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The Growth of Private Financial Markets

Lenore Palladino and Harrison Karlewicz

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**POLITICAL ECONOMY
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PERI Working Paper

Lenore Palladino and Harrison Karlewicz¹

Abstract

Over the past decade, “private” financial markets, which face little oversight by regulators, have grown to the point where they dominate financial activity. Private funds have approximately tripled in size in the last decade to \$26 trillion in gross assets (compared to the \$23 trillion in the U.S. commercial banking industry). Private markets raise more in equity than public markets: in 2021, new stock issuances resulted in \$434.7 billion, while private markets raised \$1.73 trillion in committed funds that same year—almost four times as much. Private markets are structured differently—organized into funds by asset managers as limited partnerships, which shields general managers from liability. The primary dealers in these private markets are venture capital, private equity, private credit funds, and private real asset managers. In this working paper, we examine four institutional shareholder types: public and private pension funders, endowment plans, and foundations. Institutional shareholders now allocate 28-35% of their assets under management to the “alternative” assets of private markets. Pension funds alone currently account for \$2.7 trillion in committed funds to private financial markets, the latter of which has ballooned to \$26 trillion in gross assets. This development potentially represents new systemic risks to the economy at large and for the institutional shareholders participating in these markets.

¹ Thanks to Ananya Kohli for wonderful research assistance.

Table of Contents

I. Introduction	3
II: The Growth of Private Financial Markets	5
A. The Institutional Framework of Private Markets	5
B. The Growth of Private Financial Assets by Source & Use of Funds	10
C. The Growth of Private Credit Funds	12
III. U.S. Public Pension Funds' Shift into Private Financial Markets	13
A. Retirement Funds Asset Growth Since 2000:	13
B. State & Local Public Pension Funds	14
IV. Conclusion	18
References	20
Appendix I: Sample Breakdown of Private Market Allocations for an Individual Public Pension Fund	23
Appendix II: Private Capital Fund Strategies	25

I. Introduction

Open stock markets—commonly though erroneously termed “public”—are the dominant financial markets in the public imagination, in which shareholders buy and sell shares of large companies that offer their shares to anyone with the funds to buy them. Yet in 2024, eighty-seven percent of companies with revenue greater than \$100 million are “private”—meaning their equity is not available on the open stock market (Slok, 2024). Such private² markets are now the center of gravity in financial markets: private funds have approximately tripled in size in the last decade to \$26 trillion in gross assets (compared to the \$23 trillion in the U.S. commercial banking industry), and private markets raise more in equity than public markets (Ivashina and Lerner, 2019; Gensler, 2023). This shift began in the aftermath of the financial crisis and has continued to escalate without enough attention to the broader economic impacts: the rising reliance of the non-financial corporate sector on private markets is creating potential systemic risks and challenges for economic prosperity. This article presents an overview of the growth of private markets and the issues that deserve increased attention from economic policymakers.

“Private” financial markets are markets for corporate equity and debt where non-wealthy individuals cannot participate and where the funds and fund managers conducting the transactions do not have to disclose their activity to the same extent as the transactions that happen in open markets. The securities laws put in place in 1933 and 1934³ distinguished between financial instruments, funds and transactions available to all, requiring disclosures from companies seeking to sell equities on the open markets in the name of “investor protection.” Private markets were those that were available only to the very wealthy and institutions, who (supposedly) had the sophistication to engage in more opaque financial activity, and could bear the increased risks. The public markets were the center of financial activity for much of the 20th century, as successful companies sought to “go public,” issuing stock to the public, and the corporate governance ideology of shareholder primacy predominated (Palladino, 2021).

² We will continue to use the terminology of “open” and “public” as synonyms, and “private” markets for the financial markets that are non-public based on the traditional distinction in securities law.

³ The Securities Act of 1933 and Securities and Exchange Act of 1934.

In the 21st century, “public” financial assets—non-wealthy household assets—flow to both public and private companies and funds; the boundary has broken down as a useful principle in understanding how financial markets work and how non-financial businesses engage with financial institutions. It is possible today for two virtually identical firms to fall on two sides of the divide in terms of “public/private.” The firm on the “public” side would have to provide public disclosure on a regular basis; the other would not. Private companies can “operate in secrecy, avoid public scrutiny, and eschew the internal governance structures required of public companies.” Private markets “are now just as abundant, which renders public company status virtually irrelevant from an access-to-capital point of view” (Georgiev 2021, p. 225). However, the “public” markets and their institutional structures remain at the center of how policymakers and economists think about the relationship between companies and finance.

The financial assets of non-wealthy households are now deployed in private markets through pension funds, even as most households are unaware of this shift. Public pension funds hold trillions of dollars of financial assets that working families accumulate over the course of their working lives in pursuit of a dignified retirement. Historically, these funds were first limited to safe government assets, and after the 1980s mainly purchased assets on the open markets, increasingly through index funds. In the last decade, these funds have become increasingly reliant on private fund managers, in private equity, private credit, hedge funds, real estate and commodities. According to research by Jean-Pierre Aubry (2022) of the Center for Retirement Research, “state and local [public pension] plans have increased their “alternative” holdings from 9 percent in 2001 to 34 percent [of their overall portfolio] in 2022.” For individual plans, by 2022, “the maximum held was over 50 percent and only 5 percent of plans held less than 5 percent.”

It is critical for economists and policymakers to understand the distinctions between transactions and institutional relationships that occur in private versus open markets. This article provides a descriptive overview of the rise of private equity, private credit, asset managers focused on non-publicly traded assets, and the increasing focus of U.S. public pension funds on this market. While private equity has been discussed extensively by economists and policymakers, private credit funds are a much newer category of financial market activity; we give particular focus on describing the growth of private credit. We use publicly available data sources, including Federal Reserve data, public pension fund reports aggregated by the Boston University Center for Retirement Research,

and Prequin, a data vendor focused on the “alternatives” market, to discuss the growth and increasing engagement of public pension funds in private markets.

II: The Growth of Private Financial Markets

A. The Institutional Framework of Private Markets

The Securities Act of 1933 and the Securities Exchange Act 1934, the landmark legislation that established the Securities Exchange Commission's regime of regulation over certain corporate and financial transactions, institutionalized the “public-private divide” in securities markets. The Acts established a “highly” regulated public realm, and a lightly regulated private realm, based on the premise that “public markets” were the domain of shareholders purchasing and selling corporate shares who did not have expertise and thus needed detailed disclosure of corporate activities (Georgiev, 2021). Private markets, on the other hand, were the domain of wealthy expert shareholders, who were able to engage in dealmaking without public disclosure. This distinction initially limited institutional shareholders, such as public pension funds, from purchasing assets that were not sold on open securities markets. In 1979, the Department of Labor revised the standards for trustees of pension funds, enabling them to purchase illiquid assets for the first time under the new “prudent man rule.” This change enabled private markets to grow because for the first time the largest pools of institutional financial assets—pensions—were able to participate (Ivashina and Lerner, 2019). One argument made in favor of private markets is that the illiquid nature of asset purchases enables a longer-term focus by asset managers and institutional shareholders. Leading scholars Victoria Ivashina and Josh Lerner (2019, p. 11) claim that “long-term investors who are actively involved in managing an investment may be able to contribute a lot of value,” and that the compensation structures in private markets give executives the incentive to work to make the production process successful. The challenge that they point to is that many investors have a stop-start pattern to their private investment, so they do not end up with the rewards.

Private markets are structured differently from the open financial markets where constant trading is the norm. Private markets are organized to enable fund managers (also referred to as asset

managers) to utilize the financial assets of qualified institutions or wealthy individuals, pool them into funds (that are legally separate entities from the fund managers), and use those funds to purchase non-financial assets. “Pooled investment vehicles,” or “private funds,” raise financial assets from “limited partners” and are managed by investment advisers, who decide how to allocate the funds. These funds are exempt under the Investment Company Act of 1940, and are known as “3(c)(1)” funds and “3(c)(7)” based on the exemptions.⁴ The 3(c)(1) exemption is based on the fund having a limit of 100 beneficial owners (or in the case of venture capital, 250 beneficial owners); while 3(c)(7) is exempt because it is limited to investors that are “qualified purchasers.”⁵

The main asset owners that allocate funds to exempt pooled investment vehicles—termed the “limited partners” of a given fund, as funds are managed by the “general partner” fund manager, include: private and public pension funds, family offices, endowments, insurance companies, and sovereign wealth funds (Ivashina and Lerner, 2019). The growth of these entities has enabled the growth of private markets and is described in detail below. Legally, asset (fund) managers are distinct entities from the funds themselves where financial assets of limited partners are held and deployed to purchase non-financial assets, which can be non-financial businesses, or other real assets, including real estate, commodities, or infrastructure (collectively termed the “portfolio” assets as they are what the funds hold in their portfolios). This legal distinction is critical to the business model in private markets, in which asset managers reap the benefits but avoid the risks that the non-financial companies take. The following sections describe the main categories of actors active in private financial markets in more detail.

⁴ Minimal reporting requirements do exist for private funds: SEC-registered investment advisers with at least \$150 million in private assets under management use Form PF to report information about the private funds that they manage. Form PF was established under Dodd-Frank in 2011. A rule amending form PF was finalized in May 2023, requiring that certain large hedge funds and private equity fund advisers make current reports on certain events to the SEC (within 72 hours for hedge funds and quarterly from private equity fund advisers). The SEC issued new rules on private fund adviser disclosures on 8/23/2023, under the Investment Advisers Act of 1940. Private fund advisers are required to disclose an itemized report of compensation, fees, expenses, and performance, to limited partners under the new rules on private fund advisers.

⁵ ‘Qualified purchasers’ are defined in the securities laws as individuals that are wealthy enough “to be financially sophisticated and therefore not in need of the protection of state registration when they are offered or sold securities.” For more detail, see: <https://www.sec.gov/rules/2001/12/defining-term-qualified-purchaser-under-securities-act-1933>.

