

Private Equity Perspectives

The case for private equity at Vanguard

Vanguard Commentary

February 2021

Fran Kinniry, CFA; Ted Dinucci, CFA; Alex Green, CFA, CAIA; Liz Foo

- Vanguard believes the investment case for private equity is strong. Private equity represents a distinct and growing segment of world equity markets that, because of its significant illiquidity and other market dynamics, offers suitable investors the opportunity to earn long-term excess returns while increasing portfolio diversification.
- Leading private equity programs have traditionally been reserved for the largest asset pools and longest-tenured investors, whose scale, investment resources, and manager relationships grant access to top-performing funds.
- At the forefront of Vanguard's mission is the desire to broaden access to world-class investment strategies that have the potential to improve investor outcomes but were previously reserved for the largest asset pools. Vanguard's entrance into the private equity market follows that playbook. Private equity at Vanguard seeks to solve the challenges asset owners face, by using our scale and more than 40 years of experience sourcing investment talent as a leader in manager search and oversight capabilities.

Introduction

Private equity is a unique and growing segment of global equities. Investors who have established high-quality, broadly diversified programs with top private equity managers have accrued significant financial benefits over long time horizons. However, it's questionable whether the average private equity fund has compensated investors for the illiquidity, complexity, fees, and other considerations inherent in the category. Though future financial market performance is far from certain, given the long-term downward trend in yields and muted return expectations, professional allocators as well as individual investors must examine whether to lower their future return expectations or expand their investment opportunity sets. Rather than a simple either/or decision, however, the best path forward likely entails elements of both, determined by the unique circumstances and objectives of the institution or individual.

This paper offers our perspective on the investment case for private equity at Vanguard. It also provides an overview of the private equity market, including its risks, returns, and other unique considerations, and draws comparisons within a segment of the institutional market that has demonstrated varying levels of success with private equity and alternatives more broadly. Last, it introduces Vanguard's perspective on two foundational elements of sound private equity program design, as well as our approach to manager diligence and firm-specific advantages that help solve the challenges asset owners that are not in the top 10% of assets under management likely encounter with private equity.

Investment case for private equity

Private equity markets are distinct from public markets along a number of important dimensions, including regulatory, accessibility, vehicle structure and implementation, size, and composition. Though private equity, as a form of equity capital, shares economic exposures similar to those of traditional public equities, its significant illiquidity and market dynamics provide suitable investors the opportunity to earn long-term excess returns, while increasing portfolio diversification through expanded equity market coverage.

However, unlike traditional public asset classes that offer both systematic and manager-specific excess returns based on investors' implementation preferences, private equity lacks an investable index. Thus, investors' ability to capture any excess returns depends on the quality of their private equity managers. While the importance of strong manager selection also applies among public active strategies, it's even more important in private markets given significant performance dispersion and difficulty in accessing private equity managers that are often oversubscribed. However, investors with the scale and resources to conduct manager diligence and maintain consistent access to top managers are likely to continue earning large financial benefits from private equity's inclusion in the portfolio.

Defining private equity

Private equity refers to any type of equity not listed on a public stock exchange. Though the investable market for private equity is small relative to public equity markets, private equity has a long and important history of providing capital to companies when it's not possible or desirable for them to access the public markets, or when there are opportunities to take private those public companies that are believed to be undervalued or poorly managed.

As of December 2019, global private equity funds were estimated to have \$3 trillion in assets under management (AUM), representing approximately 6% of global equity markets.¹ Though private equity's footprint remains small, masked in its current AUM is the significant growth it has enjoyed over a long period as well as the breadth of its investment opportunity set. Specifically, private equity has grown more than three times the rate of public equity since the start of the century. As of the end of 2019, there were approximately 3,640 public companies, compared with roughly 7,200 companies owned by private equity buyout funds only.² Regulatory changes, easier access to private capital, and the shift in business operating models, from intensive tangible capital requirements to intangible capital, have all been identified as structural reasons contributing to the growing ratio of private to public companies.

¹ Sources: Preqin, FactSet.

² See Mauboussin and Callahan (2020).

Accessing private equity

At the highest level, private equity can be separated into direct investment and intermediated private company investment. With direct investment, an ultra-high-net-worth individual or institution invests directly in a new or existing business seeking financing.

In contrast, those same investors may gain private market exposure through a private fund advisor with expertise in a specific segment or segments of the market. While investors may have exposure to one or both forms of private investment, intermediated private company investment is often the core of most institutional private equity programs and, thus, the primary focus of this paper.

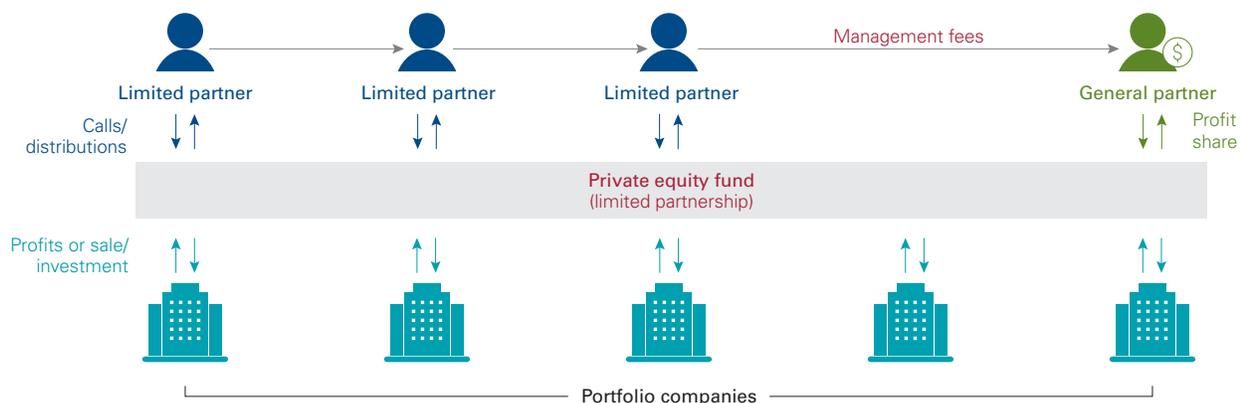
U.S. private equity funds are traditionally structured as limited partnerships.³ Such partnership agreements typically last 10 to 15 years and are exempt from Securities and Exchange Commission registration, provided the fund meets certain regulatory requirements pertaining to its investor base. Specifically, traditional structures have caps on the total number of investors (known as limited partners, or LPs) and require LPs to meet the definition of “qualified purchaser” under the Investment Company Act, which is generally more restrictive than the definition for “accredited investor”

status under the Securities Act. (Definitions of each can be found in the supplemental glossary of key terms.) Given investor constraints and the fact that fund managers (general partners, or GPs) often prefer fewer LP relationships, fund investment minimums are considerably higher than traditional mutual fund investment vehicles—with \$10 million, or significantly higher, a likely minimum commitment for top private equity funds. **Figure 1** displays the typical operating structure for a private equity limited partnership.

