Morgan Stanley

INVESTMENT MANAGEMENT

Post-Crisis Private Markets Investing

SOLUTIONS & MULTI-ASSET | PORTFOLIO SOLUTIONS GROUP | INVESTMENT INSIGHT | 2020

AUTHOR

PORTFOLIO SOLUTIONS GROUP

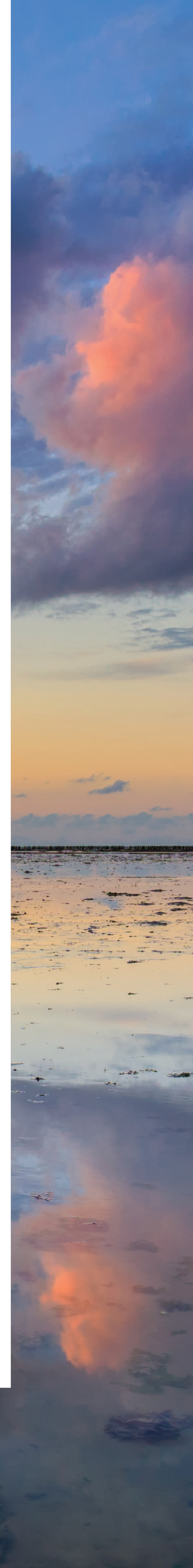
Summary

1. History has demonstrated that financial crises have significant impacts on the investment landscape, both in terms of opportunity set and risks to consider.
2. Post-crisis vintage private markets investments have historically generated strong returns for those asset owners able to identify and access the right opportunities.
   - For example, in private equity the average purchase price multiple of U.S. leveraged buyouts (“LBOs”) during crisis trough years was ~21% lower than the average multiple for late-cycle years.[1]
   - Due, in part, to a more favorable pricing environment, the average private equity returns for vintages immediately following a crisis have historically been 68% higher when compared to preceding late-cycle vintages.[2]
   - Manager selection further enhanced these returns as the dispersion between top- and bottom-quartile managers exceeded 1,500 basis points in previous post-crisis periods.[3]
3. During the economic correction and recovery phases, investors should evaluate opportunities across private asset classes, including deep value and distressed investments, and regional or sector-related themes. However, investors need to be cautious regarding the impact of elevated dry powder on private transaction prices, and we offer an approach to monitoring this dynamic in the pursuit of value opportunities.

[1] Source: S&P Global Market Intelligence; Q4-2019

[2] Source: Preqin; data as of 5/1/2020 for 12/31/2019 values.

[3] Source: Preqin; data as of 5/1/2020 for 12/31/2019 values.



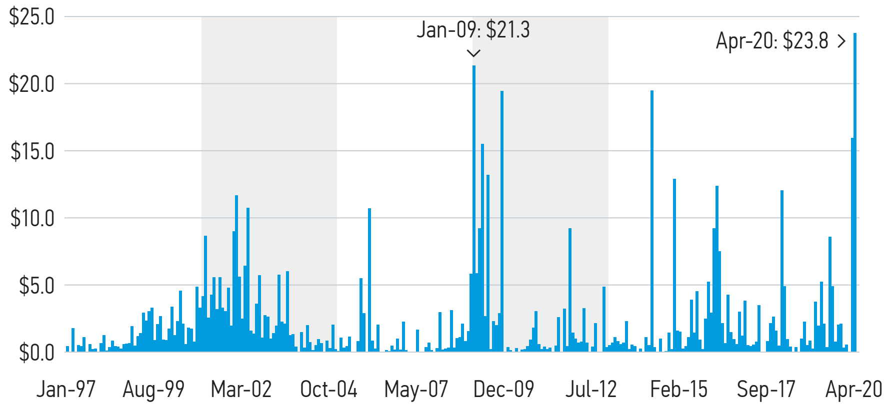
Introduction

In light of the extraordinary market disruption due to the spread of the COVID-19 pandemic, it is worthwhile to consider the broader potential impacts of the current crisis on private markets,[4] as well as describe potential areas of investment opportunity going forward in the post-crisis environment. While it is still too early to assess the full impact of the COVID-19 downturn, and difficult to predict the ultimate scale and timing of the recovery, evidence from previous crises like the 2000 dot-com bubble and the 2008 global financial crisis (the "GFC") indicate that *we could be entering one of the most attractive private markets investment environments in the last 10 years*. Post-crisis vintage funds have significantly outperformed other vintages, and the market dislocations taking place are creating a new, varied set of opportunities for implementing a private markets investment strategy. Additionally, the relatively slower pace at which private markets move as compared to public markets enables investors to take a longer-term approach towards tactical shifts into this sector.

DISPLAY 1

U.S. high-yield bond defaults have historically spiked in the immediate aftermath of prior crises

U.S. High-Yield Bond Monthly Default Volume ($Bn)



Source: J.P. Morgan Credit Strategy Research; April-2020. **Past performance is not indicative of future results.**

A period of market distress and repricing

The impact of COVID-19 has been particularly widespread, both in terms of geographical footprint and reach across numerous industries. Similar to previous crises, the following set of interrelated market disruptions took place:

- Certain sectors—transportation, energy, hospitality, and retail in particular—showed an immediate impact to revenue streams, as operations slowed and customer demand fell.
- Deteriorating fundamentals and negative investor sentiment were quickly reflected in the public markets—share prices fell and credit spreads and risk premia widened.
- Near-term reduction in liquidity with a sharp temporary dislocation in public markets that responded fairly quickly to government stimulus, and reduced transaction volumes and more selective lending in private markets.
- Sponsors drew down existing lines of credit to secure additional funding given the disruption to revenues and thinly-capitalized borrowers, unable to service their debt and in breach of loan covenants, entered into default.
- New investment activity slowed dramatically as buyers and sellers revised underwriting assumptions and reset pricing levels. Many transactions that were in process were put on hold or pulled outright by exercising break clauses in purchase and sale agreements, or buyers walking away from non-refundable deposits.

