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How Hedge Fund Size Affects Its Performance

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ABSTRACT:
Tämä tutkielma tarkastelee, kuinka hedge-rahastojen koko vaikuttaa niiden tuottoon, keskittyen erityisesti siihen, suoriutuvatko pienemmät rahastot paremmin kuin suuremmat, ja miten tämä suhde vaihtelee eri strategioiden ja markkinaolosuhteiden mukaan. Kirjallisuuskatsauksen pohjalta tutkimus osoittaa, että vaikka suuret hedge-rahastot voivat hyötyä mittakaavaeduista ja paremmasta pääsystä sijoitusmahdollisuuksiin, ne kohtaavat usein kapasiteettirajoitteita ja intressiristiriitoja, jotka voivat heikentää tuottoja omaisuuden kasvaessa. Pienemmät rahastot puolestaan ovat usein ketterämpiä ja kykenevät hyödyntämään erikoistuneita mahdollisuuksia tehokkaammin, saavuttaen usein korkeampia riskikorjattuja tuottoja erityisesti vähemmän likvideillä markkinoilla. Koon ja tuoton välinen suhde on kuitenkin monimutkainen ja kontekstisidonnainen; siihen vaikuttavat strategiatyyppi, markkinaympäristö ja organisatoriset tekijät. Tutkimustulokset viittaavat siihen, ettei ole olemassa yleispätevää optimaalista rahastokokoa, vaan rahaston koon sovittaminen strategian kapasiteettiin ja markkinoiden realiteetteihin on ratkaisevaa tuoton maksimoimiseksi. Tutkielma korostaa myös lisätutkimuksen tarvetta metodologisten haasteiden ratkaisemiseksi, kausaalisuhteiden selvittämiseksi sekä teknologisten ja sääntelymuutosten vaikutusten tutkimiseksi hedge-rahastojen tuloksiin. Näiden havaintojen tavoitteena on tarjota hyödyllistä tietoa sekä sijoittajille että rahastonhoitajille, jotka pyrkivät optimoimaan tuottonsa dynaamisessa sijoitusympäristössä.

KEYWORDS: Hedge funds, Fund size, Performance, Economies of scale, Diseconomies of scale, Capacity constraints, Agency theory, Strategy scalability

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1 Introduction

Hedge funds have grown into a multi-trillion-dollar industry globally (Mandl, 2025) and are projected to continue their upward trajectory.[1] However, their ability to outperform traditional investments remains debated. Understanding how hedge fund size impacts performance is critical for investors seeking excess returns—or alpha—and for academics exploring market efficiency. While some argue that hedge funds with skilled managers and sophisticated strategies may provide superior risk-adjusted returns (e.g., Kosowski et al., 2007, pp. 262–263), others highlight factors such as misaligned fee structures and increased competition as reasons why hedge funds' performance advantage may erode (e.g., Yin, 2016, pp. 1871–1873; Forsberg et al., 2022, p. 70). This debate has become increasingly relevant as institutional investors, including pension funds, increasingly allocate capital to hedge funds in search of diversification and higher returns (Fitzpatrick, 2024). Understanding the relationship between hedge fund characteristics—such as size, strategy, market conditions, and performance—is crucial for evaluating their role in modern investment portfolios.

Currently, European pension funds allocate a significant portion of their assets to hedge funds, and this allocation is expected to grow in the future due to demographic challenges such as aging population and declining fertility rates (Lee et al., 2014). As these trends increase the strain on pension systems, funds face mounting pressure to deliver higher returns to meet their long-term obligations. Hedge funds, with their diverse and flexible investment strategies, are seen as a means to enhance returns and diversify risk in an evolving economic and demographic landscape.

While hedge funds have long been recognized for their flexible investment strategies and their potential to deliver strong returns (Fung & Hsieh, 1997), studies suggest that fund size may play a crucial role in determining performance (e.g., Gao et al., 2022). Smaller funds may benefit from their agility, while larger funds face capacity constraints (Berk &

[1] *Hedge Fund Market Size – By Strategy, By Type, Analysis, Share, Growth Forecast, 2025-2034. 2024*

Green, 2004). Despite extensive studies, there is no clear consensus on whether fund size reliably influences performance across different strategies and market conditions.

This thesis examines how hedge fund size influences performance by analyzing findings from key studies and identifying patterns across different contexts. It also aims to determine whether an optimal fund size exists, depending on strategy and market conditions.

In line with the Vaasa University's guidelines on responsible AI use, this thesis employed generative AI tools (ChatGPT and Perplexity AI) to support the writing process. These tools were used for language refinement, proofreading, enhancing text coherence, and exploring ways to structure the chapters more effectively. All academic content, interpretations, and conclusions are the author's own.

1.1 Purpose of the Thesis

This thesis explores the impact of hedge fund size on performance by analyzing key studies in the field. It specifically investigates whether smaller funds tend to outperform larger ones due to structural advantages like greater liquidity and flexibility.

Previous research suggests that smaller hedge funds tend to outperform larger ones due to certain characteristics (e.g., Teo, 2009). Additionally, there is evidence indicating that as hedge fund size increases, its ability to generate superior returns tends to decline (Berk & Green, 2004). However, despite these findings, there is limited agreement on the extent to which fund size influences performance across different strategies and market conditions. This leaves a significant gap in understanding whether smaller funds consistently deliver superior risk-adjusted returns or if other factors, such as liquidity constraints or market efficiency, play a more important role. This thesis aims to address this gap by reviewing the literature to evaluate how hedge fund size impacts

performance and whether this relationship varies by strategy, market conditions, and time period.

Given that smaller funds are more nimble and can exploit niche opportunities, I hypothesize that smaller hedge funds will exhibit higher risk-adjusted returns compared to larger funds.

Hypothesis 1: Smaller hedge funds outperform larger ones in terms of risk-adjusted returns.

Hypothesis 2: The relationship between fund size and performance varies depending on market conditions and fund strategy.

1.2 Structure of the Thesis

This thesis is organized into five main chapters, each addressing key aspects of how hedge fund size affects performance. The first chapter introduces the research topic, outlining the significance of hedge fund size in the context of performance evaluation. It presents the purpose of the thesis, formulates the research hypotheses, and sets the stage for the subsequent analysis by highlighting the growing importance of hedge funds in institutional portfolios and the ongoing debate over size-related performance effects.

Chapter 2 establishes the foundational concepts and theories underpinning the study. It begins by defining key performance measures such as alpha and risk-adjusted returns. The chapter then provides an overview of hedge funds and their distinguishing characteristics. It explores classical economic theories of economies and diseconomies of scale and introduces agency theory to explain potential conflicts between managers and investors.

