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Opportunities in Private Equity

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The private equity (PE) industry has grown to be a large, global and developed industry with close to $7 trillion in assets under management, drawing significant interest from both companies and investors alike. From small start-up firms to large private or public firms, companies seek private equity as a source of capital to aid in the development of their respective lifecycles. For investors, private equity has the potential to deliver strong returns relative to public equity and may help meet investment objectives, particularly given the expectations for lower returns from traditional assets going forward.

Private equity is a model that requires investors to take a long-term view and to understand the mechanics of the private equity fund structure. While the locked-up nature of the structure can be a drawback, we believe it is a benefit that allows fund managers to be patient and augment performance over various market cycles. Moreover, historical results indicate that higher returns from private equity over the long term often compensates an investor for the illiquidity and risk that comes with the investment. Investing in private equity requires patience and a consistent allocation with strong manager selection, and having access to the top fund managers is critical in building a successful private equity portfolio.

In this paper we take a deep dive into recent trends in the PE industry, how performance is calculated, how it is compared against those of other investment strategies, and the benefits and risks of investing as well as where PE investors should consider allocating currently.

The Rise in Private Equity

The private equity market is an important source of capital for start-up firms, private middle-market firms, public or private firms in financial distress, and public firms seeking to go private. Within this space, private equity tends to focus on venture, buyout and high-growth companies--in all cases, on companies where value is less obvious or can be grown rapidly.

Along with other alternative investments, the private equity industry has evolved to include a variety of strategies and as a result now appeals to a greater array of investors. Investors can access PE directly through venture capital or buyout funds, or through a hybrid of both, such as co-investment vehicles or secondary vehicles.

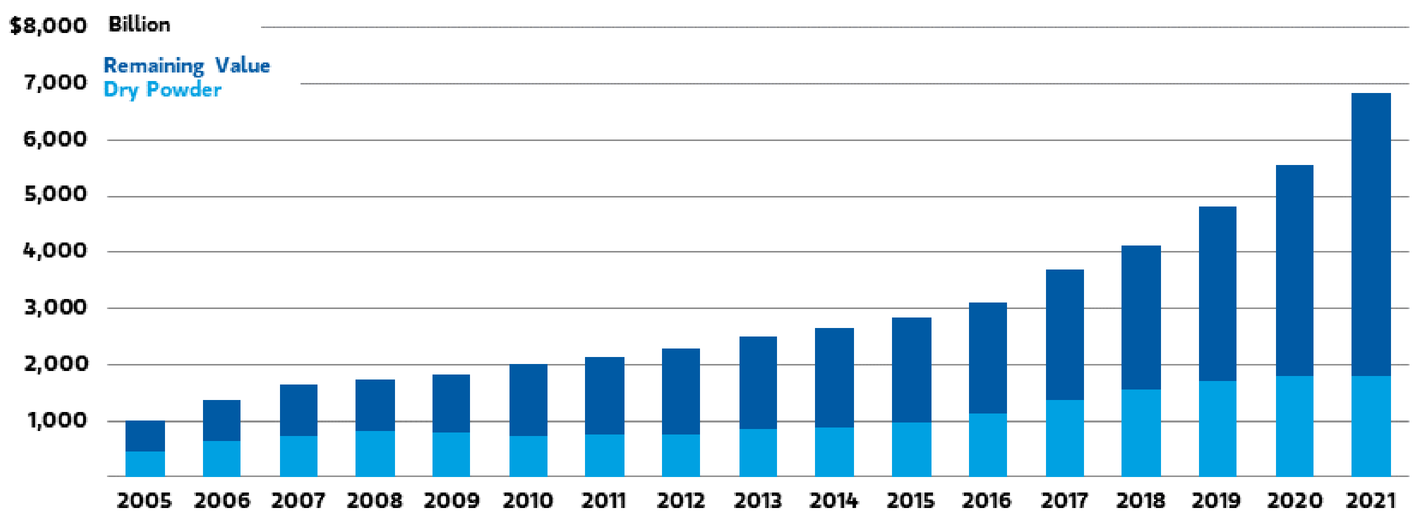
Today, awareness of private equity continues to increase and it has become an investment class that is commonly used by many institutional investors. The private equity industry is now a large, global and developed industry. Its popularity is evident in the growth in PE assets under management (AUM), which combines the amount invested in private equity and the amount of new funds committed to future private equity investments. As illustrated in Exhibit 1, global private equity AUM has grown to almost $7 trillion as of June 2021.

Types of Strategies

Some of the most common private equity strategies are outlined below:

Buyout. Buyouts, or leveraged buyouts (LBOs), are equity investments to acquire a controlling interest in a company, typically with the use of significant financial leverage, and are usually categorized from small/mid to large/mega capital funds. Investors in buyout strategies are interested in more mature companies with demonstrated cash flow, making the four primary drivers of buyout returns earnings, earnings multiple, debt and time. Most importantly, a buyout will invariably involve the use of debt. Indeed, today's financial engineering solutions for buyouts will often involve various layers of debt, ranging from senior debt secured by the company's assets to unsecured debt with equity kickers, what's known as mezzanine financing. Debt plays a key role in the generation of buyout returns, operating to enhance equity returns. Buyouts can be distinguished from our next strategy, venture capital, in a number of ways. Chief among these are that buyouts generally focus on established companies rather than young businesses and the fact that buyouts use debt as well as equity financing. Another apparent distinction is between "control" and "non-control" investing. In control investing, the private equity manager either owns a majority of the shares in the company or at least has control over the majority of the voting rights.