Private equity sectors

The modern private equity market started over 60 years ago with venture capital (VC) and leveraged buyout.⁴ As the market matured and gained greater acceptance, further segmentation according to stage in the company life cycle became increasingly common. As examples, growth equity is now generally accepted as a distinct segment of the private equity market, and there is greater granularity within VC to distinguish between seed, early, mid-, and late-stage investments.⁵ Additionally, just as public equity has evolved to be categorized by various company characteristics, such as size (large, mid, small), style/factor (growth, value), and geography (U.S., non-U.S.; developed, developing, frontier), so too has private equity.

Figure 1. Traditional private equity limited partnership structure



Source: Vanguard.

³ Private equity funds are commonly structured as either 3(c)(7) or 3(c)(1) funds, referring to sections of the Investment Company Act. In the case of both fund types, there is an overall investor limit of 1,999 limited partners to avoid triggering registration requirements under the Securities and Exchange Act. For 3(c)(7) funds, investors must meet both the “qualified purchaser” and “accredited investor” definitions. For 3(c)(1) fund structures, acceptable limited partners need only meet the regulatory definition of accredited investor; however, the allowable investor base is considerably lower, at 100 total investors.

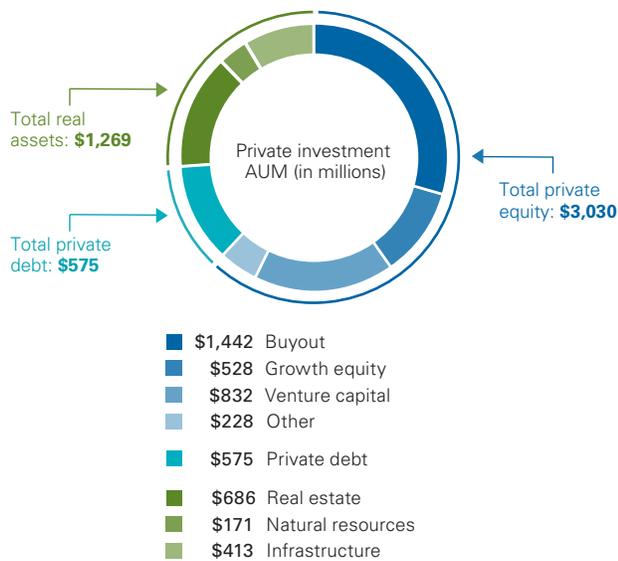
⁴ The first VC capital firms were American Research and Development Corp. and J.H. Whitney & Co., both founded in 1946. Leveraged buyouts gained prominence during the 1980s under financiers like Jerome Kohlberg, but the first buyout transaction is often identified as McLean Industries’ purchase of Pan-Atlantic Steamship Co. in January 1955.

⁵ See Garland (2013).

However, at its core, company stage remains the key distinguishing feature in private equity, as it often has style, geographical, and other investment implications.

Today, the primary sectors of the private equity market are buyout, VC, and growth equity.⁶ Figure 2 shows the distribution of private market assets by strategy relative to the total private fund universe, which also includes real assets and private debt.

Figure 2. Estimate of total private market AUM by strategy



Notes: Data as of December 31, 2019. Assets under management exclude uncalled commitments (also known as dry powder).

Source: Vanguard calculations, based on data from Preqin.

Buyout. This category consists of mature companies that are often profitable or generating positive cash flows. However, whether public or private, target companies are viewed as underappreciated or believed to have untapped potential that would benefit from a change in business strategy and/or management. Relative to VC funds, buyout managers typically assume a majority ownership position and employ considerable amounts of financial leverage to complete company acquisitions. While target company profiles, deal

financing, and manager skill sets differ meaningfully between VC and buyout, both seek to improve portfolio company prospects and exit investments at a premium valuation.

VC. Companies in the earliest stages of the business life cycle—typically, pre-revenue- or pre-profit-generating businesses—fall under this category. These young companies, often in the information technology or health sectors, have the highest growth potential but also the greatest likelihood of failure. Thus, while venture capitalists often take minority stakes in their portfolio companies, the performance of any given investment is generally considered either a “home run” or a “strikeout.” However, despite being minority owners—whether through some form of convertible preferred or traditional equity—venture capitalists remain actively involved in their portfolio company development.

Growth equity. Relative to the VC and buyout sectors, growth equity falls in between. Target companies maintain high growth potential and similar sectoral and regional exposures as VC, but they’re more mature and farther along in their respective company life cycle. As such, growth companies are likely to have demonstrated commercial success in a product but require additional capital to fund future business expansion. As with VC investors, growth investors often assume minority stakes in their portfolio companies; however, the total monetary value of the equity capital provided is considerably greater. And although growth managers may be expected to employ little to no financial leverage to complete company transactions, such usage may vary at the manager or deal level.

Private equity fees

Private equity fees are higher and more complex than public equity fee structures. Whereas public equity funds generally charge fees as a percentage of AUM with potential discounts available at predetermined asset thresholds, private equity fees are specified in the fund’s partnership agreement, with the primary components being management fees (for example, 1%–3% of committed or invested capital) and carry (for example, 20%–30% of fund profits in excess of a specified return hurdle, such as 6%–8%). Additionally,

⁶ Within the “other” category, turnaround strategies are often considered a fourth subset of the private equity market. However, for the purpose of this paper, we focus solely on the largest segments by AUM. Also, given the distressed or even bankrupt nature of companies in this stage, private equity fund investment may often consist of debt and/or equity capital.

other fees are often incurred over the life of the fund for deal expenses, portfolio company monitoring, and legal and other administrative items.

