To Roll or Not to Roll

A Study of Limited Partners' Investment Decision in Continuation Vehicles

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Abstract

This thesis examines how limited partners make their decision of either rolling over or cashing out in continuation vehicle transactions. Through interviews with institutional investors and a proprietary dataset, we study how financial, governance, behavioral, and institutional factors shape these decisions. While return expectations and liquidity needs are often a starting point, factors like general partner incentives, alignment, mandates, and relationships could ultimately outweigh even attractive opportunities. Our findings also suggest that the considerations surrounding the investment decision vary across limited partner types. To further analyze how continuation vehicle structures affect roll over rates and incentives, we use Monte Carlo simulation techniques, which illustrate how alternative structures can influence limited partners' decisions and highlight potential misalignments with general partners. All told, the findings highlight that limited partners' roll over decisions are complex and shaped by a mix of financial, governance, behavioral, and institutional factors.

Keywords: Private Equity, Continuation Vehicles, Limited Partners, Monte Carlo, Institutional Investors

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1. Introduction

1.1 Background

Private equity (PE) has grown from a niche investment to a key component of institutional portfolios (Sensoy et al., 2014). As the PE market has matured, new ways of handling exit have emerged, one of them being the general partner (GP) led continuation vehicle (CV). Unlike traditional exits to external buyers, CVs allow GPs to sell portfolio companies to themselves through a new fund they also manage (Kastiel and Nili, 2024; ILPA, 2023). This makes it possible for the GP to extend their ownership of assets beyond the original fund's life. The structure gives existing limited partners (LPs) the choice to either exit at a pre-negotiated price, or reinvest in the new vehicle, typically referred to as rolling over (ibid).

CVs were initially introduced as a liquidity tool during periods of market stress. The phenomena gained traction after 2010, as a tool for GPs to manage distressed assets following the global financial crisis (Kastiel and Nili, 2024). At that time, CVs were often associated with so-called "zombie" firms, underperforming assets held by GPs who were unable to raise successor funds but still sought to continue earning fees. A shift began around 2015, when GPs started to see CVs not only as a way to manage underperforming assets, but also as a strategic tool to retain high performing "trophy assets" with remaining upside. This reorientation coincided with increased volatility in public markets and M&A activity, making traditional exit routes less appealing and positioning CVs as a flexible, GP-driven solution for extending assets' holding periods and optimizing exit timing (ibid).

The CV market has grown significantly, with total volume rising from USD 24 billion in 2018 to USD 75 billion in 2024, aligning with broader trends in the secondary market (Jefferies, 2025). CVs accounted for roughly 13% of all GP exits in 2024 and are expected to rise to 20% in the coming years (Jefferies, 2025; Zhang, 2024).

The popularity of CVs among GPs is motivated by the belief that portfolio companies could generate higher value beyond the typical fund's lifespan (Kastiel and Nili, 2024). Advocates of CVs state that the advantage of the vehicles is that they prolong the value creation period, while offering LPs the optionality to cash out or roll over according to their individual preferences. However, some investors and the SEC have expressed concerns about this rising trend. Criticism raised is that these transactions are inherently characterized by conflicts of interest, as GPs assume the dual role of both seller and buyer. This structural feature introduces a classic principal-agent dilemma, wherein the GP's incentives may diverge from those of their LPs (ibid).

Recent data on these transactions show that 80-90% of LPs choose to exit rather than roll over, despite the CV being managed by the same GP and holding the same underlying assets (Kastiel and Nili,

2024). According to Kastiel and Nili (2024), the high rate of LPs that cash out can be explained by the misaligned incentives of the CV and the transaction process. However, their analysis provides limited insight into how these investment decisions are evaluated in practice.

1.2 Purpose and Research Question

Despite the rapid growth of CVs in the PE market, academic literature on this phenomenon is limited. There has only been one peer-reviewed article, which is the previously mentioned article by Kastiel and Nili (2024). In addition, a study by Gottschalg (2024) analyzes CV return profiles. While both contributions are valuable, they leave significant gaps in our understanding of how LPs navigate and assess CV investment decisions. This thesis aims to address that gap by examining LPs' decision-making in CVs, and the research question is formulated as follows: How do financial, governance and behavioral factors, as well as institutional characteristics, influence LPs' decisions to either roll over or cash out in a continuation vehicle transaction?

The findings of this thesis are relevant to several groups in the PE industry. For GPs, it offers insights into how LPs make roll over decisions, which can be useful for future CVs transactions. LPs may better understand how their peers view risk and the transaction process. The results may also interest secondary buyers, advisors and trade associations, especially in efforts to improve transparency and develop best practices for CV transactions. From an academic standpoint, this thesis adds to the limited research on the subject by focusing on the LP decision-making process and incorporating GP-provided transaction data.

1.3 Outline and Structure

This thesis is built on two pillars: one qualitative and one quantitative. To understand how different types of LPs assess CV transactions, we began by conducting qualitative interviews with 23 institutional investors. To complement this perspective, we also interviewed GPs involved in setting up CVs. These interviews not only deepened our understanding of how the deals are structured but also resulted in a proprietary dataset of 31 transactions. The primary purpose was to obtain detailed information on deal structures, LP roll over rates, and the motivations communicated to LPs, allowing us to explore whether the structure of a CV transaction influences roll over decisions. Insights from both the interviews and the dataset were subsequently used to inform the assumptions in our quantitative model. Using Monte Carlo simulations, we illustrated various fund scenarios, aimed at highlighting how specific structuring choices in CVs can influence LPs' decisions and potentially lead to misalignments of interest between GPs and rolling LPs. Together, these approaches provide both a detailed and a broader view of the LP investment decision, contributing to a more complete understanding of this increasingly important segment of the PE

market. This thesis is limited to transactions within the European and North American markets, focusing specifically on PE buyout funds.

The structure of the thesis is as follows: Chapter 2 outlines the theoretical foundation. Chapter 3 reviews relevant literature and introduces the conceptual framework which is used as a foundation for our data collection and analysis. Chapter 4 describes our qualitative method and findings from our LP interviews. Chapter 5 details the quantitative methodology and results, which is divided into two parts: descriptive statistics and the simulation model. Chapter 6 discusses the findings, while Chapter 7 presents the conclusions, contributions, limitations, and suggestions for future research.

2. Theory

This chapter introduces the theoretical foundation for this study. First, it presents the structure and lifecycle of PE funds, with a focus on the distinction between traditional funds and CVs. Secondly, it outlines the fee and profit distribution models.

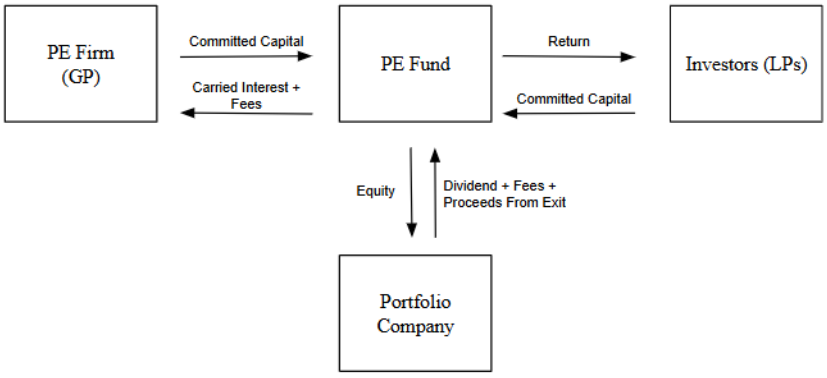
2.1 Private Equity Fund Structure

2.1.1 Traditional Private Equity Funds

Traditional PE funds are structured as closed-end limited partnerships, which means that the fund has a fixed lifespan and during this period investors in the fund cannot freely withdraw their capital (Axelson et al., 2009). The fund life is typically 10 years with potential for extension which is commonly used (Nadauld et al., 2019). In the partnership, the fund manager acts as the GP, responsible for managing the fund and making investment decisions (Schoenmaker and Schramade, 2023). The LPs are the investors who provide capital to the PE fund, and these are typically institutional investors (ibid). The raised capital is used by the GP to acquire and grow companies with the aim to exit the investments profitably within a set timeframe (ibid).

The legal and economic terms of the fund are defined in the limited partnership agreement, referred to as the LPA (Robinson and Sensoy, 2013). This agreement outlines the fund's investment strategy, governance rules, duration, fee structure, and profit-sharing arrangements (ibid).

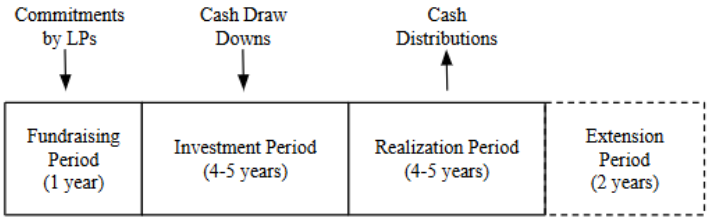
Figure 1. A Visualization of the PE Structure



Notes. This figure illustrates the structure of a PE investment, showing the flow of capital and returns among the GP, the PE fund, the LPs, and the portfolio company, as visualized by Schoenmaker and Schramade (2023, p. 272).

While total commitments are specified in the LPA, LPs do not pay their full commitment upfront (Müller, 2008). Instead, the GP requests capital, typically referred to as draw downs, when investment opportunities are identified (ibid). A typical PE fund goes through four phases as outlined in Figure 2. The first one is the fundraising period where capital commitments are being secured but not yet drawn. The second one is the investment period where capital is drawn, and portfolio companies are being acquired. After that, there is the realization period, also referred to as the harvesting period, where exits begin and returns are distributed. There is also a possibility of one or more extension periods, subject to LP approval, if assets have not been exited (ibid).

Figure 2. The PE Fund Cycle



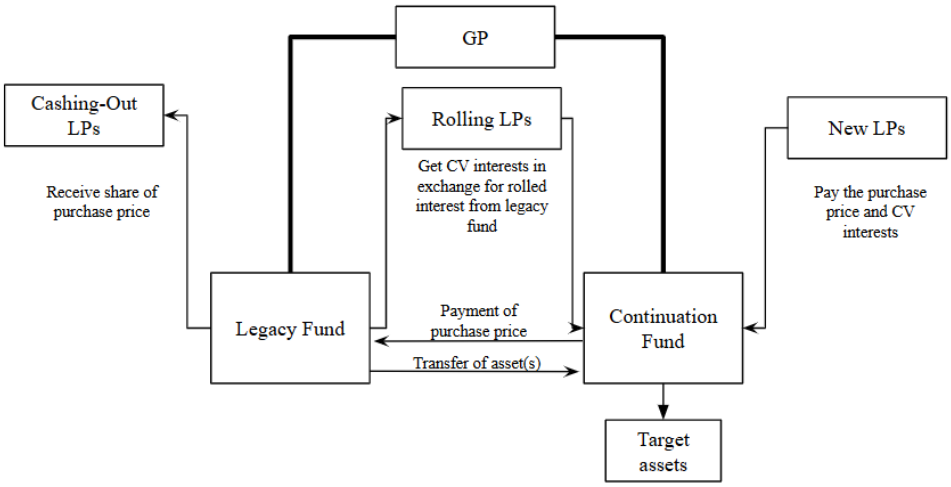
Notes. This figure illustrates the typical PE fund cycle, divided into four phases: fundraising, investment, realization, and an optional extension period, as presented by Müller (2008, p. 20).

2.1.2 Continuation Vehicles

CVs are a type of GP led secondary transaction (Kastiel and Nili, 2024). The PE secondary market involves either GPs or LPs, selling their stake in a PE fund before the fund reaches the end of its life (Ljungqvist, 2024). In LP-led secondaries, the LP sells their share of the fund along with the rights to future returns. In CVs on the other hand, the GP is the one that initiates the transaction (ibid).

When a CV is created, the GP moves one or more portfolio companies from an older fund typically nearing the end of its term into a newly created fund, managed by the same GP (Kastiel and Nili, 2024). If only one asset is being rolled, this is referred to as a single-asset CV, and if more than one asset is rolled, it is referred to as a multi-asset CV. Existing LPs can choose to either exit or roll over their investment into the new fund as illustrated in Figure 3. It is important to note that, regardless of their decision, LPs typically remain invested in the old fund, which retains residual assets and obligations (ibid).

Figure 3. A Visualization of the CV Structure



Notes. This figure illustrates the structure of a CV transaction, as outlined by Kastiel and Nili (2024, p. 15). It shows how LPs in a legacy fund can either cash out or roll over their interests into a CV, with new LPs contributing capital to fund the transaction. The GP manages both the transfer of assets from the legacy fund and the formation of the CV, which ultimately holds the target assets.

Unlike traditional PE funds, CVs are fully capitalized and invested at inception, offering immediate exposure to mature, known assets (Kastiel and Nili, 2024). CV makes it possible for GPs to add new capital to portfolio companies, either at the end of a fund's life when most capital has been used up and funding options are limited, or early on when fast-growing companies need capital to keep expanding (ibid). Another feature of CVs is that GPs are expected to reinvest much of the profit they have already earned (called "crystallized carry") into the new fund, referred to as "rolling over carried interest" (Paul Hastings, 2022; Kastiel and Nili, 2024).

The establishment of a CV generally follows a structured process, often including the steps outlined below (Kastiel and Nili, 2024):

Step 1. The GP hires an advisor to manage a competitive bidding process among secondary buyers.

Step 2. The asset(s) are valued, usually at or slightly below the most recent net asset value (NAV), often subject to independent fairness opinions.

Step 3. The LPs in the legacy fund are offered a choice to either roll over their interest into the new fund or cash out at the proposed transaction price.

Step 4. Commitments from rolling LPs and new investors are pooled into a new fund, governed by a freshly negotiated LPA.

Step 5. The GP continues to manage the asset(s) under modified economic and governance terms tailored to the CV.

2.2 Fee Structure

2.2.1 Fee Structure in Traditional Private Equity Funds

To understand how CVs differ from traditional PE fund structure, it is important to first consider the standard compensation structure used in PE. In traditional PE funds, the compensation model for GPs is typically based on the so-called "2/20/1" structure (Metrick and Yasuda, 2010). Under this model, GPs usually receive an annual management fee equal to 2% of committed capital, a carried interest of 20% on fund profits above a specified hurdle rate and are expected to invest approximately 1% of total fund commitments themselves. While a 1% commitment is the market norm, actual GP contributions can vary across funds (ibid).

During the investment period, which usually lasts four to five years, management fees are typically charged as a fixed percentage of committed capital (Metrick and Yasuda, 2010). Following this phase, it is common for fees to decrease, either through a reduction in the fee percentage, a change in the basis from committed capital to invested capital, or both. For example, the fee might drop by 25 basis points per year or shift to being calculated on the remaining invested capital, reflecting the reduced workload required to manage a mature portfolio (ibid).

Carried interest is typically paid only after LPs have recovered their contributed capital together with a preferred return, often set at an 8% internal rate of return (IRR) (Metrick and Yasuda, 2010). Once the hurdle is achieved, GPs are entitled to a share of the additional profits, typically 20%. Beyond management fees and carried interest, GPs have historically earned revenue through transaction fees and monitoring fees charged to portfolio companies (Metrick and Yasuda, 2010).

2.2.2 Fee Structure in Continuation Funds

Since CVs are invested in assets from day one, fees are usually based on invested capital and not committed (Paul Hastings, 2022). Fee rates are typically around 1.0%, lower than the 2% standard in traditional PE funds. In some cases, GPs also receive monitoring fees from the underlying portfolio companies (ibid).

Carried interest structures in CVs often also differ from traditional PE funds. Instead of a flat 20%, many CVs implement ratcheted carry structures where the GP's share of profits increases if specific IRR or multiple thresholds are achieved. According to the study by Paul Hastings (2022), 74% of CVs employ ratcheted carry mechanics, and a majority implement 100% GP catch-up at each level, as further described in the next section.

Finally, many CV agreements include caps on establishment costs to provide greater cost predictability for LPs, with common ranges between 0.35% and 0.75% of fund size. However, caps on ongoing annual costs are less common, found in only about one in four CVs (Paul Hastings, 2022).

2.3 The Waterfall Model

Profit distribution in PE funds typically follows either an American-style or a European-style waterfall. These models determine when and how GPs earn carried interest based on the fund's performance relative to LPs' returns (Metrick and Yasuda, 2010; Sussman, 2014).

In an American-style waterfall, carried interest is distributed "deal-by-deal". GPs can earn carried interest on early profitable deals once those investments meet the preferred return, usually an 8% IRR, without considering overall fund performance. This benefits GPs by accelerating payments but increases LP risk if later investments underperform (Chung, 2015).

In contrast, a European-style waterfall distributes carried interest only after all LP capital contributions, plus the preferred return, have been fully repaid across the entire fund (Metrick and Yasuda, 2010; Sussman, 2014). This "whole-fund" model reduces LP risk and is considered more investor-friendly (Chung, 2015; Cambridge Associates, 2024). Under this model, LPs must recover not only their invested capital but also amounts used for management fees and expenses before GPs receive carried interest (Sussman, 2014; Cambridge Associates, 2024).

Catch-up provisions are as mentioned a common feature in PE funds, allowing GPs to temporarily receive a higher share of profits after the preferred return hurdle is met, until their agreed share of profits (e.g., carried interest of 20%) is achieved (Sussman, 2014; Cambridge Associates, 2024). Clawback clauses provide further protection by ensuring that GPs return excess carried interest if fund performance deteriorates, often backed by personal guarantees or escrow accounts (Cambridge Associates, 2024).

Industry data highlights a shift where in 2022, 77% of private investment funds employed a whole-fund distribution model, with deal-by-deal waterfalls largely confined to smaller buyout and real estate funds (Cambridge Associates, 2024).

3. Literature Review

This chapter introduces previous research relevant to CVs. It begins with a brief overview of PE governance, followed by a thematic discussion of key contributions in the literature. The chapter concludes by presenting the conceptual framework that underpins this study.

3.1 Governance in Private Equity

3.1.1 Agency Conflicts in the Limited Partnership Model

Several articles have discussed how the limited partnership structure in PE funds creates an agency relationship (Batt and Appelbaum, 2021; Phalippou, 2009). Within PE funds, the GP acts as an agent with delegated authority to make investment decisions on behalf of LPs, who serve as the principals (Batt and Appelbaum, 2021). Given this delegated structure, GPs hold more information about the portfolio assets and control over investment decisions (ibid). The principal-agent structure creates a risk of moral hazard and information asymmetry between the GP and LPs, which could result in agency conflicts (Jensen and Mackling, 1976). When there is insufficient monitoring or a misalignment of incentives between principals and agents, agents may act in their own self-interest rather than in the best interest of the principals (ibid).