Venture Capital

Venture capital is the sector of the private markets that seeds new companies without collateral (and therefore unable to obtain bank loans) in search of the next “big thing”: “each year brings a handful of outliers that hit the proverbial grand slam, and the only thing that matters in venture is to own a piece of them” (Mallaby 2022, p. 9). The financial institutions that organize venture capital funds are focused on finding the outliers that are innovating in their production process and taking chances, rather than allocating funds only to sure bets. The sector is successful in large part due to its own dense network and the expertise that its leaders have in the non-financial production processes of the companies that it invests in.⁶ Like the rest of private markets, venture capital was able to grow after the DOL changed the rules that enabled pension funds to put financial assets with venture capital. Venture capital leaders tend to focus on the executives running companies and their ability to solve technical problems that will lead to market dominance—during the tech boom, it seeded the growth of companies like Facebook and Google. Facebook’s seeming “delay” in conducting its IPO was an important moment for the growth of the private markets as companies realized they could continue to grow while remaining public and still structure exits for employees. This is when the “unicorn” company was born—private companies who have valuations over \$1 billion—and “enormous amounts of wealth [were] wrested away from the public stock market for the exclusive benefit of private investors” (Mallaby 2022, p. 277).

Though the dominant narrative is that venture capital firms are crucial for innovation, Peter Lee (2022, p. 611) argues that “the ability of VC markets to catalyze innovations is often overstated.” First, because the whole sector is built on social ties, this means that only those with greater social capital have the likelihood of getting funding. Second, “VCs exhibit a surprising degree of herd mentality, investing in trendy technologies while shying away from truly radical innovations.” Their focus is on “innovations that promise large returns in a medium time frame with minimal risk,” so truly risky innovations that would have social value are also not pursued by this sector. Lee shows that the VC industry is itself indebted to the support of the federal government, even while the sector prioritizes its own profit-making interests at the expense of transformative social innovations.

⁶ Mallaby 2022: p. 68: Kleiner Perkins: started out by saying that they were **not** investors. “We are entrepreneurs ourselves, and we will work with entrepreneurs in an entrepreneurial way: we will be in it up to our elbows.”

Private Equity

Private equity funds purchase non-financial companies and hold them as part of their portfolio for the purpose of selling them for capital gains. They largely purchase these companies through leveraged buyouts: borrowing money to buy companies with only the companies themselves as collateral, such that the fund manager sponsoring the private equity fund itself does not use much of its own equity. This means that the company being purchased is itself responsible for the debt used to make the purchase. The strategy of private equity is to “look for companies that produce enough cash to cover the interest on the debt needed to buy them and which also are likely to increase in value” (Carey and Morris 2012, p. 14). The structure of such deals means that the downside risk is held by the company being purchased, so that if the company fails, the private equity firm does not lose much, but if the company succeeds and the private equity firm sells it at a higher value, their economic gain can be many multiples of the original deal.

Private equity grew from a niche segment of financial markets in the late 1970s to its central position today. Stephen Schwartzman and Peter Petersen left Lehman Brothers to take advantage of the new opportunities of leveraged buyouts in 1985, founding Blackstone and growing it into the dominant entity in leveraged buyouts, fueled by the unraveling of the corporate conglomerates that had become dominant in the 1960s. As the conglomerates started to spin out unrelated business units, buyout firms were able to scale up their purchasing using the newly available corporate instrument of junk bonds. The returns that KKR and Blackstone earned in the early 1980s—“investors in KKR’s first five funds saw annual returns of at least 25%”—brought large institutional shareholders into the funds, including public pension funds (Carey and Morris, 2012). As will be detailed below, since then private equity has grown to a dominant force in the U.S. economy, often with negative consequences for workers and business sustainability (Appelbaum and Batt, 2014; Ballou, 2023).

Private Credit Funds

Private credit funds engage in lending to businesses with loans that are negotiated directly to meet the specific needs and objectives of the individual borrower and lender, without the need to comply with traditional regulatory requirements” (Cai and Haque, 2024). After Dodd-Frank regulation changed the requirements for regulated banks, “corporate lending has increasingly migrated out of

the banking sector. Private debt (PD) funds and collateralized loan obligations (CLOs) are two of the major types of non-bank intermediaries that have filled this gap” (Block et. al, 2023). These funds now rival other credit markets in size (explored in more detail below), raising questions about the potential impacts of such unregulated and opaque loan agreements (IMF, 2024). The funds themselves are closed-end funds holding the financial assets of the same kinds of limited partners that engage in private equity funds—pension funds, insurance companies, sovereign wealth funds, and other institutional financial pools (Block et. al, 2023). Block et. al (2023) define private debt funds as “investors that raise capital commitments through closed-end funds (like private equity) and make senior loans (like banks) directly to, mostly, middle-market firms.” The private market for private debt has attracted borrowers who are unable to obtain credit from regulated banks—calling into question their suitability for such transactions in unregulated markets. The particular growth of this relatively understudied segment of the private financial markets is discussed further below.

Private Asset Managers & Real Assets: Housing and Infrastructure

Another growing area within private markets is asset managers holding real assets like housing and infrastructure—this is the focus of asset managers like Brookfield, Blackstone, and Macquarie (Christophers, 2023).⁷ Brett Christophers’ book *Our Lives in their Portfolios* details the rise of asset managers holding “our most essential physical systems and infrastructure” for purposes of asset appreciation: they are “pure rentiers,” as their purpose is to extract income from assets and prep them for sale: the goal for an asset manager is asset appreciation over a limited period of time, not the long-term productivity or income earned from an asset like housing or infrastructure (Christophers 2023, p. 45). This makes asset managers the worst kind of owner for an inherently long-term good or service because they have no incentive to sacrifice in the short-term for long-term innovations or even maintenance. For example, private equity firms have been buying up multifamily apartments, becoming a major player in this market, leading to a rise in rent and a decline in service across the sector (Vogell, 2022). This is a growing sector: infrastructure assets under management worldwide have grown to \$1 trillion, more than six times their level in 2008 (Gara, 2024). Recently, BlackRock acquired Global Infrastructure Partners in January 2024 for \$12.5 billion in order to increase its investment in infrastructure by an order of magnitude—its largest takeover since 2009 (Sorkin et. al, 2024).

⁷ Our data does not include real assets held by fund managers; for this reason this sector is not discussed in detail below.

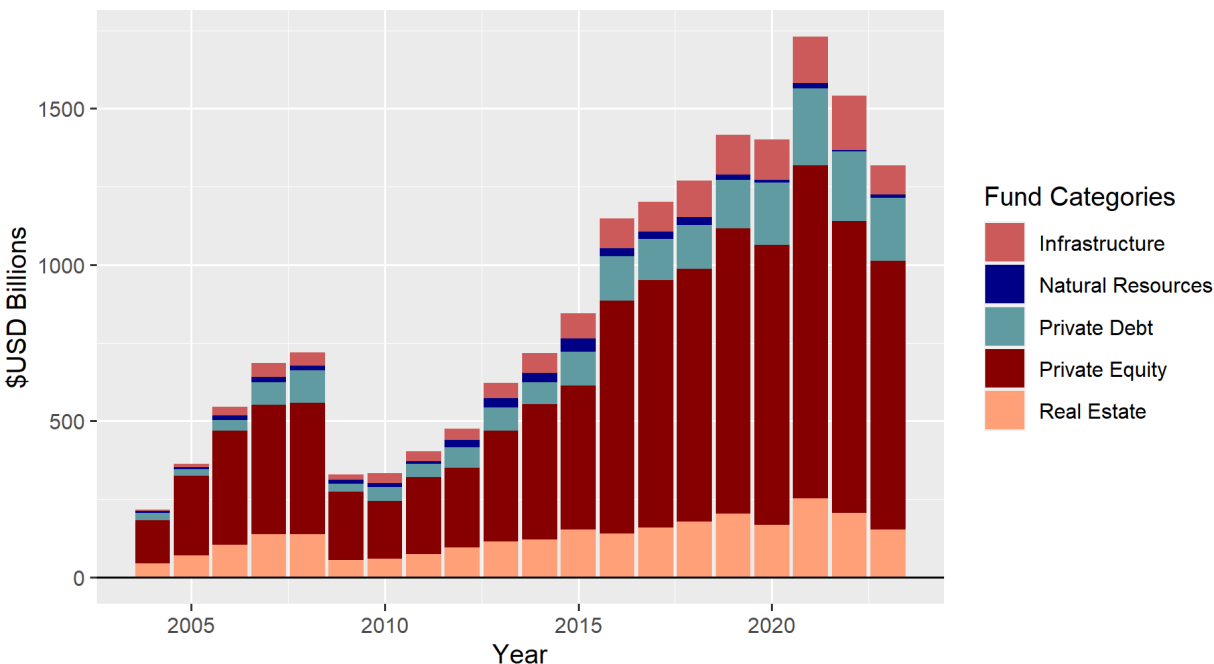
B. The Growth of Private Financial Assets by Source & Use of Funds

We can observe the growth of private financial assets by looking at historical capital fundraising data provided by Preqin for the years 2004 to 2023. This is shown in Figure 1 below. From this perspective we can examine key financial assets for “alternative” investment that are integral to private markets. Preqin reports these numbers aggregated together for all institutional shareholders in their Private Capital Breakdown. The historical data shown here is specifically for private funds that are closed-end funds—meaning they have a fixed lifespan and do not allow for redemptions or additional subscriptions to the fund after its initial formation. Shareholders take position by agreeing to commit a certain amount of funds (known as “committed funds”), which the general manager will call at a later date for investment. By Preqin’s categorization, these alternative assets include private equity, hedge funds, real estate, private debt, infrastructure, and natural resources (or commodities). Note that, in particular for the Private Capital Breakdown, since these are closed-end funds, we do not observe allocations to hedge funds here, as hedge funds are private financial institutions in which shareholders can place funds, but they focus on trading in the public financial markets.

Starting in 2004, new positions in private financial assets were relatively small at \$216 billion in total committed funds. However, private market fundraising grew a little over eight times this size and reached a high of \$1.73 trillion by 2021. Clearly, from Figure 1, private equity funds (which includes venture capital and buyout deals) have been allocated the bulk of these funds. Beginning with \$137 billion in 2004 and reaching a high of roughly \$1 trillion by 2021, private equity is the largest recipient of funds with \$861 billion in capital formation as of 2023 and an average share of 60% of all private capital fundraising over the previous two decades. The next two largest recipients of funds are real estate and private debt (also called private credit), which had an average share of 19% and 13.75% of allocations, respectively. By 2023, these allocations totaled \$151.4 billion in real estate holdings and \$201 billion in private debt deals (which in the latter case is almost as large as the value of *all* private closed-end funds in 2004). It is important though to notice that real estate has seen a declining share, falling from 20% to 11.5% of total funds, while private debt has climbed from 10.5% to 15.2% of total. Private equity has oscillated between 60-70% of total over the same period, with infrastructure only peaking above 10% once and natural resources or commodities always

playing the smallest role (with an average of 2.5% of total funds). Therefore, private markets have seen substantial growth—particularly in private equity, followed closely by real estate and private debt.