The third chapter synthesizes existing academic research related to hedge fund size and performance. It examines critical factors including liquidity constraints (both market and fund liquidity), investment opportunities and strategy scalability, operational efficiency, and managerial skill evolution. The review also addresses the risk-return tradeoff, the influence of market conditions (bull and bear markets), and the importance of aligning fund size with strategy capacity. At the end of this chapter, a summary table presents key details from the academic literature on the relationship between hedge fund size and performance.

Chapter 4 presents a critical analysis of the findings from the literature review. It summarizes key insights, evaluates contradictions and methodological challenges, and discusses practical implications for investors and fund managers. The chapter also explores the concept of an optimal fund size. The final chapter synthesizes the overall conclusions drawn from the research.

2 Theoretical Framework

This thesis adopts a literature review approach to synthesize findings from academic studies on hedge fund size and performance. This analysis is guided by theoretical frameworks, such as agency theory, and Berk & Green's (2004) model of decreasing returns to scale in active management, which provides a foundation for understanding how fund size may influence alpha generation.

2.1 Defining and Measuring Alpha and Risk-Adjusted Return

A key metric for evaluating hedge fund performance is alpha (α) (Jensen, 1968), which represents the excess return generated above a benchmark, adjusted for risk. In other words, alpha measures how much better or worse a fund has performed relative to its expected return based on its level of market risk. The formula for alpha (adjusted for funds) is:

$$\alpha = R_f - (R_{rf} + \beta \times (R_m - R_{rf})) \tag{1}$$

Where:

- R_f is the actual return of the fund,
- R_{rf} is the risk-free rate,
- β is the fund's beta
- R_m is the return of the benchmark market.

A common way to quantify risk-adjusted return is the Sharpe ratio (S) (Sharpe, 1994), calculated as:

$$S = \frac{R_f - R_{rf}}{\sigma_f} \tag{2}$$

Where R_f is the return of the fund, R_{rf} is the risk-free rate, and σ_f is the standard deviation of the fund's returns. A higher Sharpe ratio indicates better risk-adjusted performance. While the Sharpe ratio provides a useful starting point, it is important to acknowledge its limitations, such as its sensitivity to non-normal return distributions and the assumption of a constant risk-free rate. Later sections of this thesis may explore alternative performance measures to address these limitations.

2.2 Definition of a Hedge Fund

There is no exact definition for a hedge fund, but usually it is described as a pooled investment vehicle that uses various strategies to generate high returns for its investors, who are typically wealthy individuals or institutional clients (Stowell, 2013, p. 216). Compared to traditional mutual funds, hedge funds operate with fewer regulations and have more flexibility in their investment approaches (Stowell, 2013, p. 217).

Stulz (2007, p. 177) describes hedge funds as largely unregulated investment pools managed by advisors who employ flexible strategies, including short positions and derivatives, to generate returns. Access is restricted to accredited investors who meet necessary requirements, ensuring they are knowledgeable and can bear significant losses (p. 175). Characterized by complex strategies, hedge funds often operate through a collection of funds, including offshore and onshore entities, to optimize tax efficiency, further distinguishing them from more regulated investment vehicles like mutual funds (p. 177).

A further layer of complexity within the hedge fund landscape comes from funds of hedge funds (FoHFs). Based on Füss et al. (2009, pp. 41–42), FoHFs are investment vehicles designed to provide investors with diversified exposure to the hedge fund market. These funds achieve diversification by investing in a portfolio of underlying hedge funds, offering access to various strategies and the due diligence expertise of a professional manager in selecting and monitoring these investments. While FoHFs can offer an easier

entry point into hedge fund investing—particularly for those lacking the resources for direct investment—they typically involve an additional layer of fees due to their structure (pp. 41–42).

Nevertheless, hedge funds and mutual funds share many similarities, as both pool capital from investors and allocate it across various assets to generate returns. They are managed by professional investment teams, follow specific strategies, and are influenced by market trends and regulations (Stulz, 2007, pp. 175–176). While hedge funds often have more flexibility in their strategies, many arguments about risk, performance, and investor protection apply to both, making discussion about one often relevant to the other.

2.3 Economies of Scale

The theory of economies of scale, originating from Adam Smith's seminal work *The Wealth of Nations* (1776), posits that as a firm increases its production volume, the average cost per unit typically decreases. This effect arises from improved operational efficiency and the spreading of fixed costs over a larger output (Smith & Skinner, 1999, Book II Chapter 2). In the context of hedge funds, the theory introduces important considerations regarding the relationship between fund size and performance. Larger hedge funds may benefit from high liquidity and increased bargaining power with service providers (e.g., Shawky & Wang, 2014, pp. 61–62; Teo, 2009, pp. 15–16). However, the idiosyncratic nature of hedge fund strategies and the complexity of financial markets complicate a direct application of this theory. As such, understanding how both economies and potential diseconomies of scale manifest within hedge funds is essential for evaluating performance and operational efficiency.

Shawky and Wang (2014, pp. 59–60) provide evidence that economies of scale are particularly pronounced in Funds of Hedge Funds (FoHFs), which tend to be less affected by liquidity costs because they invest in other hedge funds rather than directly in the

market. Their findings (p. 61–62) show that, especially when liquidity risk is low, larger FoHFs outperform their smaller counterparts, indicating that scale can offer clear advantages under certain market conditions.

Similarly, Ammann and Moerth (2005, p. 220) find some evidence for a positive relationship between individual hedge fund size and performance, further supporting the notion that larger funds can harness certain scale-related benefits. Nevertheless, they caution that while larger funds may benefit from lower volatility, the overall performance advantages appear limited (pp. 236–237).

2.4 Diseconomies of Scale

Although economies of scale suggest that larger hedge funds might operate more efficiently, the relationship between size and performance is often not linear (e.g., Zhu, 2018, p. 129; Gao et al., 2022, p. 200). Diseconomies of scale—where increased size leads to reduced efficiency—can impose constraints on performance, particularly as funds face capacity limitations that hinder their ability to fully exploit profitable investment strategies (e.g. Mozes & Steffens, 2016, p. 87; Joenväärä et al., 2019, p. 1543). Berk & Green (2004, p. 1273) note in their model that managing larger funds introduces informational challenges. As the scope of investment widens, the effort to gather high-quality, actionable information may stretch resources thin, limiting a fund's capacity to generate superior returns.

Zhu (2018, pp. 124–125) offers evidence for this dynamic in active management, showing that as funds grow, they tend to experience a decline in their ability to generate excess returns. This finding (pp. 114–115) challenges the traditional assumption of constant or increasing returns to scale, and underscores the importance of fund size as a variable in assessing performance potential. The implication is that simply scaling a successful strategy may reduce its effectiveness over time (p. 115).