Batt and Appelbaum (2021) highlight that the limited partnership structure generates complex information asymmetries and potential incentive problems, as may disadvantage the LPs relative to GPs interests. For example, GPs only need to share limited information, often performance estimates based on the GPs valuation of the portfolio companies (ibid). This dynamic is particularly relevant given that GPs may pursue actions that benefit them and not the LPs, such as maximizing fee income, which can conflict with the LPs' primary goal of achieving optimal investment returns (ibid).

3.1.2 Incentive Alignment and Monitoring Mechanisms

Previous research has investigated how governance mechanisms mitigate agency frictions between LPs and GPs (Gompers and Lerner, 1996; Harris, 2010; Robinson and Sensoy, 2013; Jensen and Mackling, 1976). One such mechanism is the LPA, a contract that defines how the GP will manage the fund and how they will be compensated (Gompers and Lerner, 1996; Harris, 2010; Robinson and Sensoy, 2013). The LPA specifies a range of parameters such as the GP's compensation structure to align their financial incentives with the long-term performance of the fund (Robinson and Sensoy, 2013).

Other studies have examined how PE funds structure these incentives (Phalippou, 2009). While the compensation structure is designed to reduce agency frictions and align the interests of GPs and LPs, research shows that fixed fees, which make up the majority of GP compensation, can encourage GPs to

prioritize raising larger funds over delivering strong investment returns (ibid). Harris (2010) argues that private contracts alone cannot keep GPs and LP aligned, as they tend to fail to address conflicts that arise or change over time. To address this, LPs can use monitoring as a form of mechanism to detect when GPs act in their own interest at the expense of their investors (ibid). One such monitoring channel is the Limited Partner Advisory Committee (LPAC) which is composed of selected LPs (Scharfman, 2018). The LPAC reviews potential conflicts of interest, waivers of investment restrictions, and extensions of fund life. Although the committee usually does not have the power to make final decisions, it can review GP proposals and provide guidance (ibid).

3.2 Liquidity Constraints in Private Equity

3.2.1 Illiquidity as a Structural Feature

As PE funds have a closed-ended structure without early redemption rights, they expose investors to liquidity risk (Phalippou and Westerfield, 2014; Bollen and Sensoy, 2021). Given the unpredictable timing of capital calls and distributions, LPs face additional liquidity risk, known as commitment risk (ibid).

Franzoni et al. (2012) estimate that PE investors face a total risk premium of around 18% per year, excluding the risk-free rate. This premium reflects risks related to market exposure, valuation, and illiquidity, with about 3% attributed to liquidity risk alone. Their findings suggest that the commonly used 8% hurdle rate may be too low to reflect the return required by investors in PE.

If LPs wish to redeem their capital before the end of a fund's life, they must sell their stake on the secondary market (Bollen and Sensoy; 2021). On this market, LPs can sell their fund interests, including unfunded commitments and future distributions, to other investors. Sellers are typically institutions such as pension funds or foundations that rely on investment cash flows to support operations or seek to rebalance their portfolios (Nadauld et al., 2019). However, secondary transactions are often complex, involving bilateral negotiations or intermediary-led auction processes, and require GP approval, making them both time-consuming and costly (ibid).

3.2.2 Secondary Markets and Liquidity Management

A focus within the PE secondary market research has been on the pricing of liquidity. A study by Nadauld et al. (2019) find that LP secondary transactions in the PE secondary market occur at an average 13% discount to NAV, compensating for both illiquidity and uncertainty of the asset. The study also shows that buyers outperform sellers by a market-adjusted return of 5% per year, indicating that the liquidity cost is borne by the selling LPs.

Nadauld et al. (2019) further explain that discounts in secondary transactions are due to several factors, including information asymmetry, illiquidity, and the limited number of secondary buyers. However, Albuquerque et al. (2018) argue that the sellers' liquidity constraints are the primary driver, as discounts appear to be serving as compensation for buyers who provide liquidity to these constrained sellers. Additionally, Maurin et al. (2023) suggest that NAV discounts are more attributable to a shortage of buyers' capital, rather than asymmetric information.

3.3 Governance and Performance of Continuation Vehicles

Kastiel and Nili (2024) argue that CV transactions are prone to significant conflicts of interest, primarily driven by the GP assuming the role of both seller and buyer. This dual role gives GPs strong financial incentives to favor new investors over existing LPs, as they can earn additional fees, unlock new carried interest, extend control over the assets, and secure early payouts of their profits. Unlike traditional M&A deals or IPOs, CV transactions usually do not face the same level of scrutiny. While some include a competitive bidding process, many lack real competition (Kastiel and Nili, 2024).

To address these risks, the ILPA issued detailed guidance for CV transactions (ILPA, 2023). The recommendations emphasize several key principles. GPs are expected to provide full disclosure of relevant terms, including the rationale for the transaction, valuation methodology, and the historical performance of selected assets. They should ensure parity of information across all LPs and the LPAC, promoting transparency throughout the process. Fee structures and carried interest arrangements should maintain alignment between rolling LPs and the GP. Importantly, ILPA recommends offering LPs a "status quo" option, allowing them to roll over on the same economic terms as before, with no higher fees, worsened carry terms, or additional conditions. ILPA also recommends that GPs roll 100% of accrued carry into the new vehicle. Additionally, ILPA advises early engagement with the LPAC and recommends that LPs be given at least 20 business days to evaluate the proposal. Finally, ILPA encourages the use of fairness opinions or third-party pricing validation to ensure that transaction terms are justifiable.

However, as Kastiel and Nili (2024) show, these recommendations are not always followed in practice. Empirical research on the performance of CV transactions remains limited. Gottschalg (2024) finds that CV performance, measured by Total Value to Paid-In Capital (TVPI), is generally in line with that of traditional buyout funds. Notably, most of the CVs had not been exited at the time of the study; thus, the reported performance is largely based on NAV rather than realized returns.

3.4 Institutional Investors in Private Equity

3.4.1 Evaluation Criteria and Behavioral Biases

When it comes to due diligence of PE funds, institutional investors pay close attention to both quantitative and qualitative indicators (Afyonoğlu, 2010). Important factors considered by LPs include team dynamics, track record, management quality, succession planning, incentive structures, decision-making processes, alignment of interests, and transparency (ibid). Barber and Yasuda (2017) find that LPs closely monitor interim IRRs and reported performance when assessing fund commitments. Kaplan and Schoar (2005) demonstrate that better performing funds are more likely to raise follow-on capital and receive renewed commitments from existing LPs. This performance persistence leads LPs to recommit to the same GPs, often without reallocating capital elsewhere, even though newer, potentially better funds may exist (Kaplan and Schoar, 2005). Additionally, Lerner et al. (2007) document that many LPs appear to outweigh previous relationships, highlighting a relational bias in their allocation decisions. This behavioral tendency is particularly evident among less sophisticated investors, who may rely more on familiarity than objective performance metrics.

Freiburg and Grichnik (2012) find that LPs frequently base investment decisions on personal or indirect relationships with GPs. These relationships help reduce uncertainty by giving access to information and, in the case of direct ties, creating trust. LPs do not rely solely on hard performance data; they also assess how reputable and trustworthy a GP appears. The study shows that LPs may place trust in familiar GPs either because they believe the GP is skilled (‘competence trust’) or because they believe the GP will act fairly (‘goodwill trust’) (ibid).

3.4.2 Institutional Mandates and Structural Constraints

A growing body of literature emphasizes that institutional investors vary widely in how they evaluate PE funds, depending on their internal mandates, governance structures, and regulatory environments (Lerner et al., 2007; Ahmed, 2015, Hobohm, 2008). Lerner et al. (2007) indicate that PE investors differ significantly in their investment criteria and level of sophistication. The due diligence process institutional investors use to evaluate PE funds also varies according to their size and internal capabilities (Da Rin and Phalippou, 2017). Larger LPs typically conduct broader and more thorough due diligence and monitoring than smaller LPs. For example, they tend to engage more in legal and accounting evaluations, monitor the valuation of portfolio companies, co-invest, meet with portfolio company executives, and often sit on advisory boards (ibid). According to Ahmed (2015), both search costs and the institutional setup of the investor shape how PE funds are selected. Hobohm (2008) finds that structural differences across LP types,

such as size and investment capacity, lead to systematic differences in fund preferences, reflecting varying tolerance for risk and illiquidity.

These differences across LP types are particularly pronounced when it comes to liquidity and governance. Endowments are characterized by greater investment flexibility, whereas other institutional investors often are constrained by rigid decision-making frameworks or limited familiarity with the PE asset class (Lerner et al., 2007). Endowments typically have longer investment horizons and are less constrained by regulatory requirements, that otherwise would force higher allocations to liquid assets (Meyer et al., 2013). Similarly, family offices (FOs) are less constrained in their asset allocation strategies, as they face minimal yearly payout requirements. This enables them to prioritize wealth preservation and disregard short-term mark-to-market fluctuations (ibid).

By contrast, regulatory frameworks for insurance companies and pension funds such as Basel III, may limit certain investments or increase capital requirements, making illiquid assets like PE less attractive (Meyer et al., 2013). Moreover, public pension funds and insurance companies are subject to public accountability and legal restrictions, which often lead to more conservative investment behavior (ibid). Pension funds may also struggle to build internal capacity due to high staff turnover and compensation constraints, limiting their ability to evaluate or manage complex PE strategies (Lerner et al., 2007).

Fund of funds (FoFs) also face structural challenges. Since they invest on behalf of multiple LPs, they incur an additional layer of management fees, making them particularly sensitive to cost efficiency and net return performance (Meyer, 2014). To address this, FoFs often pursue co-investments alongside GPs in lead funds that offer reduced or no fees (Flor et al., 2024).

3.5 Conceptual Framework for LP Decision-Making in CVs

A conceptual framework has been developed based on previous research findings to structure the analytical focus of this study. Drawing from the literature, we identify four factors that may be important for understanding how LPs make their investment decisions: financial, governance, behavioral, and institutional constraints. The framework follows Van der Waldt's (2020) principles and links this study to prior research to ensure clarity and consistency in the use of key concepts. Additionally, it serves as a practical guide for the design of the thesis.

Financial: Financial performance and expected returns of a PE fund is highly relevant to LPs' assessments (Baber and Yasuda, 2017). Liquidity discounts and the risk-adjusted opportunity cost are central to when LPs invest in the secondary market (Franzoni et al., 2012; Maurin et al., 2023).

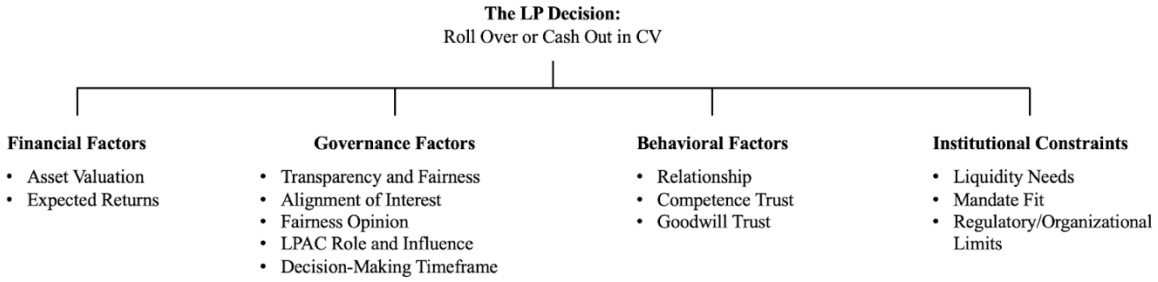
Governance: The limited partnership structure creates a principal-agent problem (Jensen and Meckling, 1976; Batt and Appelbaum, 2021). Kastiel and Nili (2024) argue that this is amplified in CVs due to GP's dual role as both buyer and seller. According to ILPA (2023), CV processes should uphold

transparency, incorporate fairness opinions, ensure alignment of interests between, include LPAC, and adopt appropriate decision-making timelines.

Behavioral: LPs' investment decisions can be shaped by their relationships with GPs as it reduces perceived information asymmetry and builds trust (Lerner et al., 2007). Freiburg and Grichnik (2012) find that GP-LP relationship fosters both competence trust and goodwill trust. While this can support decision-making under uncertainty, it may also hinder objective evaluation of alternatives.

Institutional constraints: LPs investment decisions can be shaped by mandate fit, regulatory requirements, and internal structures (Lerner et al., 2007). Some LPs face stricter institutional constraints than others (Meyer et al., 2013).

Figure 4. Conceptual Framework for LP Decision-Making in CVs



Notes. This figure presents the conceptual framework developed for this study to analyze LP decision-making in CVs. Based on prior research, the framework categorizes the key factors influencing LP decisions as financial, governance, behavioral, and institutional constraints. The framework reflects Van der Waldt's (2020) principle of linking theoretical grounding to research design and serves as a guide for the thematic analysis of interview data.

4. Qualitative Analysis

To gain insight into LPs' investments decisions when confronted with CV transactions, we began our study with qualitative interviews. In this chapter, we first describe the data collection process, followed by an outline of how the data has been analyzed. Lastly, the qualitative results are presented.

4.1 Qualitative Data Collection

To understand the reasoning behind LPs' investment decisions in CV transactions, we conducted semi-structured interviews with 23 institutional investors. The interviews provided us with insights into the factors shaping the LPs' decision, not observable through secondary sources. As Bailey (2014) notes, qualitative methods are particularly well-suited for investigating subjective and intangible factors, making them appropriate for addressing this study's research question. The semi-structured format was chosen to ensure consistency across interviews while allowing flexibility to explore relevant issues as they emerged. This was particularly useful given the rapid developments and increasing complexity within the CV market (Hammarberg et al., 2016).

The interview process followed the five-phase framework proposed by Kallio et al. (2016). We first concluded that interviews were the most suitable method to explore the motivations and decision-making dynamics of LPs, given the limited prior research on this topic. We then reviewed market reports and previous studies to develop a draft interview guide based on our conceptual framework, see Appendix 1. This guide was tested with two participants and then used consistently in all interviews.

Participants were selected through purposive sampling, targeting institutional investors who had been asked to participate in a CV transaction. The sample consisted of senior professionals responsible for investment decisions, drawn from a diverse range of investor types, including pension funds, endowments, FOs, insurance companies, and FoFs. To capture potential regional variation, we intentionally selected institutions from both North America (approximately 40%) and Europe (approximately 60%). To ensure that thematic saturation was reached we interviewed several respondents within each LP category**.** An overview of participant backgrounds is provided in Appendix 3. Interviews were conducted between February 2025 and April 2025, primarily via video calls, and lasted between 25 and 45 minutes.

Participants gave informed consent and were assured of confidentiality. Findings were triangulated with secondary sources, such as market reports, to enhance credibility.

4.2 Qualitative Methodology

The data collected from interviews with LPs were analyzed using thematic analysis, following the structured six-phase guide developed by Braun and Clarke (2006). This method was chosen as it can be used to identify, analyze, and report qualitative data patterns (ibid). To start with (*phase one),* we repeatedly read through the interview notes, noting initial ideas we found interesting and frequently mentioned topics. In *phase two*, we systematically coded relevant features across the dataset. In *phase three*, we analyzed the codes on a broader level and grouped them accordingly. In *phase four*, we revised the full dataset to ensure that the themes were supported by sufficient evidence and internally coherent. For example, particular attention was given to clearly distinguishing between themes related to governance factors and those reflecting behavioral aspects. In *phase five*, we refined the content and boundaries of each theme and organized them to align with our conceptual framework. However, rather than assigning names to the themes, we structured them around the four dimensions of our framework. Finally, in *phase six*, we conducted our thematic interpretation, linking the insights from the interviews to our theoretical framework and research question, which is presented in the discussion.

4.3 Qualitative Results

This section presents the thematic analysis of the LP interviews, structured around the conceptual framework. For each of the four pillars, we highlight differing perspectives across LP categories.

4.3.1 Background and Market Context

Among the 23 LPs interviewed, experience with CVs varied significantly. Some participants had been involved in multiple transactions and had experience with both rolling over and cashing out, while others had only chosen to cash out. Specifically, six LPs reported that they had only chosen to cash out. In addition, two endowments stated that they almost never choose to roll over.

The interviews indicate that CVs have developed into a more institutionalized and widely accepted feature of the PE market. Several respondents noted an increase in CV transactions presented to them over the past five to seven years. Consequently, it was mentioned how a greater degree of standardization has developed in the CV processes in the last years. Despite this development, many LPs remained cautious. While some viewed the evolution as positive, others questioned the underlying motivations behind CVs.

4.3.2 Financial

Across the pension funds interviewed, financial evaluation played a central role in their investment decisions in CV transactions. This sentiment reflected a cautious stance toward the underlying business case rather than simply trusting the investment case presented by the GP. As one representative from a North American pension fund put it, "*Looking ahead, I believe the market will split: some GPs will continue using CVs as intended to support value creation in strong companies. As LPs, we need to evaluate these deals based on the actual business performance and whether the expected returns justify the financing structure*."

Furthermore, return expectations and internal financial mandates were pivotal in shaping pension funds' decisions. Several interviewees described a clear preference for realizing gains once they reached their return targets, which were often met at two to three times the invested capital. This indication was also mentioned by a European pension fund who stated that if they met their target return, they would cash out. As another European pension fund stated, "*In today's market, it's not worth the extra risk to stay locked in after a 3x. It's better to realize and redeploy elsewhere*." Similarly, another mentioned "*Take the 3x and move on.*" This approach was cited by others, even in cases where the forward-looking business case remained strong, indicating that return thresholds often function as practical exit triggers among the European pension funds interviewed.

This view was also shared by the insurance companies, who expressed concern about the limited perceived upside in CV transactions. Several noted that even when a GP has deep knowledge about an asset from prior ownership, it does not necessarily translate into compelling return potential. One insurance company noted that the CVs they evaluated often coincided with other attractive investment opportunities, increasing the relative appeal of liquidity. Additionally, the insurance company explained that a roll over would only be considered if the expected returns of the CV exceeded their internal hurdle.

The concern regarding the potential upside of CVs was also shared by endowments. One endowment stated that they viewed the assets in the CV to have already been partially de-risked during the original holding period and thus might offer diminished return potential. Similarly, the FoFs interviewed mentioned that the roll over decisions were affected by the recognition that much of the value creation might already have been realized during the initial holding period. This view may reflect a broader doubt about whether CVs can deliver the kind of returns usually expected from long-term PE investments. The endowments also mentioned that opportunity cost was another critical consideration and that the CV opportunities were evaluated against a broad universe of potential allocations, including both public and private market opportunities. As one North American endowment stated, "*We set a higher bar for our investments when illiquidity is in the market.*" This indicates that CVs were assessed in the context of other investment opportunities. Our interviews also show that endowments often treated CV decisions like new investment opportunities, emphasizing absolute return potential and relative value.