Though it is difficult to estimate and translate average total fees into an annualized expense figure, some studies suggest they may be close to 6% per year.⁷ This represents a significant performance drag; however, there are two important points worth noting. First, the average private equity fund has generally outperformed public markets.⁸ For that to be true, gross excess returns for private equity managers had to be greater than 6% per year for investors to have come out ahead relative to public equities. Second, given private equity's traditional fee structure, a meaningful portion of fees is connected to fund performance (for example, carry).

Thus, in a situation where an LP invests in a fund that fails to meet its hurdle rate, the LP will pay less in fees relative to an LP in a fund—holding all else equal—that greatly exceeds its hurdle rate, but the latter is better off on a net total return basis. As with public active strategies, manager selection is critical, and fees should be considered relative to the total value a given manager is expected to provide. However, manager selection is even more critical to success in private markets, given significant performance dispersion and lack of access to the top managers, as many may be oversubscribed and therefore closed to new investors. There's no doubt that private equity fees are higher than public market fees; however, asset owners deciding on any investment or its manager should focus on net outcomes, not only fees or gross returns.

GP value creation

On the public side, most investors are familiar with the primary ways active management can add value—namely, through superior security selection and tactical asset allocation decisions. However, in addition to these strategies, private equity's unique opportunity set, informational asymmetries, and ownership structures offer alternative sources of excess returns distinct from those of most public strategies. Commonly cited forms of value creation can be grouped under operational, governance, and financial. Specifically, while buyout fund managers may focus more heavily on optimizing

the capital structure of firms (financial) compared with growth equity or VC fund managers, all sectors engage in some form of strategic governance and operational initiatives.

In addition to supplying equity capital to their portfolio companies, private equity managers often receive seats on company boards and maintain valuable professional networks and specialist teams that can work with their portfolio companies to develop and help guide long-term strategies. Although private equity managers have achieved varying levels of success in creating company value, as demonstrated by the significant level of performance dispersion, skilled managers have been able to generate higher risk-adjusted returns for their LPs. (See Figure 4 on page 7 and accompanying discussion on historical private equity performance.)

Moreover, given the high costs, complexities, and inefficiencies in private markets, the drivers of GP value creation are not easily replicated and may be expected to continue. Thus, an LP's ability to identify and gain access to top GPs is critical. Below we expand on how GPs may create value through each of the three levers.

Operational. Through unique skill sets, business experiences, and resources, private equity managers may possess operational expertise useful for their underlying portfolio companies. For more externally oriented strategies, the firm may reposition products, find new target markets in which to compete, or identify new strategic partnerships or acquisition opportunities to increase sales or market share. Internal initiatives may seek to improve the productivity of the firm's operating assets, which can mean implementing cost-cutting programs or adding more experienced leadership to company management.

Governance. A company's highest governing body is its board of directors; as such, private equity managers gain representation on the boards of their portfolio companies to influence the firm's strategic direction. Though the objective is to elevate the function of the board, doing so can take various forms. The most direct way is by changing the overall composition of the board. Private equity managers may be able to increase the level of expertise and business relationships relative to what the

⁷ See McKinsey & Co. (2017).

⁸ See Harris, Jenkinson, and Kaplan (2016).

company would have access to on its own, while also limiting the total number of its members to increase efficiency. Greater board involvement in the company's operations can also improve efficiency through more regular board influence on company decision-making and aligning executive compensation with the firm's performance.

Financial. From a financial perspective, strategy implementation generally entails a greater use of debt financing to achieve two potential benefits. First, firms can make suboptimal capital expenditure decisions because of excess free cash flows. Increasing the firm's debt (and, in turn, interest payments) imposes discipline on management and encourages improved capital allocation. The second benefit is that private equity managers may be able to lower their portfolio company's financing costs by optimizing the firm's capital structure. Private equity managers may be able to leverage capital markets expertise and relationships to obtain more favorable financing terms and access to capital than companies could acquire on their own.

Although GPs have various paths to portfolio company value creation, these strategies often take years to realize, whereas fund fees and expenses accrue immediately. This timing mismatch between when fees are due and when value is created in the underlying portfolio companies results in negative fund performance during the first several years of the fund's life. This characteristic is well-documented across various private market strategies and is commonly referred to as the J-Curve, as a fund's cumulative performance (or net cash flows) typically resembles the letter J. Again, the J-shaped pattern arises because funds can be expected to produce negative returns early, followed by outsized returns during the middle to late stages of a fund's life.

Private equity returns

At the highest level, return expectations for a private equity portfolio can be summarized as the sum of four components, as shown in **Figure 3**.

Figure 3. Components of private equity returns



Notes: For illustration purposes, we present the equation as the simple sum of each component. More robust mathematic approximations would include private equity's sensitivity (beta) to each. The equation above would be a correct representation only if private equity's beta to the equity risk premium and liquidity risk premium were exactly 1.0 and there were no other systematic risk exposures present in private equity returns. Given that size, style, industry, region, and capitalization structures of underlying portfolio company investments do not perfectly match global public equity markets, it is unlikely that private equity's true beta to the equity risk premium is exactly 1.0.

Source: Vanguard.

As this definition illustrates, the primary differences in public and private equity return drivers are liquidity and manager excess return. However, though the liquidity premium represents a possible systematic source of excess returns, because private equity lacks an investable index, an investor's ability to capture any potential liquidity premium depends on the quality of the underlying managers. Perhaps more than any other asset class, the importance of maintaining consistent access to top managers is critical in private equity because of the significant dispersion in fund performance. This fact will become evident in the second part of this section through a brief review of historical private equity performance.

In terms of the liquidity premium, though it isn't directly observable, the economic rationale and academic literature support this theory. Whereas both public and private market investors may earn a liquidity premium from market inefficiencies or infrequent trading, the liquidity premium private equity investors may expect to earn also includes funding liquidity—the uncertainty about the timing and size of future capital calls and distributions, and the serious penalties LPs may face for failing to meet a capital commitment.⁹ Though this risk can be mitigated, the procyclical nature of PE cash flows supports the notion that investors should demand compensation through higher expected returns.¹⁰ As such, historical liquidity premium estimates vary but generally converge at around 3%, annualized.¹¹

⁹ The potential penalties LPs may encounter for failing to meet a capital call vary by fund; however, in extreme cases, LPs may forfeit their entire investment in the fund. Additionally, LPs may be barred from future funds raised by the same GP or may find it more difficult to commit to other private equity funds due to their reputation for having failed to meet past capital commitments.