Exhibit 1: Private Equity Assets Under Management Have Soared



Note: Data includes global private equity and venture capital.
Source: PitchBook as of June 30, 2021

Venture Capital. Venture capital generally means an investment in a company prior to an initial public offering, and often early in the company's life cycle. Venture investments are most often found in the application of new technology, new marketing concepts and new products with an unproven track record or lack of a stable revenue stream. Venture capital is often subdivided by the stage of development of the company, ranging from early-stage capital used for the launch of start-up companies to late-stage and growth capital that is often used to fund expansion of an existing business that generates revenue but may not yet be profitable or generates cash flow to fund future growth. Venture deals, unlike buyout deals for the most part, will enjoy successive rounds of financing, and the point in the company's development when each of these rounds occurs will determine whether such a round is, for example, "early" or "mid." The basic drivers of a venture fund's returns are the post-money valuation of the rounds and the percentage of the company's equity which a fund holds.

Growth Capital. Growth capital is an investment in more mature companies to provide funding for growth and expansion. Growth capital is usually provided to later-stage or established companies with products and services that are already generating significant revenue. These companies may either be generating free cash flow or be close to generating positive cash flow. Companies that seek growth capital will often do so in order to fund the growth of an established business plan or to finance transformative events in their life cycle.

Special Situations. Special situation strategies are seeking undercapitalized segments of niche markets where private equity capital can exploit opportunities. Special situation strategies may also be referred to as "turnaround" strategies where an investor will provide debt and equity investments, often in the form of rescue financing, to companies undergoing operational or financial challenges.

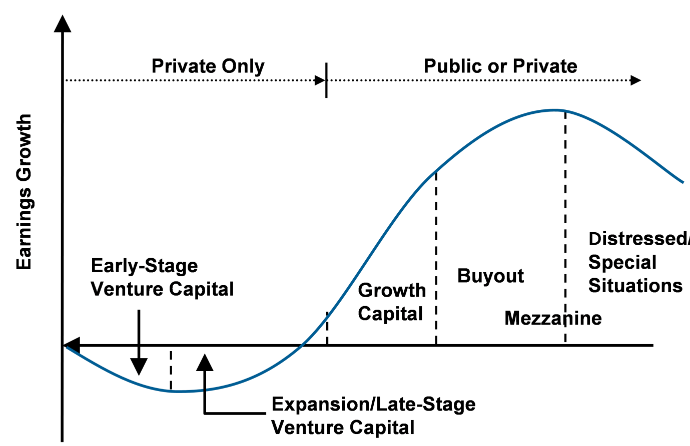
Secondaries. Secondary fund opportunities typically involve acquiring direct interests of primary funds from existing limited partners, usually, but not always, at a discount to the portfolio's net asset value. These transactions are referred to as traditional or LP-led secondary transactions. GP-led or non-traditional transactions are situations whereby the GP initiates a transaction with a secondary manager to restructure their funds. Secondary investments provide institutional investors, particularly those new to private equity, with the ability to improve vintage year, sector and geographical diversification. Secondaries also typically experience a different cash-flow profile, diminishing the J-curve effect of investing in new private equity funds (Exhibit 4, see page 5). Often investments in secondaries are made through a third-party fund vehicle, structured similarly to a fund of funds although many large institutional investors have purchased private equity fund interests through secondary transactions.

Co-investment. Co-investment opportunities involve investing alongside GPs in individual deals. They typically are offered to preferred existing LPs in the fund on a no-fee and no-carry basis or according to a reduced fee structure. GPs typically offer co-investments when they are limited by portfolio constraints on single investments in their fund and need to partner to meet equity requirements. Co-investments have become increasingly attractive for investors in private equity funds given the reduced fee structure and ability to be tactical in their capital deployment in certain sectors.

Private Equity Life Cycle and Performance

Private equity fund managers have four principal roles: raise funds from investors, source investment opportunities, select the most appropriate investments, and actively manage and realize capital gains by monetizing these investments. Remember, these events can vary depending on the strategy, but each stage typically occurs in a company's life cycle (see Exhibit 2).

Exhibit 2: Stages of a Company Life Cycle



Source: Morgan Stanley Wealth Management Global Investment Manager Analysis (GIMA)

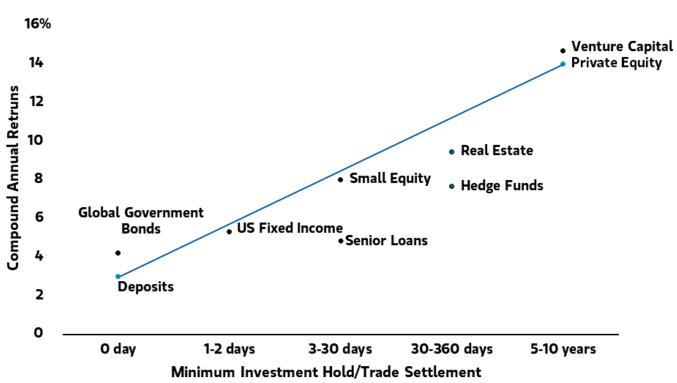
Private equity funds differ in strategy, structure, and objective compared to more traditional investment funds. For one, private equity funds are unlike any other form of investment in that they represent a stream of unpredictable cash flows over the life of the fund, both inward and outward. These cash flows are unpredictable not only as to their amount, but also as to their timing.

