NEUBERGER BERMAN

PRIVATE EQUITY TEAM

INSTITUTIONAL SOLUTIONS

The Historical Impact of Economic Downturns on Private Equity

An assessment of private equity return patterns in three recent significant downturns.

In light of recent market volatility, Neuberger Berman's Private Equity and Institutional Solutions teams analyzed historical private equity market performance during three recent periods of market distress. We performed this analysis to gain perspective on current conditions with the understanding that the dynamics behind recent volatility may be quite different from the past. Focusing on the major economic downturn of the early 2000s, the 2007 – 09 global financial crisis, and the 2020 COVID-related market events, we found that private equity historically experienced a less significant drawdown, and a quicker recovery, than public equities in all three cases. We also noted a lag in the slowing of capital calls and a more immediate drop in distributions, both of which resumed as the economy and public markets regained their footing. Our findings are detailed below.

Overview

Employing data from Cambridge Associates,[1] Neuberger Berman studied historical performance from 1994 to 2021, focusing on three significant periods of economic decline and recovery, Q1 2000 – Q4 2003, Q3 2007 – Q4 2009 and Q4 2019 – Q2 2021. For the private equity cohort, we analyzed the Cambridge Associates LLC U.S. Private Equity Buyout Index ("U.S. Buyout"), given that it represents a robust dataset and is not directly impacted by currency volatility (unlike the Global Private Equity Buyout Index), thus providing for cleaner comparison with our chosen and relevant U.S. public market index, the S&P 500. Over the three periods mentioned, we compared valuation changes, capital calls and distributions.

[1] Please see the Important Disclosures at the end of this publication, which also include the index definitions.

It bears mentioning that the private equity universe changed considerably from the economic downturn in the early 2000s to the global financial crisis, and from the global financial crisis to today, in terms of industry norms and trends, as well as regulatory and accounting considerations, all of which could impact historical comparisons. Also, it is important to note that by employing pooled horizon time series, our study assumes that an investor has maintained a commitment to private equity consistent with industry-wide aggregates throughout the measured periods; this could also impact historical comparisons. The resulting vintage-year diversification (albeit with irregular funding levels) may not be present in every investor's portfolio, and results could differ if investors reduced commitments during periods of stress. However, where vintage diversification has been applied, we have found that it can have a significant effect on private equity returns, smoothing out investment costs and cash flows across favorable and unfavorable periods.

Returns

Starting with the global financial crisis of 2007 – 2009, the U.S. Buyout sector experienced a peak-to-trough Net Asset Value ("NAV") decline of 28%, compared to a roughly 55% maximum drawdown for the S&P 500. Below, we show these returns by quarter. The reduction in NAV that occurred in Q4 2008 was more than twice the reduction that took place in any other quarter during the period, partly due to the rapid sell-off in public markets, but also because of the introduction of fair value accounting through FAS 157 at that time.

The declines (and recoveries) in private equity lagged those of the S&P 500, in our view, because of the delay in valuing quarterly private equity NAV. With PE NAVs typically reported 45 to 75 days after quarter-end, many institutional investors have an additional one-quarter lag between the PE valuation date and their own reported financials, which is reflected in the right column of the table below to approximate their return experience.

FIGURE 1: RETURN ANALYSIS – GLOBAL FINANCIAL CRISIS (Q3 2007 – Q4 2009)

Quarter	S&P 500	U.S. Buyout	U.S. Buyout (as reported by institutional investors)
2007Q3	2%	1%	
2007Q4	-3%	3%	1%
2008Q1	-9%	-2%	3%
2008Q2	-3%	0%	-2%
2008Q3	-8%	-7%	0%
2008Q4	-22%	-17%	-7%
2009Q1	-11%	-4%	-17%
2009Q2	16%	5%	-4%
2009Q3	16%	7%	5%
2009Q4	6%	7%	7%
Statistics Summary (1994 – 2019):			
Peak to Trough Decline	-55%[1]	-28%	-28%
Peak Quarter	2007Q3	2007Q4	2008Q1
Trough Quarter	2009Q1	2009Q1	2009Q2