Although financial crises take hold quickly, it is important to note that the window of opportunity for investments opens and closes at asynchronous times depending on the market, asset class, sector, and structure. We believe that an attractive feature of private markets investing is, in fact, the relatively slower pace at which it moves compared to public markets. The underlying investment holdings in private markets are generally not subject to the continuous mark-to-market price fluctuations that publicly-traded investments exhibit. As a result, private market participants—GPs, LPs, buyers/sellers, lenders/borrowers—operate under a different investment environment. Lack of pricing transparency leads to wide bid/ask spreads and muted transaction volumes for a longer period. Closed-end fund structures and sometimes lengthy fundraising processes slow LP capital flows into and out of the sector. We believe that it is important for investors to quickly recognize the attractive entry point created by the current market disruption, and that these timing factors can aid in the implementation of a new private markets investment strategy designed to seek to take advantage of this cycle, while also meeting long-term goals of investors.

[4] In this paper, "private markets" include private equity, private credit, real estate and infrastructure.

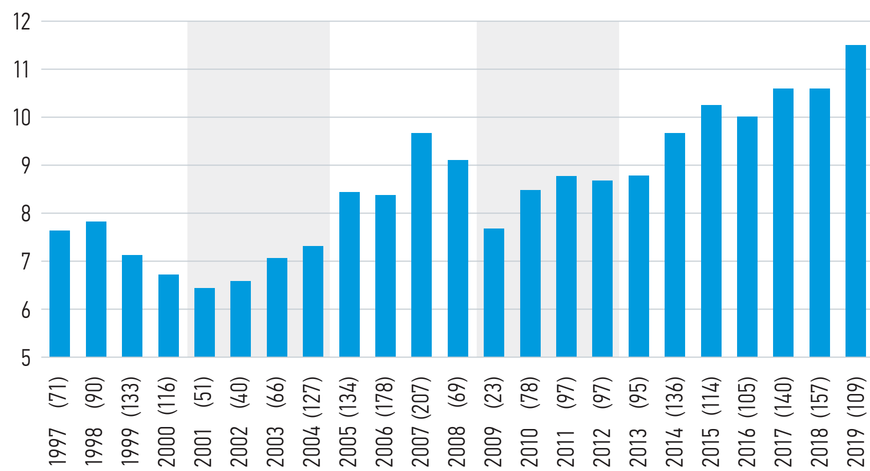
Crises impacts on private markets

The impact of financial disruptions to the private markets sector is reflected by metrics in three key areas. First, valuations underwent pronounced declines following prior crises, before eventually rising again as the market recovered. In private equity, as shown in *Display 2*, the average purchase price multiple of U.S. leveraged buyouts ("LBOs") during trough years (2001 and 2009) was ~21% lower than the average multiple for late-cycle years (1998-2000, 2005-07, 2017-19). In commercial real estate ("CRE"), capitalization rates rose dramatically from 6.5% in July 2007 to a high of 8.2% in April 2010 in the aftermath of the GFC. These results are unsurprising given: (i) the disruption to underlying asset operations and the negative impact on cash flows; (ii) a less competitive transaction environment as some investors are sidelined by their own portfolio management and liquidity challenges; (iii) wide bid/ask spreads as market participants proceed with caution. A distinction in this crisis is that we expect price declines to be driven more by earnings weakness (e.g., EBITDA or CRE net operating income declines), as opposed to weakness in the capital markets (e.g., a sharp drop in LBO price multiples or rise in CRE capitalization rates) given debt and equity liquidity in the private markets.

DISPLAY 2

Average LBO purchase price multiples have declined and CRE capitalization rates have risen in the years following financial crises

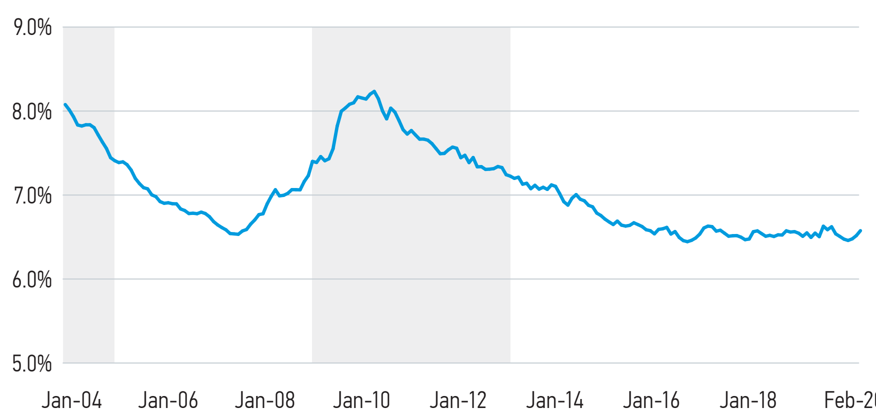
U.S. Purchase Price Multiples - All LBOs



Note: Total Sources/Pro Forma Trailing EBITDA; includes fees & expenses. X-axis reflects period (observations). Prior to 2003 Media, Telecom, Energy and Utility Deals, are excluded. Currently, all outliers, regardless of the industry, are excluded.