Gao et al. (2022, p. 204) reinforce this point by identifying fund growth as a contributor to the performance decline observed throughout the hedge fund life cycle. Supporting this, Boyson (2008, p. 28) finds that performance persistence is most evident among small, young funds—suggesting that as funds grow, their ability to maintain superior returns becomes increasingly difficult. Additionally, she finds evidence (p. 36) that after a certain point the costs associated with larger capacity constraints can erode performance.

Taken together, these insights highlight the importance of identifying the threshold at which diseconomies of scale begin to outweigh the operational benefits of growth. Recognizing this inflection point is essential for understanding how fund size influences hedge fund performance over time.

2.5 Agency Theory

As formalized by Ross (1973, p. 134), the core of the agency problem lies in the potential for agents to act in ways that diverge from the goals of the principals. As Ross notes (pp. 134–135), this problem is closely related to issues of moral hazard, where agents may not bear the full consequences of their actions. Designing contracts that align the interests of principals and agents is therefore a central challenge in agency relationships (Ross, 1973, p. 138). In the hedge fund context, this could manifest as managers growing fund assets under management over the optimal size to increase fees, even if it leads to diseconomies of scale and diminished performance (Yin, 2016, pp. 1871–1873).

Ross's (1973, p. 134) model explores how principals can design fee schedules (contracts) to incentivize agents to act in the principals' best interest. Barry Mitnick also formalized agency theory around the same time as Ross, but focused on institutional structures between the principal and agent (Mitnick, 2021, p. 171). Incentive structures play a central role in addressing agency costs, such as monitoring expenses and residual losses when agent’s actions do not perfectly align with principal’s interests (Mitnick, 2021, p.

172). While the study does not specifically mention hedge funds, it emphasizes that organizations are inherently imperfect in aligning principals and agents, and that as organizational structures grow more complex, they require systems designed to manage these persistent agency imperfections effectively (Mitnick, 2021, p. 173).

The potential for such challenges rises with size. Larger hedge funds face agency problems due to misaligned incentives inherent in the fee structure, which prioritizes asset growth over investor returns (Yin, 2016, pp. 1871–1873). This leads to diseconomies of scale, where performance declines as funds grow beyond their optimal size due to capacity constraints, transaction costs, and limited investment opportunities (Yin, 2016, pp. 1857–1858).

In conclusion, agency theory highlights the inherent challenges in aligning the interests of principals and agents, particularly as decision environments grow more complex (Ross, 1973; Mitnick, 2021). These insights can be extended to financial contexts such as hedge funds, where the alignment of manager incentives with investor goals may become more difficult as fund size increases (Yin, 2016).

2.6 Berk & Green's Model for Mutual Funds

Berk & Green's (2004) model of mutual fund flows and performance in rational markets offers valuable insights for a theoretical framework for the thesis. While their model focuses on mutual funds, many of its principles can be applied to hedge funds, with some adjustments for the unique characteristics of hedge funds.

Berk & Green (2004, p. 1273) argue that fund managers possess varying levels of skill in generating excess returns. This skill is initially unknown and must be inferred from observed performance. As fund size increases, it becomes more challenging to maintain the same level of performance. Larger funds may face difficulties in identifying and exploiting market inefficiencies without adversely impacting prices, executing large

trades without significant price impact and maintaining the same level of agility in entering or exiting positions.

Their model (p. 1273) argues that investors (and managers) learn about a manager's ability by observing the fund's historical returns, and capital flows into or out of funds are based on this perceived ability. High performance is interpreted as evidence of superior skill, attracting more capital (p. 1273). In equilibrium, funds grow to a size where the expected excess returns, net of fees and costs, approach zero (p. 1275). Skilled managers are rewarded through larger fund sizes and higher fees, not through persistent outperformance (p. 1271). The model suggests that performance persistence should be limited, as funds experiencing high returns will attract capital until returns are driven down to competitive levels (p. 1271).

While Berk and Green's model is insightful, it must be adapted to reflect key differences between mutual funds and hedge funds. Hedge funds typically use a "2 and 20" fee structure,[2] offering stronger performance incentives and potentially higher manager compensation than mutual funds (Stowell, 2013, p. 216). Hedge funds often have lock-up periods and redemption restrictions, which slow capital flows and may help maintain performance for longer (Stowell, 2013, p. 216). Hedge funds have greater flexibility in employing leverage and complex strategies, which can amplify both gains and losses (Stowell, 2013, pp. 217–218).

[2] 2% Management fee based on fund's net asset value (NAV), and 20% performance fee of the increase in the fund's NAV (Stowell, 2013, p. 216).

3 Literature Review on Key Factors

3.1 Liquidity Constraints

As hedge funds grow in size, they may encounter increasingly complex liquidity constraints that impact their performance and risk management strategies (Teo, 2009, pp. 16–17). These constraints represent a challenge that manifests in both market-facing operations and fund-level structures, creating a nuanced relationship between fund size and performance outcomes (Joenväärä et al., 2019, pp. 1541–1542).

3.1.1 Market Liquidity

Teo (2009, pp. 16–17) highlights liquidity-driven diseconomies of scale in hedge funds, showing that smaller funds outperform larger ones due to reduced price impact. He suggests (p. 4) that funds holding illiquid assets often adopt tight share restrictions (e.g., lock-ups) to manage liquidity risk. Conversely, larger funds face greater price impact when trading sizable positions, eroding returns (p. 4). These constraints are most severe for funds managed by multiple principals, where organizational complexity exacerbates costs (p. 18).

Building on this relationship, Mozes & Steffens (2016) document a strategic adaptation pattern as hedge funds mature. Their research (p. 95) reveals that funds typically scale back investments in illiquid assets as they grow older and their assets under management (AUM) increases. They suggest (p. 87) that this shift toward more liquid investment vehicles partially explains the observed performance decline in maturing funds. This transition creates a challenging dynamic: as funds expand, deploying new capital into illiquid assets may become increasingly time-consuming, compelling managers to reduce exposure to these potentially higher-yielding but less liquid investments after periods of growth (pp. 87–88).

3.1.2 Fund Liquidity

Beyond market-facing liquidity issues, institutional structures create additional constraints that vary across investor types. Joenväärä et al. (2019, p. 1541) provide evidence that the impact of liquidity constraints on hedge fund portfolios differs significantly depending on investor size and the specific nature of the constraint. Their analysis (pp. 1541–1542) reveals that while liquidity constraints generally limit access to illiquid funds across the investor spectrum, the "percentage of AUM" constraint disproportionately affects larger investors, potentially excluding them from investing in better-performing smaller funds with higher returns. Additionally, minimum investment requirements primarily impact larger funds, limiting smaller investors' access to them, although this constraint appears to have a less significant impact on overall portfolio performance (p. 1564).