Figure 1: Private Capital Breakdown - 2004-2023



Source: Preqin Pro. Charts & League Tables. Private Capital Breakdown. Private capital refers to private closed-end funds in the indicated categories. Private equity includes buyouts and VC. Accessed 04/15/24.

This also implies that private markets were not far behind public markets in terms of overall growth. U.S. stock exchanges have seen astronomical gains in asset pricing since the turn of the century. For example, in 1994 the market capitalization of the US stock market was only 70% of GDP, but by 2019 stood at 158% of GDP.⁸ This occurred alongside a rapid climb in average daily trading volumes. According to SIFMA Research, from 2012 to 2023, the average daily trading volume of publicly traded corporate equities grew from \$210.8 to \$514.6 billion—an increase of a little over 144%. By comparison, over the same period private markets grew from \$475.5 billion to \$1.32 trillion in committed funds—an increase of 112%.

This generic comparison masks how much more private markets generated in terms of *new* financial assets, compared to public markets. This becomes apparent when we compare private capital

⁸ See the series “Stock Market Capitalization to GDP for United States” (DDM01USA156NWDB) compiled by the World Bank and retrieved from FRED, Federal Reserve Bank of St. Louis.

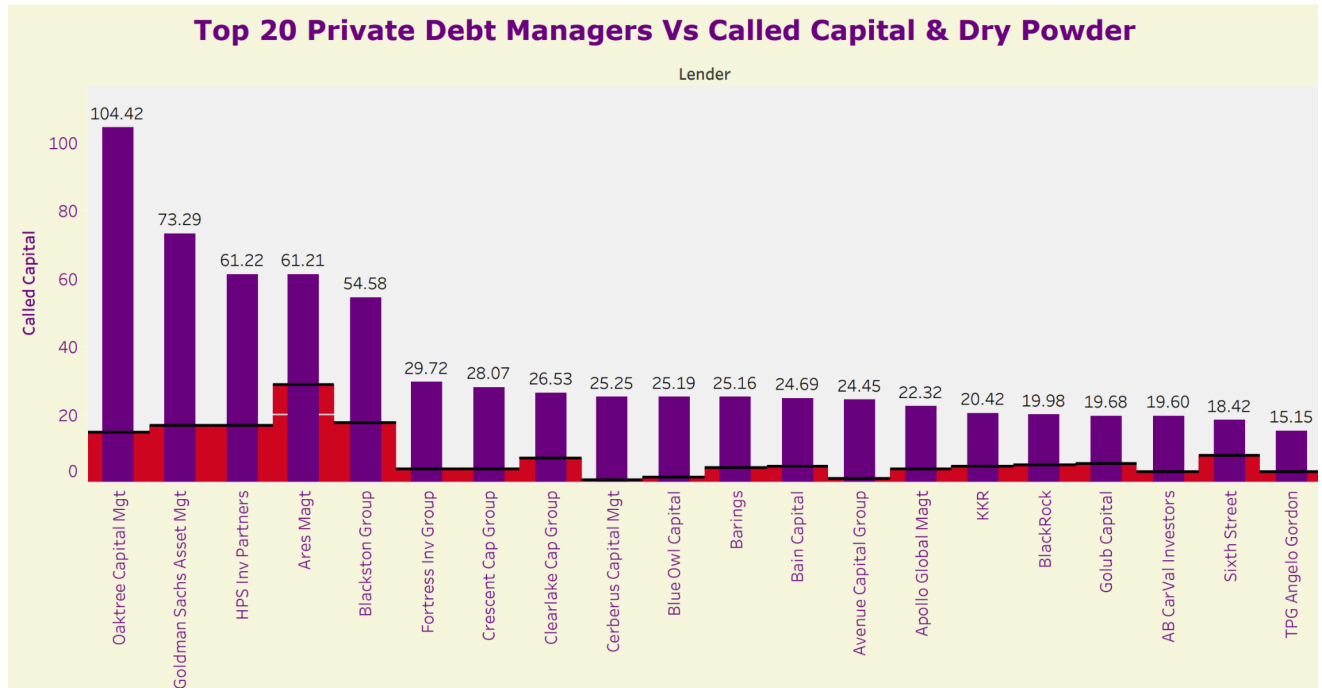
fundraising to new public equity issuance (summing IPOs/SEOs of common and preferred stock). Reported in SIFMA's 2023 version of their Capital Markets Fact Book, public equity issuances grew from \$264.6 billion in 2012 to a high of \$434.7 billion in 2021 (only a quarter of the value of private market committed funds the same year). This is only 64.3% growth over the decade, meaning that private markets grew almost twice as fast as public markets in terms of capital formation. Since 2021, public equity issuance has rapidly fallen off, resulting in only \$99.4 and \$139.1 billion raised for the years 2022-23. Private markets have also seen reductions in total fundraising since 2021, but still raised significant committed funds last year.

C. The Growth of Private Credit Funds⁹

Unlike private equity funds, the “exponential” growth of private credit funds has been less visible to economic policymakers, even as public pensions have begun to allocate funds to them (IMF, 2024). Private credit funds became an attractive asset class because of its relatively higher returns in a period of low interest rates. Globally, private credit grew to \$2.1 trillion in deployed and undeployed loan funds in 2023, though the vast majority of activity is concentrated in the United States and Europe (IMF, 2024). Assets under management of private credit funds have grown at an average annual rate of 20 percent over the last five years, totaling \$1.6 trillion, which accounts for “7 percent of the credit to non-financial corporations” (IMF 2024, p. 56). The growth of this sector is directly linked to private equity's growth, as “for about 70 percent of private credit deals, the borrowing company is sponsored by a private equity firm” (IMF, 2024). According to a Federal Reserve analysis of Form PF data, as of the end of 2021, public and private pension funds held about 30 percent of private credit fund assets (Cai and Haque, 2024). Though available data on the sector is limited, we present below in Figures 2 and 3 the top 20 private credit managers and a summary of private credit deals and loans from Cai and Haque (2024), respectively. Though loan details are scarce, the average loan size exceeded \$80 million in 2022, which is larger than the average loan size made by regulated banks (Cai and Haque, 2024).

⁹ These are also referred to as private debt funds, for example by Block et. al (2023).

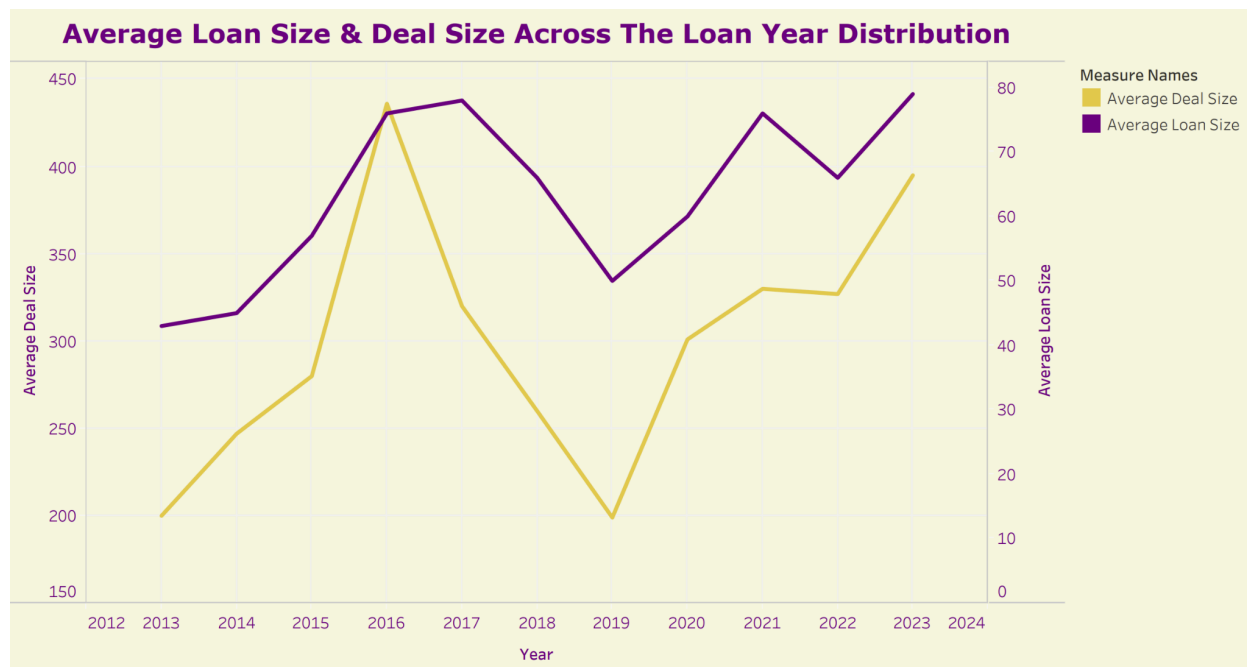
Figure 2. Top 20 Private Debt Managers Chart.



Source: Cai and Haque 2024, Accessible Data, Figure 2 (Sourced from Preqin).

Private credit funds pose a unique set of potential systemic risks to the broader financial system because of their interrelationship with the regulated banking sector, the opacity of the terms of loans, the illiquid nature of the loans and potential maturity mismatches with the needs of limited partners to withdraw funds, and the fact that this growing market has never been through a downturn in the business cycle. According to the IMF, “the rapid growth of private credit, coupled with increasing competition from banks on large deals and pressure to deploy capital, may lead to a deterioration in pricing and non-pricing terms, including lower underwriting standards and weakened covenants, raising the risk of credit losses in the future” (IMF, 2024).

Figure 3. Average Deal and Loan Size (in \$millions).