¹⁰ See Døskeland and Strömberg (2018), Robinson and Sensoy (2015), and Holmström and Tirole (2001).

¹¹ See Franzoni, Nowak, and Phalippou (2012) and Anson (2017).

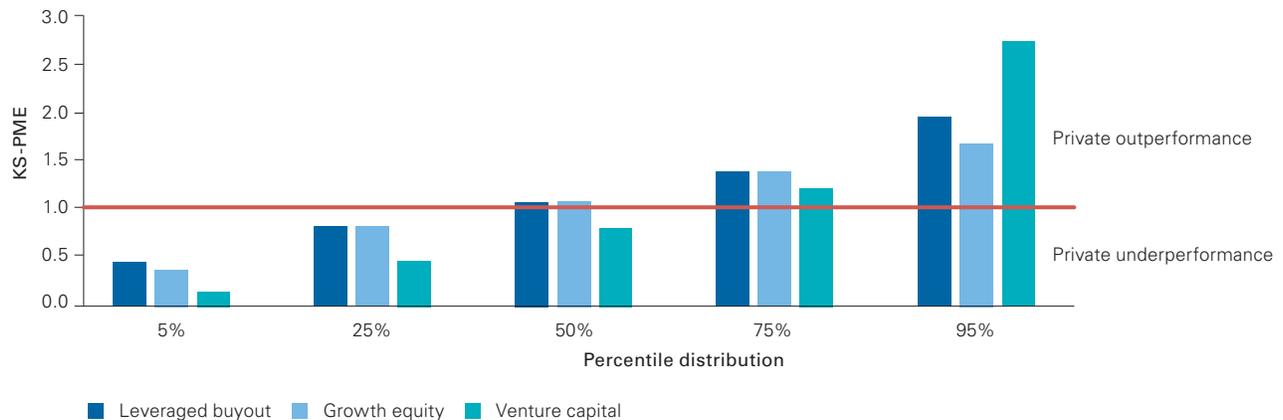
Manager excess return is the second key component in explaining private equity’s potential outperformance over public equities. Given that top-performing private equity managers can outperform underperforming managers by significant margins, robust manager due diligence and understanding of how managers seek to create value are vital. The prior section provided an in-depth discussion of common manager value-creation strategies. However, to recap, managers can add value to portfolio companies through improving their *operations* by increasing margins or adjusting firm strategy, enhancing *governance* by aligning incentives or altering board composition, and/or changing the firm’s *financial structure*.

Though relying solely on historical returns as the basis for including an investment strategy in a portfolio is generally problematic, a review of historical private equity fund performance can be helpful in forming an understanding of the market’s return profile. However, in the case of private equity, because managers have discretion over the timing of fund cash flows, the use of traditional time-weighted returns to draw comparisons between private equity fund and public market returns isn’t recommended. Instead, a common industry practice for drawing more appropriate long-term performance comparisons is by calculating public market equivalents (PMEs) using private equity fund cash flows and net asset values (NAVs). Though various PME methodologies exist, their overall objective is to assess the level of wealth (or returns) that would have been generated in a

public equity investment, had investors bought and sold public equities at the same times as the private equity fund cash flows. For example, using the Kaplan Schoar PME method (KS-PME), a ratio of 1.2 means final wealth is 1.2x higher than what would have been achieved from investing in the chosen public equity index. **Figure 4** presents the historical KS-PME for U.S.-focused private equity funds. From this, we can make several insights into private equity’s long-term return profile:

- Historically, there has been significant dispersion in leveraged buyout, growth equity, and VC returns, with the latter having the widest range of outcomes.
- Across the full sample of funds, leveraged buyout and growth equity managers demonstrated a greater propensity to outperform public markets, whereas VC fund outperformance has been more heavily concentrated among a smaller subset of funds.
- The return distributions for all three categories of private equity funds skew positively to the right. However, VC’s distribution profile was much more pronounced than that of buyout and growth equity, highlighting VC’s potential for significant outperformance given the “home run” (huge gain) versus “strikeout” (complete loss) nature of underlying portfolio investments.

Figure 4. Private equity fund performance relative to public equity market returns



Notes: Data include 1990 to 2014 fund vintages for U.S. leveraged buyout, growth equity, and venture capital funds. The performance period covers January 1, 1990, to December 31, 2019. The reference benchmark for public market equivalent (PME) calculations is the Russell 2000 Index. KS-PME refers to the Kaplan Schoar PME method.

Source: Vanguard calculations, based on data from Preqin.

Past performance is not a guarantee of future returns.

Manager access and skill are crucial to program success

As in public markets, active manager selection is critical to success. In private markets, the importance of manager selection is significantly higher, because the dispersion is much wider, most asset owners lack the scale to access the top managers, and those managers may be closed to new investors. For this population of asset owners, working with a third-party advisor or access fund provider that's able to help with manager diligence, GP access, and program design may be advisable over constructing a private equity program in-house.

Though external advisors and access fund providers entail additional layers of fees, their expertise in selecting managers and their longstanding industry relationships can more than offset the incremental increase in fees. Given full access to the range of private equity managers, increasing levels of manager selection skill can improve expected outcomes meaningfully, as shown in **Figure 5**.

Figure 5. Private equity outperformance through manager access and skill



Notes: Data include 1990 to 2014 fund vintages for U.S. leveraged buyout, growth equity, and venture capital funds. The performance period covers January 1, 1990, to December 31, 2019. The reference benchmark is the Russell 2000 Index. Poor manager selection and access is defined as 10% allocation to top quartile managers (Q1), 20% to Q2, 30% to Q3, and 40% to Q4. The next bar is defined as 20% allocation to each of the top two quartiles and 30% to each of the bottom two quartiles. The next bar is defined as 25% allocations to each of the four quartiles. The next bar is defined as 30% to each of the top two quartiles, and 20% to each of the bottom two quartiles. Strong manager skill and access is defined as 40% to Q1, 30% to Q2, 20% to Q3, and 10% to Q4.

Source: Vanguard, based on data from Preqin.