Source: S&P Global Market Intelligence; Q4-2019. **Past performance is not indicative of future results.**

CRE Capitalization Rates



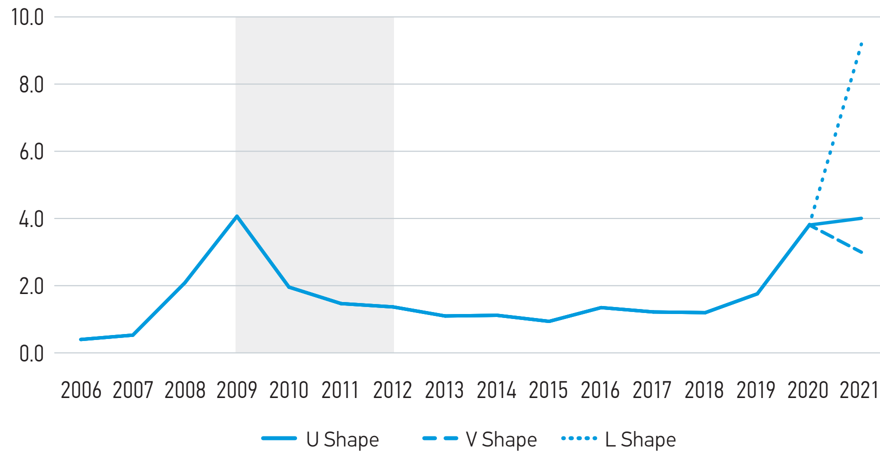
Source: Real Capital Analytics; April-2020. **Past performance is not indicative of future results.**

Second, it is important to consider the impact of the supply and demand for private transactions on the pricing response to economic shocks. Elevated levels of undrawn committed capital (our indicator for demand, known as "dry powder") in a sector with sharply falling transaction volumes could lead to upward pressure on transaction pricing, undermining the potential investment opportunity. We monitor this using the ratio of aggregate dry powder to transaction volume, with an increasing ratio signaling potential upward pricing pressure. As shown in *Display 3*, this ratio rose sharply in the LBO market during the GFC. However, it is important to disaggregate the data where possible to identify variations in this relationship. To provide an example, if we look at this ratio for the Large-Cap buyout market relative to the ratio for the Middle-Market, here rebased to 1 at the start of the observation period, we would expect to see more demand-driven price support (i.e., less of a correction) in Large-Cap than in the Middle-Market during post-crisis periods, which would indicate the Middle-Market segment may be more attractive in this current crisis.

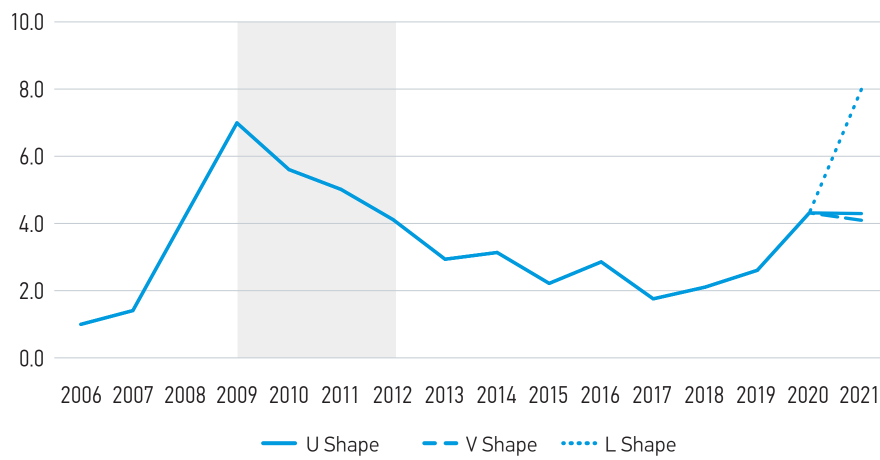
DISPLAY 3

Demand pressure on LBO multiples in post-crisis years is more apparent in the Large-Cap market where the increase in ratio of dry powder to transaction volume is higher than in the Middle Market.

Buyout Dry Powder to Transaction Volume



Dry Powder to Transaction Volume: Large-Cap relative to Middle-Market Buyouts Normalized to 1 as at 2006



Note: Middle Market fund size defined as <$1.5bn for 2006-09 and <$3bn thereafter; Middle Market deal size defined as <$250m for 2006-09 and <$500m thereafter. Historical data used for all inputs through to 3/31/2020. 2020 and 2021 ratios are forecasted figures based on the following assumptions: for the remainder of 2020, assumed changes to capital raising, capital calls, and transaction volumes are consistent with the proportionate changes observed in 2008. For 2021, V-shaped recovery assumes immediate recovery to 2010 levels for the inputs relative to 2008; L-shaped recovery replicates 2008-2010 moves, becoming more severe in the second year; U-shaped recovery assumes two years of suppressed activity, but not increasing in severity in the second year. December 2020 Dry Powder is approximated using actual December 2019 Dry Powder, adding expected Capital Raising during 2020, and subtracting expected Capital Calls.

Source: Preqin; April-2020. **Past performance is not indicative of future results. All forecasts are speculative, subject to change at any time and may not come to pass due to economic and market conditions.**

Finally, it is important to consider the impact of debt availability on transaction pricing. As shown in *Display 4*, average LBO debt multiples declined to around 4x in 2001-2002 and 2009 and average CRE loan-to-value ratios declined to as low as 52% in early 2009. A tighter lending environment decreased the availability of accretive leverage which, in turn, contributed to lower price multiples. There are several differentiating features of this crisis, however. First, banks enter this downturn in much better financial condition than in previous crises like the GFC. Second, lower interest rates have provided more cushion for borrowers from a debt service coverage perspective. Third, in the CRE sector leverage ratios have not returned to the same elevated levels as in the run-up to the GFC. Additionally, substantial government support packages are providing an unprecedented boost to liquidity. Nevertheless, given the lack of clarity on when, and to what extent, operations and revenues will rebound, borrowers are likely to exercise caution in the near term.