The private equity life cycle begins with investors, or the LP, making a capital commitment to a fund. Once a fund is closed to new commitments, the GP will begin to allocate capital to appropriate investments. This "investment period" can vary but typically ranges between two to four years. As individual investments are identified, the GP will "call" a pro-rata share of the previously committed capital from investors to fund selected investments. This activity will be repeated as new opportunities are identified and committed capital is depleted. At the end of the investment period, the GP will focus on cultivating the investments made by the fund. This phase depends on the specific underlying investments, though typically it can last two to five years. Distributions are on the other side of the cash flow coin. As the investments mature, the GP shifts into "harvest" mode and will actively seek to monetize investments and return capital to investors in the form of principal and capital gains. When a fund exits an investment by sale or going public, cash should be available to return to investors. In the end, an investment in a private equity fund is a long-term commitment of capital that can typically last seven to ten years and potentially more. Additionally, investors should consider that the market environment and external factors play influential roles in a private equity investment's life cycle.

The Illiquidity Premium

It is important when thinking about private equity returns to remember the illiquidity associated with these investments. This "illiquidity premium" is expected to compensate investors for giving up access to their capital. This illiquidity can be a risk but has benefits as well (Exhibit 3). Modern Portfolio Theory holds that investors expect to be compensated for the level of risk taken. The illiquidity premium is a potential benefit to investors in private equity. It is defined as the return premium an investor demands in an investment that cannot be easily converted to cash at its fair market value. However, quantifying the illiquidity premium is difficult given the idiosyncratic nature of private investments, individually, or as a portfolio.

Exhibit 3: Returns Typically Increase With Level of Liquidity



Note: : Returns and holding periods are approximations based on a Morgan Stanley Wealth Management GIMA study for the January 1996 to 2015 period.
Source: Morgan Stanley Wealth Management GIMA

While many factors contribute to a fund's return, all funds have some degree of market risk which influences returns and liquidity. Macroeconomic market factors that are strategy-specific or influence the broader environment can impact long-term funds just as they do more conventional liquid funds, resulting in variations in the illiquidity premium.

Private Equity: From Committed to Drawdown to Invested

In the private equity world, the money committed by limited partners, committed capital, is not usually invested immediately. It is "drawn down" and invested over time as investments are identified. Drawdowns, or capital calls, are issued to limited partners when the general partner has identified a new investment and a portion of the limited partner's committed capital is required to pay for that investment. Invested capital, as the name suggests, is that part of drawn-down capital which has actually been invested in companies. Typically, the first year that the private equity fund makes its initial investment is known as the fund's vintage year.

Performance: From IRR to MOIC to DPI

Given the unique features of private equity investing relative to more traditional investments, private equity looks at performance in a different manner. The three most common measures of performance are the internal rate of return (IRR), multiple on invested capital (MOIC) and distribution over paid-in (DPI). Private equity returns are calculated and stated not as the annual returns of any particular year, but as compound returns from a certain year (the year of formation of the fund) to a specified year. Note that while multiples can be a valuable measure of private equity fund returns, there is a direct trade-off between an IRR and multiple, with a longer holding period (such as typically encountered with a venture fund) needed to result in a higher investment multiple in order to generate the same IRR.

IRR. The most common method to quantify and measure PE returns is the internal rate of return. It signifies the annualized effective compound rate of return that makes the net present value of all cash flows equal to zero. An IRR calculation can therefore be useful when comparing funds of similar vintages and risk.

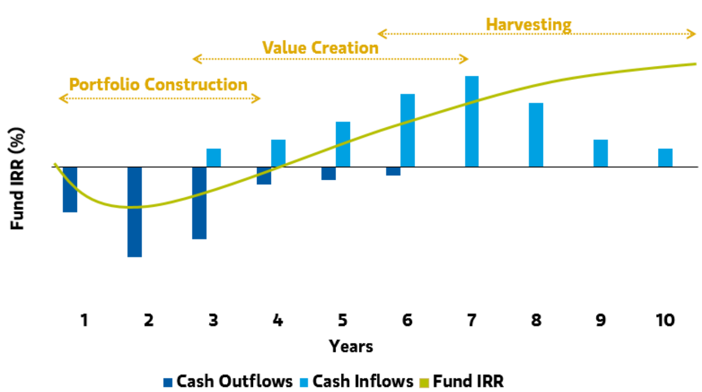
MOIC. Another measurement of private equity performance is the multiple on invested capital, also known as the "money multiple." The MOIC is a multiple based on all realized distributions, plus any unrealized or residual value divided by paid-in capital. It gives a potential investor insight into the fund's performance by showing the fund's total value as a multiple of its cost basis.

DPI. This measurement compares the total amount of money paid out (distributed) by a fund to its LPs to date against the total amount of money paid into the fund by LPs. This is one of the better multiples to measure the performance of a fund once it is at the end of its life, since it shows the performance relative to all money paid in, i.e., money that has been used to pay fees as well as money that has been invested in companies.

The J-Curve Effect

Another important characteristic of private equity fund performance is illustrated by the "J-curve." In private equity, the J- curve is used to illustrate the historical tendency of private equity funds to deliver negative returns in early years and investment gains in the outlying years as portfolio assets mature. In the early years, fund fees are incurred and investments are made that typically result in more cash outflows than inflows. This cash outflow results in performance that typically will decline, level off and then turn positive as seen in Exhibit 4 below, resulting in what resembles the letter "J" over time. As companies are selected for the fund's portfolio and, it is hoped, generate cash flow, inflows will exceed outflows. Investors will still pay an annual fee, but theoretically, the fund investment should grow over time. While the economic outcome of a private equity fund investment is not known for years, successful fund performance typically follows a J-curve pattern.