Source: Cai and Haque 2024, Accessible Data, Figure 4 (Sourced from Pitchbook)

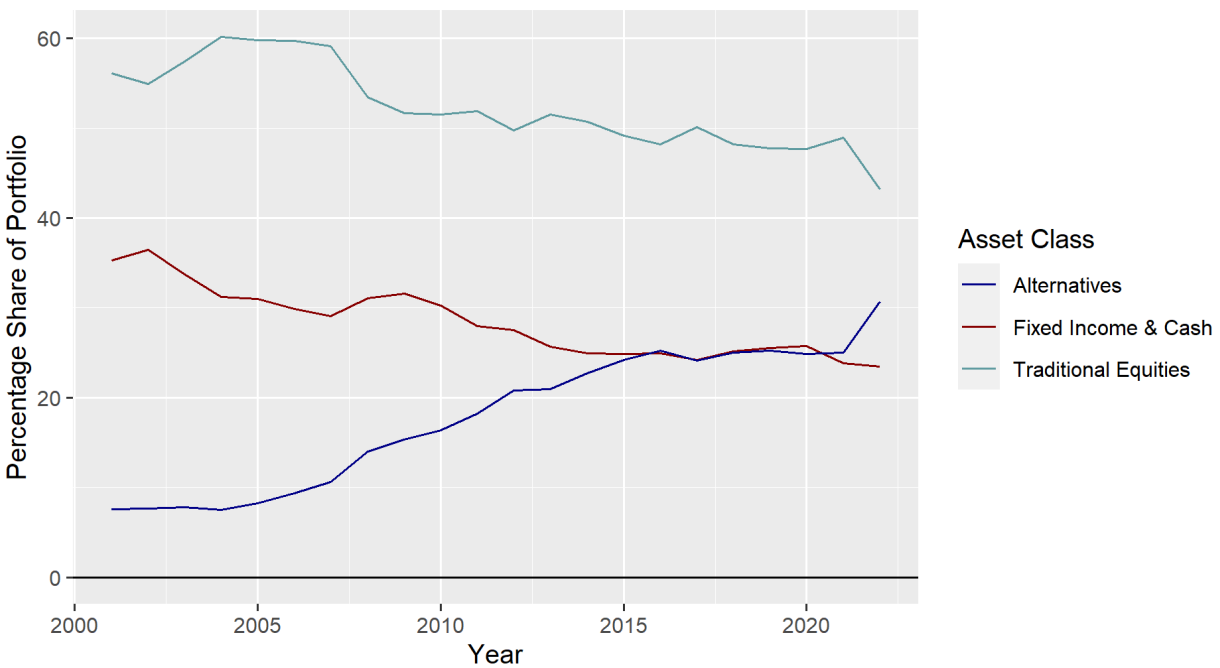
III. The Shift of U.S. Public Pension Funds into Private Financial Markets

A. Retirement Funds Asset Growth Since 2000

The growth in private markets has coincided with an increasing role of institutional shareholders—such as public pensions—as providers of financial assets for private funds. Indeed, if public equity issuance continues to fall as it has, there will likely be an increasing demand for the financial assets of private markets by institutional shareholders seeking returns for their economic beneficiaries (of which are predominantly non-wealthy households)—not to mention an increasingly difficult exit strategy for private equity firms dealing in buyouts who, absent a strong IPO market, have resorted to net asset value financing to allow limited partners exit (Louch, 2024). Per Aubry’s (2022) estimate, public pensions in the United States had allocated 34% of their holdings into alternative assets (defined as private equity, hedge funds, real estate, and commodities). Using the

Public Plans Database (PPD), average portfolio allocations are shown in Figure 4 below. PPD provides data on 229 public pension plans from 2001 to 2022, which covers roughly \$4.75 trillion in assets under management (AUM) by these plans. The final value for alternative asset allocations in 2022 was 30.7%, a decline from Aubry’s earlier projections, but still a sizable share of total allocations. PPD’s reporting shows a steady and consistent rise of portfolio allocations into alternative investments as traditional equities have fallen from a high of 56% to 43.2% of total, and fixed income and cash from 35% to 23.4% of total.

Figure 4: Pension Fund Average Portfolio Allocations - 2001-2022



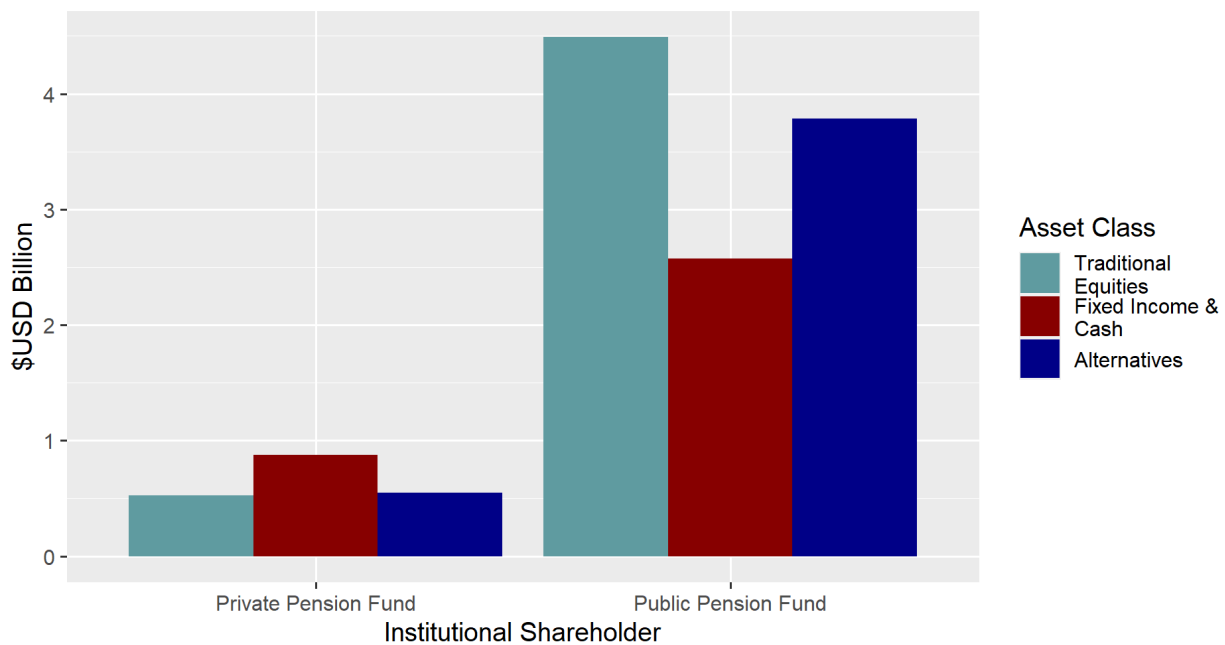
Source: Public Plans Data (PPD) for public pension plans in the U.S. The sum of real estate, private equity, hedge fund and commodity positions are combined as alternative assets (see Aubry 2022). Accessed 04/15/24.

B. State & Local Pension Funds

Turning back to Preqin, we can get a more recent and expanded snapshot of institutional shareholder dealings in private markets. Preqin provides data on 565 public pension funds, which covers roughly \$5.94 trillion AUM, for an average AUM of \$10.53 billion. By comparison, PPD only covers about 80% of total Preqin AUM and has an average AUM of \$21.8 billion—indicating we are

capturing even more and smaller pension funds by working with Preqin data.¹⁰ We can also expand our scope of analysis further by comparing public pension funds to other institutional shareholders; specifically, private pension funds, endowment plans, and foundations. The next three graphs, Figures 5 through 7, show the average AUM and percentage portfolio allocation into traditional equities, fixed income and cash, and alternative assets for all four institutional shareholder categories. As an important caveat, note that Preqin adds to the definition of alternatives by also including private debt and infrastructure assets (which are not included in Aubry’s (2022) measure using PPD data).

Figure 5: Pension Fund Average AUM Portfolio Allocation



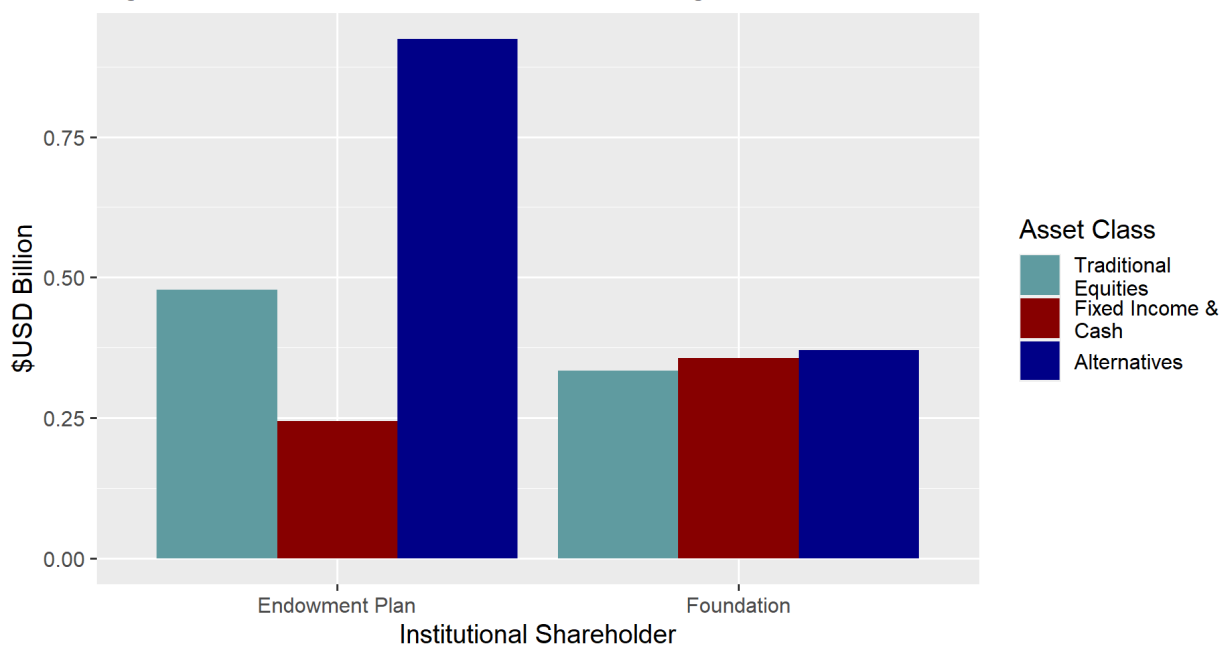
Source: Preqin Pro. AUM data for 1,479 private and 565 public US-based pension funds. The average AUM for private and public pension funds is \$2.8 and \$10.5 billion, respectively. Alternatives include private equity (with buyouts and venture capital), hedge funds, real estate, infrastructure, private debt, and natural resources. Accessed 04/15/24.