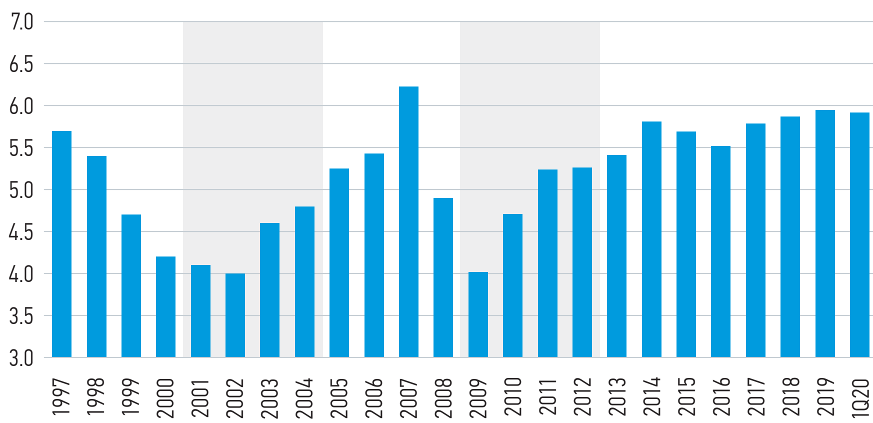
A period of opportunity

As we enter into a post-crisis period of market dislocation, we expect to see a new and improved opportunity set emerge relative to the protracted late-cycle investment environment. An illustrative summary of private markets opportunities that investors can evaluate and the risks to consider is provided in *Display 5*.

DISPLAY 4

LBO debt multiples and CRE loan-to-value ratios have declined in post-crisis years

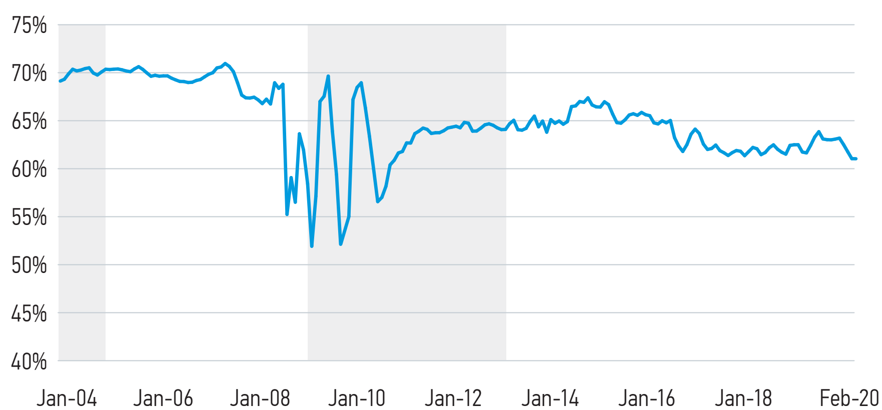
U.S. Average Debt Multiples of Large Corporate LBO Loans



Notes: Issuers with EBITDA of more than $50M. Media and telecom loans excluded prior to 2011. EBITDA adjusted for prospective cost savings or synergies.

Source: S&P Global Market Intelligence; Q1-2020. **Past performance is not indicative of future results.**

CRE Loan-to-Value Ratios



Source: Real Capital Analytics; April-2020. **Past performance is not indicative of future results.**

DISPLAY 5

Private markets investment opportunities in the current environment

GEOGRAPHY

REGIONAL OPPORTUNITIES

Rationale: An uneven pace of recovery around the world may create opportunities in areas where a V-shaped rebound is more likely. Policy-related initiatives may add momentum to investable projects to improve crisis readiness and boost economic growth initiatives.

Implementation examples: Earlier recovery in Asia may lead to private equity opportunities; debt restructurings in the U.S., U.K., and Australia may create private credit or distressed real assets opportunities

Considerations: Expanding a portfolio geographically introduces exogenous risks that must be either compensated or hedged (currency, interest rates, inflation, political and regulatory regime).

ASSET CLASSES

RE-EVALUATION OF RELATIVE RISK-ADJUSTED RETURN EXPECTATIONS ACROSS PRIVATE MARKETS

Rationale: Forward-looking return assumptions must be recalibrated for revised entry pricing, growth prospects, financing conditions over the expected hold periods.

Implementation examples: Favor private credit in the near-term, followed by private equity and real assets as those sectors reprice.

Considerations: Underwriting and leverage assumptions must be conservative to accommodate an initial period of uncertainty.

DEEP VALUE INVESTMENTS

Rationale: Assets in sectors that have been disproportionately impacted by the disruption might present attractive entry opportunities.

Implementation examples: Transportation infrastructure and hospitality real estate.

Considerations: Investors need an acute understanding of what is priced into valuations and the sensitivity to an uneven and protracted recovery period, as well as any permanent impairment arising out of long-term secular shifts that may make an asset class less attractive at any price discount.

DISTRESSED INVESTMENTS

Rationale: Overleveraged groups forced to shed non-core assets to generate liquidity or banks auctioning off collateral received in default situations.

Implementation examples: Flexible strategies that can access, underwrite and manage distressed equity and credit.