Private equity risk considerations

With private equity investments, there are five primary risk considerations: market, selection, funding liquidity, asset liquidity, and valuation. However, not all are unique to private equity. Moreover, as previously discussed, certain risks are believed to be compensated risks, in the form of higher long-term expected returns, with the possible exceptions being valuation risk and selection risk. For the latter, excess returns would be the potential compensation; however, that requires both manager skill and robust LP diligence to identify and gain access to such managers. PE investments are speculative in nature and may lose value.

Market risk. Private equity, as a form of equity capital, has economic exposures similar to those of public equities. As such, investments in each can be expected to earn the equity risk premium, or compensation for assuming the nondiversifiable portion of equity risk. However, unlike public equity, private equity's sensitivity to public markets is likely greatest during the late stages of the fund's life because the level of equity markets around the time of portfolio company exits can negatively affect private equity realizations. Though private equity managers have the flexibility to potentially time portfolio company exits to complete transactions in more favorable market environments, there's still the risk of capital loss from adverse financial conditions.

Selection risk. Whether making direct investments in private companies or private equity funds, or outsourcing private equity fund selection and portfolio construction to a third party, investors assume selection risk. This is because private equity doesn't have an investable index, or rather a passive implementation option for investors to select as a means to gain broad private equity exposure. While there are measures an investor can take to limit risk, such as broad diversification and robust manager diligence, this idiosyncratic risk can't be removed entirely or separated from other systematic drivers of return. Thus, in the absence of a passive alternative and significant performance dispersion, consistent access to top managers is essential for private equity program success.

Funding liquidity risk. The uncertainty of private equity fund cash flows and the contractual obligation LPs have to meet their respective capital commitments—regardless of the market environment—make funding risk (also known as commitment risk) a key risk LPs must manage appropriately. LPs could risk forfeiting all or a significant portion of their current partnership interests, or become forced sellers in the secondary market. As an example, in 2009 several prominent university endowments failed to properly manage funding liquidity risk and—being unable to sell large private equity holdings—instead obtained costly lines of credit to manage liquidity needs.¹² Thus, LPs must be diligent about maintaining ample liquidity in other areas of the portfolio, or in external sources, to meet capital calls upon request from the GPs.

Asset liquidity risk. Various attributes can influence a security's liquidity, or the ability to buy and sell a security in a timely manner and at a fair price. Transaction costs, complexity, and the number of willing buyers and sellers are only a few examples of the factors that can affect liquidity. In the case of private equity, while secondary markets for private equity fund interests exist and have matured, liquidity remains extremely limited and highly correlated with business conditions.¹³ Thus, LPs hoping to dispose of their fund interests early—especially during periods of market stress—are likely to do so at a discount.

Valuation risk. Relative to public equity, where company share prices are published throughout the day and are determined by market transactions, private equity NAVs are reported quarterly or less frequently, and reflect GP and/or third-party valuation provider estimates of portfolio fair value. Though the private equity industry has improved its practices for estimating the current value of portfolio holdings, reported NAVs likely differ from what would be the current "market price" if holdings were transacted.¹⁴ However, for long-term investors not actively seeking to divest their LP interests prior to the fund's liquidation, this is largely a conceptual consideration versus a tangible risk. In fact, there has been a growing body of research and practitioner acknowledgements that this may be a positive feature of private equity. Specifically, the smoothing effects of appraisal valuations and infrequent reporting can encourage better investor behavior and potentially allow investors to maintain higher risk asset allocations by removing the emotional risk of overreacting to mark-to-market volatility and large sudden drawdowns.

Like all investments, investments in private equity are subject to risk and the possible loss of the money you invest. In addition, some investments in private equity may be speculative in nature.

The reality of return objectives and the market

Given the level of interest rates globally, and with many institutions having a required or desired real return objective of 4% or higher, asset owners are left with few options: expand their investment opportunity sets or lower their anticipated future return expectations (or conversely, partially offset lower returns through higher savings and portfolio contributions). Because the latter is often a less palatable solution, many asset owners have pursued a remarkable shift in their asset allocation policy weights as well as new investment strategies to close the performance gap. While on a stand-alone basis this means moving farther out on the risk spectrum, from a total portfolio perspective, the inclusion of new strategies with differentiated risk exposures and less-than-perfect correlations adds risk diversification and potentially greater long-term expected returns.

¹² See Sorkin (2009).

¹³ See J.P. Morgan (2020).

¹⁴ The International Private Equity and Venture Capital Valuation Guidelines set recommendations that are compliant with both International Financial Reporting Standards and United States Generally Accepted Accounting Principles for determining the fair value of investments.

Between 1990 and 2019, endowments increased their alternatives holdings, on average, from 6% to 53% of the total portfolio.¹⁵ While alternatives allocations aren't composed entirely of private equity, this strategic shift into alternatives illustrates the trade-offs many professional allocators have been willing to make in their risk asset allocations: namely, increased illiquidity and manager selection risk in place of what was once predominantly U.S. equity market risk. However, while in aggregate endowments increased diversification over this time horizon, the performance difference highlights the unique challenges of alternatives and the relative advantages larger endowments have over their smaller peers.

Successful alternatives usage isn't as simple as allocating to public equities where, given the advent of index funds and exchange-traded funds (ETFs), exposures can be obtained instantaneously and at virtually no cost. For most alternatives, and private equity in particular, manager selection and access is crucial to success. As a result, the largest endowment cohorts, which have the greatest resources and manager access, have earned significant financial benefits from their private equity programs, whereas smaller endowments have struggled to replicate similar-caliber portfolios (see Figure 6). This is partly evidenced by the fact that the