Focusing on the differences between public and private pension funds in Figure 5 above, it is immediately apparent that public pension funds dwarf private pension funds. Preqin provides data for 1,479 private pensions, with a total AUM of \$4.15 trillion and an average AUM of \$2.8 billion—roughly a quarter of the size of the average public pension fund and only 70% of their total AUM. Public and private pensions also do not necessarily display the same pattern in their portfolio

¹⁰ Note that PPD is providing valuations for pension fund AUM as of fiscal year-end 2022, while Preqin is providing valuations up to date as of 04/15/24 when the sample was accessed.

allocation decisions. The largest average allocation for private pensions is in fixed income and cash (roughly \$880 million), with similar allocations to alternatives (\$550 million) and traditional equities (\$530 million). By comparison, public pensions have a larger position in traditional equities (\$4.49 billion), followed by alternatives (\$3.79 billion), with fixed income and cash being the smallest (\$2.57 billion). Therefore, from the perspective of average AUM allocations, private pensions prefer fixed income and cash while public pensions prefer traditional equities, but both have sizable positions in alternative assets.

Figure 6: Endowment & Foundation Average AUM Portfolio Allocation

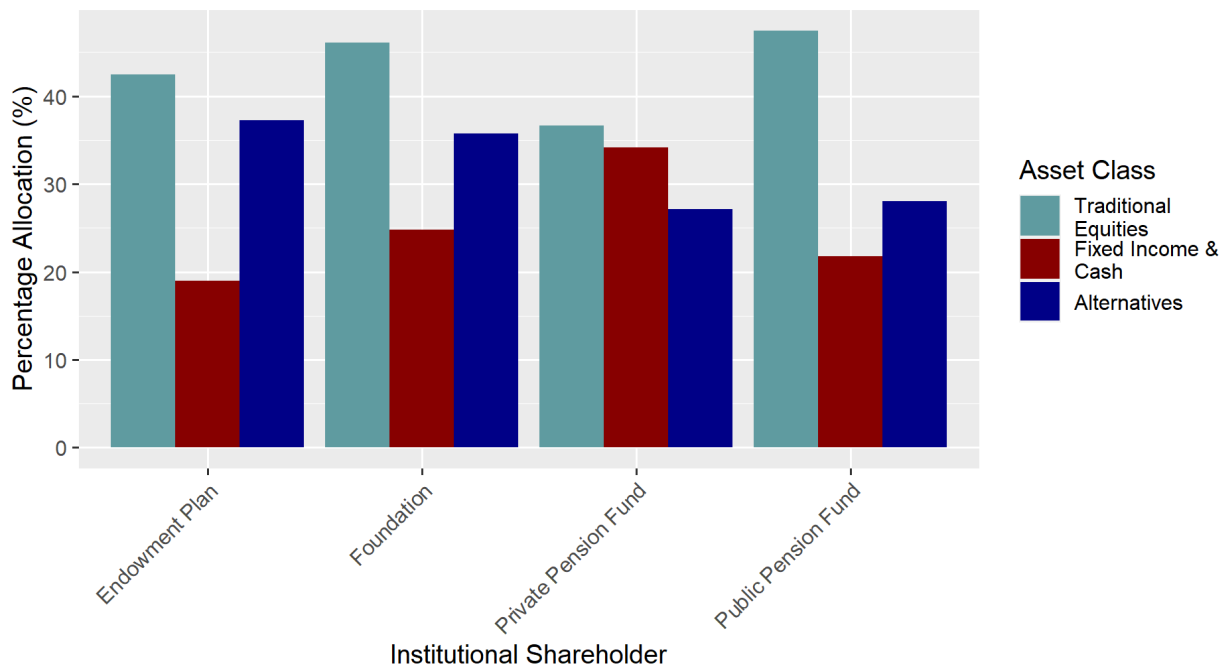


Source: Prequin Pro. AUM data for 750 endowment plans and 1,389 foundations based in the US. The average AUM for endowment plans and foundations is \$1.3 and \$1 billion, respectively. Alternatives include private equity (with buyouts and venture capital), hedge funds, real estate, infrastructure, private debt, and natural resources. Accessed 04/15/24.

Turning our attention to endowment plans and foundations in Figure 6 above, public pensions also tower over these other institutional shareholders. Prequin provides data for 750 endowment plans and 1,389 foundations for a total AUM of \$972 billion and \$1.37 trillion, respectively. In comparison to all the public pensions we observe, these figures represent 16% and 23% of total AUM. The average AUM of an endowment plan or foundation is also quite small, coming in at \$1.3 and \$1 billion, which is roughly 12% and 10% of the average sized public pension fund. Endowment plans seem to have a strong preference for alternatives, making alternatives their largest average allocation (\$920

million), a smaller position in traditional equities (\$480 million), and the smallest in fixed income and cash (\$240 million). Foundations also make alternative assets their largest portfolio allocation at \$370 million, but with fixed income and cash (\$360 million) and traditional equities (\$330 million) following closely. Therefore, based on average AUM, both endowment plans and foundations prefer alternative investments, although this is much more the case for endowment plans.

Figure 7: Institutional Shareholders' Average Percentage Portfolio Allocation



Source: Preqin Pro. AUM data for public and private pension funds, endowment plans, and foundations. Alternatives includes private equity (with buyouts and venture capital), hedge funds, real estate, infrastructure, private debt, and natural resources. Accessed 04/15/24.

For a more intuitive presentation, Figure 7 above shows all four institutional shareholder's average percentage portfolio allocations instead of the dollar value of their positions. Here we can see clearly that endowment plans and foundations prefer alternatives to a greater degree, with an average allocation of 37.3% and 35.8%, respectively. Both public and private pension funds allocated less to alternatives on average, but public pensions allocated slightly more at 28.1% compared to private pensions allocation of 27.2%. Nonetheless, pension funds—particularly public pensions—represent larger sources of funding to private markets than either endowment plans or foundations. Public pension funds alone have allocated a rough total of \$2 trillion to alternative assets. This rises to about \$2.7 trillion once we account for private pension funds. Taken together, endowment plans and

foundations only account for \$773 billion of current allocations to alternative assets. Otherwise, a similar pattern appears when looking at average percentage allocations. All institutional shareholders prefer traditional equities, while private pensions *almost* prefer fixed income and cash more.¹¹ However, alternatives now represent a significant share of portfolio allocations and appear as the second largest portfolio allocation for most institutional shareholders we examine.

Table 1: Average AUM and Portfolio Allocations (\$USD Billions) by Institutional Shareholders

Institutional Shareholders	AUM	Equity	Fixed Income	Cash	Fixed Income & Cash	Other	Alternatives	Private Equity	Hedge Funds	Net Alternatives
Public Pension Fund	\$10.53	\$4.49 (47.5%)	\$2.14 (20%)	\$0.31 (2.6%)	\$2.57 (21.8%)	\$1.48 (14.8%)	\$3.79 (28.1%)	\$2.02 (11.6%)	\$0.87 (9.5%)	\$1.88 (14.3%)
Top 100	\$54.50	\$22.78 (41.3%)	\$10.77 (19.1%)	\$1.29 (2.6%)	\$10.54 (21.3%)	\$5.82 (8.4%)	\$18.67 (34.7%)	\$7.94 (13.7%)	\$3.75 (8.7%)	\$6.88 (14.9%)
Top 15	\$182.80	\$72.12 (39%)	\$33.84 (17.9%)	\$3.66 (2.5%)	\$28.65 (19.5%)	\$15.52 (9%)	\$63.24 (35.6%)	\$26.54 (14.8%)	\$12.89 (8%)	\$21.65 (14%)
Private Pension Fund	\$2.82	\$0.53 (36.6%)	\$0.85 (30.7%)	\$0.08 (4.3%)	\$0.88 (34.2%)	\$0.30 (15.6%)	\$0.55 (27.2%)	\$0.31 (8.6%)	\$0.24 (14.5%)	\$0.22 (11.3%)
Endowment Plan	\$1.30	\$0.48 (42.5%)	\$0.15 (15.3%)	\$0.09 (5.9%)	\$0.24 (19%)	\$0.13 (12.3%)	\$0.92 (37.3%)	\$0.65 (17.8%)	\$0.35 (16.2%)	\$0.28 (8%)
Foundation	\$0.99	\$0.33 (46.1%)	\$0.21 (17%)	\$0.09 (6.7%)	\$0.36 (24.8%)	\$0.31 (19.8%)	\$0.37 (35.8%)	\$0.21 (16.6%)	\$0.16 (19%)	\$0.08 (6.4%)

All of this information is summarized in Table 1 above. Prequin reports all alternative assets aggregated as “Alternatives.” However, Prequin also reports positions in private equity and hedge funds separately. We subtract private equity and hedge fund allocations from “Alternatives” to obtain “Net Alternatives,” which leaves alternative allocations in real estate, infrastructure, private debt, and natural resources. We can also examine the top 100 and top 15 public pension funds to see if any of their portfolio allocations differ substantially from the average. Predictably, the average total AUM of pension funds rises to \$54.5 billion for the top 100 and \$182.8 billion for the top 15. Comparing the average public pension fund to the largest, we can see that larger public pensions take positions significantly higher in alternative assets. The average public pension in the top 15 allocates 35.6% of their capital into alternative assets, while the average public pension in the top 100 allocate 34.7%.

¹¹ The distribution of fixed income allocations for private pension funds displays a positive skew, while the distribution of equity allocations is more normal. Fixed income allocations also display large outliers that are twice as large as outliers for equity holdings. This explains why the average AUM for fixed income and cash would be largest, while the *percentage* average allocation is largest for equity rather than fixed income and cash.