In contrast, one of the European FOs argued that CVs can offer some of the most attractive risk-adjusted returns in today's market. They pointed to typically higher IRRs in these deals driven by shorter holding periods and the GP's existing knowledge of the asset, which could also be used as an advantage to achieve higher returns. Another FO also mentioned they viewed CVs as an opportunity to receive a high return within a few years. On the other hand, FOs also mentioned that it is more beneficial for them to co-invest, due to the lower economics and greater flexibility compared to rolling over in CV transactions. One European FO stated, "*When the portfolio company is becoming very large, we as investors were before invited to co-invest. From an LP perspective, it's much better to co-invest rather than invest in CVs, as the co-investments have no fees.*" This highlights a nuanced view among FOs, while some see strong potential in CVs, co-investments are viewed as a more cost-efficient and flexible way to access attractive assets.

4.3.3 Governance

Several European pension funds raised concerns about adherence to the original fund structure and expectations. The interviewees described discomfort when GPs initiated CVs that materially altered the timing, investor base or economic terms agreed at fund inception. Such moves were often perceived as misaligned with the spirit of the original commitment. One European pension fund used a revealing analogy to describe this shift in expectations, "*It's like being married to someone and suddenly your partner wants to invite others into the marriage.*"

The valuation process in CV transactions was a concern raised by all LP categories interviewed. Pension funds were generally cautious of processes that lacked clear, verifiable market testing, as they saw a risk of GPs potentially setting valuations favorably without genuine external validation. One European pension fund expressed concern that CVs may mask valuation challenges instead of accepting a lower valuation that reflect the current market, stating, "*The primary reason for launch is that the assets cannot be sold in the market at the envisaged price.*" Thus, questioning the strategic merit of holding such assets longer. Another European pension fund expressed that their preferred CV process would involve first testing the M&A market to ensure that there is no conflict of interest in the price-setting.

The concern regarding fair valuation was shared by some of the insurance companies interviewed, who highlighted the importance of transparent market testing and third-party validation to establish a fair transfer price. As one insurance LP put it, "*How does price discovery work? Have they used a secondary agent with bids? Is it truly a market price?*"

Concerns were also expressed about processes that appeared overly controlled by GPs, with some warning that a lack of competitive tension risked undermining trust in the transaction's integrity. As one North American endowment put it, "*It is always better to sell to a strategic or financial buyer. A CV will not give the LPs the best return.*" Another endowment doubted the genuineness of the flexibility offered,

asking, "*If 90% want to leave, and only 10% want to stay, why not just sell the company and make the 90% of your LPs happy?*" Reflecting a broader concern that CVs may sometimes serve GP preferences rather than aligning with the majority of LPs' interests.

These concerns around the use of CVs were not limited to LPs' investment decisions but also influenced LPs' broader assessments of GPs' behavior. One North American based FoF noted, "*Our assessment of the GP rating is affected by if the GP tends to do CVs. A GP that does CVs, we would downgrade, for example, from a B+ manager to a B.*" This was shared by several interviewees, explaining that their institutions maintain internal monitoring systems to evaluate and track their assessment of GPs. Although the structure of these systems varied, they were commonly used as a background factor when evaluating new investment opportunities. Interviewees noted that GPs who were perceived to misuse CVs as an exit method, such as by resetting economics unfairly or giving preferential treatment to new investors, were often downgraded within these assessments.

Several of the FoFs interviewed also questioned the robustness of the price discovery process. They noted that, in most CV transactions, they lacked information about how the price was set and expressed skepticism that so-called *competitive processes* genuinely involved multiple credible bids. In these cases, fairness opinions were often viewed as formalities rather than as validation of the valuation. Several respondents called for greater reliance on independent, buy-side due diligence and genuinely competitive auction processes to ensure fairness.

On the other hand, none of the FOs interviewed raised concerns regarding price setting explicitly, rather, they expressed that they often requested more information and open dialogue with GPs. One FO shared that they viewed positively on rigorous CV processes that included non-disclosure agreements, access to data rooms, and opportunities to meet with portfolio companies' management teams.

Across all LP categories, respondents raised concerns about the resetting of carry and changes to economics in the CV. Increased GP commitment was seen as a positive signal, discouraging opportunistic behavior and protecting roll over investors. A key concern, especially among pension funds, was management teams cashing out, which was viewed as a sign of reduced future engagement. Several pension funds expressed particular concern over carry being crystallized or reset, emphasizing that GPs rolling over carry was a prerequisite for their participation in a CV.

This concern was also expressed by insurance companies interviewed. Several stressed the importance of ensuring that the GP's financial interests remained aligned with those of investors. As one European insurer explained, "*For us, it is relevant to examine the transaction terms in terms of GP commitment and carry roll over. Does it contribute to aligned interests or not?*" In addition, one endowment expressed that they viewed that GPs are incentivized to roll over assets at a low value and reset carry, suggesting that the timing and valuation of asset transfers may be structured to maximize GP upside rather

than optimize outcomes for LPs. Another endowment echoed this concern by stating, "*The risk is that GPs use CVs to 'recycle' mediocre assets and re-earn economics, even when performance doesn't merit it*." One of the FoFs interviewed articulated a similar concern, stating, "*Another factor we consider is the terms of the CV. I mean, like, are there some incentives for GPs to hold on to gain more management fee and carry. Usually, that is also why we consider not rolling, as we don't see the purpose with this.*" The statement highlights how perceived misalignment of incentives can directly influence roll over decisions, particularly when LPs question the strategic rationale behind the transaction.

Another common theme raised by insurance companies, FOs, and FoFs was the timing of the GP's decision to launch the CV within the legacy fund's lifecycle. For example, one European insurance company stated, "*If they get an early exit, it shows a higher IRR, but have they really constructed the portfolio correctly if they are exiting so early?*" Additionally, several FOs and one FOF mentioned that transactions launched early in a fund's life, around year three or four, were viewed with skepticism, as they questioned whether the primary motivation was genuine value creation or GP-driven economic incentives, given the many years remaining in the legacy fund. This view was shared by FoFs, who expressed that their perception of the GP's motivation behind the CV affected their overall view of the GP. Respondents were generally more comfortable when the rationale for the CV was clearly articulated and aligned with the interests of existing LPs. In contrast, when the underlying intention appeared to be oriented toward extending fee income or showcasing performance, respondents expressed reservations.

The views on multi and single assets were divided among the LPs interviewed. One FO stated that single-asset CVs were generally preferred, as they were viewed as, "...*cleaner and more tightly linked to a clear investment thesis.*" It was also expressed by another FO that multi-asset CVs sometimes prompted skepticism and were perceived as a tool to artificially enhance the legacy fund's distributed to paid-in capital (DPI) metrics. In addition, one North American FoF stated that they favored CVs with shorter duration and single asset CVs, as they saw a clearer rationale for why the GP established it. In contrast, one European based FoF stated that, "*Multi-asset CVs are more attractive as they give you exposure to more assets.*"

The GPs operational capacity to focus on a new fund was also raised by insurance companies and endowments. Several insurance companies questioned whether GPs have sufficient resources to manage both the new CV and the remaining assets in the legacy fund. This raised broader doubts about the ability to maintain focus and performance standards across parallel funds. Some interviewees also expressed skepticism about the increasing number of CVs and whether GP business models can sustainably support this growth without compromising fund quality. As one North American endowment noted, "*The GP may be managing an active portfolio outside of the CV or might have raised a new fund. The GP's time and attention must now also be diverted to the CV, even though LPs partnered with them to focus on their fund-related endeavors.*"

4.3.4 Behavioral

The relationship between GPs and LPs emerged as a key factor influencing LPs' decisions to invest in CVs. A North American pension fund captured this view by stating, "*We only roll if it's a GP that we really like and have had a long relationship with*." This was also shared by several FOs, who emphasized that trust, built over many years, was crucial when evaluating CV opportunities. As one FO noted, "*GPs we have partnered with since as early as 2010 are unlikely to jeopardize that relationship.*" However, one endowment also mentioned that if a CV is established late in the fund, the PE firm's investment team has probably been replaced during the fund life. The relationship is therefore not between the same people, and LPs are not buying out the same staff that they initially invested in.

In addition, a European pension fund described how the creation of a CV can feel from the LP side, "*It breaks the magic. It feels like old investors are paying for the party*." Another added, "*There was a hope that new LPs would sign into the new fund, and the old LPs felt like they were the past, even though we still had a lot of capital in the old fund.*" While pension funds understood the commercial logic of bringing in new capital, several expressed concern that longstanding LPs were being sidelined. In addition, some pension funds stated that if they were already planning to reduce or end their relationship with a GP, they were less likely to participate in a CV, even if the asset itself appeared attractive.

Open communication and early involvement in strategic discussions emerged as important factors shaping LP perceptions of CVs. FOs expressed appreciation when GPs consulted them early in the decision-making process, viewing it as a sign of genuine partnership. Conversely, late-stage engagement or perceived withholding of information was seen negatively. As one FO explained, "*Being consulted early makes a difference, it shows they treat us like real partners.*"

When the relationship between the GP and LPs was marked by early transparency and mutual respect, endowments were more inclined to support CV structures. One endowment described a positive experience, stating, "*They had told us from day one that this was the plan and therefore we were more willing to roll over because they had built trust by communicating this very early*."

Several insurance companies emphasized the importance of working with capable and experienced managers. One insurer stated, "*We're not company investors. We rely on the GP to be the right owner.*" Another remarked, "*We look at whether the GP has done their job, and whether this is in their sweet spot.*" It was also noted that familiarity with the team and their sector focus reduced concerns about the complexity of CV structures. As one North American endowment explained, "*Trust is a very important thing. We are giving up control over a part of the assets, and GPs, in turn, give up control to management. Trust is an input into the consideration for an LP.*"

Decisions to roll over were often influenced as much by perceptions of GP behavior over time as by the underlying asset quality. Several FoFs emphasized that their evaluation of a CV opportunity was

closely tied to their broader assessment of the GP's judgment and strategic discipline. FOs were more inclined to support CVs when they had long-term exposure to the companies and confidence in their management teams.

4.3.5 Institutional Constraints

In the interviews, pension funds expressed that even if a CV offered an attractive investment case, many of them were obligated to prioritize expected cash flows to meet payout needs, manage portfolio rebalancing or comply with solvency regulations. As one European pension fund explained, "*In most transactions, we have chosen to cash out in order to gain liquidity,*" adding that, "*When the GP launches a CV, the first thing we check in the prospectus is whether we need the money or not.*" Capital planning on the portfolio level often took precedence over asset-specific considerations, with pension funds seeking to maintain liquidity buffers for broader strategic flexibility.

These constraints were shared by insurance companies as well. Additionally, program maturity and historical exposure created further constraints. One insurer with a mature, cashflow-positive platform noted, "*If you started building your program in 2018 or 2019, you are now locked into a lot of assets*." Legacy commitments and prior investment cycles influenced the degree of flexibility institutions had in supporting new CVs. Our interviews reveal that FoFs faced similar constraints. As one North American based FoF explained, "*Even if it is a good investment, it can still make sense to sell. Investors expect their investment back. Sometimes, the need for liquidity trumps a good investment thesis.*"

FOs and endowments also emphasized the importance of preserving liquidity, but compared to the other LP types, it was not for cash flows planning they needed it. Rather, they saw it as important to be able to have cash for when an investment opportunity or crisis arises. For example, one FO stated, "*We need to stay flexible with cash in case a market event like Covid happens.*" However, overall FOs faced fewer liquidity constraints, enabling them to participate more freely in CV opportunities.

Furthermore, the interviews with FoFs showed that they were restricted by their underlying investors who had predefined liquidity expectations as their fund matured. Several FoFs explained that fund duration imposed natural limitations on flexibility, and as one European noted, "*We are already eight years into our FoFs' time and participating further may not align with our primary fund strategy*." Extending holding periods beyond original timelines often created challenges for planning and meeting distribution expectations. Mandate fit was also another important consideration that could constrain FoFs roll over decision. Some respondents indicated that the size and maturity of assets within CVs are sometimes misaligned with their original fund mandates and sometimes outside of the FoFs' investment guidelines. As one European FoF explained, "*We might not want to pursue too big companies due to the size, and that it does not fit our fund guidelines.*"

Several endowments emphasized that CV decisions were driven more by broader strategic considerations than by hard limitations. As one North American endowment explained, "*Our decision to roll or cash out is more linked to how we see the opportunity and broader portfolio considerations. We have quite a flexible allocation target*."

Operational burdens were also a consideration. Several pension funds explained that CV transactions often require the same level of due diligence as a new fund investment but need to be completed within a much shorter timeline. One pension fund noted that these processes often demand full underwriting within 20 to 30 business days, which creates challenges for internal teams accustomed to months of due diligence. While some pension funds reported having sufficient internal resources to manage the workload, others described the compressed timelines as a barrier that, in some cases, contributed to decisions to decline by default, even when asset quality appeared strong. Insurance companies also underscored the need for sufficient time for internal evaluation and decision-making. One respondent emphasized a strong preference for well-structured timelines over compressed processes that could pressure internal governance frameworks.

Endowments on the other hand, expressed that they did not have these concerns and had the expertise to underwrite single-asset structures, noting, "*We have the resources to evaluate the investment proposals. We do a lot of co-investing, so we do not have a problem underwriting a single asset.*" This view was consistent with what several FOs described. They noted that they were able to underwrite CV opportunities efficiently, as they had experience evaluating co-investments. In addition, they highlighted that transaction size and complexity influenced how they prioritized opportunities. One FO explained that a common concern with CVs is the small ticket size offered at roll over. This often does not align with their mandate, and the operational burden involved may not be justified for such a small investment. As a result, they may choose to cash out, even if the financial opportunity appeared attractive.

5. Quantitative Analysis

After gathering insights from interviews with LPs, we aimed to translate our findings into a quantitative model. To gain insights into the motivations and structuring from the GPs' point of view, we collected a proprietary sample of CV transactions. Using this input, the goal was to construct a realistic, while stylized, representation of a fictitious PE fund establishing a CV, and to analyze its behavior under uncertainty using Monte Carlo simulation.

First, the data collection is described, followed by an outline of the descriptive statistics. Second, the simulation model is presented, divided into two chapters: the first covering what will be referred to throughout as the LP perspective, and the second focusing on the GP perspective.

5.1 Descriptive Statistics

This chapter presents descriptive statistics based on a proprietary dataset of CV transactions, collected through interviews with GPs. We first outline the data collection process, including the identification of GPs and structuring of the dataset, and then summarize key variables and explore relationships among them.

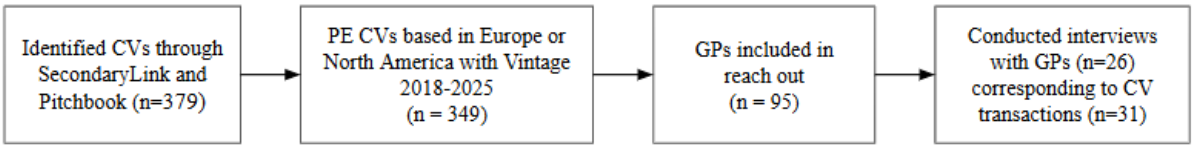
5.1.1 Descriptive Statistics: Data Collection

Due to the limited availability of public data on CV transactions in existing databases, it was necessary to contact GPs directly to obtain the required information. In the databases available to us, such as PitchBook and SecondaryLink, CVs are not distinctly categorized from other PE funds. While many CVs include terms like "continuation fund" in their names, this is not consistently the case. We therefore used the SecondaryLink platform to identify GPs to contact, as it provided insights into deal announcements and the key personnel involved in CV transactions. These individuals were subsequently contacted via LinkedIn or email to schedule an interview of approximately 20-30 minutes, or alternatively, to receive the questions directly by email. See the GP interview guide in Appendix 2.

While we did not find comprehensive data on the total number of CVs established during this period, we identified 379 such transactions, of which 349 met our criteria of being North America or Europe-based buyout funds with 2018–2025 vintages. The purpose of this limitation was to reflect the rise of CVs during this period, and to capture the shift towards high performing assets in these transactions. In total, 95 GPs were contacted, of which 26 agreed to participate in interviews. This resulted in successfully collecting data for 31 transactions. Among those who responded to our initial outreach, most were willing to participate. However, some who initially agreed later failed to respond. A few declined due to time constraints or organizational legal restrictions, but the majority of those unwilling to participate simply did not reply to our messages.

As many of the data points collected in the interviews are non-public, there are limitations on how they can be validated. Therefore, we asked industry professionals to review the data at an aggregated level and consulted secondary sources to assess plausibility and realism (Downward and Mearman, 2007). Interviewees were assured that all data would be anonymized and shown only at an aggregated level.

Figure 5. Sample Selection Process for GP Interviews



Notes. This figure illustrates the sample selection process used to identify relevant CV transactions and conduct interviews with GPs. CVs were first identified through PitchBook and SecondaryLink, filtered by geography and vintage, and narrowed down to 95 GPs contacted for interviews. In total, 26 GPs provided responses covering 31 CV transactions.

5.1.2 Descriptive Statistics: Methodology

The interviews were systematically structured and coded to enable quantitative analysis. The dataset includes an overview of fund characteristics, such as motivation behind the transaction, LP roll over rate, and the number of business days the LP had to make a decision. See all variable definitions in Appendix 5. Descriptive statistics, including means, medians, and standard deviations, were presented to summarize central tendencies and variability. Correlations were used to identify potential relationships between the LP roll over rate and the other variables.

5.1.3 Descriptive Statistics: Results

5.1.3.1 Overall Sample

As displayed in Table 1, our dataset of 31 CVs spanned vintages 2018–2025, with an average roll over rate of 25.4% and a median of 18.0%. Other variables collected, though not shown in Table 1, included the default option in the transactions and whether the GP rolled over carried interest. All funds in the dataset had cash-out as its default option and a clear majority, approximately 90%, of GPs rolled 100% of carried interest into the CV.

Additionally, we collected information on the rationale for setting up the CV for each transaction. As shown in Appendix 6, the most stated rationale was to continue holding attractive assets, mentioned in 49% of the transactions. The motivations to offer liquidity and to raise more capital to grow assets were each cited in 19% of the transactions, while the maturity of the legacy fund was mentioned in 13% of transactions.