Exhibit 4: J-Curve Hypothetical Cash Flows of Private Equity Fund



Note: Exhibit is a hypothetical illustration of the J-curve. The J-curve effect refers to a "J" shaped section of a time-series graph in which the curve falls into negative territory and then gradually rises to a higher level than before the decline.
Source: Morgan Stanley Wealth Management GIMA

Measuring Fees

It is important to note that private equity returns should be stated net of fees, expenses, and carried interest. This is because the returns are calculated on money going into the fund (which will include money drawn down for payment of fees and expenses) and money distributed out of the fund (from which carry will already have been deducted where appropriate). Managers benefit through various fees. The two most common in PE are management fees and performance fees (commonly known as carried interest). For example, the fee structure often referred to as "2 and 20" is shorthand for a 2% management fee and a 20% carried interest.

Management Fee. This is the cost of having your investment professionally managed. Generally, this is a 1.0%-to-2.5% charge on invested or committed capital. The management fee often declines over time and tends to be inversely proportional to fund size.

Carried Interest. This is a share of any profits that the private equity GP receives as compensation. The typical range is between 10% and 20% depending on the investment strategy. It is paid as soon as, and as long as, the cumulative realized return from fund inception to date exceeds the hurdle rate.

Hurdle Rate. This is the minimum return that a fund must generate on the cash invested in order for the general partner to receive carried interest. The hurdle rate, also called "preferred return," can vary though typically is around 8%. Once exceeded, the GP gets a "catch up" on the carried interest allocation. Note a clawback provision should be included to protect investors. This provision allows for the return of performance fees in the event the return of the fund ultimately declines below the hurdle rate.

Investing in the PE Market

Geographical Breakout

Geographically, the private equity market is predominately focused throughout North America and Europe, although, many investors remain committed to investing in Asia and emerging markets. The geographical focus of private equity has grown in the past decade but remains particularly strong in North America and Europe given the maturity of these markets.

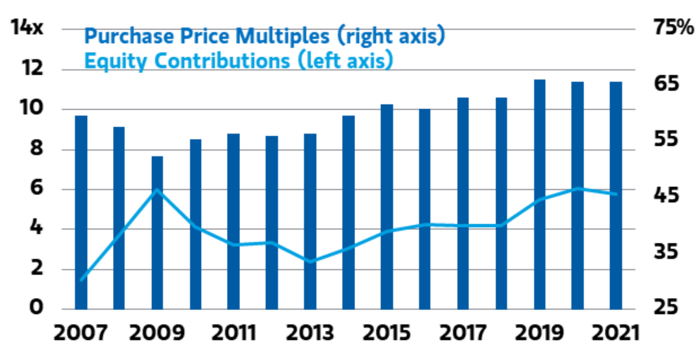
Current Market Pricing

The private equity market has experienced strong growth in recent years due in large part to expectations for lower returns from traditional stocks and bonds going forward. The average investor recognizes the importance of diversification in their investment portfolio and also wants to participate in more than just the public market in hopes of a higher return. With more available capital and strong demand, the current environment is witnessing near record levels of valuations for deals. During 2021, valuation multiples were back to or, in some sectors, higher than, pre-COVID levels. This was driven by private equity managers focused on paying up for higher quality companies, particularly in COVID-19-resilient sectors such as technology and health care (see Exhibit 5). However, today's deals generally have bigger equity cushions and thus may be more likely to survive a soft economy

Dry Powder

Lower expected returns in traditional asset classes as well as low interest rates have contributed to a consistently strong fundraising environment over the past several years, which has translated into record levels of "dry powder," a term that refers to the amount of cash reserves or liquid assets available for a private equity fund to deploy or available funds to invest. There is an ongoing concern that high dry powder levels are increasing competition for deals, making it harder for general partners to find attractive investment opportunities at reasonable valuations, which may ultimately impact returns. However, dry powder acts as buffer to provide cash for future unpredicted financial obligations in an otherwise illiquid investment. It can be an advantage for private equity funds to have particularly during an economic downturn. While the locked-up nature of the private equity structure can be a drawback, we believe it is a benefit that allows fund managers to be patient and augment performance over the long term. As of June 2021, estimated private equity dry powder totals approximately $1.8 trillion, as shown in Exhibit 1.

Exhibit 5: PE Pricing Multiples Are Above 2006-2007 Levels, but Equity Contributions Are Higher



Source: S&P LCD as of Dec. 31, 2021

Benefits and Risks in PE Investing

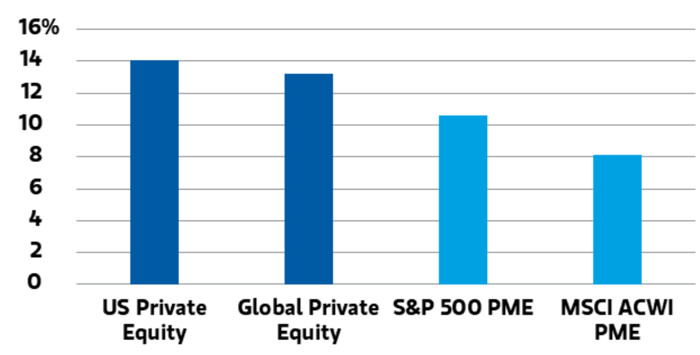
Private equity is a model that that requires investors to take a long-term view and accept illiquidity. First, the long holding period is ideal for patient investors, allowing portfolio managers to be selective. Hence, private equity capital is often referred to as "patient capital." Additionally, private equity provides a mechanism for qualified investors to access opportunities that would not be otherwise available.

This structure provides diversification benefits relative to traditional equity investments. In control buyouts, PE investors may benefit from the PE manager's direct control of the business and subsequent focus on returns. PE managers are often active investors seeking change in long-term investments. Oversight from PE managers can be stronger and more focused on returns than a public board of directors.