Considerations: Caution warranted due to lack of clarity on timing and extent of rebound in revenues. Potential returns may not be as robust as they were post-GFC as opportunity set may be smaller due to lower interest rates providing more cushion for borrowers, banks entering the crisis in better condition and providing more flexible lending, high levels of dry powder relative to distressed deal flow, and government support packages providing an unprecedented boost to liquidity.

SECTORS

PREVIOUSLY OVERVALUED SECTORS COULD BECOME AVAILABLE AT MORE REASONABLE PRICES

Rationale: Investors recognized high valuations in sectors such as information technology and midstream energy during the late-cycle phase. Some investors gravitated to higher-risk earlier-stage investing to access these sectors. Current entry pricing may re-establish adequate compensation for investors in these sectors.

Implementation examples: Strategies with identified target sectors, or sector dedicated strategies, in private equity and real assets.

Considerations: Underwriting must ensure that any external risk factors that are introduced by sector decisions are fully compensated in expected returns; for example, investors targeting energy opportunities need to accommodate both near-term and longer-term commodity price risk.

THEMES LIKELY TO BENEFIT FROM SHIFTS IN PREFERENCES AND BEHAVIOR

Rationale: Current crisis expected to create long-lasting secular changes across industries given the public health nature of the disruption. For example, we expect that we may see a reversal of the trend towards co-working and densification in the office sector, as well as shifts in the logistics sector resulting from a reshuffling of the global supply chain. Remote working, conferencing, and telehealth will have impacts on both owners / occupiers of physical space, as well as technology and infrastructure companies providing services and equipment.

Implementation examples: Thematic strategies, with private credit potentially offering more near term deal activity and private equity deal volume growing more gradually.

Considerations: Niche expertise and sourcing capabilities of the General Partners and investment level management teams will be critical in executing the investment thesis.

ASSETS

INCREASE IN VALUE CREATION OPPORTUNITIES

Rationale: A protracted period of stress for asset owners is likely to lead to undermanaged assets, both in terms of physical assets and financial capital structure. Founders of businesses who previously only experienced a rising market may become more amenable to exiting earlier and harvesting profits.

Implementation examples: Focus on strategies that target bottom-up operational value creation in private equity and real assets.

Considerations: Focus must be placed on investment teams with a successful track record of managing businesses and generating returns in crisis periods. Strong sourcing network essential to identifying high quality opportunities. Opportunities in which the sponsor asset manager has granular familiarity with the underlying asset or business at financial close are preferable; this can be achieved through follow-on equity investments, LP or GP-led secondary investments, or through sourcing advantages from past roles and relationships of the investment team.

Implementation will be important

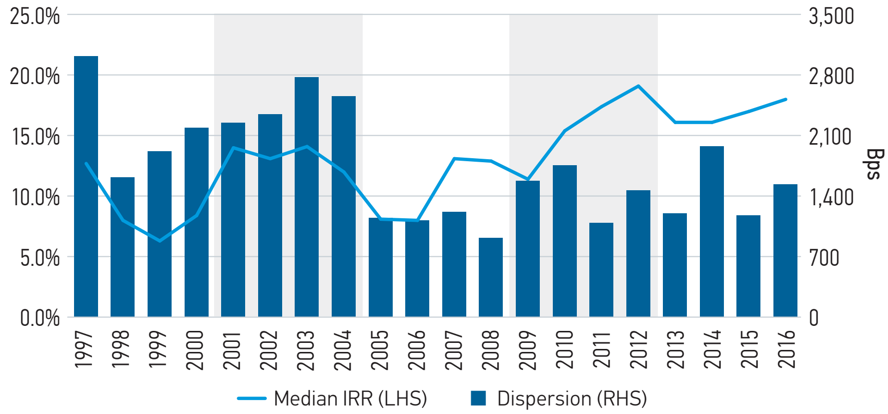
To capitalize on opportunities that emerge in the aftermath of a crisis, a meaningful level of dry powder coupled with superior deal-sourcing and execution abilities is essential. As shown in *Display 6*, post-crisis vintage funds have in the past significantly outperformed. For example, if we look at private equity, the average returns for vintages immediately following a crisis (2001-04, 2009-12) are 68% higher when compared to preceding late-cycle vintages (1998-2000, 2005-07). It is worth noting that return data is not yet available for post-2016 vintage funds, and that those funds may show declining returns relative to preceding years. Also notable is the wide dispersion of returns, measured by the difference between the top- and bottom-quartile fund boundaries, which has historically spiked in post-crisis periods. For example, in private equity this spread was 18% wider for 2003 vintage funds vs. 2002 vintage funds and 72% wider for 2009 vintage funds vs. 2008 vintage funds.

This range in performance demonstrates the importance of partnering with a skilled fund manager that has local market coverage, off-market deal sourcing, and asset management/repositioning capabilities. Unlike many strategies in traditional asset classes (e.g., trading equities and fixed income), private market opportunities are more challenging to access—requiring the right manager selection in the right strategy over the right time horizon. In addition, investors can gain exposure to private markets in several ways including primary fund commitments, secondary transactions, and co-investments. These challenges further contribute to the dispersion in returns and, therefore, also offer greater potential for outperformance with the right implementation.