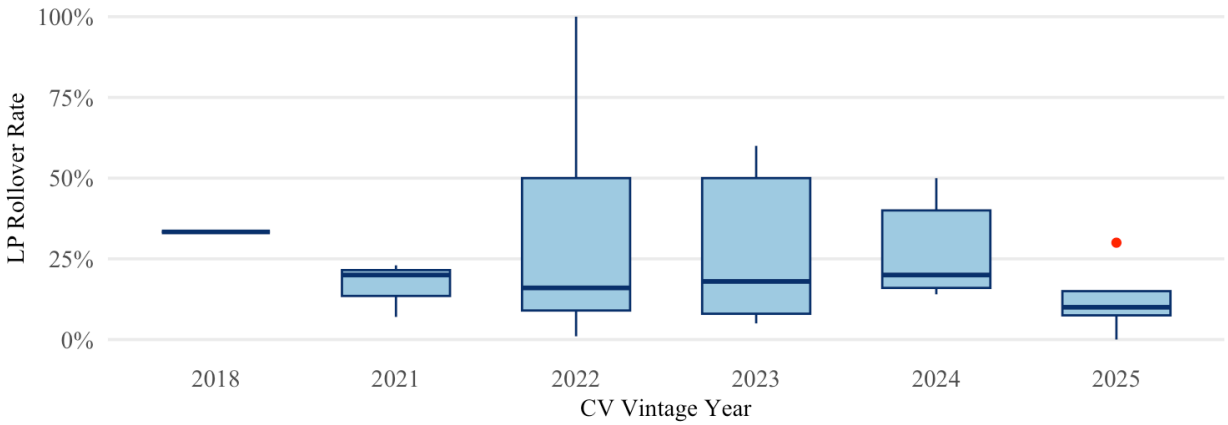
Table 1. Summary Statistics

Variable	N	Mean	Median	Min	Max	Std. Dev.
LP Roll Over Rate (%)	29	25.39	18.00	0.00	100.00	22.36
CV Holding Period (years)	27	4.44	5.00	3.00	6.00	0.89
Legacy MOIC (x)	26	4.15	3.00	1.90	14.00	2.73
Fund Maturity at CV Establishment (years)	31	7.42	7.00	3.00	17.00	3.26
CV Fund Size (USD m)	26	635	445	59	3083	712
CV Vintage Year	31	2023	2023	2018	2025	1.5
Decision Period Length (days)	27	22.59	20.00	15.00	40.00	6.10

Notes. The table shows an overview of seven of the variables in our sample of CV transactions. All variables in the dataset are defined in Appendix 5. For each variable the number of observations, mean, median, minimum, maximum, and standard deviation among the 31 transactions in the sample is displayed.

We also wanted to have a closer look at the distribution of LP roll over rates by CV vintage year, as shown in Figure 6. While some variation existed across years, there was no clear trend over time. The median roll over rate appeared relatively stable, typically between 15% and 30%, although the interquartile range (IQR) varied. Years such as 2022 and 2023 showed a wider distribution. Notably, approximately 55% of the transactions in the dataset were made in 2023 and 2024, as shown in Appendix 8.

Figure 6. LP Roll Over Rate by Vintage Year



Notes. The figure presents LP roll over rates across the CVs vintage years. Each box plot represents the middle 50% of the data with the median indicated by a horizontal line, and outliers are shown as individual points. Of the 31 transactions, 29 included observations on LP roll over rates.

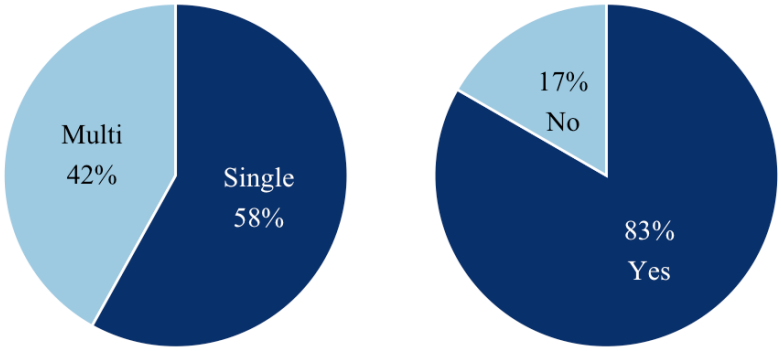
Figure 7. Distribution of CV Transactions by Fund Size



Notes. The figure shows the distribution of CV fund sizes in the sample, measured in millions of USD. Of the 31 transactions, 26 included data on CV fund size.

The CV fund size also varied among the transactions, as displayed in Figure 7. Most CVs in the sample fell within the USD 100 million to 1 billion range, while a smaller number were either below USD 100 million or large-scale transactions above USD 1 billion.

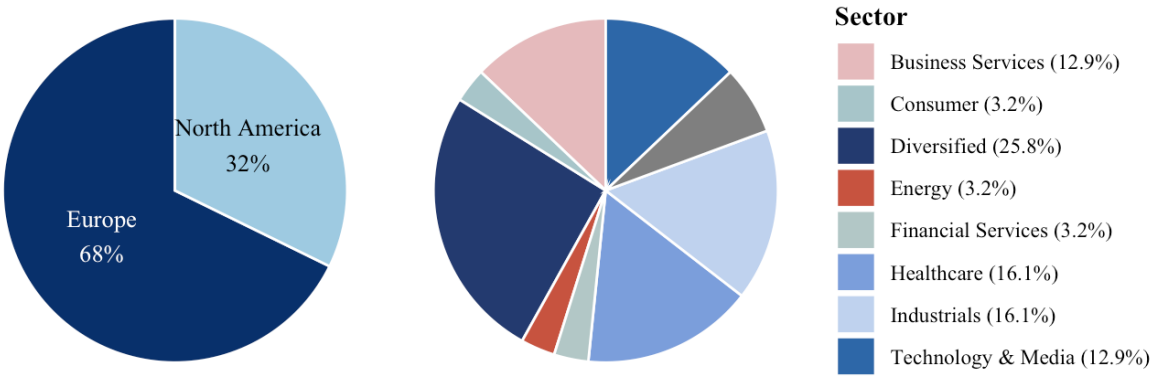
Figure 8. Distribution of CVs by CV Type and Presence of Fairness Opinion



Notes. The left pie chart shows the distribution of CVs in the dataset based on type, indicating whether each was a single-asset or multi-asset transaction. The pie chart to the right displays whether the transaction included a fairness opinion or not. Of the 31 transactions, all included data on CV type, while 30 included information on the presence of a fairness opinion.

As ILPA (2023) guidelines highlight the importance of a fairness opinion in the CV process, we asked GPs whether they had a formal fairness opinion in place at the time of the transaction. As shown in Figure 8, 83% of the transactions did, whereas 17% did not. Furthermore, building on insights from our LP interviews, which revealed different views of single and multi-asset CVs, this was examined as well. In our sample, 58% of CVs were single-asset transactions, while 42% were multi-asset.

Figure 9. GP Geography and Sector Classification of CV Assets



Notes. The left pie chart shows the main geography of the GPs managing the CVs in the sample. The right chart presents a classification of the underlying assets in the CVs by sector. All 31 transactions included data on GP geography and sector classification. The category "Diversified" refers to CVs whose underlying assets span multiple sectors.

Of the CVs included in the dataset, 68% were managed by Europe-based GPs, while 32% were led by North American firms, as displayed in Figure 9. The underlying assets spanned a broad range of sectors, with Industrials and Healthcare appearing most frequently. Notably, approximately 26% of the CVs contained assets from different sectors.

5.1.3.2 Correlation Insights

We furthermore explored potential correlations between the LP roll over rate and other continuous variables in the dataset, shown in Table 2. Among the predictors, only the CV holding period demonstrated a statistically significant relationship with the LP roll over rate, suggesting that a shorter expected holding period for the CVs may be associated with higher LP participation. Other variables, such as MOIC at exit, fund size, and decision period length, did not exhibit significant correlations with roll over rates.

Table 2. Pearson Correlations Between LP Roll over Rate and Key Continuous Variables

Variable	N	r	P-value	95% CI
Fund Maturity at CV Establishment (years)	29	0.219	0.253	[-0.160, 0.542]
CV Holding Period (years)	26	-0.416	0.035**	[-0.692, -0.034]
Legacy MOIC (x)	25	-0.010	0.961	[-0.404, 0.386]
CV Fund Size (USD m)	24	-0.038	0.860	[-0.435, 0.371]
Decision Period Length (days)	26	-0.055	0.796	[-0.432, 0.341]

Notes. The table reports Pearson correlation coefficients (r), p-values, and 95% confidence intervals (CIs) for the relationship between LP roll over rate and five continuous variables: fund maturity at CV establishment, CV holding period, legacy MOIC at exit, CV fund size, and decision period length. All variables are defined in Appendix 5. Correlations were computed using pairwise deletion of missing values. Confidence intervals were calculated via Fisher Z-transformation. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

Table 3. LP Roll Over Rate by CV type

CV Type	Mean	Std. Dev.	N	P-value
Multi-asset	20.87%	14.38%	13	0.308
Single-asset	29.06%	27.13%	16	0.308

Notes. This table reports the results of an independent samples t-test comparing LP roll over rates between single-asset and multi-asset CVs, where multi-asset is defined as the CV including more than one asset. The test assesses whether the difference in means is statistically significant. LP roll over rates are expressed as percentages. Standard deviations are reported, and significance is based on a two-tailed test with equal variances assumed. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

We further examined whether LP roll over rates differed systematically across key categorical characteristics of CVs, namely CV type and the presence of a fairness opinion. To test for group-level differences, we conducted independent samples t-tests, with summary statistics and results reported in Tables 3 and 4. Single-asset CVs showed a higher average LP roll over rate (29.1%) than multi-asset CVs (20.9%). However, this difference was not statistically significant, suggesting that CV type does not explain substantial variation in roll over rates in this sample.

Table 4. LP Roll Over Rate by Fairness Opinion

Fairness Opinion	Mean	Std. Dev.	N	P-value
No	20.60%	22.39%	5	0.619
Yes	26.39%	22.71%	24	0.619

Notes. This table presents the results of an independent samples *t*-test comparing LP roll over rates between CV transactions with and without a fairness opinion. The test assesses whether the difference in means is statistically significant. Mean and standard deviation are reported as percentages. The test assumes equal variances and is two-tailed. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Similarly, CVs with a fairness opinion exhibited a slightly higher average roll over rate (26.4%) compared to those without (20.6%). However, the difference was not statistically significant, suggesting no meaningful association between fairness opinions and LP roll over behavior in this sample.

Given the relatively small sample size and the presence of outliers, all results presented in this section should be interpreted with caution.

5.2 The Simulation Model

Building on empirical patterns observed in the GP interviews and LP insights on evaluating risk-adjusted returns and alignment of interests, a Monte Carlo simulation model was developed. We chose a simulation-based methodology due to the lack of comprehensive long-term data, making an empirical analysis alone unfeasible. The use of stylized scenarios, informed by market practice and anchored with industry professionals, allows for a systematic exploration of possible outcomes in a context where real-world data is still limited. While future studies may benefit from broader datasets as the market matures, this approach offers a framework for examining the economic implications of CV strategies under controlled, comparable conditions. For a comprehensive introduction to the Monte Carlo method, we refer the reader to Glasserman (2003).

The model consists of two components:

1) **The LP perspective** assesses whether LPs benefit more from rolling over into a CV or cash out, based on their discount rate. Four scenarios, differing in asset concentration and timing, are used to explore heterogeneity in outcomes across investors' liquidity preferences.
2) **The GP perspective** investigates GP incentives under different asset-pricing assumptions at roll over. By simulating both rolling over assets into a CV at their true value, as well as under two different signaling regimes, we can examine the GP benefit from mispricing assets when rolling them into CVs.

5.2.1 The Simulation Model: Methodology

5.2.1.1 The LP Perspective

This subsection provides a step-by-step overview of how the LP perspective component of the simulation model was constructed.

Step 1: Definition of Fund Terms and LP Discount Rates

The Legacy Fund Structure

The simulation was based on a stylized PE fund that mirrors typical fund terms observed in the industry. The fund's life was set at 12 years, reflecting the common extension of the typical 10-year fund life (Nadauld et al., 2019). It included an investment period of up to five years, during which a flat 2% annual management fee was charged on committed capital. From year six onward, fees stepped down by 10 basis points per year and were applied to remaining invested capital (Metrick and Yasuda, 2010). The fund invested in three assets, representing a simplified but illustrative portfolio. Capital was deployed evenly over the first three years, with one asset added to the portfolio each year. The total capital available for investment was calculated as committed capital, set at USD 400 million, net of management fees incurred during the investment period.

The fund used a European-style distribution waterfall, a widely used standard in PE fund agreements (Cambridge Associates, 2024). Returns were allocated between LPs and the GP based on the fund's IRR, as outlined in Table 5.

Table 5. Carried Interest in the Legacy Fund by IRR Tier

Tier	IRR	Compensation
Hurdle	< 8%	LPs receive 100%
Catch-up	8-12%	GP receives 60% and LPs receive 40% of profit
Profit Sharing	> 12%	GP receives 20% and LPs receive 80% of the profit

Notes. This table presents the assumed carried interest structure of the legacy fund in the simulation model, based on a European-style (whole-fund) model. It shows how distributions to the GP and LPs vary by IRR tier.

If the IRR was below 8%, all proceeds were distributed to LPs. Between 8% and 12%, the GP entered a "catch-up" phase and received 60% of incremental profits. Once returns exceeded 12%, the GP received 20% of all further gains. In the simulation, this structure was applied on an interim basis at each asset exit, allowing carry allocation to reflect evolving performance over time.

The Continuation Vehicle Structure

The CV was modeled with a holding period of 3 to 6 years, based on patterns observed in our dataset and used capital equal to the exit value of the rolled over assets, plus fees. Each asset's share of the CV's value corresponded to the value at which it was transferred. The model assumed no additional capital commitments were available for future drawdowns. Management fees in the CV were set at 1% per year, charged on invested capital. Following ILPA recommendations and in line with our dataset, 100% of the GP's proceeds were assumed to be rolled into the CV (ILPA, 2023).

The CV applied a ratcheted carried interest structure based on fund-level IRR thresholds of 10%, 15% and 20% (Table 6). This structure was based on market practice. According to Paul Hastings (2022), 74% of CVs use ratcheted carry mechanics, and most implement 100% GP catch-up at each level. While some carry structures combine IRR and MOIC hurdles, this simulation uses IRR only for simplicity.

Table 6. Carried Interest in the CV by IRR Tier

Tier	IRR	Compensation
Hurdle	≤ 10%	LPs receive 100%
Catch-up	10%-15%	GP receives 100% of profit until 10% carry is reached
Profit Sharing	15%-20%	GP receives 100% of profit until 15% carry is reached
High Watermark Sharing	> 20%	GP receives 20% carry, LPs receive 80%

Notes. This table presents the assumed carried interest structure of the CV, based on a European-style (whole-fund) model. It shows how GP and LP compensation varies across IRR tiers, including a 100% GP catch-up at each level prior to profit sharing.

These tiers were designed to progressively allocate more profits to the GP as fund performance improved. At or below a 10% IRR, all proceeds were distributed to LPs. Once this hurdle was cleared, the GP entered the catch-up tiers, receiving 100% of profits until reaching 10% and then 15% carried interest. If IRR exceeded 20%, the final tier applied, where the GP earned 20% of additional returns and LPs received 80%. This structure allowed the GP to catch up fully before profit sharing resumes. In the simulation, IRRs were updated at each asset realization. The applicable tier was determined by the IRR achieved up to that point and proceeds were split accordingly between LPs and the GP.

Step 2: Scenario Assumptions and Variable Modeling

The Four Scenarios

The simulation was based on four predefined scenarios in which a PE fund established a CV. In each scenario, the legacy fund and CV followed the structures described earlier. The scenarios differed based on

two factors: the stage in the legacy fund's life when assets were transferred to the CV and whether one or multiple assets were rolled over. The CV strategies used in the simulation are summarized in Table 7.

Table 7. Scenarios for the LP Perspective

Scenario	Description
Early CV Single	1 asset was rolled in what is considered an early stage of the legacy's fund life.
Early CV Multi	>1 of the three assets were rolled in an earlier stage of the legacy's fund life.
Late CV Single	1 asset was rolled in what is considered a late stage of the legacy's fund life.
Late CV Multi	>1 of the three assets were rolled in a later stage of the legacy's fund life.

Notes. This table illustrates the four scenarios outlined for the LP perspective part of the simulation model. The scenarios vary by the fund maturity of the legacy fund at which the asset(s) are rolled over, and the number of assets that were rolled into a CV.

These scenarios were developed in consultation with industry professionals to ensure practical relevance. To support meaningful comparisons across scenarios, the model was intentionally designed without simulated variables in the legacy fund.

Assumptions for the Legacy MOIC and Exit Timing

Each scenario included two key pre-defined assumptions: (1) the timing of CV establishment and (2) the exit MOIC for the assets rolled over from the legacy fund.

(1) Legacy Exit Timing

The assumed timing of the CV establishment (legacy fund years 4, 5, and 10) was based on fund maturities observed in our dataset, which ranged from 3 to 17 years, with a median of 7, as shown in Table 1. These exit points allowed the model to reflect differences in asset maturity and the timing of CV formation, while remaining grounded in actual market practice.

(2) Legacy Exit MOIC

To determine the mean MOICs for legacy fund exits, we examined realized outcomes from the dataset, segmented by fund maturity and transaction type, presented in Table A7.2. Median values were used to reduce the influence of outliers. The data indicated that single-asset CVs formed later in a fund's life tended to have higher realized MOICs at the time of roll over, reaching up to 5.5x. However, after consulting industry professionals, we concluded that this figure was likely too optimistic to be representative. As a result, we applied a downward adjustment for this scenario to 4.0x. This figure still reflected strong performance relative to the average PE target return of 2.5x (Gompers et al., 2015).

In contrast, the late multi-asset group already showed lower exit MOICs (Table A7.2). Industry feedback supported this, noting that multi-asset CVs created near the end of a fund's life typically achieve lower MOICs. This aligns with market observations, indicating that multi-asset CVs are often used in fund wrap-ups near or after a fund's 10-year maturity to transfer remaining portfolio companies into a new vehicle (Pitchbook, 2024; Houlihan Lokey, 2025). Furthermore, multi-asset CVs are typically priced at a higher discount to NAV than single-asset CVs (Lazard, 2023).