3.2 Investment Opportunities

Differences in hedge fund size shape access to certain investment strategies and markets, creating performance advantages and constraints across the size spectrum (Teo, 2009, pp. 16–17). Smaller hedge funds are better able to operate in niche and less liquid markets (Teo, 2009, pp. 16–17), while larger funds potentially benefit from economies of scale in more liquid markets (Shawky & Wang, 2014, pp. 61–62). This size-opportunity relationship manifests differently across hedge fund strategies, with certain approaches facing different scaling challenges compared to others (Naik et al., 2007, p. 251).

3.2.1 Access to Investment Opportunities

The ability to capitalize on available investment opportunities varies systematically with fund size (Teo, 2009, p. 4), though this relationship is nuanced. Teo (2009, pp. 15–16) notes that unlike single-manager hedge funds, larger funds of funds can possibly leverage their scale to secure preferential terms with underlying hedge funds or gain

access to high-performing funds that are closed to new investors. This advantage creates a pathway for larger entities to maintain performance despite their size. In contrast, Yin (2016, pp. 1867–1869) presents evidence that hedge funds encounter diseconomies of scale as their size increases, regardless of investment strategy. This finding (pp. 1864–1865) suggests that larger funds may face challenges in accessing profitable investment opportunities and effectively deploying new capital.

3.2.2 Scalability of Investment Strategies

The scalability of investment strategies varies across various market segments in determining how fund size influences performance (Teo, 2009, p. 16–17). Teo shows (2009, pp. 16–17) that smaller hedge funds often hold an advantage in capitalizing on market inefficiencies, particularly within less liquid asset classes. In contrast, larger funds may encounter challenges in maintaining performance due to price impact constraints when trading substantial positions (Teo, 2009, p. 17).

Forsberg et al. (2022, p. 66) provide evidence that diseconomies of scale in hedge funds are more closely tied to the total capital allocated to a particular strategy—termed cohort size—rather than to individual fund size. Their findings (pp. 68–70) suggest that strategy-level crowding, potentially reflecting competitive dynamics among funds, plays a more significant role in limiting investment opportunities. While an increase in individual fund size can lead to reduced returns, this effect becomes especially pronounced in funds that pursue relatively unique strategies and operate in markets with minimal competition. The findings (p. 70) imply that intensified competition incentivizes funds to accept additional inflows, which may dilute performance as the pool of viable opportunities is distributed across a larger cohort of similarly positioned funds.

3.3 Manager Skill and Fund Size

The interplay between hedge fund manager skill and fund size creates interesting dynamics. As funds grow, the influence of managerial expertise on performance becomes increasingly complex and nuanced, with both the evolution of expertise over time (Mozes & Steffens, 2016, p. 87) and the capacity management decisions of managers playing critical roles (Teo, 2009, pp. 18–19; Forsberg et al., 2022, p. 70).

3.3.1 Evolution of Managerial Expertise Over Time

Mozes & Steffens (2016, p. 87) suggest that as hedge funds age, the expertise of their managers often declines, especially for those with highly specialized knowledge in rapidly evolving fields such as technology or science, where skills can quickly become outdated. They add (p. 87) that leadership transitions from skilled founders to successors can further impact fund performance, as successors may not possess the same depth of expertise. This gradual erosion of expertise can contribute to the observed inverse relationship between growing assets under management and declining returns (pp. 87–88).

3.3.2 Impact of Managerial Skill on Capacity Management

Teo (2009, pp. 18–19) shows that managerial skill plays a role in anticipating capacity constraints and adjusting fund fee structures accordingly. The study finds (pp. 18–19) that funds that, at inception, expect to be affected by capacity constraints tend to set higher performance fees and lower management fees—potentially as a means of extracting rents while limiting asset growth. In contrast, funds anticipating fewer capacity limitations may opt for higher management fees, capitalizing on their ability to scale (pp. 18–19). This anticipatory approach to fee setting indicates that fund managers proactively consider how fund size may influence future performance (p. 19).

Furthermore, Forsberg et al. (2022, p. 68) explain that diseconomies of scale are more pronounced when managers adopt relatively unique and less competitive strategies and subsequently grow large. In such contexts, managers in low-competition environments may deliberately limit fund size to preserve returns (Forsberg et al. 2022, p. 70). Conversely, those facing intense competition may accept additional capital inflows, potentially compromising individual fund performance due to a shared pool of limited investment opportunities (Forsberg et al., 2022, p. 70).

Zhu (2018, pp. 125–128) further highlights the complex interaction between managerial skill, fund size, and performance. Challenging the view that skill and size are independent factors (p. 119), the study (pp. 116–117) argues that performance evaluation should extend beyond alpha to consider "value added"—the dollar amount a fund generates above a benchmark. Since a larger fund size can dampen returns via diseconomies of scale, the most skilled managers are those capable of consistently extracting high value added from capital markets despite these constraints (p. 126).

3.3.3 Conflict of Interests Finding Optimal Performance

Yin (2016, pp. 1869–1871) identifies a fundamental agency conflict between hedge fund managers and investors, particularly regarding fund size. He argues (pp. 1871–1873) that managers are incentivized to grow assets under management because their compensation increases with fund size, even when diseconomies of scale begin to erode performance. This misalignment creates a conflict of interests, as managers may prioritize personal financial gain, while investors remain focused on maximizing returns (p. 1870). The standard hedge fund compensation model may amplify this conflict, with management fees rising in proportion to fund size regardless of investment outcomes (p. 1870). He also notes (p. 1879) that fund managers are incentivized to maintain style-average performance to prevent capital outflows. Additionally, the study (pp. 1878–1879) shows that although fund closures and reopenings should ideally align with maximizing performance for investors, managers typically close funds to new investments only when they

can deliver style-average returns, and fund performance does not significantly improve after reopening.

Zhu (2018, p. 115) emphasizes that identifying an optimal fund size is vital for maximizing the value extracted through active management. As funds grow, diseconomies of scale may limit their ability to deliver superior returns, suggesting that an ideal size exists where a manager's skill is most effectively leveraged. This optimal point—defined as the fund size that generates the greatest dollar value above a benchmark—is not necessarily the smallest or largest, but rather a strategic balance between scale and skill (Zhu, 2018, p. 115).