This is an increase of 7.5 or 6.6 percentage points over the full sample average for the largest public pension funds, respectively. Interestingly, the relative composition of alternative assets from this view does *not* change much by the size of the public pension fund. Net alternatives stays within 14-15% for all sizes, while there is a slight decrease from 9.5% to about 8.5% for hedge fund allocations and an increase from 11.6% to about 14% for private equity allocations.

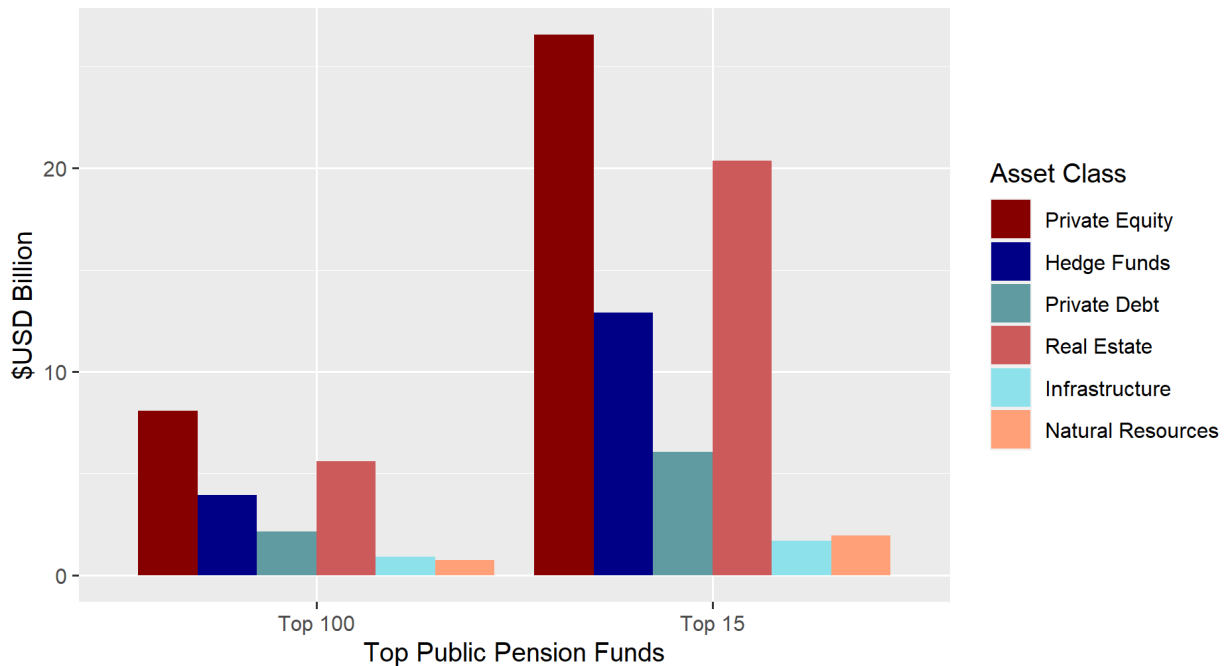
Table 2: Top 15 Public Pension Funds' AUM and Portfolio Allocations (\$USD Billions) in Alternatives

Rank	Firm Name	AUM	Private Equity	Hedge Funds	Private Debt	Real Estate	Infrastructure	Natural Resources
1	California Public Employees' Retirement System (CalPERS)	\$494.07	\$66.12	-	\$11.84	-	-	-
2	California State Teachers' Retirement System (CalSTRS)	\$331.40	\$51.14	\$33.69	-	\$48.08	-	-
3	New York State Common Retirement Fund	\$259.90	\$38.34	-	-	\$34.57	-	-
4	Teacher Retirement System of Texas	\$196.89	\$32.73	\$27.89	-	\$30.02	-	-
5	Florida State Board of Administration	\$190.43	\$17.71	-	-	\$21.33	-	-
6	State of Wisconsin Investment Board	\$175.42	\$22.97	-	-	\$12.04	-	-
7	Regents of the University of California	\$164.00	\$13.20	\$4.30	\$3.20	\$7.40	-	-
8	Washington State Investment Board	\$162.48	\$46.81	-	-	\$32.60	-	-
9	New York State Teachers' Retirement System	\$130.78	\$15.66	-	\$2.09	\$24.01	-	-
10	North Carolina Department of State Treasurer	\$118.70	\$6.21	\$2.45	-	\$8.47	-	-
11	Virginia Retirement System	\$112.70	\$20.40	-	\$16.12	-	-	-
12	Ohio Public Employees' Retirement System	\$107.47	\$14.13	\$4.14	-	\$13.37	-	\$2.63
13	Massachusetts Pension Reserves Investment Management Board (PRIM)	\$100.81	\$17.14	\$8.47	-	\$10.40	-	\$3.16
14	Teachers' Retirement System of the City of New York	\$100.09	\$10.93	\$10.08	\$0.65	\$6.00	\$2.62	-
15	Michigan Department of Treasury	\$96.81	\$24.65	\$12.08	\$2.50	\$16.25	\$0.74	\$0.09

In order to see if there is any difference in net alternative allocations amongst the largest pension funds, we have to look at Preqin's Investor League Tables for the top 100 public pension funds, which reports allocations into private equity, hedge funds, private debt, real estate, infrastructure, and natural resources separately. Table 2 above reports these figures for the top 15 public pension funds, while Figures 8 and 9 below provide average AUMs and average percentage allocations for all alternative categories for both the top 15 and top 100. Again, as suggested originally in Table 1 before, there appears to be little difference in the average alternative assets composition of the top

100 and top 15 public pension funds. The relative allocations for private equity and hedge funds are not changed, but a few small differences stand out once we can see inside “Net Alternatives.”

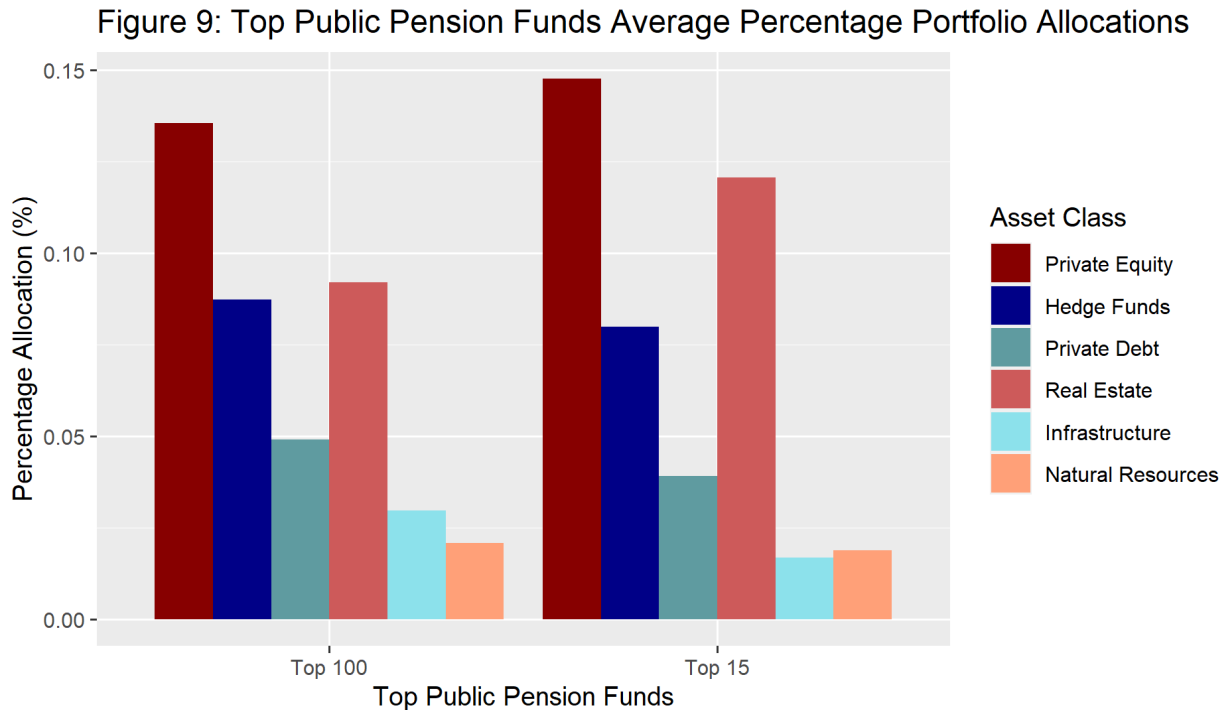
Figure 8: Top Public Pension Funds Average AUM Portfolio Allocations



Source: Preqin Pro. Charts & League Tables. Investor League Tables. Data is constructed as averages for the top 100 and top 15 public pension funds. This represents 93% and 46% of total AUM for all pension funds, respectively. Accessed 04/15/24.

As shown below in Figure 9, the top 15 hold relatively more real estate assets (12.1%) compared to the top 100 (9.2%). The top 15 also hold relatively fewer infrastructure assets (1.7%) in comparison to the top 100 public pensions (3%). The average AUM for each alternative asset, and its share of total AUM, is reported below in Table 3. In many ways, this mirrors what we saw in Figure 1 concerning the historical capital fundraising in private markets—private equity takes the majority of funds while real estate and private debt play notable but smaller roles in comparison. The Investor League Tables also reveal that hedge funds are a common choice when investing in alternatives, as they are the third largest allocation for both the top 15 and top 100. Infrastructure and natural resources, on the other hand, are an uncommon asset when looking at average portfolio allocations. Turning to Table 2 above and looking only at the top 15 public pension funds, in many cases there are no allocations to natural resources or infrastructure. All of the public pensions allocate funds to real estate, with the notable exception of CalPERS—by far the largest public pension fund in the US.

Otherwise, private equity tends to be the largest allocation (but not always) and pension funds appear to substitute between allocating capital to hedge funds or private debt—but typically not both.



Source: Preqin Pro. Charts & League Tables. Investor League Tables. Data is constructed as averages for the top 100 and top 15 public pension funds. This represents 93% and 46% of total AUM for all pension funds, respectively. Accessed 04/15/24.