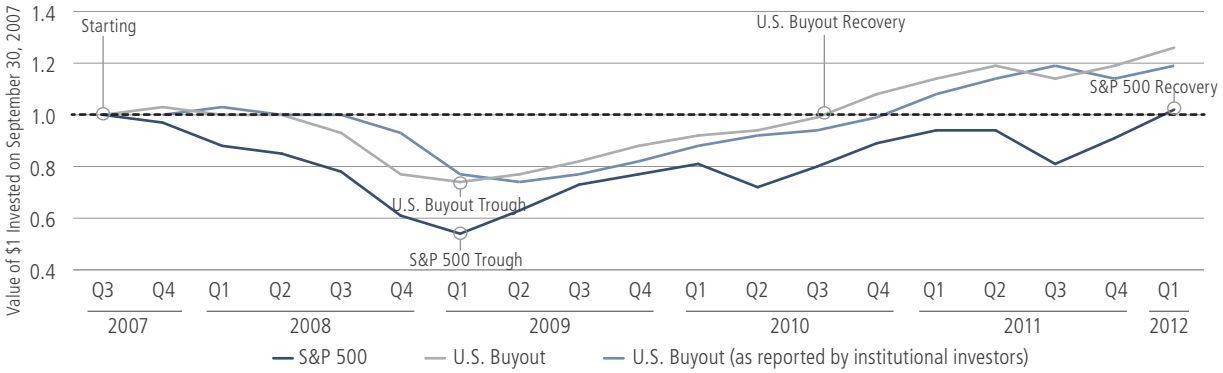
[1] Calculated based on daily data; peak-to-trough decline is 46% if calculated using quarterly data.

Source: Cambridge Associates, FactSet. Nothing herein constitutes investment advice or recommendation. It should not be assumed that any investment objectives or client needs will be achieved. Investing entails risks, including possible loss of principal. Indexes are unmanaged and are not available for direct investment. These figures are based on expectations, estimates, and projections and no party provides any guarantee or assurance that these projections are accurate. Such figures involved known and unknown risks, uncertainties and other factors, and undue reliance should not be placed thereon. Actual events or results may vary significantly from those reflected or contemplated. Assumptions are for modeling purposes only and alternative assumptions may result in significant or complete loss of capital. There can be no assurance that the strategy will achieve comparable results, that targeted diversification or asset allocations will be met, that the strategy will be able to or will ultimately elect to implement the assumptive investment strategy and approach described in the model. See disclosures at the end of this paper for definitions of Indexes. **Past performance is no guarantee of future results.** See additional disclosures at the end of this paper, which are an important part of this display.

A graphic depiction over a longer timeframe reflects the dynamics of the return comparison, as shown below. Note that while U.S. Buyout and the S&P 500 saw troughs in roughly the same period, a diversified private equity portfolio was able to recover much sooner than the S&P 500, even with the sharper bounce-back of public equities.

FIGURE 2: RETURN ANALYSIS – GLOBAL FINANCIAL CRISIS AND RECOVERY (Q3 2007 – Q1 2012)

	Starting		Trough		Recovery	
	Quarter	Value ($)	Quarter	Value ($)	Quarter	Value ($)
S&P 500	2007Q3	1	2009Q1	0.54	2012Q1	1.02
U.S. Buyout	2007Q3	1	2009Q1	0.74	2010Q4	1.08
U.S. Buyout (as reported)	2007Q4	1	2009Q2	0.74	2011Q1	1.08



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Similar patterns are found when looking at the early 2000s downturn, which took place amid a fallout from the dot-com bust and the September 11 attack and aftermath. During 2000 – 03, the U.S. Buyout Index saw a 27% peak-to-trough decline, compared to a drop of approximately 47% for the S&P 500.

FIGURE 3: RETURN ANALYSIS – DOT-COM BUST, 9/11 (Q1 2000 – Q4 2003)

Quarter	S&P 500	U.S. Buyout	U.S. Buyout (as reported by institutional investors)
2000Q1	2%	14%	
2000Q2	-3%	-3%	14%
2000Q3	-1%	-2%	-3%
2000Q4	-8%	-7%	-2%
2001Q1	-12%	-5%	-7%
2001Q2	6%	3%	-5%
2001Q3	-15%	-8%	3%
2001Q4	11%	-1%	-8%
2002Q1	0%	0%	-1%
2002Q2	-13%	-3%	0%
2002Q3	-17%	-4%	-3%
2002Q4	8%	0%	-4%
2003Q1	-3%	0%	0%
2003Q2	15%	7%	0%
2003Q3	3%	5%	7%
2003Q4	12%	10%	5%

Statistics Summary (1994 – 2019):

Peak to Trough Decline	-47%[1]	-27%	-27%
Peak Quarter	2000Q1	2000Q1	2000Q2
Trough Quarter	2002Q3	2002Q4	2003Q1

[1] Calculated based on daily data; peak-to-trough decline is 46% if calculated using quarterly data.