Table 8. Scenario Assumptions for the LP Perspective

Scenario	Exit from Legacy Fund	Number of Rolled Assets	MOIC at Legacy Exit (x)	CV MOIC (Mean, x)	CV MOIC (St.Dev., x)	CV Exit Timing in years (Mean)	CV Exit Timing (St.Dev.)
Early CV Single	Year 4	1	3.5	3.0	0.5	4.3	1.0
Early CV Multi	Year 5	2	3.0	2.7	0.4	4.5	0.8
Late CV Single	Year 10	1	4.0	2.5	0.4	4.3	1.0
Late CV Multi	Year 10	3	2.0	2.6	0.3	5.3	0.5

Notes. This table summarizes the assumptions made for the four scenarios used in the LP perspective part of the simulation model. The variables include in which year of the legacy fund's life the asset(s) were rolled over into the CV, the number of rolled assets, MOIC at exit from the legacy fund and assumptions for mean and standard deviation for CV exit MOIC and timing. All MOIC values are gross of fees.

Simulating the CV MOIC and Exit Timing

The simulation involved modeling two main sources of uncertainty: (1) the exit MOIC and (2) the exit timing of assets within the CV across the four scenarios.

(1) CV Exit MOIC

MOICs were modeled as log-normally distributed, in line with prior research on PE return distributions. Studies such as Cochrane (2005) and Metrick and Yasuda (2010) found that PE returns tend to be positively skewed and exhibit heavy tails, characteristics well captured by the log-normal distribution. In the simulation, MOIC distributions were parameterized using scenario-specific means and standard deviations to reflect variation in expected performance and asset concentration, as shown in Table 8. These parameters were then translated into log-space using the standard transformation in Equation 1:

$$meanlog = \log(mean) - 0.5 \cdot sd^2 \quad (1)$$

Since CV exits had not yet occurred for the transactions in our sample, MOIC assumptions were informed by external benchmarks. PJT Park Hill's (2025) analysis of gross MOICs in CV transactions show

that approximately half of deals closed between 2.0x and 4.0x, with around 30% exceeding 4.0x. In the model, single-asset CVs were assigned higher MOICs (3.0x for early, 2.5x for late) than multi-asset CVs (2.7x for early, 2.6x for late), reflecting the greater upside potential of asset concentration. CVs established later in the legacy fund life were assumed to have lower MOICs due to the potentially reduced value creation potential of more mature assets (Ljungqvist, 2024).

Volatility assumptions followed the same logic. Single-asset and early-stage CVs were assigned higher standard deviations to reflect greater outcome dispersion, while multi-asset and later-stage CVs had lower standard deviations due to some diversification effects and reduced uncertainty assumed to be associated with asset maturity. Given the limited availability of CV return data, we were not able to empirically validate this assumption and instead relied on discussions with industry professionals.

(2) CV Exit Timing

Exit timing was simulated using a truncated normal distribution, with means and standard deviations specific to each scenario. The distribution was limited to between 3 and 6 years, consistent with CV holding periods observed in our dataset. Timing assumptions were based on the expected holding periods for CVs, segmented by legacy fund maturity and asset concentration, as shown in Table A7.1. For the Early CV Multi scenario, both exit timing and MOIC were based on the medium maturity group in Table A7.1. and A7.2, as there were no observations earlier than year 6. No strong patterns were identified within this group, so mean and median values were used to reflect typical outcomes.

Asset Selection Assumptions

Additional assumptions were made about which of the three assets were rolled into the CV in the first three scenarios. These decisions mattered because the distribution waterfall depended on the order and size of exits. In the Early CV Single scenario, the first asset invested in was rolled over. In the Late CV Single scenario, the second asset was rolled over, while the first asset was assumed to have exited in year 6 at a 2.5x MOIC. In the Early CV Multi-Asset scenario, the first two assets invested in were rolled over.

LP Profiles and Discounting

To account for differences in investor preferences and constraints, the simulation tested a range of discount rates from 5% to 25%, in 0.5 percentage point increments. This approach was meant to illustrate how the relative attractiveness of rolling over into a CV varied depending on the LP's liquidity needs and capital cost.

Step 3: Running the Simulations and Assessing the Implications for LPs

For each scenario, the model simulated fund-level cash flows year by year, applying the appropriate waterfall logic to allocate proceeds between LPs and the GP. The simulation tracked LP contributions,

management fees, asset exits, and carried interest allocations over time. Monte Carlo simulations were performed with 5,000 trials per scenario, generating distributions of LP net IRRs and MOICs.

The key decision criterion was whether the NPV of rolling over into the CV exceeded the immediate distribution an LP would receive by opting out. By evaluating NPV outcomes across a range of discount rates, the analysis showed how the attractiveness of roll over decisions varied. The aggregated results made it possible to quantify the percentage of trials in which rolling over outperformed cashing out.

Note that LP IRRs may be overstated, as the model does not account for carry paid by rolling LPs upon exit, prior to rolling into the CV.

5.2.1.2 The GP Perspective

In interviews with LPs, concerns were raised about how well the CV process aligns GP and LP interests, particularly regarding the fairness of asset pricing at the point of roll over. The purpose of this part of the simulation model was to illustrate the economic incentives faced by GPs when structuring CVs. Specifically, it modeled how inflating or deflating asset prices at roll over affects carried interest outcomes, and how such mispricing strategies could influence GP incentives under stylized conditions. While not predictive of actual behavior, the model provided a structured lens to examine potential economic drivers of strategic mispricing.

Step 1: Define the Fund Terms

In the GP analysis, the legacy fund and CV followed the same structure as described in *Step 1* in the LP perspective. All three assets were either exited from the legacy fund or rolled into a CV in year 6.

Step 2: Asset Quality and Signaling Strategies

Each simulation began by assigning the three assets a randomly drawn "true" quality score, also referred to as the true asset value, between 1 and 10. These scores represented the intrinsic, unobservable asset value, known only to the GP. While the "true" asset quality scores were stylized constructs and not directly observable in real-world data, they served to capture how informational asymmetry can create misalignments in value capture between LPs and GPs in CV transactions.

Two pricing strategies were introduced: inflationary and deflationary. In the inflationary pricing regime, each asset's true value was artificially increased, whereas in the deflationary pricing regime, each asset's true value was decreased. Adjustments were randomly drawn between two and four points, depending on the regime. All resulting values were bounded between 1 and 10. Table 9 summarizes the signal adjustment rules.

Table 9. Signal Adjustment Rules for Simulated Asset Pricing Strategies

True Asset Value	Inflation Points (+)	Deflation Points (-)
Low-quality (≤ 3)	2-4	2-4
Mid-quality (4-7)	2-4	2-4
High-quality (≥ 8)	2-4	2-4

Notes. This table outlines the pricing adjustment ranges applied to simulated asset values under both inflationary and deflationary signaling regimes. "True" asset values were randomly assigned between 1 and 10 and categorized into three quality tiers, called low, mid, and high-quality. Depending on the entry regime, each asset's true score was adjusted by 2-4 points (added or subtracted), with values bounded between 1 and 10. These adjustments generated signaled asset values, which were later mapped to indicative MOICs, as shown in Table 10 and 11.

Each adjustment was applied separately to produce signaled asset values. These signaled values were then translated into indicative exit MOICs using a mapping based on true asset quality for the legacy fund assets, as shown in Table 10. This allowed the asset's entry pricing in the CV to reflect GP-controlled signaling, rather than true asset value. As with the LP scenarios, these pricing strategies were developed in consultation with industry professionals to reflect practical relevance and address LP concerns about information asymmetry in CV transactions.

Step 3: Construct the Benchmark: Exit at True Asset Value

In addition to the two signaling strategies, each simulation included a benchmark scenario in which the same assets were rolled into the CV at their true value. Each asset had been mapped to a MOIC based on their true asset quality as outlined in Table 10. This represented a counterfactual scenario in which the GP was compensated solely based on actual asset performance.

Step 4: Model the Uncertain Variables

The simulation modeled three key sources of uncertainty for each asset: (1) the exit MOIC in the legacy fund, (2) the exit MOIC in the CV and (3) the exit timing in the CV.

(1) Legacy Exit MOIC

Legacy funds exit MOICs were simulated using log-normal distributions (see Equation 1). Mean values and standard deviations were assigned based on the asset's true quality bucket, as summarized in Table 10. These parameters reflected outcomes observed in our dataset, as shown in Table A7.2. While assigning MOICs to discrete quality buckets was a simplification, this stylized approach provided a suitable structure for comparing incentive dynamics rather than predicting exact cash flows.

Table 10. Simulated Legacy Fund Exit MOICs by True Asset Value

True Asset Value	Mean	St.Dev.
Low-quality (≤ 3)	1.25	0.15
Mid-quality (4-7)	2.50	0.30
High-quality (≥ 8)	5.00	0.50

Notes. This table summarizes the assumed exit MOICs for the legacy fund in the simulation model (GP perspective), simulated using log-normal distributions. Parameter values (means and standard deviations) were assigned based on each asset's true quality tier.

(2) CV Exit MOIC

Exit MOICs in the CV were also simulated using log-normal distributions (see Equation 1), but with different parameters to reflect the distinct return dynamics in CVs. Parameter values were informed by the same PJT Park Hill's (2025) benchmarking we used in the LP perspective scenario assumptions.

Table 11. Simulated CV Exit MOICs by True Asset Value

True Asset Value	Mean	St.Dev.
Low-quality (≤ 3)	1.20	0.20
Mid-quality (4-7)	2.50	0.30
High-quality (≥ 8)	4.50	0.50

Notes. This table presents the assumed CV exit MOICs used in the simulation model (GP perspective), generated from log-normal distributions. Parameter values (means and standard deviations) were assigned based on each asset's true quality tier.

Higher-quality assets were assumed to deliver both higher expected returns and greater volatility, in line with empirical findings (Cochrane, 2005). It was assumed that assets would be realized at their true economic value upon exit, even if rolled over at a signaled value, reflecting the increased due diligence typically involved in third-party exits.

(3) CV Exit Timing

All assets were assigned a holding period drawn from a truncated normal distribution with a mean of 4 years and a standard deviation of 0.5 years, bounded between 3 and 6 years. These parameters were based on observed CV holding periods in our dataset, shown in Table 1. For comparability, exit timing assumptions were held constant across asset quality levels.

Step 5: Run the Simulation and Compare GP Outcomes Across Signaling Regimes

The model ran 5,000 Monte Carlo trials, simulating GP cash flows under three pricing strategies: rolling into a CV at true value and rolling in at inflated or deflated values. For each trial, GP compensation, including management fees and carried interest, was calculated based on simulated exit outcomes. Simulations were grouped into bins based on the average true asset quality of the rolled portfolio, rounded down, to avoid overstating portfolio quality near bin thresholds. The main outcome metric was the incremental GP benefit from establishing the CV at a signaled value rather than its true value. This difference captured the additional or reduced compensation the GP received under each signaling regime.

5.2.2 Tools Used

The quantitative model was implemented in R using base functions and standard statistical tools. All analysis was conducted in RStudio (version 2024.12.1+563). R was chosen both due to our familiarity with the language and because its available packages were well-suited to the project's objectives.

5.2.3 Results from The Simulation Model

5.2.3.1 LP Perspective: Results

This section presents results from the LP perspective, beginning with the NPV trade-off between rolling over and cashing out. We then assess sensitivity to discount rates and conclude with the distribution of LP IRRs across scenarios, highlighting differences in average returns, dispersion, and downside risk.

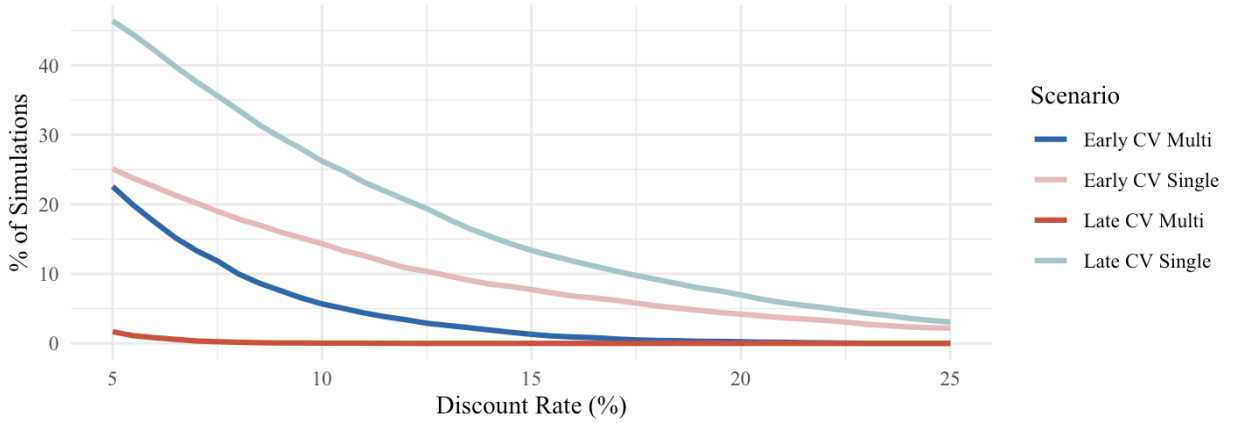
NPV Trade-Off Between Rolling and Cashing Out

Figure 10 shows the percentage of simulation trials where the NPV of rolling over into the CV was higher than the distribution the LP would have received by cashing out. Results are shown across a range of discount rates from 5 to 25% and broken down by scenario.

The Late CV Single scenario consistently produced the highest share of favorable outcomes, with over 40% of simulations indicating a positive NPV when a 5% discount rate was applied. This advantage declined as the discount rate increased, but it remained the most attractive scenario across the range. The Early CV Single and Early CV Multi scenarios showed more moderate potential, with lower but still meaningful upside at lower discount rates. While their appeal also declined with higher discount rates, especially Early CV Single maintained some roll over potential even at very high discount rates. In contrast, the Late CV Multi scenario performed weakest, with only a small percentage (under 10%) of simulations favoring roll over, even at the lowest discount rates, and quickly approaching zero as the discount rate rose.

These patterns reflect underlying differences in the scenarios, such as the number of rolled assets, the legacy MOICs achieved, and the exit MOICs and timing in the CV, illustrating how roll over appeal varies with both scenario structure and the LPs' cost of capital.

Figure 10. Share of Simulations Favoring CV Roll Over Instead of Cash Out



Notes. This figure shows the percentage of simulation trials where the NPV of rolling over into the CV exceeds that of taking the cash-out distribution, across discount rates from 5% to 25%. Results are disaggregated by the scenarios outlined in Table 7. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Sensitivity to Discount Rate

In Table 12 the maximum discount rate at which rolling over into the CV produced a higher NPV than cashing out in at least 10% and 5% of simulation trials is reported. These thresholds provide a simple measure of each scenario's sensitivity to the assumed LP discount rate.

The Late CV Single scenario demonstrated the highest resilience, with at least 10% of simulations favoring roll over up to a 17.0% discount rate, and at least 5% up to 22.0%. The Early CV Single scenario showed moderate robustness, with thresholds of 12.5% and 18.5%, respectively. In contrast, the Early CV Multi scenario reached these thresholds at lower rates (8.0% and 10.5%). The Late CV Multi scenario did not meet either threshold within the 5-25% range, indicating it was the least likely to produce favorable NPV outcomes under higher discount rate assumptions.

Table 12. Discount Rate Thresholds for Positive Roll Over NPV

Scenario	≥10%	≥5%
Early CV Multi	8.00%	10.50%
Early CV Single	12.50%	18.50%
Late CV Multi	-	-
Late CV Single	17.00%	22.00%

Notes. This table reports the maximum discount rate at which rolling over into the CV results in a higher NPV than cashing out in at least 10% and 5% of simulation trials. Results are disaggregated by the scenarios outlined in Table 7. The thresholds reflect the sensitivity of each scenario to the LPs' assumed discount rate. Dashes indicate that no threshold was met within the 5-25% range tested. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

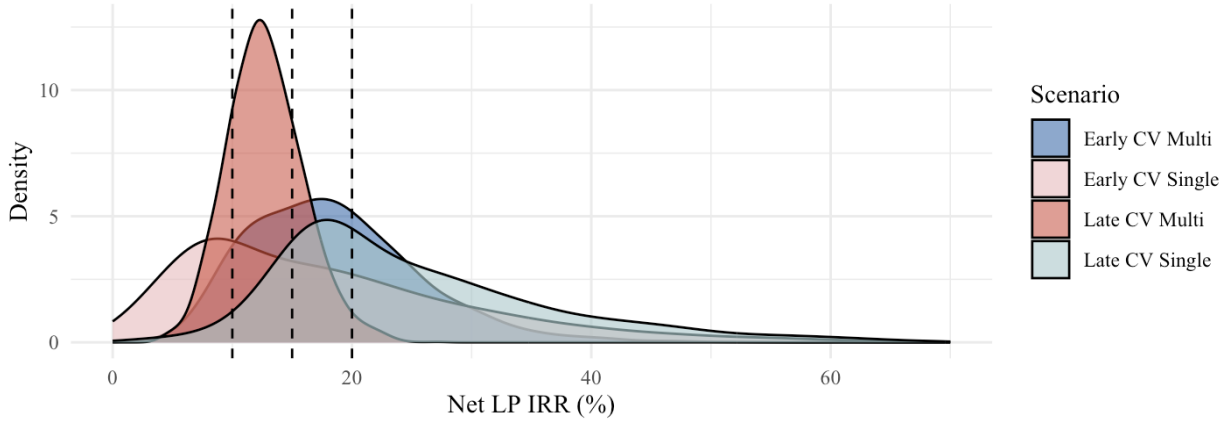
Distribution of Net LP IRRs

The distribution of simulated IRRs to LPs across the four scenarios is displayed in Figure 11. Each curve represents the density of simulation outcomes, capturing both return potential and variability under the given assumptions.

The Late CV Multi scenario produced the most concentrated return profile, with IRRs tightly clustered around 10%. This reflects a combination of lower variation in both MOIC outcomes and timing assumptions, along with more uniform entry valuations. Together, these inputs led to more consistent LP cash flows and reduced dispersion in simulated IRRs. In contrast, the Early CV Multi scenario displayed a broader, more right-skewed distribution, with a small but visible share of simulations generating IRRs above 20%. This suggests greater upside potential, but also increased dispersion.

The single-asset scenarios showed more variability. The Early CV Single scenario had a long left tail, pointing to greater downside risk in some simulations. The Late CV Single scenario was more symmetric and centered around 15%, with moderate spread, offering a balance between return potential and consistency.