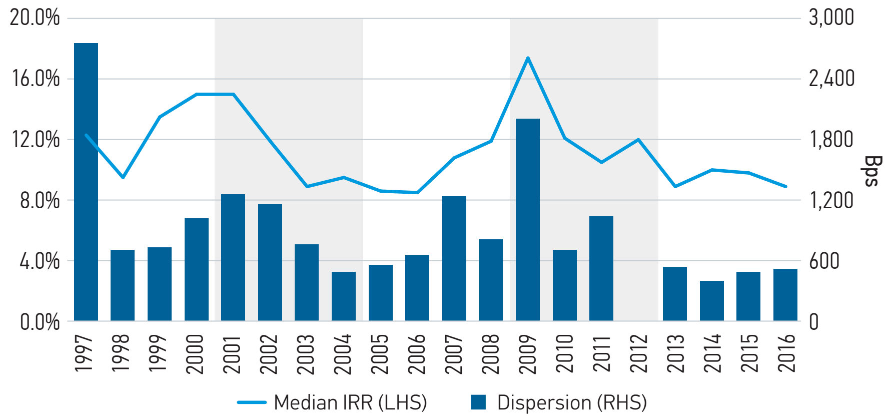
DISPLAY 6

Both the median returns and dispersion of returns between top-quartile and bottom-quartile funds increased significantly in the vintage years that immediately followed the end of a crisis period

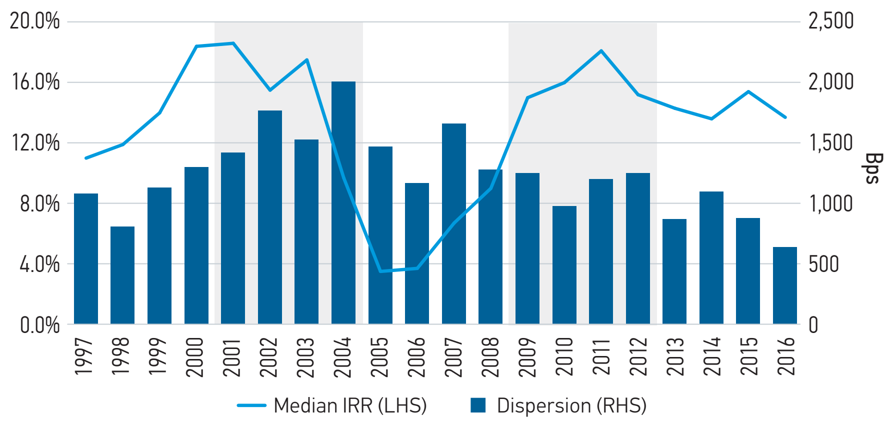
Private Equity Returns by Vintage Year



Private Debt Returns by Vintage Year



Private Real Estate Returns by Vintage Year

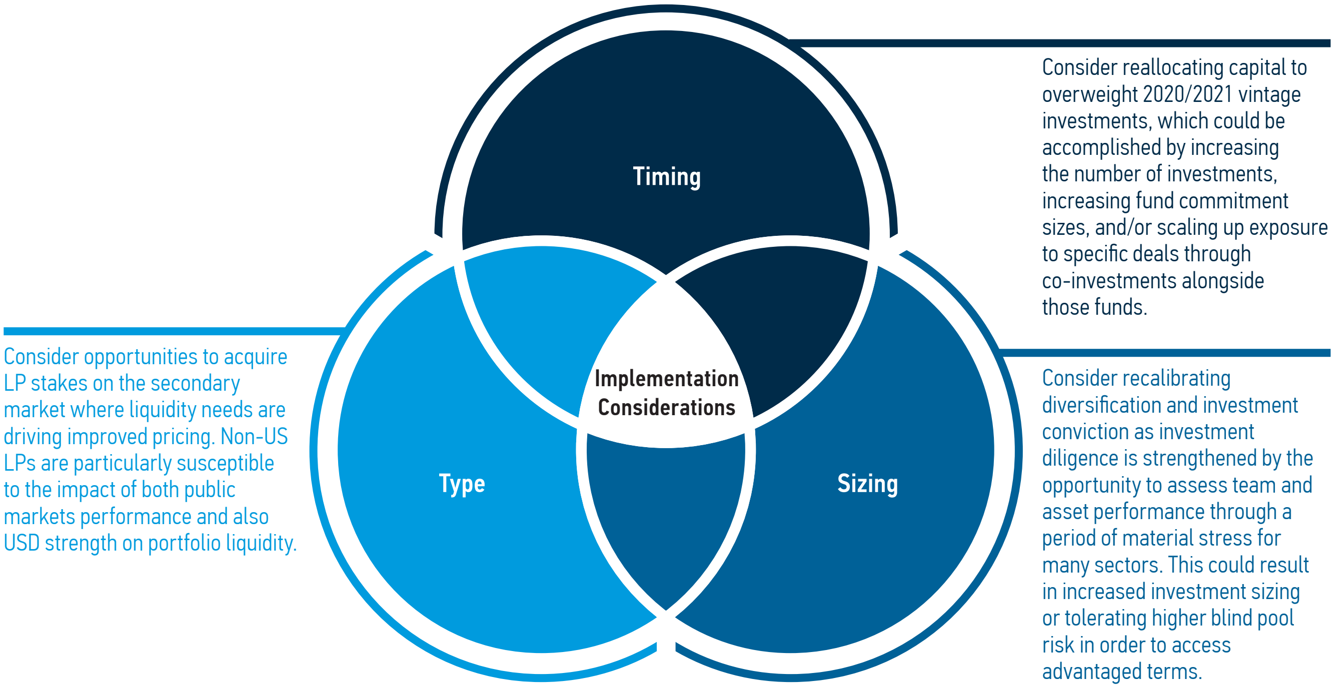


Note: Includes all regions; median net IRR since inception; dispersion between top and bottom quartile boundaries.

Source: Preqin; data as of 5/1/2020 for 12/31/2019 values. **Past performance is not indicative of future results.**

DISPLAY 7

Implementation considerations in the current environment



From an LP perspective, there are several ways to tailor an investment strategy in order to capitalize on these vintage-linked opportunities. We summarize some key thoughts on implementation in *Display 7*. We believe that even though we have experienced a sharp and wide-scale market correction, LPs should continue to view their private markets implementation strategy from a long-term perspective, and not just as an opportunity to generate near-term profits.