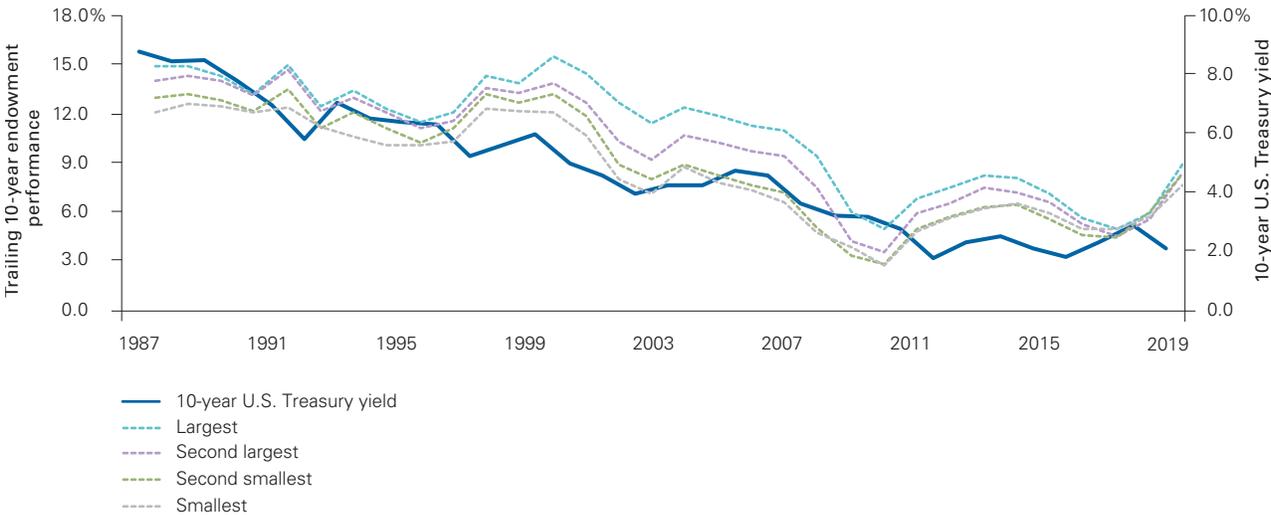
two largest endowment cohorts have outperformed the two smallest cohorts by approximately 170 basis points annualized, on average, over trailing 10-year periods from 1979 to 2019. Though AUM isn't the sole determinant of success, most asset owners not in the \$1 billion-plus AUM cohort may lack the skills, resources, and relationships to achieve the desired results from their private equity programs.

Vanguard private equity

At Vanguard, we believe there are two necessary components of a sound private equity program—broad diversification and consistent access to top GPs. Diversification has proven to be a powerful investment principle in both public and private markets, helping to reduce dispersion and improve median outcomes. However, whereas diversification can be obtained easily in most public markets because of the advent of mutual funds and low-cost index funds and ETFs, broad diversification is more difficult to achieve in private markets. Ultimately, private equity diversification requires significant resources to meet high private equity fund capital commitments, manage program operations, and conduct manager diligence. And, as that last point suggests, diversification alone isn't a substitute for manager selection skill and access. Given private

Figure 6. Performance of large versus small endowments

10-year annualized returns at ending fiscal years



Source: Vanguard analysis, based on data from the NACUBO-TIAA Study of Endowments and the Federal Reserve Bank of St. Louis Federal Reserve Economic Database.

Past performance is not a guarantee of future returns.

equity's significant performance dispersion, its investment merit relies heavily on oversampling the right half of the distribution (or conversely, limiting exposure to bottom-quartile funds).

Vanguard's private equity offer seeks to solve for these challenges through its scale and experience in sourcing top investment talent. On the public side, Vanguard has more than 40 years of experience accessing and negotiating fees with the world's premier asset managers, along with developing its own deep and experienced team of investment professionals to manage active money market, fixed income, and equity mandates. Although Vanguard is known by many investors as a leading index fund and ETF provider, its reputation among asset managers for its core purpose to take a stand for all investors and its ability to offer large economies of scale make it a desired partner among the world's top asset managers. As a result, our global scale and strong value proposition allow Vanguard to employ highly skilled and carefully selected managers to oversee our full roster of investment mandates. Today, our manager diligence department consists of more than 20 full-time investment professionals conducting ongoing qualitative and quantitative reviews to identify drivers of long-term outperformance.

With a focus on a firm's philosophy, process, people, portfolio, and performance, the team has formed, over multiyear engagements, relationships with over 25 managers, with an average tenure of 15 years. The outcome from Vanguard's differentiated value proposition, internally sourced skill, and manager diligence process is clear: Vanguard is one of the largest and top-performing active managers in the world. Some 81% of Vanguard's active equity funds have performed in the top half of their peer groups, while 86% of our active fixed income funds have led their respective peers.¹⁶ With such strong relative performance, asset owners have placed \$1.7 trillion into our active franchise, making Vanguard one of the largest active managers in the world.¹⁷

Vanguard seeks to replicate the success it has historically enjoyed with public active strategies in PE with the goal of improving investor outcomes. Vanguard expects a broadly diversified PE program with exposure to top-performing managers to outperform global equities by 350 basis points at the median.¹⁸ (A basis point is one-hundredth of a percentage point.) Despite wide variability around the median projection, the portfolio implications are clear—private equity can meaningfully improve the likelihood of success over a completely liquid portfolio, absent significant market tilts.

¹⁶ Source: Lipper, a Thomson Reuters Company. The number of Vanguard actively managed funds that outperformed their Lipper peer-group averages for the 10-year period ended December 31, 2020: 38 out of 44 Vanguard bond funds and 30 out of 37 Vanguard stock funds. Results will vary for other time periods. Only funds with a minimum 10-year history were included in the comparison. **Note that the competitive performance data shown represent past performance, which is not a guarantee of future results, and that all investments are subject to risks. For the most recent performance, visit our website at vanguard.com/performance.**

¹⁷ As of December 31, 2020.

