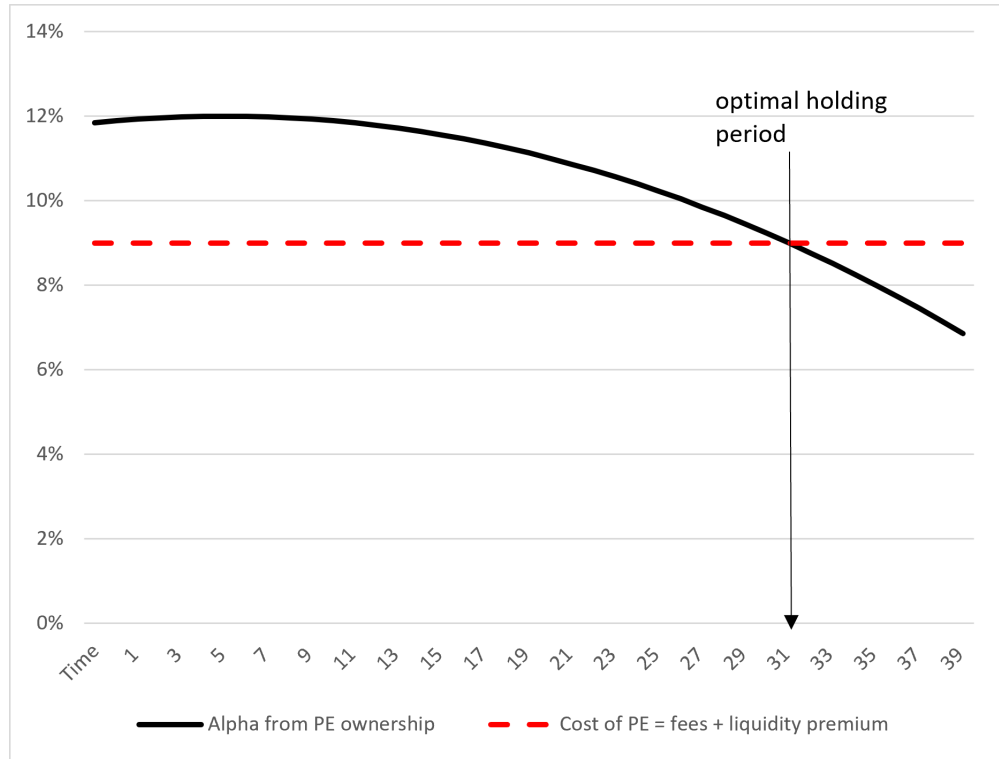


Figure A2: Optimal PE holding period. The figure illustrates the optimal holding period in PE ownership for a typical buyout. The x-axis tracks time since the buyout transaction, and the y-axis the yearly α_E generated by PE ownership, which is assumed to eventually decrease over time. Analogous to Figure A1, the horizontal line indicates the cost of private equity, C_{PE} .