While private equity may offer meaningful benefits, it is not without its drawbacks. Illiquidity is one of the primary risks for private equity because the structure does not allow for redemptions and investor capital is locked up for a significant period of time. Additionally, because investments are not publicly traded, valuation opacity creates pricing challenges. How and when underlying assets are valued is an important consideration for investors. Also, cost has been an issue and therefore is increasingly in the crosshairs of both investors and regulators. Lastly, in large part because of the structure and types of investments, there is an inherent lag in receiving information for which investors need to be cognizant, along with less regulatory oversight in private markets.

While private equity does involve various risks, historical results indicate that higher returns from PE often compensates an investor for the illiquidity and risk that comes with the investment. Based on industry data, private equity has over the long term outperformed the public markets. As illustrated in Exhibit 6, the potential for exceeding returns beyond public equity is one of the main benefits of private equity investing.

Exhibit 6: Private Equity Outperformed in the 15-Year Period Through the Third Quarter of 2021



Note: Private equity index data sourced from Thomson Eikon's Cambridge Associates benchmarking database and includes buyout/growth equity net returns. Public market returns represent public market equivalent IRRs. Source: Bloomberg, Thomson Eikon as of Sept. 30, 2021

Secondary Private Equity Investing

It is widely assumed by investors that private equity funds are purely illiquid investments. While this is true by definition (in the sense that they are not quoted on an exchange) it is not true as a matter of practice, because a very active secondary market exists. Today, if you hold an interest in a private equity fund and wish to sell it (thus also bringing to an end your obligation to continue to fund capital calls) then there are a significant number of specialist secondary purchasers who will pay for your interest.

According to Evercore, the secondary private equity market has grown from $40 billion in 2015 to a record-high of $134 billion in 2021, becoming the primary market connecting private equity buyers to sellers. While the secondary market still pales in comparison with the nearly $7 trillion in managed private equity investment worldwide, in our view, it has matured to the point where secondary private equity has become a potential liquidity solution for an illiquid asset class.

Of course, private equity secondary investing does have its risks. For one, since secondary investments typically take place later in a fund's life cycle, the return profile is generally lower than for earlier investors, who take on more of the risk. Additionally, there are inherent risks around the liquidation of private equity assets such as the uncertainty of valuations and the demand for different vintages and managers.

Investors allocate to private equity secondaries for various reasons, the primary one being the mitigating effect on the J-curve. Secondaries are typically purchased after a private equity fund has invested a substantial portion of its capital and entered its value- creation phase. That means secondary private equity investors may experience earlier capital distributions with a more evenly distributed pattern of returns, or smoothing of the J-curve, than primary private equity funds. Secondary private equity investments also have less "blind-pool" risk. With a new fund, buyers are getting the expertise of a manager, but they do not know how the fund will be invested. Investors in secondary funds possess information about its holdings, and managers of secondary private equity portfolios can examine and analyze existing funds and their respective portfolio companies. Secondary portfolios have diversification benefits, too. Managers can diversify to a greater extent across a variety of factors, including strategy type, fund, manager, and vintage. This diversification benefits smaller investors who have not invested in, or do not have a long-term commitment to, private equity. Therefore, an investment in secondary private equity could quickly establish a core, diversified portfolio

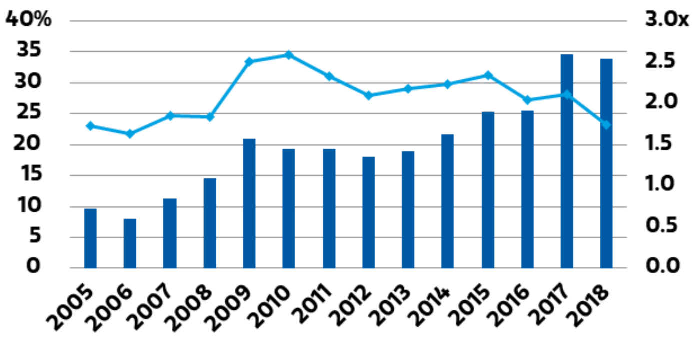
Current Market Opportunities

As noted, the private equity market has experienced rapid growth in recent years, resulting in higher deal multiples and growing supply of dry powder. In the current market, Global Investment Manager Analysis believes there are specific approaches and areas in private equity that are attractive and have the potential for strong long-term investment performance.

The health care sector is benefitting from a number of constructive secular dynamics as biological and technological advances stimulate innovation in the space. For example, the health care environment is experiencing a wave of disruption and innovation that is challenging the way companies are approaching their business models. In a post-pandemic world, there is an extraordinary surge in health care funding for areas like virtual and hybrid care as the industry increasingly accepts such ground-breaking models. Moreover, health care innovation continues at a rapid pace as advances in science, such as RNA technology and the sequencing of the human genome, are fueling unprecedented growth. These advancements can provide avenues to new drug discoveries that may more effectively treat and potentially prevent diseases. The dominant trends of growth, innovation and disruption are appropriate to the private equity playbook that provides patient capital, operational prowess and the venture capital mindset to facilitate the development of both young companies and established ones.

The buoyant global buyout and growth equity fundraising environment over the past few years has expanded the record dry powder level to approximately $1.8 trillion. Against the backdrop of high valuations, investors may be tempted to pause their investment pacing. However, investing in private equity requires a consistent allocation to the space. As we have observed in Exhibit 7, various vintage years produce different returns. As such, maintaining patience in capital deployment may be necessary to achieving the long-term return objectives of investing in private equity versus trying to time the market.

Exhibit 7: Consistent Investment Pacing Important to Achieving Long-Term Private Equity Returns



Note: Buyout/growth equity fund index data sourced from Thomson Eikon's Cambridge Associates benchmarking database.
Source: Thomson Eikon as of Sept. 30, 2021

As illustrated earlier, secondary private equity can be an effective way to access the private markets. The shorter life cycle, greater insight into a portfolio's composition and mitigating of the J-curve can be strong enhancements to a private equity portfolio.