Figure 11. Distribution of Simulated Net LP IRRs Across CV Scenarios



Notes. This figure shows the distribution of simulated net IRRs to LPs under the four scenarios in the LP perspective, described in Table 7. Each density curve reflects variation in outcomes across simulations. Vertical dashed lines mark IRR thresholds at 10%, 15%, and 20%, used as reference points. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Tables 13 and 14 present a summary of LP return outcomes from the simulations, capturing both IRR and MOIC performance across the four modeled scenarios. These tables complement the previous distribution chart by providing point estimates of return levels, variability, and downside risk.

Among the scenarios, the Late CV Single stood out with the highest average IRR (25.4%) and MOIC (2.7x), though it still exhibited considerable dispersion (12.2% standard deviation). Despite this volatility, it had the lowest downside risk, with only 3.0% of simulations falling below the 10% IRR threshold. Early CV Multi achieved an average IRR of 18.5% with moderate volatility and limited downside risk (9.8%). In contrast, Early CV Single showed the widest return dispersion, with a standard deviation of 13.2%, and the highest downside risk, with a 34.3% chance of generating an IRR below 10%.

Late CV Multi exhibited the lowest average IRR at 12.8% and the narrowest return range, reflecting more stable but lower-performing outcomes. These results highlight how LP return profiles differ not just in average return, but also in dispersion and downside risk, depending on the CV structure. A sensitivity analysis of key scenario variables for each scenario is included in Appendix 10.

Table 13. Summary of Simulated Net LP IRRs by Scenario (%)

Scenario	Mean IRR	St.Dev.	Min	Max	Prob. of IRR <10%
Early CV Multi	18.46	7.09	-1.81	61.12	9.78
Early CV Single	17.72	13.20	-18.63	88.06	34.32
Late CV Multi	12.80	3.21	4.10	27.32	18.90
Late CV Single	25.40	12.16	-5.00	103.56	2.98

Notes. This table reports the net IRR to LPs across 5,000 Monte Carlo simulations for each scenario. Reported values include the mean, standard deviation, minimum, maximum, and the percentage of simulations where net LP IRR falls below 10%. Results are disaggregated by the scenarios described in Table 7. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Table 14. Summary of Simulated Net LP MOICs by Scenario (x)

Scenario	Mean MOIC	St.Dev.	Min	Max
Early CV Multi	2.18	0.52	0.95	5.37
Early CV Single	2.13	0.97	0.52	10.20
Late CV Multi	1.94	0.28	1.27	3.23
Late CV Single	2.71	0.92	0.85	9.79

Notes. This table summarizes net MOIC outcomes for LPs across the simulations. Values represent the average, standard deviation, minimum, and maximum net MOIC for each scenario, which are described in Table 7. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

5.2.3.2 GP Perspective: Results

This section presents simulation results from the GP's perspective, focusing on how economic outcomes vary with the assets quality, referred to as the true asset value, and entry pricing strategies. We assess total GP benefit, carried interest and the potential for misalignment with weak LP returns across different signaling regimes.

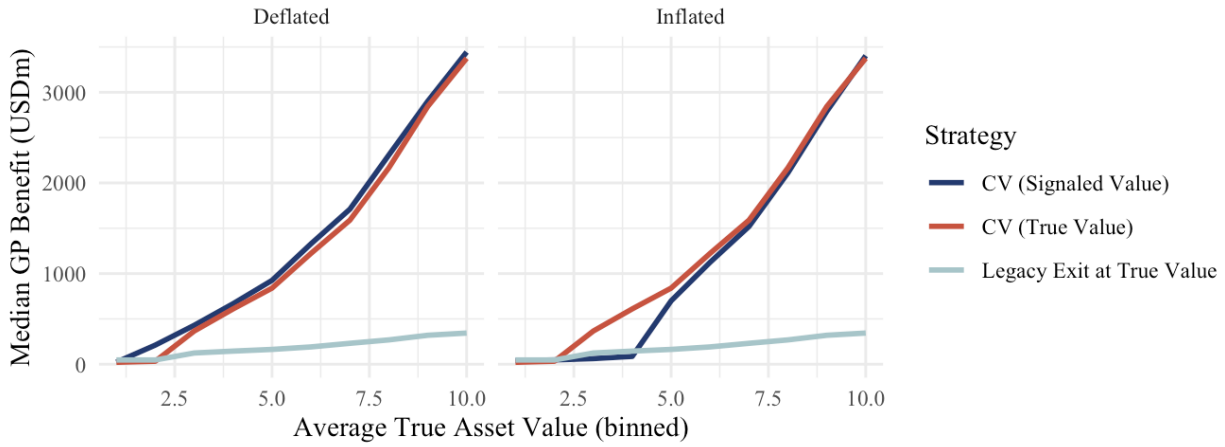
GP Benefit by Signaling Strategy

Figure 12 summarize how the GP benefit varied across signaling regimes and asset quality in our simulations. The analysis compared two core strategies: rolling assets into a CV at true asset value versus a signaled value, under either inflated or deflated regimes. Under both pricing regimes, GP benefit increased with average asset quality. However, the patterns differed. In the deflated scenario (Figure 12, left panel), signaling provided a modest but persistent benefit over entering at true asset value. This advantage was largely driven by slightly enhanced carry potential resulting from the artificially wider entry-to-exit spread. The gain was most notable at low asset quality levels, though it remained moderate overall.

In contrast, under the inflated regime (Figure 12, right panel), true-value entry clearly outperformed signaled entry across low to mid asset quality levels, with a large benefit gap visible up to an average asset value of around 7. Signaled entry only caught up at the very high end of the quality range, reflecting how inflated entry values compressed the value creation window, limited carry generation, and reduced the economic upside for GPs at lower quality levels.

Figure 13 breaks this down further by showing the incremental benefit of signaling over true-value entry, split into carry and fee components. For low-quality assets under the inflated regime, the advantage from signaling came primarily from a larger fee base, even as carry realization remained limited.

Figure 12. Median GP Benefit by Strategy Across Asset Value Levels



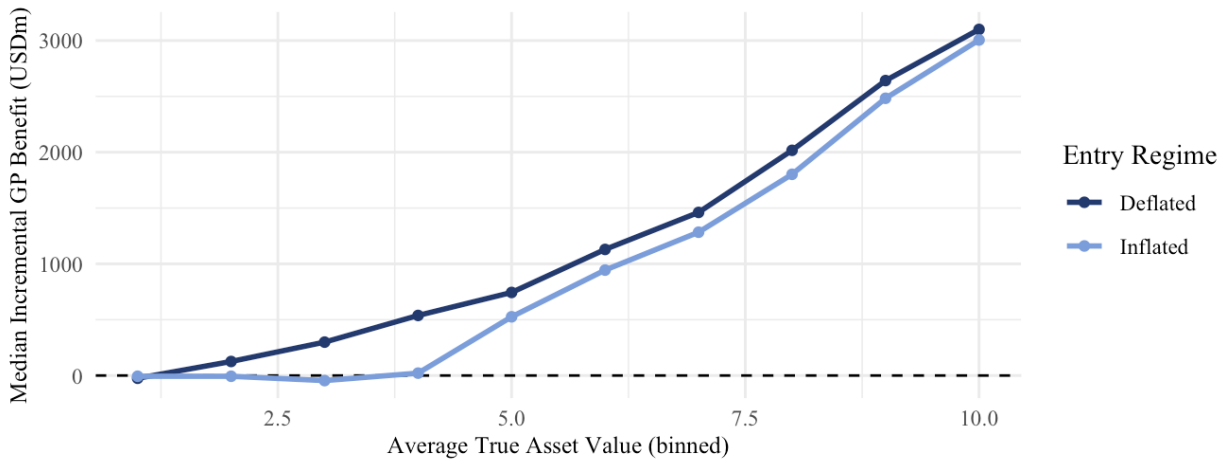
Notes. This figure reports the median economic benefit to the GP, in USD millions, under three exit strategies: (i) establishing a CV using a signaled value, (ii) a CV using true asset value, and (iii) exit at true asset value from the legacy fund. GP benefit is defined as carried interest plus management fees and is shown across binned average true asset values. The left panel presents results under deflated signaling; the right panel under inflated signaling. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Figure 13. Median Incremental GP Benefit from Signaled versus True Value CV Entry



Notes. This figure shows the median incremental GP benefit, in USD millions, of establishing a CV under respective signaling regimes, deflated and inflated, compared to the benefit for the GP of rolling assets into a CV at the assets' true value. Each point shows the median of per-simulation differences between GP outcomes. GP benefit is defined as carried interest plus management fees, with both components shown separately in this graph across binned average true asset values. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Figure 14. Median Incremental GP Benefit from Signaled CV Entry versus True Value Legacy Exit



Notes. This figure shows the median incremental economic benefit to the GP, in USD millions, from using a CV at signaled value rather than pursuing a legacy exit at true asset value. Results are shown separately for deflated and inflated signaling regimes across binned average true asset value. GP benefit is defined as carried interest plus management fees. Each point reflects the median of per-simulation differences in GP outcomes, calculated across 5,000 Monte Carlo simulations. While individual simulation values may vary due to randomness, the overall patterns and strategic comparisons are robust.

For reference, outcomes from existing assets at their true value within the legacy fund are also included in Figure 12. While not representative of a realistic exit scenario, since it, for example assumes that all three assets were sold in the same year, it serves as a helpful benchmark for comparison. The incremental benefit of creating a CV, compared to selling assets at their true value from the legacy fund, is shown in Figure 14. Across both signaling regimes, CVs tended to generate higher GP benefits than legacy exits, with the incremental benefit increasing with average asset quality. At lower quality levels, however, entering the CV at an inflated value provided little or no benefit to the GP and could even result in worse outcomes than a direct sale. In contrast, deflated entry valuations consistently improved GP outcomes across all quality levels.

GP Carry Outcomes

Figure 15 shows how carried interest varied by strategy and asset quality. CVs clearly generated more carry than legacy exits across all asset quality levels. The deflated entry strategy delivered the highest carry, benefiting from a lower entry basis. For lower- to mid-quality portfolios, entering at an inflated value resulted in significantly lower carried interest compared to entry at true or deflated value. However, this difference shrank as asset quality improved. These results highlight that carried interest outcomes were highly sensitive to both entry pricing and asset quality.

Figure 15. Carried Interest Distributed to the GP for Each Strategy



Notes. This figure illustrates carried interest distributed to the GP for three exit strategies: (i) establishing a CV using signaled value, (ii) a CV using true asset value, and (iii) a legacy exit at true asset value. Results are reported separately for deflated and inflated signaling regimes, across bins of average true asset value. Results are based on 5,000 Monte Carlo simulations. While specific values may vary slightly due to simulation randomness, the overall trends and strategic comparisons are robust.

Potential Misalignment

To complement the analysis above, we examined how often GPs achieved economic gains in simulations where LP IRRs fell below 10%, providing a simplified illustration of potential misalignment between LPs and GPs under the different pricing strategies and asset quality. The full results are shown in Appendix 12. We used two definitions: one included both fees and carried interest, while the other focused only on carry.

For example, at a true portfolio value of 4, 11.7% of simulations under inflated entry pricing showed that the GP earned a benefit while the LP received less than a 10% IRR. At a portfolio value of 5, this occurred in 4.7% of simulations. These results suggest that fee structures can continue to generate GP benefits even when LP returns are relatively weak. When looking only at carry in Table A12.2, the frequency of misalignment was much lower. The highest rate was 17.4% at an asset value of 3 under the true value strategy, and it fell steadily as asset quality increased. Inflated entry pricing showed the lowest levels of carry-based misalignment across most asset values, but the highest overall when looking at total GP benefit, as shown in Table A12.1.

These results show that GP and LP outcomes could differ across the three pricing strategies under uncertainty, but they should not be interpreted as evidence that GPs are deliberately choosing strategies to benefit at the expense of LPs in practice. In some cases within our model, carry may have been earned just above the hurdle, which could reflect random outcomes rather than intentional pricing decisions.

6. Discussion

This section presents a structured interpretation of LP behavior in CV transactions, applying the theoretical insights presented in the conceptual framework developed in Chapter 3.

6.1 Financial

A recurring theme that emerged from the interviews was skepticism about the return potential of assets rolled into CVs. Several LPs highlighted that these assets tend to have lower risk and that a large part of the value created by the GP has already been done, which would limit the potential upside. When compared to a new fund commitment or co-investment opportunities, CVs could be viewed as less attractive. This perspective may help explain the behavior observed in our dataset, where the median LP roll over rate was just 18%, indicating that the majority of LPs chose to cash out. This view stands in contrast to the existing research on CV returns, which finds that these are in line with buyout fund returns (Gottschalg, 2023). Several FOs on the other hand, described viewing CVs as offering some of the most attractive risk-adjusted returns in the current market. Moreover, pension funds and insurers used internal return thresholds, typically around a 2-3x MOIC, as a trigger for exiting investments. Rather than rolling over into a CV, these LPs often prefer to realize those returns and reallocate capital to new investment opportunities.

Furthermore, our simulation model illustrated that the return from rolling over into the CV was highly sensitive to the discount rate. When the discount rate approached 20%, fewer than 10% of simulations found rolling over to be more financially valuable than cashing out across all scenarios. This aligns with Franzoni et al. (2012), who estimate a total annual risk premium for PE of approximately 18%, excluding the risk-free rate and calculated on a gross fee basis. However, this figure is not directly comparable to the net-of-fee LP returns presented in our simulation. These simulations could imply that, after adjusting for risk and illiquidity premiums, some CVs could offer returns that fall below the thresholds typically expected by LPs. However, it is important to note that the model is built on stylized assumptions regarding exit values, discount rates, and timing scenarios. As such, they provide directional insights rather than predictive accuracy.

6.2 Governance

Both our qualitative and quantitative studies illustrate potential misalignment between GPs and LPs within CV structure. These findings offer empirical support to prior research on agency frictions and incentive misalignment within the limited partnership structure (Jensen and Meckling, 1976). Interviews conducted with LPs indicate that they perceive GPs as using the structural flexibility of CVs to adjust transaction timing, valuations, and economic terms in ways that primarily serve the GPs' own interests. For example,

LPs criticized CV structures that reset carried interest, seeing it as misaligned with the interests of legacy fund investors.

LPs noted that GPs sometimes initiated CVs in ways that significantly changed the original legacy fund agreement, whether in terms of timing, investor composition, or economic terms. These actions were often seen as deviating from the spirit of the initial commitment. This suggests that traditional governance tools may not be keeping up with changes that come with the CV arrangement, leading to growing misalignment between GPs and LPs. This aligns with Harris (2010) who states that contracts, even when well-designed, may fall short in addressing emerging governance challenges, particularly when new structures, such as CVs, go beyond the scope of original agreements.

Our simulation study further examined the concerns raised by the LP interviewees and existing research on GP-LP misalignment. As Batt and Appelbaum (2021) describe, information asymmetry enables GPs to pursue actions that benefit them, often at the expense of LPs. Our findings extend this concept by illustrating how, under certain assumptions, CVs may create a spread between low entry valuations and higher exit realizations, further increasing the potential for value transfer from LPs to GPs. This aligns with Phalippou's (2009) description that PE compensation structures are intended to mitigate agency frictions and align the interests of GPs and LPs, yet they may instead lead GPs to focus on fee generation rather than maximizing fund performance. Our simulation results illustrated that GPs derived greater economic benefits from rolling their assets into a CVs compared to exiting the assets directly at their intrinsic value, particularly when entry prices were deflated.

In addition, our analysis shows that the GP can receive compensation while LP IRRs remain low, further highlighting the potential misalignment of interests in CVs. This misalignment was more pronounced at lower asset values in our model, especially when observing total GP economics. These results are also consistent with agency theory, which predicts that weak governance and monitoring, coupled with information asymmetry and divergent incentives, lead to increased agency costs and misalignment (Jensen and Meckling, 1976).

6.3 Behavioral

Our findings suggest that the GP-LP relationship is an important factor when LPs evaluate their investment decisions in CVs. Lerner et al. (2007) describe that many LPs appear to outweigh previous relationships, highlighting a relational bias in their allocation of decisions. This is supported by our findings, which show that some LPs only considered participating in CVs with GPs they trusted, had long-standing relationships with, and believed would treat them fairly. Trust in the GP's capabilities was also highlighted as a key factor in their investment decision, consistent with Freiburg and Gricknik (2012), who argue that LPs place trust in GPs either based on their perceived competence or the belief that they will act fairly.

Communication emerged as a particularly important factor influencing LPs' decision-making. Our qualitative findings indicate that LPs were more likely to roll over when GPs demonstrated early transparency and involved them in the process, as this fostered a sense of partnership. This aligns with Freiburg and Gricknik (2012) who state that LPs relationships with GPs reduce uncertainty as this provides them with more information as well as creating trust. This is supported by our findings across several LP types. Respondents emphasized that early and open dialogue improved perceptions of alignment and reduced suspicion about the GP's motivations. When communication was delayed or unclear, LPs interpreted this negatively, often as a sign that the GP was prioritizing its own interests.

To conclude, our findings suggest that behavioral factors affect LPs' investment decisions in CVs by shaping their perception of risk, alignment, and partnership quality. In the CV process, where empirical data may be limited and strategic motives are not always clear, trust built through long-term relationships, consistent communication and feeling prioritized, seem to be acting as a deciding factor. However, this trust is not unconditional. LPs evaluate it in light of both past experience and current behavior, meaning that GPs who fail to manage the relational dimension of CVs risk losing the support of even long-standing investors.

6.4 Institutional Constraints

Results from the study indicate that institutional structure is a central factor in shaping LPs investment decisions in CV opportunities. While prior research has pointed out that LPs vary widely in their mandates and constraints (Lerner et al., 2007; Hobohm, 2008), our interviews with LPs reveal how these differences play out in the context of CV opportunities.

Pension funds and insurance companies described situations where, even if the asset looked compelling, they chose to cash out due to cash flow demands, regulatory obligations, or the need to rebalance portfolios, which align with previous research by Meyer et al. (2013). Liquidity needs often take priority over asset quality, especially when LPs faced solvency requirements or pressure to make payouts.

Interestingly, FoFs interviewees shared similar liquidity sensitivities, but for different reasons. Unlike pension funds or insurers, their constraints were often externally imposed by LPs within their own funds. Duration limits, fee layers, and investment mandates shaped how they approached CVs, supporting earlier research by Meyer (2014).

In contrast, endowments and FOs appeared to have much greater flexibility. Endowments, in particular, described their decision-making as strategic and not constrained. Their internal capabilities and flexible mandates allowed them to evaluate CVs often alongside other investment opportunities, supporting previous findings by Lerner et al. (2007). Our interviews offer a window into why that might be the case. However, endowments seem to be more focused on portfolio considerations and the importance of maintaining liquidity to be ready in case attractive investment opportunities arise.