Yin (2016, pp. 1869–1870) offers a complementary perspective, underscoring the tension between manager incentives and investor outcomes. While managers are financially motivated to increase assets under management in order to boost compensation, the study (pp. 1866–1867) confirms that performance typically deteriorates beyond a certain AUM threshold. This optimal size is not universal; it varies by investment strategy, as some styles are more sensitive to asset growth than others (p. 1867). He adds (pp. 1878–1879) that managers often choose to close funds to new investors as they approach this threshold, in order to sustain style-consistent performance and avoid triggering capital outflows.

3.4 Risk-Return Tradeoff

The conventional view holds that achieving higher returns requires accepting higher risk (Markowitz, 1952, p. 77), making the risk-return tradeoff a central concern for investors evaluating hedge funds. However, recent research (e.g. Gao et al., 2022) challenges this straightforward relationship.

Gao et al. (2022) directly question the assumption that younger, higher-performing hedge funds achieve superior returns by assuming greater risk. Applying advanced risk

metrics—including value-at-risk (VaR), expected shortfall, and tail risk—their study finds no evidence that younger funds are exposed to more downside risk than their older counterparts (pp. 206–207). The authors suggest that younger funds can outperform without significantly increasing risk, potentially due to more innovative strategies, or stronger alignment of incentives between managers and investors (pp. 204–206). The implication is that investors may access higher returns in younger, smaller funds without taking on proportionately greater risk. Nevertheless, it remains important to acknowledge that performance often declines as funds age and grow in size (p. 204).

The broader competitive landscape also plays a role in shaping the risk-return profile of hedge funds. Forsberg et al. (2022, p. 68) shift attention from individual fund characteristics to the aggregate capital allocated to specific strategies. Their research (p. 65) indicates that larger cohorts—signifying increased competition for limited investment opportunities—are associated with declining performance. This may imply a less favorable risk-return dynamic, as higher competition erodes returns without any corresponding reduction in risk. In this context, it is not only the size of a single fund that matters, but the total capital deployed across similarly positioned funds (Forsberg et al., 2022, p. 66).

Taken together, these studies offer a more complex perspective on the risk-return tradeoff in hedge funds. Traditional factors such as fund size, strategy, and manager skill remain relevant, but additional elements—including fund age and competitive pressures—also shape performance outcomes.

3.5 Market Conditions

3.5.1 Bull Market

Stafylas & Andrikopoulos (2020, p. 7) find that smaller hedge funds tend to outperform their larger counterparts specifically during periods of economic expansion, generating higher alpha. While hedge funds in general exhibit positive alpha during such “good” times, the study (pp. 11–12) suggests that smaller funds are comparatively better positioned to exploit favorable market conditions. This finding implies that investors seeking to maximize alpha during bull markets may benefit from allocating capital to smaller, more agile hedge funds.

3.5.2 Bear Market

In contrast, Stafylas & Andrikopoulos (2020, p. 14) observe that during bear markets, hedge funds typically shift their focus toward minimizing systematic risk. Additionally, in adverse economic environments, some hedge funds even produce negative alpha (p. 10). This suggests that generating returns during market downturns presents considerable challenges, and that overall performance in such periods may be limited.

Further evidence from Pruchnicka-Grabias (2010, p. 151) focuses on global macro hedge funds—strategies designed to deliver returns irrespective of market direction. However, the study (p. 158) finds that most of these funds failed to achieve positive performance during the financial crisis of 2008. While the study does not offer a definitive conclusion regarding the role of fund size in this underperformance, it highlights the broader difficulty hedge funds face in achieving their objectives during economic downturns, even with ostensibly market-neutral strategies (p. 162).

Agarwal et al. (2019, pp. 2374–2375) further illustrate how performance during market crises is influenced by liquidity management. Specifically, funds of hedge funds (FoHFs)

with larger illiquidity gaps—reflecting their involvement in liquidity transformation—tend to perform worse during downturns. They argue (p. 2369) that these funds may pursue higher-risk, less liquid strategies that expose them to vulnerabilities in times of market stress. Conversely, FoHFs with smaller illiquidity gaps exhibit lower returns during stable, non-crisis periods (p. 2375). The study (p. 2375) highlights that the greater liquidity in FoHFs is beneficial in normal market conditions yet can turn into a disadvantage during periods of crisis.

3.6 Aligning Fund Size and Strategy

Yin (2016, p. 1876) emphasizes that fund managers must weigh the desire for asset growth against the need to maintain competitive returns within a chosen strategy. As fund size increases beyond an optimal threshold, diseconomies of scale can impair the strategy's execution and diminish returns (Yin, 2016, pp. 1867–1869).

3.6.1 Capacity Constraints and Strategy Suitability

According to Naik et al. (2007, p. 251), the suitability of a hedge fund strategy is closely tied to its sensitivity to capital inflows. Their study (p. 251) finds that for four of eight hedge fund strategies—relative value, directional traders, emerging markets, and fixed income—increased inflows are statistically associated with negative movements in alpha, indicating the presence of capacity constraints. Suggesting these strategies are therefore more appropriate for smaller funds, where inflow volume can be more easily managed. In contrast, macro and security selection strategies show little evidence of such constraints, potentially making them more scalable. Also, the study (p. 243) observes that as assets under management and capital flows increase in alpha-generating hedge fund strategies, there is entry of new funds into these sectors, regardless of whether the most successful funds close to new investors.

3.6.2 Scale and Risk Management

Although Pástor et al. (2015) do not differentiate between specific hedge fund strategies, their findings offer important insights into how strategy traits interact with fund size. The authors provide evidence of decreasing returns to scale at the industry level (p. 35). At the individual fund level, certain types—those with high turnover, elevated volatility, or a focus on illiquid assets—are more acutely affected (pp. 36–37). These characteristics make such funds more vulnerable to capacity constraints and diseconomies of scale as both fund and industry size grow (pp. 36–37). Consequently, the authors imply (p. 24) that the choice of investment strategy and its inherent features play a critical role in shaping fund performance, particularly as assets under management increase.

3.6.3 Long/Short Equity and Fund Specific Characteristics

Fung & Hsieh (2011, p. 559) challenge the assumption that fund size directly undermines alpha in long/short (L/S) equity strategies. While Berk and Green's (2004) model predicts alpha decay due to size-induced capacity constraints, Fung & Hsieh find no empirical evidence linking larger fund size to declining alpha (pp. 557–559). Instead, they observe (p. 559) that alpha-generating L/S funds tend to transition toward beta-only returns over time. This shift is driven by broader market factors—such as declining trading activity and rising aggregate short interest—rather than fund-specific attributes (pp. 565–567). These findings suggest that alpha decay in L/S equity strategies is more a function of market conditions than fund size alone (p. 568).