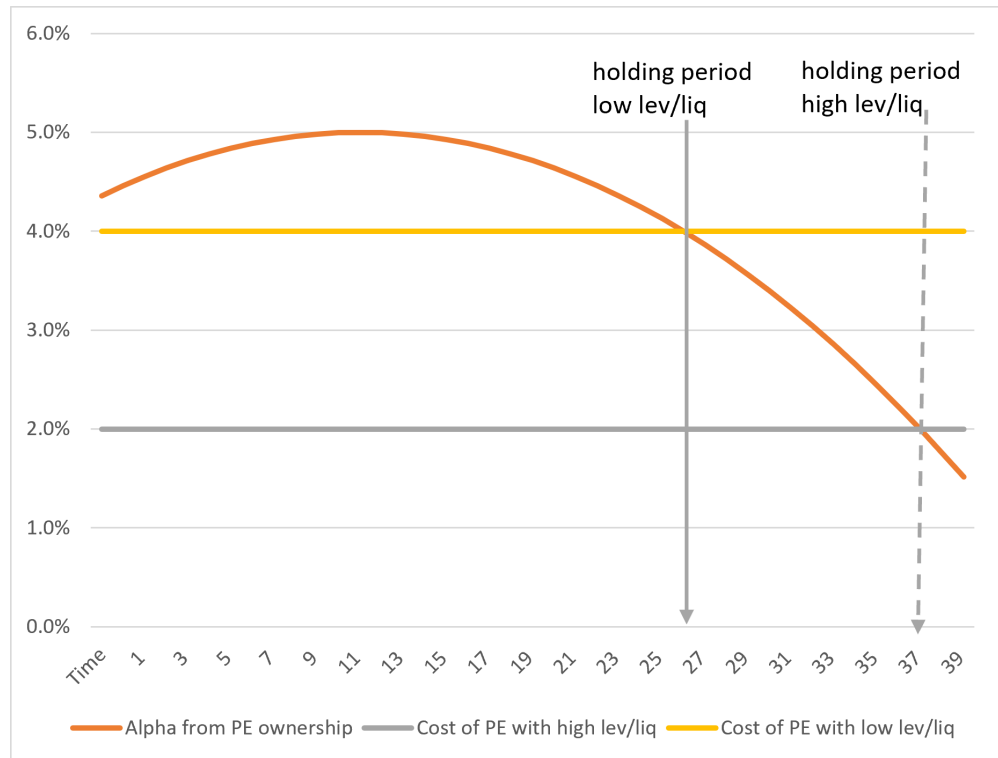


Figure A3: Effect of changing liquidity premium and leverage on PE holding periods. The figure illustrates the effect of changes in the illiquidity premium and/or leverage on the optimal PE holding period. The x-axis tracks time since the buyout transaction, and the y-axis the yearly α_A generated during PE ownership. Analogous to Figure 2, the horizontal lines measure the minimum PE alpha that is required to cover the costs of private equity during “hot” (bottom line) and “cold” (top line) market conditions.

Table A1: Entries by region and industry

	1990-1999	2013-2022	Total	1990-1999	2013-2022	Total
	Fraction of Number of Entries			Fraction of Deal Volume		
Panel A	Region					
Asia & Australia	0.01	0.08	0.07	0.01	0.07	0.05
Rest of World	0.02	0.03	0.03	0.01	0.02	0.01
United States & Canada	0.60	0.46	0.49	0.67	0.52	0.51
Western Europe	0.36	0.42	0.41	0.30	0.39	0.42
All	1.00	1.00	1.00	1.00	1.00	1.00
Panel B	Industry					
Commercial Services	0.14	0.20	0.19	0.10	0.14	0.12
Communication Services	0.03	0.01	0.02	0.04	0.01	0.03
Consumer Products	0.26	0.16	0.19	0.28	0.15	0.18
Energy & Utilities	0.02	0.04	0.04	0.01	0.06	0.06
Financials	0.03	0.05	0.05	0.05	0.07	0.07
Health Care	0.06	0.11	0.10	0.09	0.11	0.10
Industrials	0.30	0.21	0.23	0.23	0.15	0.17
Information Technology	0.11	0.19	0.16	0.12	0.26	0.22
Materials	0.06	0.04	0.04	0.07	0.05	0.05
All	1.00	1.00	1.00	1.00	1.00	1.00

Table A1 provides the shares of PE entries by region (Panel A) and by industry (Panel B) based on the number of entries and deal volumes (invested equity). The industry classifications adjust Global Industry Classification Standards (GICS) to better reflect buyout structures, grouping energy with utilities and splitting consumer products into durables and discretionary categories. Data sourced from PitchBook.

Table A2: Buyouts by type of transaction over time

Panel A: Share of number of buyouts by entry type								
Entry type	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	2020-2022	Total
Divisional	0.20	0.15	0.16	0.13	0.14	0.11	0.09	0.12
Indep private	0.74	0.73	0.66	0.63	0.57	0.62	0.65	0.63
Public to private	0.02	0.05	0.05	0.05	0.04	0.03	0.03	0.04
Financial seller	0.00	0.02	0.03	0.04	0.04	0.04	0.04	0.04
Secondary	0.04	0.05	0.10	0.15	0.20	0.20	0.19	0.17
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Panel B: Share of deal value of buyouts by entry type								
Entry type	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	2020-2022	Total
Divisional	0.37	0.22	0.23	0.15	0.18	0.16	0.14	0.17
Indep private	0.58	0.51	0.43	0.28	0.23	0.27	0.24	0.28
Public to private	0.02	0.16	0.14	0.35	0.20	0.22	0.34	0.27
Financial seller	0.02	0.01	0.03	0.03	0.05	0.04	0.05	0.04
Secondary	0.02	0.09	0.18	0.20	0.34	0.30	0.23	0.25
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table A2, Panel A (Panel B), shows the share of the number (deal volume) of buyout entry types. *Financial seller* marks transactions where the portfolio firm is sold by a PE firm not operating with funds. Distressed transactions are placed in the category *Independent private*. Data on PE transactions from PitchBook. Transaction volumes are deflated to USD 2022.

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