There appears to be a pecking order of investment into alternative financial assets. Private equity is the clear winner, with pension funds choosing real estate second, then choosing between hedge funds or private debt, and then—if at all—between infrastructure and natural resources. In terms of relative total allocations for the top 15 public pension funds, private equity totals \$398 billion. Real estate comes in as second largest with \$265 billion. Although hedge funds and private debt seem to oscillate as a portfolio allocation decision, hedge funds clearly are third largest with \$103 billion in total allocations and private debt with only \$36 billion. Infrastructure and natural resources are only \$2.4 and \$5.9 billion in total allocations. No pension fund in the top 10 allocates funds to these last two categories. Of those pension funds that do invest in infrastructure and natural resources, they pick one or the other, with only Michigan investing in both. Table 3 below provides the average AUM and average percentage allocations into these categories for the top 15 and top 100.

Table 3: Average AUM and Portfolio Allocations (\$USD Billions) in Alternatives

Public Pensions	AUM	Private Equity	Hedge Funds	Private Debt	Real Estate	Infrastructure	Natural Resources
<i>Top 100</i>	\$54.50	\$7.94 (13.7%)	\$3.75 (8.7%)	\$2.13 (4.9%)	\$5.59 (9.2%)	\$0.91 (3.0%)	\$0.75 (2.1%)
<i>Top 15</i>	\$182.80	\$26.54 (14.8%)	\$12.89 (8.0%)	\$6.07 (3.9%)	\$20.35 (12.1%)	\$1.68 (1.7%)	\$1.96 (1.9%)

IV. Conclusion

The growth of private markets upends the dominant conception of public financial markets as the central organizing entity of the economy. While there is critical policy work to do in the financial markets—for example, to strengthen disclosure of climate risk, limit stock buybacks and excessive executive pay—economists, legal scholars and policymakers ignore the growth of the private financial markets at their peril. In particular, the growing allocation of public pension funds to private funds of all types means that the growth of such markets, the lack of disclosure required about activities in these markets, and the potential for systemic risk is of importance to those focused on retirement security and macroeconomic risks.

Future research will address specific policies that can strengthen our understanding of this growing sector and reduce the potential for extraction. Ivashina & Lerner (2019) offer a range of policies that center on governance, measurement, incentives, and communication. The think tank, American Compass, proposes including public disclosure of benchmarks that private funds propose to outperform and a mandatory public release of annual performance. Senator Elizabeth Warren (2021) has put forth many policies focused on private equity, including the “Stop Wall Street Looting Act,” and Sonti (2021) summarizes policy recommendations for public pension fund trustees. While many discrete policies are necessary, the framework within which we think about financial markets and their relationship to shareholders needs to change to accommodate the reality that private markets have continued to grow, and show no sign of stopping.

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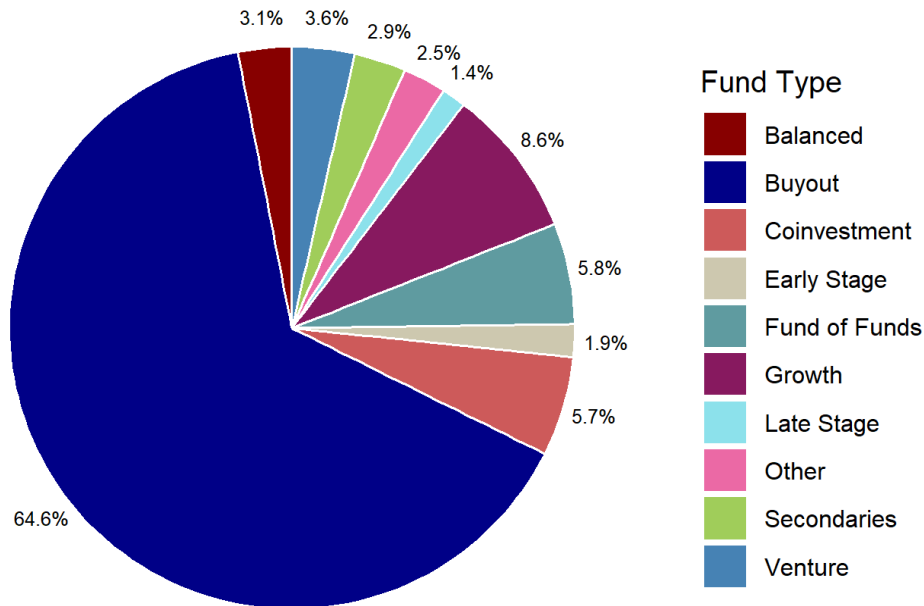
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Appendix I: Sample Breakdown of Private Markets Allocations for an Individual Public Pension Fund

Provided here are allocations to private equity funds based on fund strategy for the top 15 pension funds from our Preqin sample. The largest pension fund, CalPERS, and the thirteenth largest pension fund, the Massachusetts Pension Reserves Investment Management Board (PRIM), are compared to see if there are any relative differences between large pension funds and the fund strategy they prefer when allocating to private equity. Note that this discussion is conducted in terms of *committed* funds, rather than actual allocations—capital that has been provided once the general manager calls for funds out of total commitments. Any difference between total committed funds stated here and the total allocations provided in Table 2 are explained by this distinction between committed funds, allocations, and the remaining “dry powder” (committed funds in reserve). Also note that we are looking at positions with private equity or venture capital. The relative absence of some categories—such as real estate—does not mean that these pension funds have no connection to these asset classes. An institutional shareholder can obtain these asset classes either on their own or through a private equity firm, the latter of which is shown below with Figures A1 to A3.

Figure A1: Top 15 Pension Funds' Private Equity Portfolio Breakdown

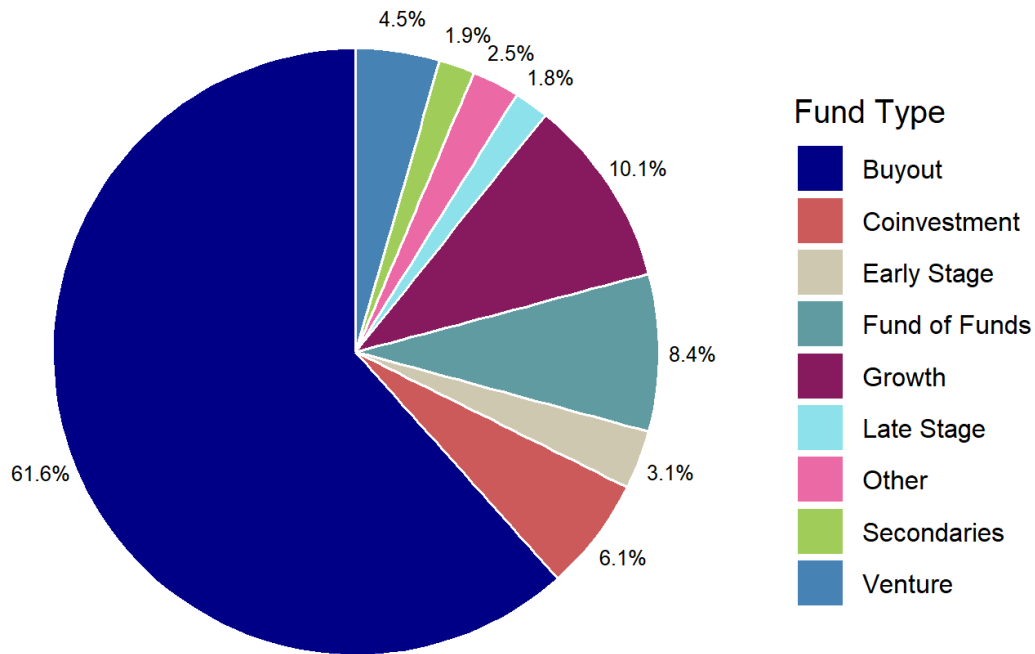


Source: Preqin Pro. Top 15 pension funds' committed funds to private equity by fund type. Other includes hybrid, private debt, infrastructure, and natural resources. Total committed funds are roughly \$750 billion. Accessed 04/15/24.

First, looking at Figure A1, we have the total committed funds to private equity by the top 15 pension funds in the United States. Total committed funds for the entire group are \$750 billion (compared to the \$398 billion allocated). Unsurprisingly, the largest fund strategy pursued by the private equity firms that pension funds take position with are buyout deals. This represents 64.6% of total committed funds, or roughly \$484 billion. Following this are investments in funds pursuing a growth strategy at 8.6% of total (\$64.4 billion). Fund of funds and co-investment fund strategies tie for third with 5.8% (\$43.4 billion) and 5.7% (\$43 billion), respectively. Investments into *new* capital formation for young and expanding firms is actually quite small. Ventures are 3.6%, while all forms of early stage and late stage financing are 1.9% and 1.4%, respectively. This combines for a total of \$51.4 billion, which is larger than fund of funds or co-investments. Therefore, the largest allocations for private equity and venture capital firms are in buyouts, followed by growth strategies for more mature but growing companies, and with combined early and late stage financing coming in third. Even if we were to combine all investments in companies besides buyouts, this constitutes only 24% of the funds committed to buyout deals.

There are a few other things worth pointing out. Secondaries play a small role (2.9% or \$22 billion), but represent the emergence of private equity firms buying out stakes in existing funds—allowing current shareholders exit, while new shareholders can enter. Concerning the “other” category, this represents 2.5% of committed funds or \$18.5 billion. A little under a third of this falls into the asset class of private debt—roughly 0.78% of committed funds or \$5.8 billion. “Special situations” represent the largest private debt fund strategy type and indicate debt-credit relationships that are based on something other than the underlying fundamentals of a company and its collateral. The remainder concerning the “other” category constitutes investments into funds with a hybrid strategy, infrastructure, turnarounds, and natural resources. Next we can see to what extent this may differ with size by comparing CalPERS (which has an AUM of \$494 billion) to Massachusetts’ PRIM (which has an AUM of \$100.8 billion).