FOs showed similar operational capacity but revealed a different type of constraint, deal size. Several respondents emphasized that small roll over tickets were not worth the time or fit into their mandates, even when the asset quality was appealing. In this sense, flexibility does not mean that LPs participate in every opportunity. Instead, it enables optionality, where the default may be *not* to invest unless specific conditions are met. These findings suggest that while FOs and endowments appear unconstrained relative to other LP types, their decisions still reflect internal efficiency thresholds and portfolio fit.

7. Conclusions

7.1 Summary of Findings

This thesis sets out to explore the factors that shape LPs' investment decisions in CV transactions. Firstly, we conducted in-depth interviews with a broad set of institutional investors to gain insight into their perspective on these transactions. This study examined financial, governance, behavioral, and institutional factors, and the qualitative findings suggest that LPs' investment decisions in CVs are shaped by a combination of these dimensions. While return estimates and LPs' liquidity needs appear to be the starting point of the evaluation process, other considerations such as GPs' financial incentives, alignment of interest, institutional mandates, and the GP-LP relationship can outweigh attractive investment opportunities. Some LPs reported relying on return thresholds to justify cashing out, while others argued for the limited upside. Notably, respondents among the FOs mentioned CVs as one of the most attractive risk-adjusted return opportunities in the market.

With respect to governance factors, LPs frequently cited limited transparency around processes and valuations, as well as misaligned incentives arising from the resetting of carry, as key reasons for opting to cash out. Where trust was low or the LP had no active relationship with the GP, the LP opted to cash out, even when the transaction appeared financially compelling. LPs emphasized that open communication, early involvement, and perceived alignment were critical factors for their investment decisions. Institutional constraints such as liquidity needs, fund maturity, and internal capacity also varied across LP types and had a significant impact on decision-making.

Subsequently, to complement the qualitative study, we conducted interviews with GPs to get a more comprehensive understanding of how these vehicles are structured and communicated to the LPs. Through the interviews, we constructed a proprietary dataset of 31 CV transactions. The descriptive data revealed wide variation in LP roll over rates, and the only significant relationship observed was between the roll over rate and the expected holding period of the CV. However, it is difficult to draw firm conclusions due to the wide variation in roll over rates and the small sample size. On average, the transactions had an LP roll over rate of approximately 24% and a median of 18%.

Furthermore, we developed a simulation model attempting to reflect both LPs' and GPs' perspectives, drawing on insights from our sample and interviews. The simulation supported several themes identified in the interviews, showing how different CV structures can affect outcomes for LPs. From the GP perspective, the model illustrated how structuring choices, such as rolling over assets at conservative valuations, could enhance their economic upside. In addition, the simulation model showed that GPs could still benefit economically, even when LP returns remained weak, illustrating the potential misalignment of

incentives. This stylized model was designed to highlight the nuanced dynamics raised in the interviews and to illustrate how certain structuring choices might affect perceived fairness and alignment in CV transactions.

To conclude, LPs' decisions to roll or cash out reflect a dynamic combination of financial calculations, governance concerns, behavioral factors, and institutional constraints.

7.2 Limitations

The qualitative analysis had several limitations. One of the main limitations was that interviews were only conducted with one person per company, which could have resulted in the interviews capturing the individuals' opinions rather than the organizations. For example, our interviews could have failed to capture the multi-level decision dynamics or the internal disagreement which could affect how these organizations make their investment decisions. In addition, although the study included interviews from both European and North America, the small sample limits the generalizability of our findings. This is particularly important given the large heterogeneity among institutional investors in terms of mandates, risk appetites, and operational constraints. It is also worth noting that the interviews were based on the participants' recollections of past CV transactions and thus may have been affected by recall bias. For example, negative experiences may have been more memorable and those who chose to participate may have had stronger opinions on the topic. This could have led to an incomplete picture of how institutional investors view CVs and introduced self-selection bias. This may also have contributed to a stronger thematic saturation, and certain viewpoints being underrepresented in our study. Moreover, the study lacks triangulation through additional perspectives. Including insights from other market participants, such as placement agents, financial advisors, and secondary buyers, could have strengthened the interpretation of our qualitative findings.

The quantitative analysis presented in this thesis should be understood in light of several important assumptions and simplifications, as outlined in the methodology and further discussed here. First, the dataset consisted of only 31 observations, with fewer data points available for some variables. This sample size limited the generalizability of the findings and increased the potential influence of outliers or statistical noise. In addition, the dataset was based on CV transactions shared by GPs who agreed to participate in interviews. This introduced potential self-selection bias, as those who chose to engage may have differed systematically from those who did not. For instance, participating GPs may have had more favorable outcomes, greater transparency, or a stronger interest in academic collaboration, which could have resulted in a non-representative sample.

The simulation was based on a stylized model of a PE fund and a CV, which simplified several real-world complexities. For instance, the model did not include transaction costs or other fund-level

expenses beyond the management fee, nor did it account for carry paid by rolling LPs upon asset sale in the legacy fund, all of which may have led to an overestimation of net returns to LPs. While this setup was not representative of typical practice, it was deemed sufficient to illustrate patterns in capital distributions and returns. Moreover, the GP analysis assumed full information asymmetry between GPs and LPs, whereas in practice, the degree of transparency could vary. Decision rules for both parties were modeled as fixed and independent, without strategic interaction or negotiation dynamics. GP pricing was represented through simplified regimes and did not reflect adaptive behavior or reputational concerns. The model also excluded interactions between multiple funds managed by the same GP, and differences in GP characteristics, such as track record or perceived credibility, were not captured either. In addition, macroeconomic factors such as interest rate changes or market-wide volatility were not considered, which limited the model's external validity under real-world conditions.

7.3 Contribution

This thesis contributes to the limited academic literature on CVs by examining how LPs approach the decision to roll over or cash out. To our knowledge, this is the first study to combine interviews with LPs and data from 31 real-world CV transactions. The findings aim to give a broad and detailed view of how these decisions are made in practice and increase transparency around the decision-making environment in CVs. There is also a belief that the thesis provides a more nuanced perspective on roll over decisions, one that considers not only financial factors but also trust in the GP, internal constraints, and the perceived fairness of the process. The findings may be useful to a broad set of readers, whether they hold the perspective of an investor, a GP, or another market participant.

7.4 Future Research

Our results highlight multiple directions for future research. The thesis builds on Kastiel and Nili's (2024) work on the structural and governance risks in CVs, by investigating how LPs evaluate these transactions. As our results suggests that LPs potentially choose to cash out due to the availability of more attractive alternative investment opportunities, it would be interesting for future research to investigate where LPs who opt to cash out typically redeploy their capital. This would provide further understanding of the opportunity costs, and motivations behind LPs decisions. In addition, Gottschalg (2024) is the only study made on CV returns and is largely based on unrealized CV transactions. This means that at the time of this thesis, LPs were largely evaluating these investment decisions without knowledge of how similar transactions had performed in the past. Future research could revisit how LPs assess these transactions once more CVs have reached full or partial exit, and perform modelling based on empirical data rather than simulations.

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9. Appendix

Appendix 1. LP Interview Guide

The following guide outlines the interview questions used during LP interviews regarding CV transactions, along with the purpose behind the question.

Table A1. LP Interview Guide

LP Interview Questions	Purpose with Question
1. Could you briefly describe your experience with CV transactions?	Establish context and gauge the interviewee's familiarity and involvement with CVs.
2. How often are you presented with CV opportunities, and have you rolled over in any transaction?	Understand the frequency of exposure and past behavior regarding CVs.
3. When deciding whether to roll over or cash out, which factors weigh most heavily in your decision?	Identify the primary financial, strategic, or relational factors guiding their decision-making.
4. How would you describe the way GPs typically structure and communicate CV transactions to LPs?	Explore process transparency, and communication effectiveness.
5. Are there internal or external constraints that affect your ability to participate in CV?	Reveal institutional constraints such as mandate fit, regulatory barriers, or liquidity needs.
6. Under what circumstances would you be more inclined to roll over your investment into a CV?	Identify factors that enhance roll over appeal.

Appendix 2. GP Interview Guide

The following guide outlines the interview questions used during GP discussions regarding CV transactions.

Table A2. GP Interview Guide

GP Interview Questions
1. What were the main motivations behind setting up your CV and how was the transaction communicated to the LPs?
2. Did you do a fairness opinion or any third-party evaluation?
3. What was the default option of the transaction?
4. How many days did the LPs have to make a decision?
5. What percentage of LPs chose to roll over their investment?
6. Did you reinvest in the new CV? If yes, how was that commitment structured?
7. What was the MOIC exit multiple?
8. What was the expected holding period for the CV?

Appendix 3. LP Interviewees

This appendix presents an overview of the LPs interviewed for this study, including the type of institutional investor they represent, the location of their firm's headquarters, their position at the firm, the date of the interview, and the duration of the interview sessions.

Table A3. Interviewees (LPs)

Numbering	Investor Type	Geography	Role	Date	Duration
LP 1	Public Pension Fund	Europe	CIO	20/2/2025	30
LP 2	Public Pension Fund	Europe	CIO	12/3/2025	35
LP 3	Public Pension Fund	Europe	CIO	18/3/2025	40
LP 4	Public Pension Fund	North America	CIO	24/2/2025	30
LP 5	Public Pension Fund	North America	Director	16/4/2025	30
LP 6	Public Pension Fund	North America	CIO	14/4/2025	45
LP 7	Private Pension Fund	Europe	Partner	21/2/2025	25
LP 8	Fund of Funds	North America	Partner	3/3/2025	30
LP 9	Fund of Funds	Europe	Director	10/3/2025	25
LP 10	Fund of Funds	Europe	Partner	11/2/2025	35
LP 11	Fund of Funds	Europe	Partner	14/3/2025	25
LP 12	Fund of Funds	Europe	Partner	21/3/2025	30
LP 13	Fund of Funds	North America	Partner	21/3/2025	35
LP 14	Fund of Funds	North America	Partner	26/3/2025	30
LP 15	Insurance	Europe	CIO	26/3/2025	45
LP 16	Insurance	Europe	CIO	20/3/2025	Email
LP 17	Insurance	Europe	CIO	27/3/2025	30
LP 18	Endowment	North America	CIO	21/3/2025	25
LP 19	Endowment	North America	CIO	20/3/2025	Email
LP 20	Endowment	North America	CIO	14/3/2025	45
LP 21	Family Office	Europe	Partner	31/3/2025	30
LP 22	Family Office	Europe	CIO	1/4/2025	40
LP 23	Family Office	Europe	Partner	1/4/2025	30

Appendix 4. GP Interviewees

This appendix presents an overview of the GPs interviewed for this study, including their position at the firm, the number of CV transactions they discussed, the location of their firm's headquarters, the date of the interview, and the duration of the interview sessions.

Table A4. Interviewees (GPs)

Interview Object	Position	Number of Transactions	Geography	Date	Duration
GP 1	Partner	2	Europe	11/2/2025	25
GP 2	Partner	1	Europe	21/2/2025	15
GP 3	Partner	1	North America	24/2/2025	25
GP 4	Partner	1	Europe	25/2/2025	20
GP 5	Partner	1	North America	25/2/2025	25
GP 6	Managing director	1	Europe	27/2/2025	20
GP 7	Partner	1	Europe	03/03/2025	25
GP 8	Investor Relations	1	Europe	04/03/2025	15
GP 9	Partner	1	Europe	04/03/2025	25
GP 10	Managing director	1	Europe	05/03/2025	15
GP 11	Partner	1	Europe	06/03/2025	20
GP 12	Investor relations	1	North America	24/3/2025	30
GP 13	Partner	1	Europe	17/2/2025	Email
GP 14	Partner	1	Europe	24/2/2025	Email
GP 15	Investor relations	1	Europe	4/3/2025	20
GP 16	Partner	1	North America	5/3/2025	25
GP 17	Partner	1	Europe	6/3/2025	20
GP 18	Partner	1	North America	7/10/2025	20
GP 19	Partner	1	Europe	7/10/2025	15
GP 20	Managing director	1	Europe	10/3/2025	20
GP 21	Managing director	2	Europe	11/3/2025	30
GP 22	Partner	3	North America	13/3/2025	30
GP 23	Investor relations	1	Europe	17/3/2025	25
GP 24	Investor relations	1	Europe	20/3/2025	25
GP 25	Investor relations	3	North America	31/3/2025	20
GP 26	Partner	1	North America	7/4/2025	30

Appendix 5. Variables in the Dataset

This appendix defines the variables collected through interviews with GPs, which are used in the descriptive analysis presented.

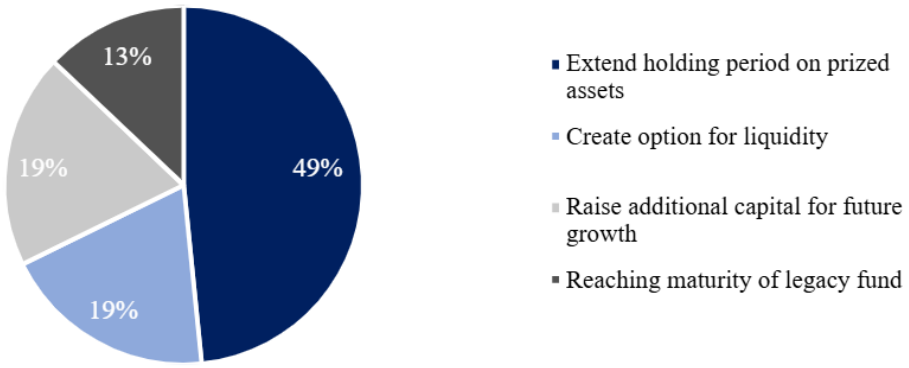
Table A5. Overview of variables collected from interviews with GPs

Variable	Description
Motivation	Primary reason for initiating the CV transaction.
LP Roll Over Rate	Percentage of LPs that decided to roll over into the CV.
CV Vintage	The year in which the CV was established.
Fund Maturity at CV Establishment	Number of years since the legacy fund was closed at the time the CV was established.
CV Fund Size	Total capital commitments raised in the CV.
Fund Location	Main geography of the GP.
CV Type	Classification of the CV as either single-asset (one asset) or multi-asset (more than one asset).
Sector Classification	Industry or sector focus of the asset(s) included in the CV.
Default Option	Default election offered to LPs (e.g., roll over vs. cash out).
GP Reinvestment	Whether the GP reinvested into the CV (e.g., rolled carry).
Fairness Opinion	Whether an independent fairness opinion was obtained at CV establishment.
Legacy MOIC	MOIC achieved upon exit from the legacy fund on the rolled asset(s).
CV Holding Period	Communicated holding period for the CV, excluding any extension options.
Decision Period Length	Number of business days LPs were given to decide whether to roll or cash out.

Appendix 6. GP Rationale for Establishing CV

In this appendix, we display the number of times each rationale for setting up a CV was mentioned by GPs, grouped into four main categories. “Extend holding period on prized assets” was the rationale in 15 transactions. “Create option for liquidity” and “Raise additional capital for future growth”, were mentioned in 6 transactions each. “Reaching maturity of the legacy fund” was mentioned in 4 transactions. The sample includes 31 transactions in total.

Figure A6. The GPs Rationale for Establishing the CVs



Appendix 7. Legacy Moic and CV Holding Period by Fund Maturity

In this appendix we display the legacy MOIC and CV holding period by dividing our sample into buckets based on fund maturity at CV establishment. We also show this by the CV type. Figure A7.1. and A7.2., show average MOIC and expected holding period for the CVs, grouped by the legacy fund maturity at CV establishment to explore any differences. Notably, the dataset does not include any multi-asset CVs established earlier than year 6 in the legacy fund.

Table A7.1. CV Holding Period by Fund Maturity at CV Establishment and CV Type

Legacy-Hold Bucket	CV type	N	Hold Mean (yrs)	Hold Median (yrs)	Hold St.Dev.	Hold Min	Hold Max
Early (≤5 yrs)	Single	6	4.33	5.00	1.03	3.00	5.00
Medium (>5 and <9 yrs)	Multi	8	4.50	5.00	0.76	3.00	5.00
Medium (>5 and <9 yrs)	Single	5	4.00	4.00	1.00	3.00	5.00
Late (≥9 yrs)	Multi	4	5.25	5.00	0.50	5.00	6.00
Late (≥9 yrs)	Single	4	4.25	4.50	1.00	3.00	5.00

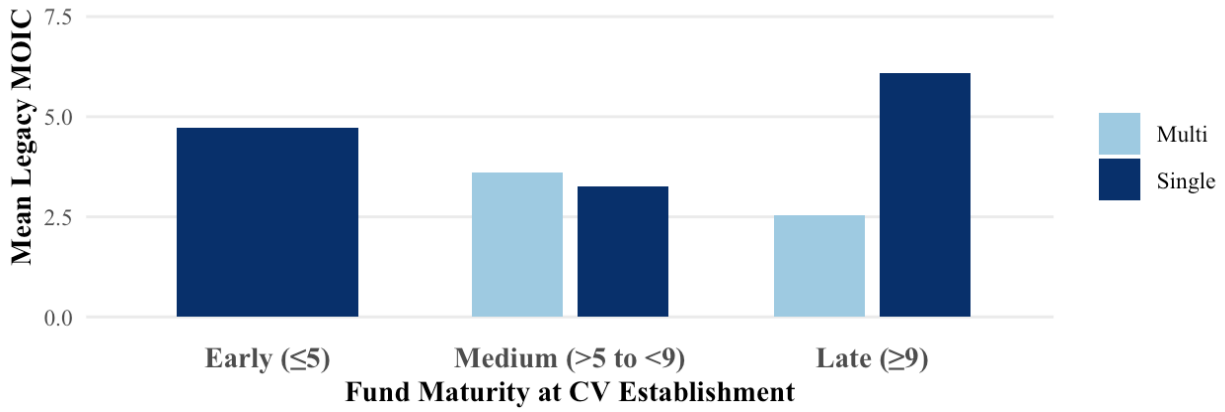
Notes. This table shows the CV holding period in the sample, grouped by the fund maturity of the legacy fund when the CV was launched and whether the transaction was single- or multi-asset. The table shows the number of observations, average, median, standard deviation, minimum, and maximum for each bucket by CV type. Fund maturity is divided into early (≤5 years), medium (>5 to <9 years), and late (≥9 years). No multi-asset CVs were established in funds earlier than year 6, so this category is not represented in the table.