3.6.4 Fund Size, Liquidity, and Investment Strategy

Ding et al. (2009, p. 886–887) offer a nuanced view of how fund size interacts with performance, demonstrating that smaller hedge funds often achieve higher absolute returns, while larger funds tend to produce better risk-adjusted outcomes. The study emphasizes that performance is shaped by a range of fund-specific decisions, with

particular attention to liquidity management (pp. 888–890). They show (pp. 890–891) that effective handling of liquidity shocks generally improves performance across most strategies. However, the opposite trend is observed in fixed income funds, where a more conservative approach to liquidity risks correlates with better results.

Table 1. Fund Size/Performance Literature Review Table

Author	Sample and Period	Variables used	Methodology used	Results
Agarwal, Aragon, & Shi (2019)	US Registered FoHFs, 2004–2011	Illiquidity gap, FoHF size, incentive fees, age, performance, cash buffer	Panel regressions, 2SLS IV, cross-sectional analysis	Larger FoHFs have greater illiquidity gaps; higher gaps linked to higher risk and worse crisis performance.
Boyson (2008)	3,333 hedge funds (TASS), 1994–2004	AUM, age, past performance	Portfolio sorts, cross-sectional analysis, regression	Performance persistence is strongest among small, young funds.
Ding, Shawky & Tian (2009)	8,712 hedge funds (CISDM), 1994–2005	AUM, absolute returns, risk-adjusted returns, liquidity, risk (systematic /idiosyncratic), strategy	Sorting funds by size, sub-period analysis, t-tests, risk and liquidity comparisons by strategy	Small funds outperform large funds on absolute returns; large funds outperform small funds on risk-adjusted returns.
Forsberg, Gallagher & Warren (2022)	Hedge funds from HFR and eVestment, 1997– 2016, AUM ≥ $10M	Fund performance (returns, alpha), individual fund AUM, cohort AUM, fund flows, competition	Cohort formation via return correlations, regressions of performance on fund/cohort size, controls, robustness checks	Performance declines as cohort AUM rises; Capacity constraints mainly stem from total AUM pursuing a strategy, not just fund size.
Fung & Hsieh (2011)	3,000+ l/s equity hedge funds from Lipper TASS, HFR, CISDM; 1994–2008	AUM, alpha, beta, exposures (market, size, momentum, activity), style, persistence	Factor model regressions, cross-sectional analysis, persistence tests, comparison with mutual funds	No significant negative effect of fund size on alpha; persistent alpha decays to beta over time; less than 20% of funds deliver significant, stable alpha.

Author	Sample and Period	Variables used	Methodology used	Results
Gao, Haight, Yin & Zhang (2022)	Hedge funds from Lipper TASS & HFR, 1994–2018	AUM, age, risk-adjusted returns, strategy distinctiveness, performance incentives	Performance life cycle analysis, Fama-MacBeth regressions, double sorts, horse-race portfolio tests	Performance declines with fund age and growth in size; Small funds and those with strong incentives outperform large/weak-incentive funds, regardless of age.
Joenväärä, Kosowski, & Tolonen (2019)	Global hedge funds; TASS, HFR, Eureka, Barclay, Morningstar; 1994–2012	AUM, investor portfolio size, performance (Fung-Hsieh alpha), investment constraints	Portfolio sorts, performance persistence tests, hypothetical investor simulations with layered constraints	Performance persistence and returns decline with realistic constraints, especially for large investors; small investor portfolios achieve higher alphas.
Mozes & Steffens (2016)	2,563 live hedge funds from Evestment, 1992–2015; min 60 month data	Fund age, AUM, returns (excess and index-relative), illiquidity, strategy group	Fund-specific time-series regressions, descriptive statistics, nonparametric and parametric tests	Fund performance declines with age. Level of AUM is positively related to performance, but growth in AUM is negatively related.
Naik, Ramadorai & Stromqvist (2007)	7,610 hedge funds from HFR, TASS, CISDM, MSCI; 1994–2004	AUM, strategy-level AUM, capital flows, alpha, fees, strategy type	Rolling regressions (Fung & Hsieh 7-factor), analysis of alpha and capital flows by strategy, structural break analysis	Alpha declined across strategies, especially after 2000. Performance decline is linked to industry-wide AUM growth, not just individual fund size. Fees increased as alpha declined.
Pástor, Stambaugh & Taylor (2015)	3,126 actively managed US equity mutual funds, 1979–2011	AUM, industry size, fund performance, fund age, skill	Panel regressions (OLS, fixed effects, recursive demeaning), portfolio sorts by age, skill estimation	Performance declines as industry size increases. Younger funds outperform older funds.
Pruchnicka-Grabias (2010)	20 global macro hedge funds from Barclay Hedge and Global Fund Tech; 2007 and 2008	AUM, rates of return, standard deviation, beta, alpha, Sharpe ratio, correlation with traditional assets	Descriptive statistics, performance metrics (return, risk, alpha, Sharpe), comparison across funds and market conditions	Performance during bear markets (2008) was generally poor regardless of size; no clear evidence that larger funds outperformed smaller ones in either market condition.

Author	Sample and Period	Variables used	Methodology used	Results
Shawky & Wang (2014)	1,870 FoHFs from Lipper TASS; 1994–2011	AUM, liquidity risk, liquidity, fund age, fees, leverage, fund flows	Portfolio sorts, Fama-MacBeth regressions, OLS, Fung & Hsieh 7-factor, robustness checks	Larger FoHFs outperform smaller ones, but only in low liquidity risk environments. This positive size-performance relationship disappears as liquidity risk increases.
Stafylas & Andrikopoulos (2019)	North American hedge funds; Barclay, Eureka; 1990–2014	AUM, age, lockup period, strategy, business cycle, market condition, alpha	Exogenous breakpoints, Markov switching model, panel regressions, robustness checks	Small, young funds outperform in "good" times; overall, positive alpha only in "good" times, irrespective of fundamentals.
Teo (2009)	3,177 live and 4,240 defunct hedge funds from TASS and HFR; 1994–2008	AUM, r-adjusted returns, fund age, leverage, fees, serial correlation, principals, style, region	Fama-MacBeth regressions, portfolio sorts, risk adjustment (Fung & Hsieh 7-factor), robustness checks	Larger funds earn lower risk-adjusted returns; small funds outperform large funds by ~3.65%/yr.
Yin (2016)	Hedge funds from Lipper TASS, 1994–2009	AUM, style-adjusted returns, manager compensation, fees, capital flows, fund closure	Regression analysis, polynomial regression by style, flow-performance analysis, robustness checks	Diseconomies of scale for some styles; manager compensation rises with size even as performance declines; managers have incentive to grow AUM beyond optimal for investors.