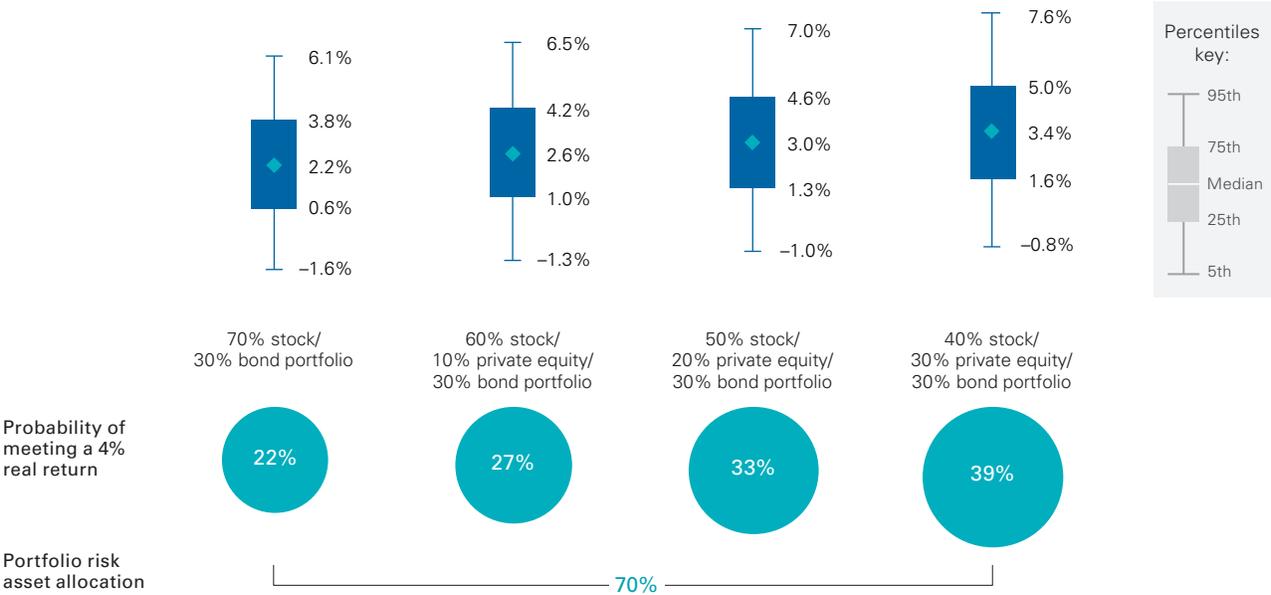
¹⁸ See Kaplan and Sensoy (2015) for a survey of past private equity performance literature. Here is an excerpt from the conclusion: "Evidence from new sources of GP-LP cash flow data, extending through 2011, indicates that BO (buyout) funds have outperformed the S&P 500 net of fees on average by about 20% over the life of the fund. Despite their different data sources, Robinson and Sensoy (2013), Harris et al (2014), Higson and Stucke (2014), and Phalippou (2013) all find virtually identical average BO PME's using the S&P 500 as the benchmark, suggesting that each of these datasets is reasonably representative of the universe of BO funds. While the evidence overwhelmingly supports BO outperformance relative to the S&P 500, the correct benchmark can be debated." More recent results from Harris, Jenkinson, and Kaplan (2016) show private equity outperformance is still present relative to various alternative public market indexes, in addition to the S&P 500, which was commonly used in early private equity research. Aliaga-Díaz et al. (2020) shows global PE outperformance through regression-based analysis of approximately 4%, annualized.

Figure 7 depicts the projected outcomes for four portfolios that maintain the same strategic risk asset allocations but different private equity program sizes. A clear upward progression in returns is evident, as private equity programs increase as a share of the portfolio. Specifically, when comparing the two end portfolios, the one with a 30% private equity program is expected to outperform the public 70% stock/30% bond portfolio by 1.2% real return—a 55% increase in expected returns. In addition to the higher median expectations, the entire return distribution moves up and, as such, the likelihood that asset owners meet their strategic return objectives improves as well. Assuming a 4% real return objective, the probability of meeting that objective over a 10-year horizon increases from 22% to 39% for the portfolio with 30% private equity.

For private equity, accessing top GPs requires decades-long relationships, consistent funding, and, often, discovering and investing in one of the first few funds a manager raises. Thus, similar to our experience in public markets, Vanguard applied its manager-search approach to premier private market providers—with an emphasis on firms that have demonstrated a strong track record of GP relationships and access, deep investment capabilities, and scale to invest in its personnel and its operating and investment infrastructure. The culmination of this approach was Vanguard’s selection of HarbourVest, a leading private fund provider with a proven track record of generating strong client outcomes over more than 35 years of market cycles, to administer a custom portfolio solution diversified across manager, stage, vintage, style, region, and strategy with terms that would otherwise be reserved for the largest asset pools.

Figure 7. Forward-looking portfolio return expectations

Distribution of expected 10-year real returns



Note: Vanguard Capital Markets Model® (VCMM) returns as of December 31, 2019.

Source: Vanguard analysis.

IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of December 31, 2019. Results from the model may vary with each use and over time. For more information, please read the important information at the end of this paper.

Conclusion

Vanguard has long acknowledged the ability of private equity to potentially improve investor outcomes through higher returns and increased diversification. Over time, regulatory changes, easier access to private capital, and the shift in business operating models have all led to a growing ratio of private to public equity, increasing its strategic importance in financial portfolios. However, because PE has no investable index, the success or failure of a PE program depends on the institution's or individual's investment expertise, level of resources, and ability to construct a broadly diversified private equity program of high-quality managers.

Unfortunately, these attributes are often related to one another, which is why top performance historically has been achieved by the largest endowments, foundations, family offices, and pension funds. For these reasons, we have cautioned investors against blindly pursuing a private equity allocation motivated solely by past results. But for the subset of investors with the requisite skills and resources to do it effectively, we believe private equity's inclusion in a broadly diversified portfolio has the potential to meaningfully improve long-term outcomes.

At Vanguard, given our more than 40 years as a leader in manager search and oversight, our scale, and the robust diligence process we apply to our firm's offers, we've established a comprehensive private equity solution that can help solve the challenges many asset owners face, and we expect it to improve financial outcomes as part of a broadly diversified portfolio.

Glossary

Accredited Investor Status

For natural persons, individuals holding the Series 7, 65, or 82 licenses in good standing or with net worth of not less than \$1 million or \$200,000 in annual income (or \$300,000 joint annual income with spousal equivalent); family offices and family office clients; 501(c)(3)s, corporations, LLCs, and partnerships not formed to acquire securities offered and with total assets in excess of \$5 million; trusts with assets greater than \$5 million not formed to acquire securities offered and directed by a sophisticated person; any entity the equity owners of which are accredited investors.

Capital Call or Drawdown

A request made by the general partner for a portion of the capital committed by a limited partner.

Carried Interest or Carry or Performance Fee

The share of profits due to a general partner once the limited partner's commitment to a fund plus a defined hurdle rate is reached.

Close or Closing or Round of Subscriptions

First: The date on which the first limited partners are admitted into a fund. Final: The date on which a fund is closed to further subscriptions.

Co-investment

A minority investment, made directly into an operating company, alongside a fund or other private equity investor.

Commitment Period or Investment Period

The period within which a fund can make investments as established in the limited partnership agreement.