Table A7.2. Legacy MOIC by Fund Maturity at CV Establishment and CV Type

Legacy-Hold Bucket	CV type	N	MOIC Mean (x)	MOIC Median (x)	MOIC St.Dev.	MOIC Min	MOIC Max
Early (≤5 yrs)	Single	8	4.72	3.50	3.77	3.00	14.00
Medium (>5 and <9 yrs)	Multi	7	3.60	3.00	1.40	2.50	6.20
Medium (>5 and <9 yrs)	Single	4	3.25	3.00	0.50	3.00	4.00
Late (≥9 yrs)	Multi	3	2.53	2.00	1.01	1.90	3.70
Late (≥9 yrs)	Single	4	6.10	5.50	3.71	3.00	10.40

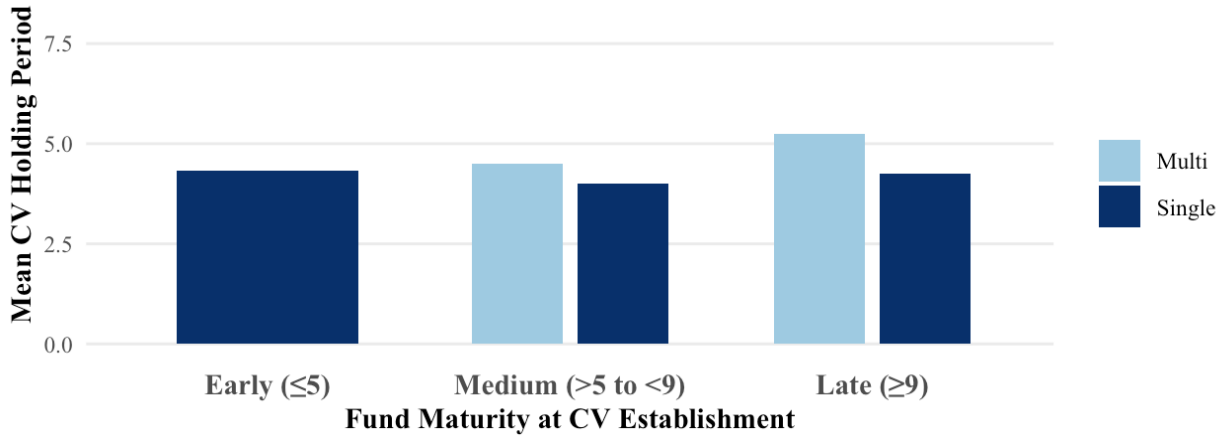
Notes. This table shows the legacy MOIC in the sample, grouped by the fund maturity of the legacy fund when the CV was launched and whether the transaction was single- or multi-asset. The table shows the number of observations, average, median, standard deviation, minimum, and maximum for each bucket by CV type. Fund maturity is divided into early (≤5 years), medium (>5 to <9 years), and late (≥9 years). No multi-asset CVs were established in funds earlier than year 6, so this category is not represented in the table.

Figure A7.1. Mean Legacy MOIC by Fund Maturity at CV Establishment and CV type



Notes. The figure shows the average legacy MOIC in the sample, grouped by the fund maturity of the legacy fund when the CV was launched, and whether the transaction was single- or multi-asset. Fund maturity is divided into early (≤5 years), medium (>5 to <9 years), and late (≥9 years). No multi-asset CVs were established in funds earlier than year 6, so this category is not represented in the chart.

Figure A7.2. Mean CV Holding Period by Fund Maturity at CV Establishment and CV type

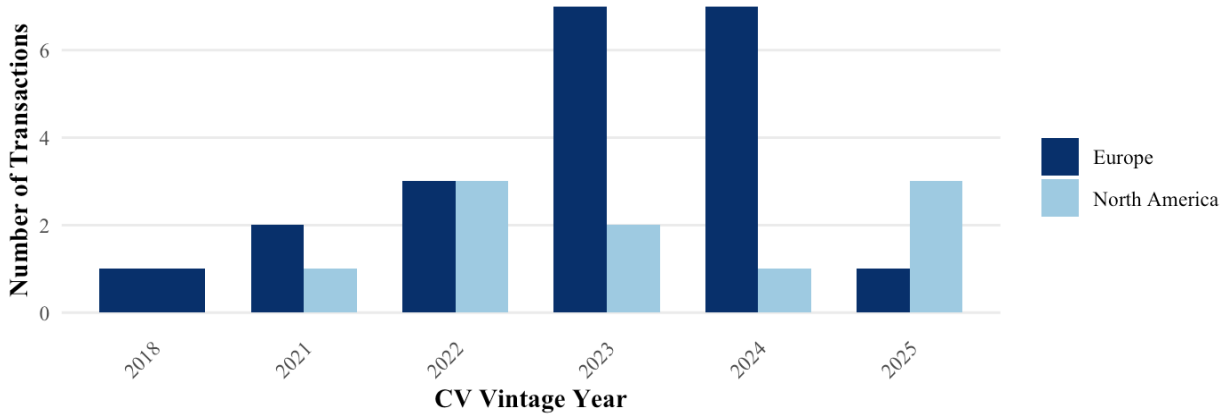


Notes. The figure displays the average expected holding period of CVs in the sample, grouped by grouped by the fund maturity of the legacy fund when the CV was launched and whether the transaction was single- or multi-asset. Fund maturity is divided into early (≤5 years), medium (>5 to <9 years), and late (≥9 years). No multi-asset CVs were established in funds earlier than year 6, so this category is not represented in the chart.

Appendix 8. CV Transactions by Vintage Year and Geography

This appendix shows the number of CV transactions by vintage year, broken out by the GP's geographic region (Europe or North America). Of the 31 transactions, all included observations of CV vintage year and the GPs main geography.

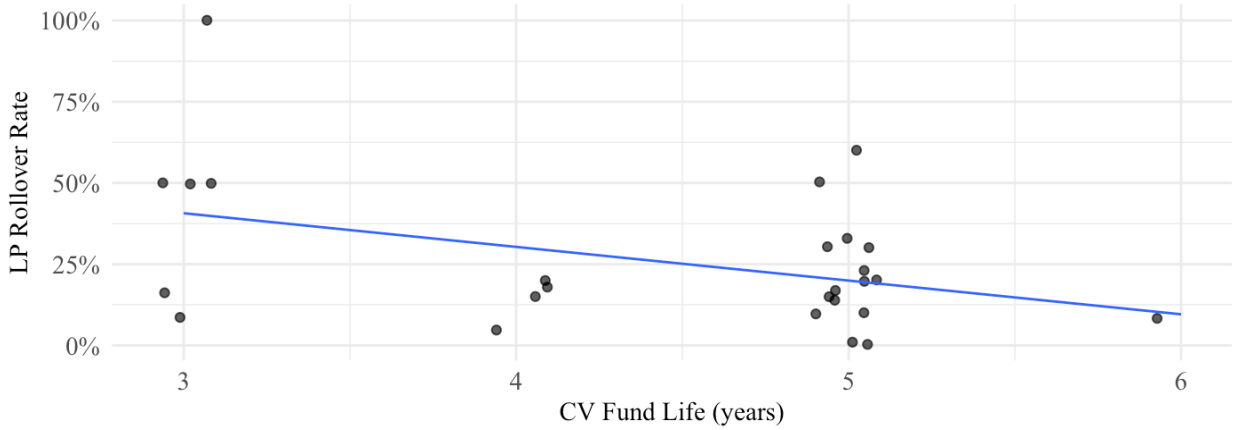
Figure A8. Number of CV Transactions by Vintage Year and GP Geography



Appendix 9. CV Holding Period and LP Roll Over Rate

In this appendix the CVs expected holding period in years is plotted against the LP roll over rate across our sample. Each dot represents a single transaction, with the blue line showing the fitted linear trend. The chart illustrates a modest negative relationship, suggesting that longer CV durations may be associated with lower roll over rates among LPs. Of the 31 transactions, 29 included observations on LP roll over rates and 27 on CV holding period. As mentioned, these results should be interpreted with caution due to outliers and the small sample size.

Figure A9. Relationship Between CV Holding Period and LP Roll Over Rate



Appendix 10. Sensitivity Analysis of Key Variables in LP Perspective

This appendix presents sensitivity analysis for the four scenarios from the LP perspective part of the simulation model. Each table reports how changes in key input variables, namely the legacy exit MOIC and the mean used to simulate the CV exit MOIC and exit timing in the model, affect the outcomes. The outcomes shown in the tables are the LPs' average net IRR, the probability that net IRR falls below 10%, and the average net MOIC. All results are based on 5,000 Monte Carlo simulations per scenario, and while the exact values may vary slightly across runs due to simulation randomness, the key trends and comparisons remain robust.

The base case reflects the central assumptions described in the main text. Each row shows the impact of a ±10% change to a single input variable, holding all others constant.

Table A10.1. Sensitivity Results - Early CV Single Scenario

Variable Modified	+/-	Value	Avg IRR (%)	Prob. IRR <10%	Avg. MOIC
Base Case		-	17.7%	34.3%	2.1x
Legacy MOIC (x)	+10%	3.85	20.3%	23.4%	2.3x
CV MOIC (Mean) (x)	+10%	3.30	20.0%	27.7%	2.3x
CV Exit Timing (Mean) (yrs)	+10%	4.73	16.1%	37.7%	2.1x
Legacy MOIC (x)	-10%	3.15	17.7%	34.3%	2.1x
CV MOIC (Mean) (x)	-10%	2.70	15.3%	42.1%	2.0x
CV Exit Timing (Mean) (x)	-10%	3.87	19.5%	31.0%	2.1x

Table A10.2. Sensitivity Results - Early CV Multi Scenario

Variable Modified	+/-	Value	Avg IRR (%)	Prob. IRR <10%	Avg. MOIC
Base Case		-	18.5%	9.8%	2.2x
Legacy MOIC (x)	+10%	3.30	18.7%	8.7%	2.2x
CV MOIC (Mean) (x)	+10%	2.97	20.5%	5.2%	2.4x
CV Exit Timing (Mean) (yrs)	+10%	4.95	16.7%	12.5%	2.2x
Legacy MOIC (x)	-10%	2.70	18.2%	10.8%	2.2x
CV MOIC (Mean) (x)	-10%	2.43	16.3%	16.0%	2.0x
CV Exit Timing (Mean) (x)	-10%	4.05	20.5%	7.1%	2.2x

Table A10.3. Sensitivity Results - Late CV Single Scenario

Variable Modified	+/-	Value	Avg IRR (%)	Prob. IRR <10%	Avg. MOIC
Base Case		-	25.4%	3.0%	2.7x
Legacy MOIC (x)	+10%	4.40	25.6%	2.8%	2.7x
CV MOIC (Mean) (x)	+10%	2.75	27.7%	1.7%	2.9x
CV Exit Timing (Mean) (yrs)	+10%	4.73	23.2%	3.7%	2.7x
Legacy MOIC (x)	-10%	3.60	25.1%	3.2%	2.7x
CV MOIC (Mean) (x)	-10%	2.25	23.0%	5.3%	2.5x
CV Exit Timing (Mean) (x)	-10%	3.87	28.0%	2.3%	2.7x

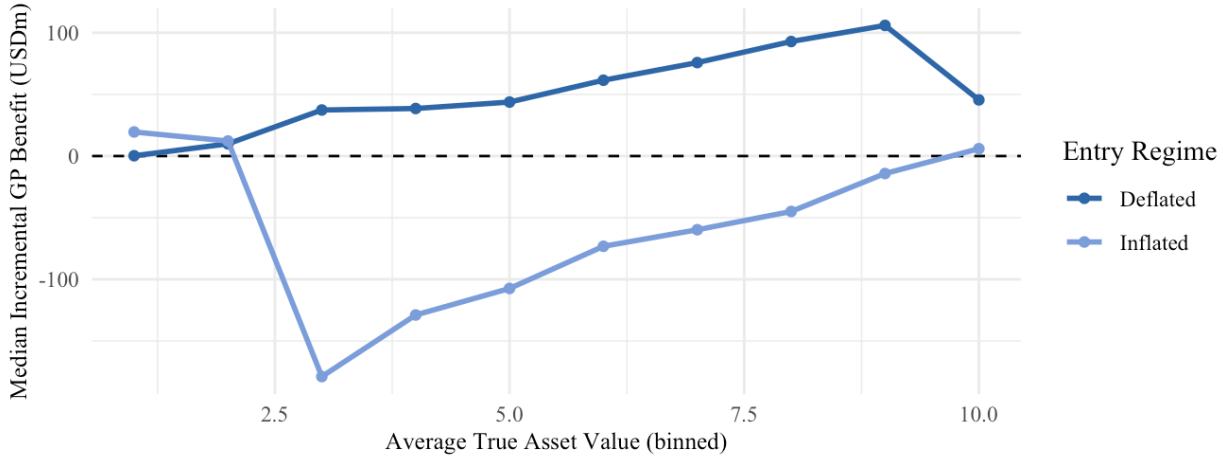
Table A10.4. Sensitivity Results - Late CV Multi Scenario

Variable Modified	+/-	Value	Avg IRR (%)	Prob. IRR <10%	Avg. MOIC
Base Case		-	12.8%	18.9%	1.9x
Legacy MOIC (x)	+10%	2.20	18.7%	0.2%	2.5x
CV MOIC (Mean) (x)	+10%	2.86	14.4%	8.8%	2.1x
CV Exit Timing (Mean) (yrs)	+10%	5.83	11.4%	34.7%	1.9x
Legacy MOIC (x)	-10%	1.80	12.8%	18.9%	1.9x
CV MOIC (Mean) (x)	-10%	2.34	11.2%	35.7%	1.8x
CV Exit Timing (Mean) (x)	-10%	4.77	14.2%	14.3%	1.9x

Appendix 11. Median Incremental Benefit

This appendix analyzes the incremental benefit to the GP from signaling asset values rather than rolling over assets into a CV at their true value, under the simulation model (GP perspective). Figure A11 shows how this benefit varies with asset quality and entry valuation regime. Each point reflects the median difference in GP benefit (defined as carried interest plus fees) across simulations, grouped by binned average true asset value. Results are shown separately for deflated and inflated entry regimes and are based on 5,000 Monte Carlo simulations. While the exact values may vary slightly across runs due to simulation randomness, the key trends and comparisons remain robust.

Figure A11. Median Incremental GP Benefit of Signaling Relative to True-Value Entry



Appendix 12. Frequency of GP-LP Misalignment

This appendix presents results from the simulation model (GP perspective), illustrating how often misalignment occurs between GP compensation and LP outcomes. Misalignment is defined as instances where the GP receives economics (carried interest or management fees) while the LP's IRR falls below 10%. The tables decompose this frequency by asset quality and entry valuation regime defined in Section 5.2.1.2 *The GP Perspective*. They complement the main-text figures in Section 5.2.3.2 *GP Perspective: Results*, which show the median levels of GP benefit and carry, by highlighting the incidence of misalignment across the simulation.

Importantly, in this model, a non-zero misalignment rate can coexist with a flat median carry line in the graphs shown in the results when only a minority of simulations in a bin generate carry, as shown in Table A12.2. The tables and charts thus reflect two consistent but distinct dimensions of alignment outcomes.

Although it may appear counterintuitive, the higher rate of misalignment under the roll at true value strategy, relative to deflated entry, is fully consistent with the model's carry mechanics. Under roll at true value, the GP pays full true asset value and may still earn small amounts of carry even when LP IRRs fall just below the 10% hurdle, particularly in lower-quality bins. This happens because modest performance can still push the fund-level IRR above the carry threshold, triggering GP compensation despite weak LP results. In contrast, the deflated entry reduces the GP's entry basis, boosting both upside potential and LP IRR. As a result, misalignment is less frequent under deflation, as LP outcomes improve in tandem. In short, alignment improves not because the GP earns less, but because the LP earns more.

Table A12.1. Frequency of GP-LP Misalignment Based on Any GP Benefit

True Asset Value	Roll at True Value (%)	Deflated Entry (%)	Inflated Entry (%)
1	98.2	96.4	100.0
2	62.9	52.5	91.4
3	25.0	15.6	74.9
4	11.7	5.5	51.5
5	4.7	2.1	35.5
6	1.6	1.1	19.4
7	1.3	1.0	10.2
8	1.2	0.6	4.6
9	0.0	0.0	1.0
10	0.0	0.0	0.0

Notes. This table reports the share of simulations in which the GP earned any positive compensation, defined as carried interest or management fees, while the LPs' net IRR was below 10%. Results are shown by asset quality bin (based on the assets true value) and entry valuation regime: rolling over assets into a CV at their true asset value, or by deflating or inflating the valuation. Based on 5,000 Monte Carlo simulations. While the exact values may vary slightly across runs due to simulation randomness, the key trends and comparisons remain robust.

Table A12.2. Frequency of GP-LP Misalignment Based on Carried Interest

True Asset Value	Roll at True Value (%)	Deflated Entry (%)	Inflated Entry (%)
1	3.6	1.8	0.0
2	15.4	13.1	4.1
3	17.4	9.4	5.8
4	10.3	3.1	8.4
5	4.5	1.5	7.4
6	1.4	0.8	4.1
7	1.3	0.9	3.2
8	1.2	0.6	2.2
9	0.0	0.0	0.0
10	0.0	0.0	0.0

Notes. This table reports the share of simulations in which the GP received carried interest while the LPs' net IRR was below 10%. Results are shown by asset quality bin (based on the assets true value) and entry valuation regime: rolling over assets into a CV at their true asset value, or by deflating or inflating the valuation. Based on 5,000 Monte Carlo simulations. While the exact values may vary slightly across runs due to simulation randomness, the key trends and comparisons remain robust.

Appendix 13. AI Disclosure

When writing this thesis, the AI tool ChatGPT was used to refine and improve the clarity and fluency of the written language in several sections of the text, with the exception of interview quotes, which remain unchanged. ChatGPT was also used to support the debugging and optimization of code related to the simulation model, including suggesting corrections and improving readability where relevant. However, AI-generated code can be incorrect or unreliable, requiring careful manual verification and, in some cases, correction.

The use of ChatGPT contributed to the overall quality of the thesis by improving grammatical accuracy and readability, making the text more accessible to a wider academic audience. It also increased efficiency during the coding process, resulting in a more robust and functional simulation model.

Several potential risks were identified when using AI tools. These included the possibility of inaccurate rephrasing, that could unintentionally alter the intended meaning, and the risk of over-reliance on AI, which could undermine our independent thinking. To address these concerns, all AI-assisted content was carefully reviewed and edited by the author to ensure originality and correctness. AI was used strictly as a supportive tool and not for generating original content, ensuring that the thesis reflects the student's own understanding and work.

An important insight gained from using AI tools like ChatGPT is that they can be helpful for editing and idea generation, especially when dealing with writer's block or when attempting to rephrase complex ideas. However, they must be used with critical judgment and full transparency, and their limitations must be understood.