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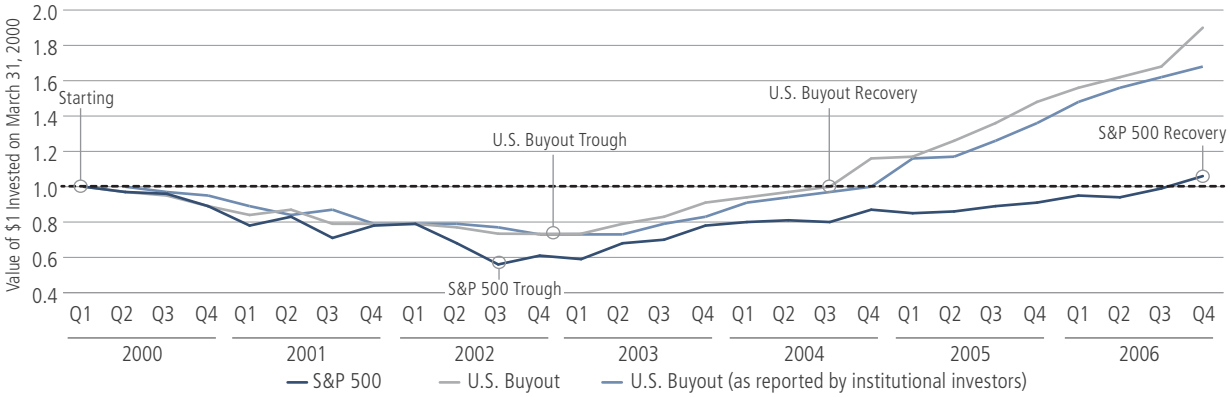
FIGURE 4: RETURN ANALYSIS – DOT-COM BUST, GULF WAR AND RECOVERY (Q1 2000 – Q4 2006)

	Starting		Trough		Recovery	
	Quarter	Value ($)	Quarter	Value ($)	Quarter	Value ($)
S&P 500	2000Q1	1	2002Q3	0.56	2006Q4	1.06
U.S. Buyout	2000Q1	1	2002Q4	0.73	2004Q3	1
U.S. Buyout (as reported)	2000Q2	1	2003Q1	0.73	2004Q4	1



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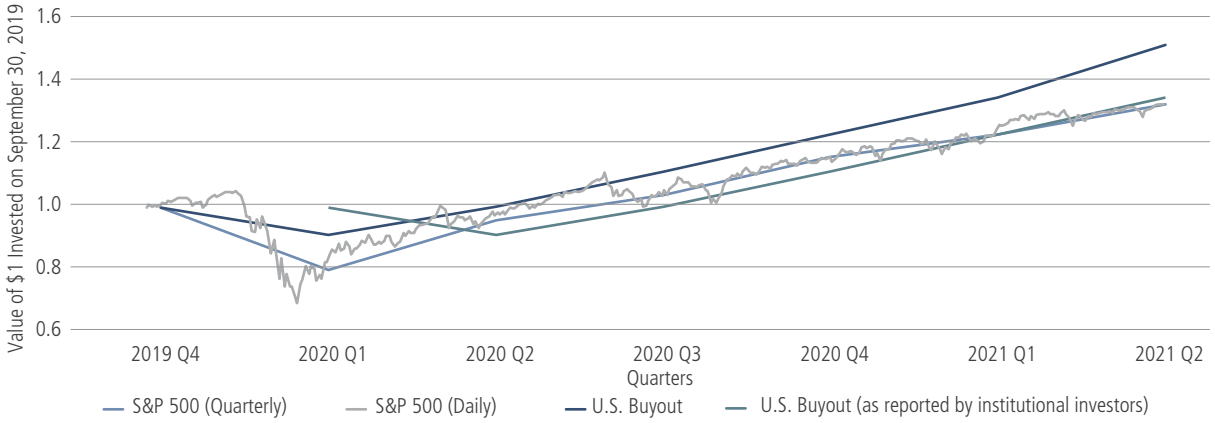
Most recently, the pattern continued again during the COVID-related market gyrations of 2020. On a quarter-over-quarter basis, the decline in PE was again roughly half that in public equity. However, the quarterly decline in PE was only one-fourth of the daily peak to trough decline in public equity, a greater ratio than in the prior two downturns analyzed in this paper. This is primarily caused by the rapidity of both the public market sell-off and the recovery; the recovery was already well under way by the time Q1 valuations were being tabulated.