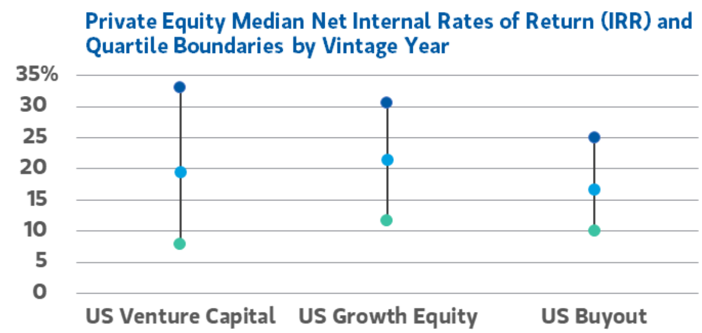
Secondary market volume soared to new heights in 2021. The growth was driven by both LPs returning to the market to rebalance their private capital exposures and GPs turning to the secondary market to provide liquidity to investors. For LPs, valuations of their underlying private equity funds recovered, fostering a favorable environment to liquidate their stakes and redeploy the capital into new opportunities. GPs, on the other hand, leaned on the secondary market to extend the management period of high-quality assets that had the potential for further value creation but might otherwise have needed to be sold due to limited fund lifespan. In this case, GPs facilitated the sale of these assets into new vehicles alongside secondary market investors as an alternative exit route. Managers who bring strong underwriting expertise and a range of deal experience across both traditional and nontraditional transactions to capture the wider opportunity set occurring in the secondary market may be well positioned.

Manager Selection Is Key

As with all active investment funds today, but particularly with private equity, manager selection is the key. Historical performance between top-quartile and bottom-quartile managers has been dramatically different as illustrated in Exhibit 8, reflecting the importance of good manager due diligence and selection.

Manager selection is a crucial decision and based on numerous factors including past performance; choosing a top-tier manager may provide more consistent results into the future. Strong manager selection and having access to the top funds are critical in building a successful private equity program.

Exhibit 8: Wide Range of Returns Shows Importance of Manager Selection



Note: For vintage years 2005-2018. Private equity returns are net of fees to limited partners. Private Equity index data sourced from Thomson Eikon's Cambridge Associates benchmarking database.
Source: Morgan Stanley Wealth Management GIMA, Thomson Eikon as of Sept. 30, 2021

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Investments in Private Equity often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. These investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may engage in speculative practices that may increase the volatility and risk of loss. Investments in Private Equity typically have higher fees than traditional investments. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. Certain of these risks may include but are not limited to:

• Lack of liquidity in that there may be no secondary market for a particular fund;

• Volatility of returns;

• Restrictions on transferring interests in a fund;

• Absence of information regarding valuations and pricing;

• Complex tax structures and delays in tax reporting;

• Less regulation and higher fees than other investment vehicles; and

• Risks associated with the operations, personnel, and processes of the manager.

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Strategy Definitions

The Strategy Descriptions provided below may not, at any given time, completely describe, or account for, all the variations of a strategy that a manager utilizes, any evolution in the strategies, every instrument used within those strategies or new strategies that arise.

Private Equity An asset class typically consisting of equity and debt securities in operating companies or assets that are not publically traded. Sub-strategies include: Primary or direct investments in targeted companies, Secondary investments in existing private equity investments, Co-investment such as investing along-side other direct investors.

OPPORTUNITIES IN PRIVATE EQUITY

Private Equity Strategies

Buyouts: Equity investments to acquire a controlling interest in a company

Direct Lending: Providing capital to companies in a form of debt within the company's capital structure.

Distressed / Special Situations: Investments in securities of companies or government entities that may be or near default or under bankruptcy protection. Purchasers typically buy these securities at deep discounts and seek to profit from the entity emerging from the distressed situation.

Growth Equity: Equity investments made in more mature companies to provide funding for growth, expansion or restructuring, new markets or finance a significant acquisition without a change of control.

Mezzanine Debt: Subordinated debt or preferred stock that earns a coupon and may have warrants or conversion features. Mezzanine capital is only senior common equity.

Royalties: The purchase of contractual rights to royalty rights for: for example, sales of medical products, including pharmaceuticals and devices. Also, may involve investment in equity of company that has current royalty interests.

Whole Loans: A single residential or commercial mortgage that a lender has issued and has not been securitized.

Venture Capital: Seed or startup capital provided to early-stage, high potential growth start-up companies. Investors seek to profit from the unique product, technology or business model. Venture capital investments typically take 5 or more years to reach full valuation.

Real Estate Strategies

Core Investing: Lower Risk/Lower Return Potential; well managed and high quality properties with high grade credit quality tenants. Buildings are substantially leased and diversified across property types with return derived primarily from income.

Opportunistic Investing: High Risk/High Return Potential; there is limited current income as the properties are generally distressed investments. The investment is driven by capital appreciation and speculative development.

Real Estate: Real estate investments seek to invest in physical real estate or real estate related securities across varying investment strategies, segments and geographies

Value-Added Investing: Moderate Risk/Return Potential; undervalued properties due to suboptimal management. The value potential is through renovation, releasing, repositioning or redevelopment. The outcome is improved income as a result of better management.

Additional Definitions

Distribution to Paid in Capital (DPI): The proportion of the called capital that has been distributed or returned in Limited Partners.

Enterprise Value: A measure of a company's value, often used as an alternative to market capitalization. Enterprise value typically includes market cap plus debt, minority interests, preferred shares minus cash and cash equivalents

Entrance Queue: Funds will make calls for unfunded commitments from time to time with advanced' notice as new investment or capital activity warrants. Capital from new investors is called pro rata in order of the quarter in which the investor's commitment was received. .

