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Asset Allocation with Private Equity

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Foundations and Trends® in Finance

Published, sold and distributed by:
now Publishers Inc.
PO Box 1024
Hanover, MA 02339
United States
Tel. +1-781-985-4510
www.nowpublishers.com
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Outside North America:
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PO Box 179
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The Netherlands
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The preferred citation for this publication is

A. Korteweg and M. M. Westerfield. *Asset Allocation with Private Equity*. Foundations and Trends® in Finance, vol. 13, no. 2, pp. 95–204, 2022.

ISBN: 978-1-68083-969-2

Foundations and Trends® in Finance
Volume 13, Issue 2, 2022

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Foundations and Trends® in Finance, 2022, Volume 13, 4 issues. ISSN paper version 1567-2395. ISSN online version 1567-2409. Also available as a combined paper and online subscription.

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Asset Allocation with Private Equity

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ABSTRACT

We survey the literature on the private equity partnership arrangement from the perspective of an outside investor (limited partner). We examine how the partnership arrangement fits into a broader portfolio of investments, and we consider the methods and difficulties in performance measurement, both at the fund level and at the asset class level. We follow with a discussion of performance persistence and the skill and pricing power of both general and limited partners. We continue by examining the limited partner's problem of managing commitments and investments over time while diversifying across funds in light of both idiosyncratic and systematic shocks. We close with a summary of recent work on optimal portfolio allocation to private equity. Throughout, we consider how empirical and theoretical work match the particular institutional details of private equity, and we identify 27 open questions to help guide private equity research forward.

Arthur Korteweg and Mark M. Westerfield (2022), "Asset Allocation with Private Equity", Foundations and Trends® in Finance: Vol. 13, No. 2, pp 95–204. DOI: 10.1561/0500000062.

1

Introduction

Institutional investors allocate an increasingly large share of their portfolios to private equity (PE) investments, such as venture capital (VC) and leveraged buyouts (BO).[1] In the decade following the global financial crisis of 2008, pension funds and endowments nearly doubled their allocations to private equity and real estate. These allocations represented almost 20% of assets under management for pension funds in many large, developed economies in 2017 and a similar fraction for endowments of U.S. higher education institutions in 2019.[2] Another sign of the increasingly important role of PE in portfolios is the current debate in the U.S. over whether to allow defined contribution pension plans, such as 401(k) plans, to invest in PE. At the same time, many companies have chosen to stay, or convert to, private firms, resulting in a decline in the number of publicly listed firms (e.g., Kahle and Stulz,

[1] For the purpose of this monograph, when we say private equity, we include all types, including venture capital, buyout, real estate, private debt, infrastructure, natural resources, and others.

[2] See Ivashina and Lerner (2018) for pension funds. The endowment number refers to the value-weighted average allocation across endowments, per the 2019 NACUBO-TIAA Study of Endowments, http://products.nacubo.org/index.php/leadership/2019-nacubo-tiaa-study-of-endowments.html.

2017). The combined result of these trends is that a large share of the economy is not traded in public markets.

The purpose of this monograph is to address the central question "What is the optimal portfolio allocation to private equity?" In doing so, we have two goals. The first is to survey the literature on the private equity partnership arrangement from an investor's perspective, including how these partnerships fit into a broader portfolio. The second is to articulate a list of open questions in the literature. We identify 27 open questions that we believe will help to push research in private equity forward.

Investing in private equity means taking a stake as a Limited Parter (LP) in a fund or other vehicle run by a General Partner (GP). These stakes are delegated investments governed by Limited Partnership Agreements (LPAs) that specify contractual arrangements, including decision-making powers and fees. There are three core features of private equity investments that distinguish them from other investments an LP might make:

(1) The LP makes capital commitments, and the GP has discretion over when to call capital from the LP and when to distribute it. Thus, it is the intermediary (GP), not the source of capital (LP), that determines the timing of investment and the quantity invested at any particular time.

(2) LP stakes are not easily or frequently traded with other LPs, despite a growing secondary market, and LPs cannot redeem capital from funds prematurely. Thus, there is no well defined market price to determine fund-level performance and no easy exit mechanism for LPs.