Conclusion

We believe that the widespread market disruption in 2020 is a reminder of both the importance of resilient portfolio construction, as well as the potential for a wide, varied set of new opportunities to emerge. For those groups that have sufficient capital and underwriting discipline, the post-crisis period could be the most compelling investment environment in the last 10 years. LPs must be thoughtful about how to best access these opportunities—picking the right strategies, managers, and capital deployment path—but history has shown that times of crisis can ultimately lead to periods of strong performance.

Risk Considerations

Historical performance information is not indicative of future results, and the historical performance information in this paper should not be viewed as an indicator of any future performance that may be achieved as a result of implementing an investment strategy substantially identical or similar to that described in this paper.

Alternative investments are speculative and include a high degree of risk. Investors could lose all, or a substantial amount, of their investment. Alternative instruments are suitable only for long-term investors willing to forgo liquidity and put capital at risk for an indefinite period of time. Alternative investments are typically highly illiquid—there is no secondary market for private funds, and there may be restrictions on redemptions or the assignment or other transfer of investments in private funds. Alternative investments often utilize leverage and other speculative practices that may increase volatility and risk of loss. Financial intermediaries are required to satisfy themselves that the information in this document is suitable for any person to whom they provide this document in view of that person's circumstances and purpose. Morgan Stanley Investment Management (MSIM), its affiliates and its and their respective directors, officers, members, partners, employees, agents, advisors, representatives, heirs and successors shall have no liability whatsoever with respect to any person's or entity's receipt, use of or reliance upon this document or any information contained herein. If such a person considers an investment she/he should always ensure that she/he has satisfied herself/himself that she/he has been properly advised by that financial intermediary about the suitability of an investment.

to competition from other investors, the availability of investment opportunities generally will be subject to market conditions as well as, in many cases, the prevailing regulatory or political climate.

Risks Relating to Infrastructure Investments. Most infrastructure assets have unique locational and market characteristics, which could make them highly illiquid or appealing only to a narrow group of investors. Political and regulatory considerations and popular sentiments could also affect the ability of the Fund to buy or sell investments on favorable terms. Infrastructure assets can have a narrow customer base. Should any of the customers or counterparties fail to pay their contractual obligations, significant revenues could cease and become irreplaceable. This would affect the profitability of the infrastructure assets and the value of any securities or other instruments issued in connection with such assets. Infrastructure projects are generally heavily dependent on the operator of the assets. There are a limited number of operators with the expertise necessary to successfully maintain and operate infrastructure projects. The insolvency of the lead contractor, a major subcontractor and/or a key equipment supplier could result in material delays, disruptions and costs that could significantly impair the financial viability of an infrastructure investment project and result in a material adverse effect on the investments.

Risks Relating to Private Real Estate. Risks of private real estate include: illiquidity, a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage.

Epidemics and Other Health Risks. Many countries have experienced outbreaks of infectious illnesses in recent decades, including swine flu, avian influenza, SARS and the 2019-nCoV (the "Coronavirus"). In December 2019, an initial outbreak of the Coronavirus was reported in Hubei, China. Since then, a large and growing number of cases have been confirmed around the world. The Coronavirus outbreak has resulted in numerous deaths and the imposition of both local and more widespread "work from home" and other quarantine measures, border closures and other travel restrictions, causing social unrest and commercial disruption on a global scale and significant volatility in financial markets. In March 2020, the World Health Organization declared the Coronavirus outbreak a pandemic.

The ongoing spread of the Coronavirus has had, and will continue to have, a material adverse impact on local economies in the affected jurisdictions and also on the global economy, as cross border commercial activity and market sentiment are increasingly impacted by the outbreak and government and other measures seeking to contain its spread. The global impact of the outbreak has been rapidly evolving, and many countries have reacted by instituting quarantines and restrictions on travel. These actions are creating disruption in supply chains, and adversely impacting a number of industries, including but not limited to retail, transportation, hospitality, and entertainment. In addition to these developments having adverse consequences for certain portfolio companies and other issuers, our operations have been, and could continue to be, adversely impacted, including through quarantine measures and travel restrictions imposed on our personnel or service providers based or temporarily located in affected countries, or any related health issues of such personnel or service providers. Any of the foregoing events could materially and adversely affect a fund's ability to source, manage and divest its investments and its ability to fulfil its investment objectives. Similar consequences could arise with respect to other comparable infectious diseases.

Prospective investors should note that any information provided regarding valuations, targets and/or prior performance was determined and relates to periods prior to the widespread outbreak of the COVID-19 pandemic and does not reflect any estimated negative impact of the outbreak or the related economic ramifications. Given the significant economic and financial market disruptions currently occurring and anticipated in connection with the outbreak, it is expected that the valuation and performance of certain markets and/or investments will be materially adversely impacted for future periods (at least in the short term).

This is prepared for sophisticated investors who are capable of understanding the risks associated with the investments described herein and may not be appropriate for the recipient. No investment should be made without proper consideration of the risks and advice from your tax, accounting, legal or other advisors as you deem appropriate.

Morgan Stanley does not render tax advice on tax accounting matters to clients. This material was not intended or written to be used, and it cannot be used with any taxpayer, for the purpose of avoiding penalties which may be imposed on the taxpayer under U.S. federal tax laws. Federal and state tax laws are complex and constantly changing. Clients should always consult with a legal or tax advisor for information concerning their individual situation.