Gross Property Value: Is the value of a fund's underlying assets inclusive of any leverage applied to individual assets or the portfolio as a whole.

Gross Return: Is the estimated or audited performance of a fund that excludes all associated fees and expenses.

Internal Rate or Return: (IRR): The annualized effective compound rate of returns that makes the net present value of all cash flows equal to zero.

Investment Period: The period established by a fund in which the fund can make addition investments. Investments committed to prior to the expiration of the investment period may be made after the investment period has expired.

J-Curve Effect: Refers to the typical pattern of returns over the life of a private equity style portfolio as expenses and investments made to portfolio assets contribute to subdued or negative performance in the early years and rebound as the fund matures.

Loan-to-Value Ratio: Represents the first mortgage lien as a percentage of the properties appraised value.

Multiple on Invested Capital (MOIC): A measure to assess private equity performance. The measure typically includes all distributions plus any unrealized gains divided by paid-in-capital. An investment of $10,000 which grows to $20,000 is referred to a 2X MOIC.

Net Asset Value (NAV): The value of a fund's assets less liabilities.

Net Investment Value: Value of a fund's underlying assets based on the funds valuation methods and exclusive of any leverage.

Net Return: Is the estimated or audited performance of a fund less associated fees and expenses, such as managements fees and carried interest.

Redemption Queue: Where a fund has a redemption provision and cannot meet redemptions requests in full, investors remaining redemption balance will be placed in the Redemption Queue. Future redemption payments will be made to investors on a pro-rata basis based on available proceeds.

Residual Value to Paid in Capital (RVPI): The value of the limited partners remaining interest in the partnership as derived from the General Partner's valuation of the unrealized portfolio.

Total Value to Paid in Capital (TVPI): Sum of distribution to paid in and residual value paid in, i.e., distributed cash and securities plus the value of the limited partner's remaining interest in the partnership.

Vintage Year: Typically refers to the year or period in which a fund initiated investments and typically used as reference period for performance review.

Index Definitions

Private equity funds are investments in various forms of private securities with different characteristics and objectives. As such meaningful indices to assess relative performance are difficult to construct with any relevance. Assessments of private equity performance are typically viewed with respect to similar styles and investment time frames referred to as "vintage year".

The NFI-ODCE: short for National Council of Real Estate Investment Fiduciaries, NCREIF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted. NCREIF will calculate the overall aggregated Index return.

Barclays Capital High Yield Index: The Barclays Capital U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Mexico, Venezuela, etc.) are excluded, but Yankee and global bonds (SEC registered) of issuers in non-EMG countries are included. Securities in the index must be rated Ba1 or lower. If both Moody's and S&P provide a rating for a security, the lower of the two ratings is used. A small number of unrated bonds are included in the index; to be eligible they must have previously held a high yield rating or have been associated with a high yield issuer, and must trade accordingly.

Barclays Capital Aggregate Bond Index: The Bloomberg Government/Credit and the Mortgage-Backed indices are combined to form the Aggregate Bond Index. Total Return comprises price appreciation/depreciation and income as a % of the original investment. This index is rebalanced monthly by market capitalization.

S&P 500 Index: Covers 400 industrial, 40 utility, 20 transportation and 40 financial companies of the U.S. market (mostly NYSE issues). The index represents about 75% of NYSE's market cap and 30% of NYSE issues. It is a capitalization-weighted index calculated on a total return basis with dividends reinvested.

90 Day T-Bills: A measure of short-term interest rates using 90-day U.S. government bills.

Risks Associated with Private Equity and Real Estate Investments

Investments in private equity and real estate related entities are subject to various risks but not limited to the following. For additional risk factors, please see the offering memorandum.

Currency: Private equity style funds may or may not hedge out currency risk when investing internationally. Currency values may have a positive or negative impact on the funds periodic and final valuations based on currency movements over time.

Failure to make capital contributions: If Investors fail to fund their subscription obligations or to make required capital contributions when due, the fund's ability to implement its investment strategy or otherwise continue operations may be substantially impaired. A default by a substantial number of Investors would limit opportunities for investment diversification and likely reduce returns to the fund. In addition, Investors may be required to make additional capital contributions to replace a shortfall caused by a default, thereby reducing the diversification of their investments. Any Investor who defaults in making a required capital contribution will be subject to certain penalties

Fat Tail Risk: Fat tails are anomalies in return distributions, where extreme occurrences are more frequent and larger than standard deviation would explain. Fat tails in alternative investment strategies typically produce an asymmetrical risk profile whereby the frequent and larger extreme occurrences tend to occur on the negative side of the return distribution. In other words, standard deviation understates risk. The investments and associated risk characteristics of private equity style investments may exacerbate typical fat tail risk.

General Credit Risks/Lending: Funds based on credit or lending strategies may be exposed to losses resulting from default and foreclosure. Therefore, the value of the underlying collateral, the creditworthiness of the borrower, and the priority of the lien are each of great importance. Funds in general cannot guarantee the adequacy of the protection of the fund's interests, including the validity or enforceability of the loan and the maintenance of the anticipated priority and perfection of the applicable security interests. Furthermore, Fund's cannot assure that claims may not be asserted that might interfere with enforcement of the fund's rights. In the event of a foreclosure, the fund or an affiliate of the Fund may assume direct ownership of the underlying asset. The liquidation proceeds upon sale of such asset may not satisfy the entire outstanding balance of principal and interest on the loan, resulting in a loss to a fund. Any costs or delays involved in the effectuation of a foreclosure of the loan or a liquidation of the underlying property will further reduce the proceeds and thus increase the loss.