The table presents, for each study, the fund sample, time period, variables used, methodology applied, and key results. Smaller hedge funds generally outperform larger ones, especially in terms of risk-adjusted returns (Boyson, 2008; Gao et al., 2022; Teo, 2009). They also tend to perform better during bull markets (Pruchnicka-Grabias, 2010). Larger funds while benefiting from low liquidity risk environments, face higher illiquidity gaps and are more exposed to risk during downturns (Shawky & Wang, 2014; Agarwal et al., 2019). Performance tends to decline not only with fund size but also due to industry-wide AUM growth and cohort-level crowding, which erode alpha through competition (Pástor et al., 2015; Forsberg et al., 2022). Additionally, fund age and growth in AUM are linked to performance deterioration (Mozes & Steffens, 2016). Finally, agency conflicts may arise as managers are incentivized to grow assets beyond the optimal level, often to the detriment of investors (Yin, 2016).

4 Analysis and discussion

This section analyzes and discusses the findings from the literature to address the thesis's hypotheses and research questions. The evidence points to a complex and nuanced relationship between hedge fund size and performance, shaped by structural advantages, market conditions, and strategy-specific constraints.

4.1 Key findings

The literature indicates that smaller hedge funds are generally less exposed to liquidity constraints, enabling them to invest across a broader range of assets. As Teo (2009, pp. 16–17) notes, this flexibility allows smaller funds to exploit market inefficiencies more effectively, enhancing their ability to generate alpha.

Manager skill plays an important role in fund performance, as innovative managers often possess the capability to deliver excess returns (Mozes & Steffens, 2016, p. 87; Zhu, 2018, p. 126). However, as funds mature and grow in size, the relative outperformance tends to decline (Mozes & Steffens, 2016, p. 95). Gao et al. (2022, pp. 204–206) further support this, finding that superior performance in younger, smaller funds is not the result of elevated risk, but rather stems from innovative strategies and well-aligned fee structures. Additionally, managers operating in less competitive environments are better positioned to control the fund’s inflows, helping to sustain its ability to generate superior returns (Forsberg et al., 2022, p. 70). In line with agency theory, Yin (2016, pp. 1871–1873) emphasizes that misaligned incentives between fund managers and investors often lead to funds growing beyond their optimal size.

Larger funds possess distinct advantages in certain contexts. For instance, larger funds of hedge funds are better positioned to access high-performing funds that are closed to new investors (Teo, 2009, pp. 15–16). Additionally, they seem to benefit from high liquidity environments (Shawky & Wang, 2014, pp. 61–62).

While larger funds may offer greater resilience, all hedge funds—on average—face significant challenges during market downturns (Pruchnicka-Grabias, 2010, p. 158). Some even produce negative alpha, as the focus shifts to minimizing systematic risk (Stafylas & Andrikopoulos, 2020, p. 14). However, there is evidence suggesting that funds with a better ability to manage liquidity risk are more likely to outperform during a bear market (Agarwal et al., 2019, p. 2375). Conversely, during bull markets, smaller funds often outperform their larger peers, likely due to their greater flexibility and agility (Stafylas & Andrikopoulos, 2020, p. 7).

Certain strategies—such as relative value, directional trading, emerging markets, and fixed income—are more sensitive to capital inflows and thus better suited for smaller funds that can navigate niche markets (Naik et al., 2007, p. 251). In contrast, strategies like global macro and security selection are thus probably less affected by such constraints, making them more appropriate for larger funds. Liquidity management also plays a significant role in determining fund performance. While aggressive liquidity management generally improves performance, fixed income funds benefit more from a conservative approach (Ding et al., 2009, pp. 890–891). This indicates that liquidity strategies must be tailored to both fund size and strategy.

Funds employing unique strategies tend to be less affected by the negative effects of asset growth, while the main driver for larger funds' underperformance being competition rather than fund size alone (Forsberg et al., 2022, p. 68–70). Likewise, strategies less prone to capacity constraints are better suited for asset growth without a corresponding decline in performance (Teo, 2009, pp. 16–17). Finally, the skill of fund managers, along with how they structure their fees, may play a more decisive role in performance than market conditions or strategy alone (Zhu, 2018, p. 126; Yin, 2016, p. 1869).

4.2 Critical analysis

This section critically evaluates the findings from the literature review, contextualizes them within existing theoretical frameworks, and addresses contradictions, implications, discussion about optimal fund size, methodological challenges, limitations regarding reviewed studies, and possible future research directions.

4.2.1 Theoretical Frameworks and Contradictions

The literature reviewed provides strong support for the core principles underlying the first hypothesis—specifically, the frameworks proposed by Berk and Green's (2004) model and agency theory. Most studies find that hedge funds tend to experience diminishing returns as they grow beyond a certain size (e.g., Teo, 2009; Gao et al., 2022; Mozes & Steffens, 2016). Likewise, achieving optimal fund performance is often constrained by misaligned incentives between managers and investors (e.g., Yin, 2016; Teo, 2009).

On the other hand, the literature indicates that hedge fund strategies vary in their sensitivity to scaling effects (Naik et al., 2007, p. 251; Pástor et al., 2015, pp. 36–37). Consistent with the second hypothesis, strategies with characteristics such as lower turnover, reduced volatility, and greater liquidity resilience tend to be less affected by diseconomies of scale. Moreover, in some cases, performance shifts appear to be driven more by broader market dynamics than by fund size itself (Fung & Hsieh, 2011, p. 568).

Interestingly, diseconomies of scale appear to have a less pronounced impact on funds of hedge funds, with some evidence even suggesting that these funds may benefit from increasing in size (Shawky & Wang, 2014, pp. 61–62). Also, some studies report conflicting findings on whether smaller funds outperform larger ones due to higher risk-taking (Gao et al., 2022, pp. 206–207; Ding et al., 2009, pp. 886–887). One possible explanation is that less diversified, idiosyncratic investment strategies—often more feasible for

smaller funds—can produce varying risk-adjusted returns depending on the time period and market environment.

4.2.2 Implications

Investment strategies often dictate whether aggressive or conservative liquidity management is more effective (e.g., Ding et al., 2009, pp. 890–891). By carefully assessing both the size and strategy of a fund, investors can make more informed capital allocation decisions.

The literature reveals that fund size presents both benefits and limitations. Smaller hedge funds tend to outperform their larger counterparts in less liquid markets due to their agility and ability to exploit niche opportunities (Teo, 2009, pp. 16–17). In contrast, larger funds of funds often benefit from economies of scale, especially when liquidity risk is low (Shawky & Wang, 2014, pp. 61–62). However, larger funds also face increased liquidity constraints, greater price impact, and heightened organizational complexity (Teo, 2009, pp. 17–18).