(3) Private equity funds are all differently created, bespoke investment vehicles, and investments in main PE funds are frequently paired with co-investment or other alternative vehicles. Similarly, there is significant variation in the level and structure of fees. Thus, comparing LPs' investments and opportunities is difficult.

Some assets share some of these difficulties – parts of real estate and some illiquid bonds, for example – but the combination of the three makes private equity particularly interesting and worth studying.

The three core features interact with each other. For example, the GP's investment discretion (1), combined with the unavailability of market prices (2), gives the GP the scope to manipulate performance measures. As a result, it is difficult to determine how much risk a GP is taking and what is their skill level. The GP's investment discretion (1), combined with the bespoke nature of funds and co-investment vehicles (3), gives the GP the ability to offer slightly different investment packages to different LPs. As a result, there is scope for both GPs and LPs to exert bargaining or pricing power. The lack of mark-to-market valuations (2), combined with the fact that private equity funds are all risky and differentiated (3), implies that investment managers (LPs, such as pension funds and endowments) can take risks that are hidden from their principals.

As will become clear, there is no simple, cookie-cutter answer to the portfolio decision question. All LPs are not created equal, and depending on factors such as size, access, and skill, the optimal portfolio weight can be zero or it can be substantial. In light of this, questions of particular interest are:

(1) How does the LP assess performance data given the measurement and agency problems created by delegating investment decisions to the GP? For example, how does one assess a GP's skill when the timing of all capital calls and distributions are at the GP's discretion?

(2) How should the LP understand the bargaining problem with GPs? What gives a GP or LP pricing power, and how can that be exploited?

(3) How much of a premium do and should LPs require for their grant of liquidity and investment discretion to the GP? How much of a premium is required to accept the inevitable performance manipulation?

We have organized our monograph to lead from a description of theoretical and empirical work toward open questions. To that end, we have included a substantial number of recent and unpublished working papers in our survey.[3] Perhaps paradoxically, research in private equity is simultaneously incomplete and of great relevance to wider questions regarding the incentives, financing, and pricing of investments.

The monograph proceeds as follows: Section 2 contains institutional details regarding PE firms, funds, and investors. For some readers this will be a review, but we include it because the institutional details are required to understand the decision rights that the LP grants the GP and how those decisions are usually executed. We also set up a discussion of the GP's incentives which will pervade our discussion of selected data and pricing power later in the monograph.

To understand why the institutional details of PE matter for LPs, one has to understand the uses and limitations of the benchmark portfolio choice model. To this end, Section 3 reviews a standard portfolio choice model, and we show how the characteristics of PE violate the model's core assumptions.

Section 4 describes the methods and problems with measuring performance in PE. We begin with industry-level performance, describing the methods and problems in constructing a private equity index, and discuss results on the risk loadings of aggregate PE investments. We then move on to the fund level, introducing common performance measures and recent innovations. We show how performance measures fail and how they can be manipulated, both by misreporting and by changing underlying economic activity. We conclude with a discussion of GP skill and fund return persistence.

Section 5 shifts the focus from PE investments to PE investors, and we examine the returns and pricing power of LPs. A core piece of the asset allocation problem for an LP is how to choose and manage relationships with individual GPs. We begin with an examination of persistent return differences for LPs and how they have changed over time. We then discuss theories and empirical results covering LP pricing

[3]We describe the results of unpublished papers as they appear at the time of this writing, with the caveat that some of these will change significantly between their current version and their published version.

power and differential access, including liquidity, information, search, and size. We conclude with an evaluation of the different goals of various LPs, particularly the non-financial goals of public institutions.

Section 6 focuses on LPs' diversification problem and their liquidity management problem, including the role of the secondary market. How should private equity commitments be spread across funds and through time? Diversification and liquidity are strongly connected because of the particular nature of cash flow and liquidity shocks in PE. We explore the implied trade-offs at the fund level and the relationship between the fund level and aggregate activity. We examine the various types of liquidity that have been introduced in the wider finance literature and how they apply to PE. We close with a summary of some recent work on optimal portfolio allocation to PE.

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