Investments with Intrinsic or Extrinsic Leverage: The investment strategies utilized by the manager and/or the underlying funds may from time to time employ the use of leverage. Such leverage may be achieved through various methods and magnifies the degree of risk and the potential volatility of investment returns. The effects of leverage may be further exacerbated to the extent that an investment in a fund represents a leveraged investment in one or more investments or underlying funds (i.e., leveraging an already leveraged investment).

Lack of diversification: A fund may participate in a limited number of investments and there can be no assurances concerning the diversification of the Fund's assets. A limited degree of diversification increases risk because, as a consequence, the aggregate return of the Fund may be substantially adversely affected by the unfavorable performance of even a single investment.

Lack of liquidity of investments: It is unlikely that there will be a public market for the investments held by a fund. In some cases a fund may be prohibited by contract from selling investments for a period of time. In addition, the types of investments held by a fund may be such that they require a substantial length of time to liquidate. In particular, these risks could arise from absence of an established market for a property, changes in the financial condition or prospects of prospective purchasers, changes in national or international economic conditions, and changes in laws, regulations or fiscal policies of jurisdictions in which the property is located.

Market dislocation: An extended or worsening economic downturn could adversely affect the financial resources of a fund and its

investments and their ability to make principal and interest payments on, or refinance, outstanding debt when due. In such event, a fund could lose both invested capital in, and anticipated profits from, the affected investments. The recent financial crisis has led to a marked decrease in the availability of financing (and, in many cases, an increase in the interest cost) for leveraged transactions, which may impair a fund's ability to consummate certain transactions or cause a fund to enter into such transactions on less attractive terms.

Small Capitalization Companies: Companies with small capitalizations may lack the financial resources, product diversification and competitive strengths of larger companies. The securities of small capitalization companies may not trade as readily as, and be subject to higher volatility than, those of larger, more established companies. Funds that invest a large percentage of assets in only one industry sector (or in only a few sectors) are more vulnerable to price fluctuation than funds that diversify among a broad range of sectors.

Risks Associated with Real Estate Investment: Risks include adverse changes in national or international economic conditions; local market conditions and the financial condition of tenants; changes in availability of debt financing; increases in interest rates, real estate taxes, energy prices, operating expenses and the possible reliance on operating partners. Changes in investment opportunities, environmental regulations, zoning laws and other governmental rules and policies; changes in the relative popularity of properties; risks due to dependence on cash flow; as well as acts of God, uninsurable losses and other factors beyond the control of the Fund.

Restrictions on redemption: Private closed-end investment funds typically include long-term, illiquid investments. As result, do not offer redemption provisions. Key events as defined in the funds Offering Documents may provide for selective liquidity events for investors. Please consult the funds Offering Documents for fund specific redemption provisions.

Use of leverage: Although the use of leverage (in the form of either debt or preferred equity) may increase the return on Fund capital and offer inflation protection, it also creates greater potential for loss.

The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments (ESG)** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein.

Conflicts of Interest

The goal of the Global Investment Manager Analysis ("GIMA") is to provide professional, objective information in support of Morgan Stanley Wealth Management's alternative investments business. GIMA has policies and procedures to help us meet this goal. However, we also believe that investors are entitled to full disclosure of conflicts of interests which could affect the objectivity of our Manager Profiles. Morgan Stanley Wealth Management and its affiliates, which include Morgan Stanley & Co. LLC, (together "our Company") do and seek to do business with various alternative investment firms") that are covered in the Manager Profiles. Our Company receives compensation, directly or indirectly, from the Funds and their affiliated investment management companies in a variety of ways.

Our Company is generally compensated for placing investments in the Funds with investors in several possible ways. As described in each Fund's confidential Offering Documents, our Company may receive a placement fee, a portion of the management fee or performance incentive compensation, servicing or trail fee paid to the manager of the Fund. The type and amount of our Company's compensation is not standard; it varies depending upon our Company's agreement with each Fund. Our Company receives reimbursement from Funds for various sales meetings, seminars and conferences held in the normal course of business. In addition, our Company receives compensation from Funds for providing traditional brokerage services (including related research and advisory support); fund administration and prime brokerage services; investment banking services; provision of various lending facilities; and for other types of financial services including, but not limited to, transfer agent or record-keeping services. Our Company may invest, either at risk, or with respect to hedge swaps relating to the total return on a Fund or a group of Funds.

Some of the Funds we cover have affiliates in the business of separate account investment management or investment management of mutual funds. Such affiliated investment management companies may be clients of our Company and, as such, our Company provides services and receives compensation for such services. In the case of mutual funds and certain alternative investments,, such compensation may include, but is not limited to, a mutual fund support fee, also known as a "revenue sharing" payment, based upon the amount of assets of its funds held by our clients. For more detailed information on how our Company charged for mutual fund revenue sharing in the past year, the names of the fund families from whom we collected such charges, and further details on fees for mutual fund recordkeeping and related services, please go to www.morganstanley.com. Ideas and suggestions for which Funds or managers should be evaluated by GIMA come from a variety of sources, including, but not limited to persons employed by our Company's investment banking and trading businesses, its Financial Advisors/Private Wealth Advisors ("FA/PWAs") and their direct or indirect managers, and other business persons within our Company. Such persons have an ongoing business relationship with those Funds whom they propose to be evaluated wherein such person, or some business within our Company, would be receiving compensation from such Fund. For example, an FA/PWA may suggest that GIMA evaluate a Fund that is already being utilized by that FA/PWA for a portion of his or her clients' assets. While such a recommendation is permissible, final responsibility for the views expressed rests with GIMA.

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