Liquidity constraints emerge as a central theme in the size–performance dynamic. As hedge funds grow, maintaining liquidity becomes more difficult, often resulting in a shift toward more liquid assets and a corresponding decline in returns (Mozes & Steffens, 2016, p. 87). Moreover, both investor size and fund-level constraints shape who can access the top-performing funds (Joenväärä et al., 2019, p. 1562). The ability to identify and act on attractive investment opportunities is influenced by a combination of fund size, strategy, and prevailing market conditions. Fund managers may also adjust fee structures based on anticipated capacity limits (Teo, 2009, pp. 18–19), and agency conflicts can arise when the drive to grow assets under management comes at the expense of investor returns (Yin, 2016, pp. 1871–1873).

Furthermore, the evidence indicates that most hedge fund strategies tend to underperform during periods of economic crisis (Stafylas & Andrikopoulos, 2020, p. 10; Pruchnicka-Grabias, 2010, p. 162). Additionally, competition and aggregate capital play a significant role. It is not only individual fund size, but also the total capital allocated to a specific strategy—i.e., cohort size—that drives diseconomies of scale and performance deterioration (Forsberg et al., 2022, p. 66). Aligning strategy with fund capacity is critical; successful fund managers must carefully balance growth with strategic constraints, sometimes choosing to restrict new investments in order to preserve performance (Yin, 2016, p. 1876).

4.2.3 Optimal fund size

Zhu (2018) and Yin (2016) offer important insights into the determinants of optimal fund size. Zhu (2018, p. 115) emphasizes the importance of aligning fund size with the manager's skill level, suggesting the need to identify a "sweet spot" that maximizes value. Yin (2016, p. 1867) adds that the investment strategy also plays a critical role in determining optimal size. Both studies suggest that fund managers may have incentives to grow their assets under management beyond the optimal level to increase personal compensation, even at the cost of diminishing returns.

For investors, this implies that fund size—whether large or small—does not inherently translate to superior returns. Evaluating a fund's size in the context of its strategy and performance history seems to be essential. Moreover, the observed misalignment between managerial and investor incentives (Yin, 2016, pp. 1871–1873) points to a need for more innovative compensation models—ones that align fund manager behavior with the objective of maximizing risk-adjusted returns rather than simply increasing AUM.

4.2.4 Limitations

A critical evaluation of the literature reveals several key limitations. First, survivorship bias remains a persistent challenge. Many studies analyze only surviving hedge funds, potentially overstating overall industry performance. Gao et al. (2022, p. 193) address this issue by explicitly including defunct funds in their dataset to offer a more accurate assessment. However, the broader tendency across the literature to exclude non-survivors limits the generalizability of performance-based conclusions.

Many studies cited rely on correlations rather than establishing causality, leaving the direction and mechanisms of observed relationships uncertain (e.g., Teo, 2009; Forsberg et al., 2022). Moreover, while acknowledging that fund size effects vary by strategy and market conditions, the review does not systematically quantify or categorize these differences, resulting in qualitative rather than actionable insights (Naik et al., 2007; Stafylas & Andrikopoulos, 2020).

4.2.5 Future research directions

Despite the substantial progress made in understanding the relationship between hedge fund size and performance, several avenues for future research remain. One key area for further investigation is the strategy-specific impact of fund size, as current studies often generalize across different hedge fund styles. More granular analysis is needed to determine how size influences performance in specific strategies such as market-neutral, fixed income, or event-driven funds.

Additionally, the lifecycle of a hedge fund and how liquidity constraints evolve over time merit closer examination, particularly in relation to capital deployment and asset reallocation. Another important avenue is the refinement of how managerial skill is measured in large funds, as traditional metrics like alpha may not fully capture skill when funds

scale up. The agency conflict between managers and investors also deserves more attention, especially in understanding how incentive structures influence growth decisions.

Moreover, cohort-level competition—where multiple funds pursue similar strategies—has been found to erode returns, suggesting that future research should explore performance dynamics at the strategy-group level. Differences in investor constraints, such as minimum investments or liquidity requirements, could also be modeled to understand how fund access and performance are shaped by investor characteristics. Cross-market and international comparisons could provide further insights, given that most existing research focuses on US-based funds.

Finally, future studies could investigate how technological innovation—including AI-driven investment strategies and advanced data analytics—interacts with fund size and scalability. Collectively, these directions would contribute to a more comprehensive and nuanced understanding of hedge fund performance and behavior as funds grow in size.

5 Conclusion

The findings of this thesis indicate that hedge fund size plays a significant, yet nuanced, role in determining performance outcomes. The reviewed literature largely supports the first hypothesis, demonstrating that smaller hedge funds tend to achieve higher risk-adjusted returns compared to their larger counterparts (Teo, 2009; Zhu, 2018; Gao et al., 2022). This outperformance is attributed to the greater agility, new ideas, and ability of smaller funds to exploit niche investment opportunities, as well as to avoid the capacity constraints and misaligned fee structures that often hamper larger funds (Boyson, 2008; Gao et al., 2022; Teo, 2009; Yin, 2016).

However, the relationship between size and performance is not uniform across all contexts. The evidence also supports the second hypothesis, showing that the impact of fund size varies depending on market conditions and investment strategy (Naik et al., 2007, p. 251; Stafylas & Andrikopoulos, 2020, p. 7). For example, strategies like emerging markets tend to be more sensitive to size-related constraints, whereas long/short equity strategies appear less affected by fund size and more influenced by broader market dynamics (Naik et al., 2007, p. 251; Fung & Hsieh, 2011, p. 568), and smaller funds tend to outperform in bull markets while all funds may struggle during periods of market stress (Stafylas & Andrikopoulos, 2020, p. 7; Pruchnicka-Grabias, 2010, p. 158). Despite these general patterns, the literature reveals important exceptions: in some cases, larger funds benefit from economies of scale, enhanced access to exclusive investment opportunities, and particularly within funds of hedge funds or highly liquid strategies (Teo, 2009, pp. 15–16; Shawky & Wang, 2014, pp. 61–62). Furthermore, agency theory highlights that as funds grow, misalignment between managers' and investors' interests can introduce additional performance frictions (Ross, 1973; Yin, 2016, pp. 1871–1873).

Overall, while the majority of studies support the notion that smaller funds are better positioned to deliver superior risk-adjusted returns, the relationship is complex and context-dependent. There is no universally optimal fund size; instead, the ideal scale is shaped by the interplay of strategy, market environment, liquidity constraints, and

organizational factors. These findings underscore the importance for investors and fund managers of aligning fund size with investment strategy and market conditions to maximize performance.

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