Figure A2: CalPERS' Private Equity Portfolio Breakdown

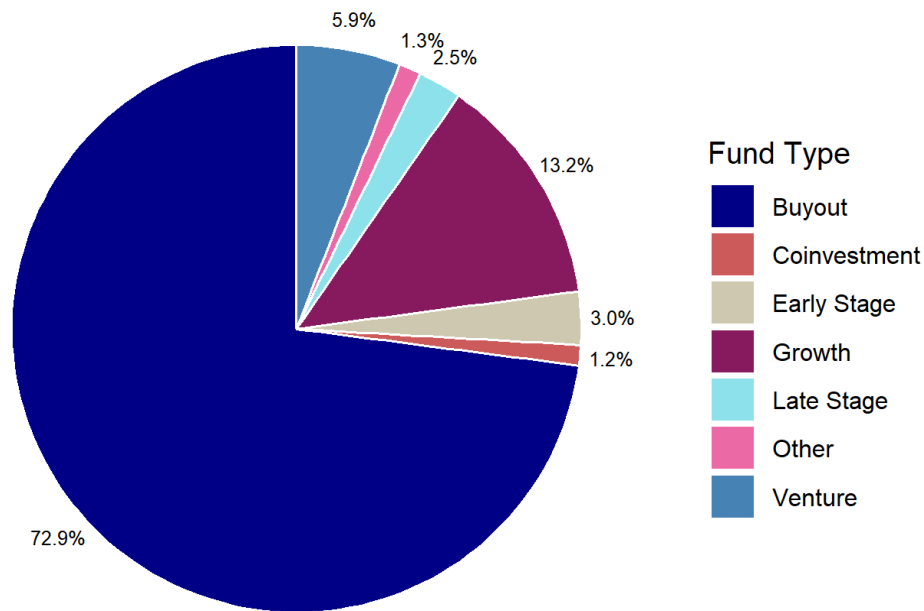


Source: Preqin Pro. California Public Employees' Retirement System (CalPERS) committed funds to private equity by fund type. Other includes balanced and hybrid. Total committed funds are roughly \$136 billion. Accessed 04/15/24.

We can see CalPERS' private equity portfolio breakdown in Figure A2 below. Total committed funds are \$136 billion, compared to the \$66 billion currently allocated to private equity in Table 2. There are slight differences in commitments to buyouts and growth oriented funds, but they are still very close to the averages shown in Figure A1. CalPERS has committed 61.6% (\$83.8 billion) to buyout deals and 10.1% (\$13.8 billion) to growth oriented funds. There is also a slightly larger allocation into fund of funds (8.4% or \$11.4 billion) and co-investments (6.1% or \$8.2 billion). Looking at investments into new companies, venture capital is 4.5%, all early stage financing is 3.1%, and all late stage financing is 1.8%. Combining this represents roughly \$12.83 billion. Adding back in growth oriented funds, this is \$26.6 billion or about 31% of CalPERS' commitment to buyout deals. Thus, CalPERS allocates relatively more to new business investments (in reference to buyouts) compared to the top 15 taken together. Additionally, CalPERS does not invest in any infrastructure, real estate, or natural resources oriented private equity managed funds. They do, however, have commitments to private debt deals—particularly with “special situations” for a sum of \$793 million. Regardless, this is a small sum in comparison to the \$136 billion total committed funds.

Next, we can examine Massachusetts Pension Reserves Investment Management Board's (PRIM) private equity portfolio breakdown in Figure A3 below. Total committed funds are \$33 billion, compared to the \$17.14 billion in allocations to private equity in Table 2. Immediately, we can see that PRIM has much more of their committed funds in buyout deals, coming in at 72.9% or about \$24 billion. It's also apparent that PRIM does not allocate much to fund of funds (which is only \$133 million and lumped into the "other" category). Allocations into growth oriented firms are also larger at 13.2% or \$4.4 billion in committed funds. Looking at investments into new companies, venture capital is 5.9%, all early stage financing is 3%, and all late stage financing is 2.5%. Combined this represents \$3.7 billion in committed funds. Taken together with growth oriented allocations, this becomes \$8.1 billion and is about 33.8% of their allocations to buyout deals. This means that PRIM allocates relatively even more into new business investment compared to CalPERS and the top 15. Otherwise, PRIM has not committed any funds to private equity managed positions in private debt, infrastructure, real estate, or natural resources

Figure A3: Massachusetts PRIM's Private Equity Portfolio Breakdown



Source: Preqin Pro. Massachusetts Pension Reserves Investment Management Board's (PRIM) committed funds to private equity by fund type. Other includes balanced, fund of funds, and secondaries. Total committed funds are roughly \$33 billion. Accessed 04/15/24.

Appendix II: Private Capital Fund Strategies

Provided below is a sample of fund orientations as defined by Preqin's Glossary section private capital fund strategies. The full glossary can be obtained from Preqin's website.¹² Definitions provided below are to help with interpreting the portfolio breakdowns shown in Appendix I and to give some sense as to what type of funds are categorized as private debt, real estate, infrastructure, and natural resources.

- **Private Equity and Venture Capital**

- **Balanced:** Invests in companies at all stages of development, from early stage to buyout.
- **Buyout:** Invests in established companies, often with the intention of improving operations and/or financials. Investment often involves the use of leverage.
- **Co-Investment:** Direct investment made by a limited partner in a company/asset backed by a fund. The limited partner therefore acquires two separate stakes in the company/asset: one indirectly through the fund and one directly in the company/asset.
- **Early Stage:** Type of venture capital fund that invests only in the early stage of a company's life. Can be either Seed or Start-up.
 - **Seed:** Allows a business concept to be developed—perhaps involving the production of a business plan, prototypes, and additional research—prior to bringing a product to market and commencing large-scale manufacturing.
 - **Start-Up:** Supports a non-commercial company's product development and marketing.
- **Expansion / Late Stage:** Invests in companies towards the end of the venture stage cycle. Provides capital injections for expansion into a position of stable profit streams. Typical with venture capital deals, expansion/late stage funds take short- to mid-term, minority positions.
- **Fund of Funds:** Invests its capital in a number of limited partnerships.
- **Growth:** Typically takes significant minority positions in companies without the use of leverage. Targets profitable, but still maturing, investee companies with significant scope for growth. Investment horizons are mid-to-long term, similar to those seen with buyout funds.
- **Hybrid:** A fund that focuses on investing in private equity and also considers investing in another alternative asset class.
- **Private Investment in Public Equity (PIPE):** Focuses on investments made by a private equity or venture capital firm in a public company, which remains public post-investment.

¹² The Preqin Glossary defining all fund strategies can be found here: <https://docs.preqin.com/pro/Preqin-Glossary.pdf>

- **Secondaries:** Acquires stakes in private equity funds from existing LPs.
- **Turnaround:** Aims to revitalize companies with poor performance or those that are experiencing trading
- **Venture Capital:** Provides capital to new or growing businesses with perceived long-term growth potential.
- **Private Debt**
 - **Blended / Opportunistic Debt:** A strategy that seeks attractive risk-adjusted returns throughout the fixed income universe by using a diverse set of investments.
 - **Direct Lending:** The practice of non-bank lenders extending loans to small and medium-sized businesses in return for debt securities rather than equity.
 - **Distressed Debt:** Debt of companies that have filed for bankruptcy or have a significant chance of filing for bankruptcy in the near future.
 - **Special Situations:** Classification covering several areas including distressed and mezzanine, where loan decision or grade is defined by something other than underlying company fundamentals.
- **Real Estate**
 - **Core:** Investment in low-risk real estate that provides relatively low returns. Investments are typically located in primary markets and in the main property types (office, retail, industrial, and residential). Properties are stable, well maintained, well leased, and often of the class A variety. Investments require little or no leverage (0-30%) or additional capital investment.
 - **Debt:** The origination or acquisition of loans secured by real estate. May include mezzanine debt, preferred equity, or senior loans.
 - **Distressed:** Investments in distressed assets. Investments can be made in a variety of ways, including providing debt or equity to owners with liquidity problems, or to those that are seeking to recapitalize properties.
 - **Opportunistic:** Investment in high-risk real estate that provides high returns. Investments are typically in lower-quality buildings in primary, secondary, or emerging markets across all property types, including niche sectors. Buildings often require significant enhancement to upgrade them to class A buildings (i.e. development and/or extensive redevelopment/repositioning/releasing). Investments typically utilize leverage of 60% or more, and significant capital investment, and will target an IRR in the high teens and upwards.
 - **Value Added:** Investment in moderate-to-high-risk real estate that provides moderate-to-high returns. Investments are typically in lower-quality buildings, in both primary and secondary markets in the main property types. Buildings often require enhancement to upgrade them to class A buildings (i.e. redevelopment/repositioning/releasing). Investments require 50-70% leverage, and additional capital investment, and will acquire an expected internal rate of return (IRR) in the low double digits to the mid-teens.

- **Infrastructure**
 - **Core:** Strategies target essential assets with no operational risk where the asset is already generating returns. These are typically secondary stage assets in developed countries with transparent regulatory and political environments. Key features of the underlying assets include monopoly position, demonstrated demand, and long-term stable cash flows that are forecastable with a low margin for error.
 - **Infrastructure Debt:** Strategies tend to be less risky than other infrastructure strategies, targeting assets and/or infrastructure developers/owners, that produce regulated revenues for essential services or user revenues from assets with a monopoly position, as well as contracted assets. The risk/return exposure of the strategy depends on the type of debt provided, though most infrastructure assets are typically financed by senior debt and have simple capital structures.
 - **Opportunistic:** Strategies have the highest-risk/return profile of infrastructure strategies, with less focus on stable cash flows and greater emphasis on capital growth via the value of the underlying assets. Assets will not typically have an existing cash flow.
 - **Value Added:** Strategies are deemed moderate- to high-risk, targeting assets where enhancements are being made, and where the growth in usage of said asset or demand for service provided or produced is the focus. These are typically greenfield or brownfield assets, potentially involving new or unproven technologies that do not have pricing power at the time of the investment but can be developed over time to have this at some time in the future.
- **Natural Resources**
 - **Agriculture / Farmland:** Encompasses the investment of capital into land used for growing crops or harvesting livestock.
 - **Energy:** A strategy defined as the investment of capital into the processes behind the discovery, production, storage, distribution, and/or retail of energy resources.
 - **Metals and Mining:** Involves the investment of capital into metals/minerals as a raw product, the exploration for these commodities, or in the process of refining such materials to produce their pure form.
 - **Timberland:** Involves the investment of capital into land covered with trees or other woody vegetation (either in the form of privately-owned tree farms, or naturally occurring forests).
 - **Water:** Involves investment of capital into water-related assets and/or processes.