Certain information herein is based on data obtained from third party sources believed to be reliable. However, we have not verified this information, and we make no representations whatsoever as to its accuracy or completeness.

Indexes do not include any expenses, fees or sales charges, which would lower performance. Indexes are unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

For illustrative purposes only. The statements above reflect the opinions and views of MSIM as of the date hereof and not as of any future date and will not be updated or supplemented. All forecasts are speculative, subject to change at any time and may not come to pass due to economic and market conditions. Past performance is not indicative of future results.

This document may be translated into other languages. Where such a translation is made this English version remains definitive. If there are any discrepancies between the English version and any version of this document in another language, the English version shall prevail.

DISTRIBUTION

This communication is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

United Kingdom: Morgan Stanley Investment Management Limited is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA, authorised and regulated by the Financial Conduct Authority. **Dubai:** Morgan Stanley Investment Management Limited (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158). **Germany:** Morgan Stanley Investment Management Limited Niederlassung Deutschland Junghofstrasse 13-15 60311 Frankfurt Deutschland (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Ireland:** Morgan Stanley Investment Management (Ireland) Limited. Registered Office: The Observatory, 7-11 Sir John Rogerson's, Quay, Dublin 2, Ireland. Registered in Ireland under company number 616662. Authorised and regulated by Central Bank of Ireland. **Italy:** Morgan Stanley Investment Management Limited, Milan Branch (Sede Secondaria di Milano) is a branch of Morgan Stanley Investment Management Limited, a company registered in the U.K., authorised and regulated by the Financial Conduct Authority (FCA), and whose registered office is at 25 Cabot Square, Canary Wharf, London, E14 4QA. Morgan Stanley Investment Management Limited Milan Branch (Sede Secondaria di Milano) with seat in Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy, is registered in Italy with company number and VAT number 08829360968. **The Netherlands:** Morgan Stanley Investment Management, Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. Telephone: 31 2-0462-1300. Morgan Stanley Investment Management is a branch office of Morgan Stanley Investment Management Limited. Morgan Stanley Investment Management Limited is authorised and regulated by the Financial Conduct Authority in the United Kingdom. **Switzerland:** Morgan Stanley & Co. International plc, London, Zurich Branchl Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered with the Register of Commerce Zurich CHE-115.415.770. Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland, Telephone +41 (0) 44 588 1000. Facsimile Fax: +41(0)44 588 1074. **Saudi Arabia:** This document is not and does not purport to be any of the following: (a) a marketing communication, (b) a securities advertisement, (c) a financial promotion. It has been prepared solely for information purposes and does not constitute an offer or a recommendation to buy or sell any security, enter into arrangement (financial or otherwise) or to adopt any specific investment strategy. The material contained herein has not been based on a consideration of any individual client circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, recipients or viewers of this document should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision. This communication is only intended for and will be only distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations. The Capital Market Authority does not make any representation as to the accuracy or completeness of this document, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers should conduct their own due diligence on the accuracy of the information in this presentation. If you do not understand the contents of this document you should consult an authorized financial adviser.

Hong Kong: The contents of this Publication have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to an investment in any securities, if offered. If you are in any doubt about any of the contents of this Publication, you should obtain independent professional advice. This Publication has not been registered by the Registrar of Companies in Hong Kong. Any securities, if offered, do not relate to a collective investment scheme which has been authorized by the Securities and Futures Commission pursuant to the Securities and Futures Ordinance of Hong Kong (the "Ordinance"). Accordingly, any securities may only be offered or sold in Hong Kong to persons who are "professional investors" as defined in the Ordinance and any rules made under the Ordinance or in the circumstances which are permitted under the Companies (Winding Up and Miscellaneous Provisions) Ordinance of Hong Kong and the Ordinance. In addition, this Publication may not be issued or possessed for the purposes of issue, whether in Hong Kong or elsewhere, and any securities may not be disposed of to any person unless such person is outside Hong Kong, such person is a "professional investor" as defined in the Ordinance and any rules made under the Ordinance or as otherwise may be permitted by the Ordinance. **Singapore:** This Publication has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this Publication and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of securities may not be circulated or distributed, nor may securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor pursuant to Section 304 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA") or (ii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. **Australia:** This publication is provided by Morgan Stanley Investment Management (Australia) Pty Limited CAN: 122040037, AFSL No. 314182 and its affiliates and do not constitute an offer of interests. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client", a "sophisticated investor" or a "professional investor" (in each case, as defined in the Corporations Act). Any fund, if offered, is not required to be registered in Australia as a managed investment scheme. This publication will not be lodged with the Australian Securities and Investments Commission. **Japan:** For professional investors, this document is circulated or distributed for informational purposes only. For those who are not professional investors, this document is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. ("MSIMJ")'s business with respect to discretionary investment management agreements ("IMA") and investment advisory agreements ("IAA"). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.20% per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract carefully before executing an agreement. This document is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.

IMPORTANT INFORMATION

EMEA: This marketing communication has been issued by Morgan Stanley Investment Management Limited ("MSIM Limited"). Authorised and regulated by the Financial Conduct Authority. Registered in England No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. Prior to investing, investors should carefully review the strategy's/product' relevant offering document. There are important differences in how the strategy is carried out in each of the investment vehicles.

MSIM Limited has not authorised financial intermediaries to use and to distribute this document, unless such use and distribution is made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this document is suitable for any person to whom they provide this document in view of that person's circumstances and purpose. MSIM Limited shall not be liable for, and accepts no liability for, the use or misuse of this document by any such financial intermediary.

Explore our site at **www.morganstanley.com/im**

CRC 3126010 Exp. 06/01/2021 9847517_KC_0520
US