Committed Capital or Commitment

The capital a limited partner has agreed to commit to a fund across its lifespan.

Direct Co-investment

See co-investment.

Distributed or Distributions

The total amount of cash and stock returned to a fund and/or limited partners.

Fund Term

The initially planned period in which a fund will operate.

General Partner (GP)

The manager of a fund. The GP may appoint an advisor or advisors to assist with the fund's management.

Hurdle

See Preferred Return.

**Internal Rate of Return
(Gross, Net, Realized Gross)**

A measure of the absolute annual rate of return of an investment that takes both the timing and magnitude of cash flows into account, calculated using contributed capital, distributions, and the value of unrealized investments.

Gross: Without fees and carried interest taken into account.

Net: With fees and carried interest deducted.

Realized Gross: The return from underlying holdings from which the fund has already fully or partially exited, without fees and carried interest taken into account.

Invested Capital

The amount of capital invested in portfolio companies.

J-Curve

A term given to the typical shape of a graph of the cumulative returns for a private equity fund during its life cycle. Because of the investment process, capital calls and fees precede value creation and potential distributions.

Limited Partner (LP)

The investors in a limited partnership—the typical structure of a private equity fund. LPs aren't involved in day-to-day fund management.

Limited Partnership Agreement (LPA)

The binding legal document that constitutes and defines a limited partnership, the legal structure typically adopted by private equity funds. The LPA governs a client's investment in a limited partnership.

Management Fee

The fee paid to a fund; it is typically a percentage of the LP's commitment.

Preferred Return/Hurdle Rate

A minimum annual rate of return a fund must achieve before the GP can receive carried interest, as outlined in the LPA.

Primary Fund

A private equity fund that invests directly in privately held companies rather than in other investment vehicles.

Private Placement Memorandum

A disclosure document for a private fund describing the material terms, strategies, and risks of the private equity fund, generally provided to investors with the LPA.

Qualified Purchaser Status

For natural persons, individuals owning not less than \$5 million in investments; family offices owning not less than \$5 million in investments and not formed to acquire securities offered; trusts not formed to acquire securities offered and each trustee and settlor is a qualified purchaser; any other person, including institutions, that owns not less than \$25 million in investments.

Secondary Fund

A fund that purchases preexisting interests in private equity funds or portfolios of operating companies.

Special Situations

An opportunistic investment strategy that attempts to take advantage of market dislocations and unique situations to invest in private companies at discounts to their "fair" market value.

Subscription Agreement

The document an investor completes to enter a private fund and agree to the terms of the LPA.

References

- Aliaga-Díaz, Roger, Giulio Renzi-Ricci, Harshdeep Ahluwalia, Douglas M. Grim, and Chris Tidmore, 2020. *The Role of Private Equity in Strategic Portfolios*. Valley Forge, Pa.: The Vanguard Group.
- Anson, Mark, 2017. Measuring Liquidity Premiums for Illiquid Assets. *Journal of Alternative Investments* 20(2): 39–50.
- Døskeland, Trond M., and Per Strömberg, 2018. *Evaluating Investments in Unlisted Equity for the Norwegian Government Pension Fund Global (GPF)*. Report for the Norwegian Government Pension Fund Global.
- Garland, Russ. *With Growth Equity Outperforming Venture Capital, Cambridge Associates Anoints It an Asset Class*. Wall Street Journal, August 7, 2013.
- Franzoni, Francesco A., Eric Nowak, and Ludovic Phalippou, 2012. Private Equity Performance and Liquidity Risk. *Journal of Finance* 67(6): 2431–2373.
- Harris, Robert S., Tim Jenkinson, and Steven N. Kaplan, 2016. How Do Private Equity Investments Perform Compared to Public Equity? *Journal of Investment Management* 14(3).
- Holmström, Bengt, and Jean Tirole, 2001. LPM: A Liquidity-Based Asset Pricing Model. *The Journal of Finance* 56(5): 1837–1867.
- International Private Equity and Venture Capital Valuation Guidelines, 2018.
- J.P. Morgan, 2020. *Guide to Alternatives 3Q 2020*. Market Insights.
- Kaplan, Steven N., and Berk A. Sensoy, 2015. Private Equity Performance: A Survey. *Annual Review of Financial Economics* 7: 597–614.
- Kaplan, Steven N., and Per Strömberg, 2009. Leveraged Buyouts and Private Equity. *Journal of Economic Perspectives* 23(1): 121–146.
- Mauboussin, Michael J., and Dan Callahan, 2020. *Public to Private Equity in the United States: A Long-Term Look*. Morgan Stanley Investment Management Consilient Observer, August 4.
- McKinsey & Co., 2017. *Equity Investments in Unlisted Companies*. Report for the Norwegian Ministry of Finance, November.
- Robinson, David T., and Berk A. Sensoy, 2015. Cyclical, Performance Measurement, and Cash Flow Liquidity in Private Equity. *Journal of Financial Economics* 122(3): 521–543.
- Sorkin, Andrew R., 2009. *Investment Indigestion at Stanford*. New York Times, Oct. 5.

Connect with Vanguard® > vanguard.com

For more information about Vanguard funds, visit vanguard.com to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information about a fund are contained in the prospectus; read and consider it carefully before investing.

IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

All investing is subject to risk, including the possible loss of the money you invest. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. Diversification does not ensure a profit or protect against a loss.

This communication does not constitute an offer to sell or the solicitation of an offer to buy any specific investment product sponsored by, or investment services provided by Vanguard Advisers Inc. or its affiliates. Any such offer may be made only to qualified investors by means of delivery of a confidential Private Placement Memorandum or similar materials that contain a description of the material terms of such investment. No sale will be made in any jurisdiction in which the offer, solicitation, or sale is not authorized or to any person to whom it is unlawful to make the offer, solicitation, or sale. Private investments involve a high degree of risk and, therefore, should be undertaken only by prospective investors capable of evaluating and bearing the risks such an investment represents. Investors in private equity generally must meet certain minimum financial qualifications that may make it unsuitable for specific market participants.

CFA® and Chartered Financial Analyst® are trademarks owned by CFA Institute.

Vanguard®

© 2021 The Vanguard Group, Inc.
All rights reserved.
Vanguard Marketing Corporation, Distributor.

UHNWPEBR 022021