FIGURE 5: RETURN ANALYSIS—COVID (Q4 2019 – Q2 2021)

Quarter	S&P 500	U.S. Buyout	U.S. Buyout (as reported by institutional investors)
2019Q4	8%	5%	
2020Q1	-20%	-9%	5%
2020Q2	20%	10%	-9%
2020Q3	9%	11%	10%
2020Q4	12%	11%	11%
2021Q1	6%	10%	11%
2021Q2	8%	12%	10%
Statistics Summary (2019 – 2021):			
Peak to Trough Decline	-36%[1]	-9%	-9%
Peak Quarter	2019Q4	2019Q4	2020Q1
Trough Quarter	2020Q1	2020Q1	2020Q2



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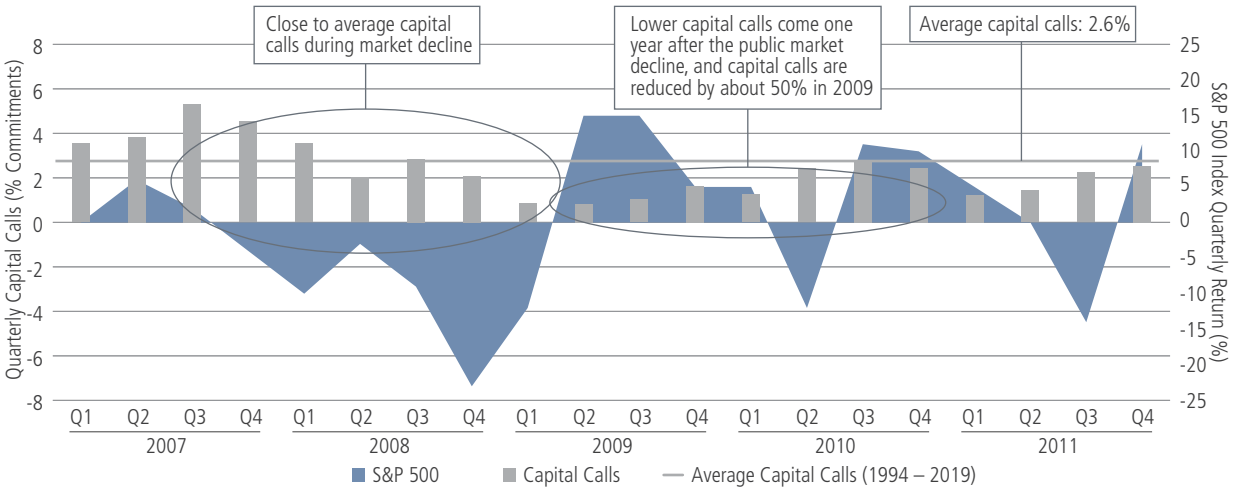
In each period of economic contraction, we believe the more modest declines in private equity were primarily a result of greater insulation from public market sentiment and the amount of control that private equity investors often exert over portfolio companies. Private equity firms typically have the ability to enact change and add value, and potentially enhance returns, during challenging times.

Investors should consider the timing and weighting of fund investments when analyzing this data. Within this study, we have simplified these concepts by not using a public market equivalent (PME). However, if a general partner sold a given company in one quarter and included that cash in a larger purchase of another company in a subsequent quarter, the relative return on each, and their portfolio weightings, could at the margin have affected overall return. For example, if the GP deployed a larger amount into a cheaper—and ultimately more rewarding—investment, its weighting within our study would have been higher, thus reducing the impact of the weaker, earlier performer. That being said, flexibility as to the timing of capital commitments is a key benefit to private equity investing, and was likely a real contributor to the U.S. Buyout Index's relatively fast recoveries in each of these past major downturns.

Capital Calls

Next, we look at capital calls. In the display below, the bars represent quarterly capital call levels across the Cambridge Associates LLC U.S. Buyout Index, with the gray horizontal line showing the long-term average. The shaded areas represent S&P 500 returns. Looking at the 2007 – 08 global financial crisis, we see that in the first year of negative returns, capital calls declined but remained in line with historical averages. Then, in 2009, they began to drop and remained depressed at approximately 50% of average levels for the full year, displaying a lagged effect relative to public market declines. In part, we believe that the early stability of capital calls was likely tied to GPs' residual need to fund transactions that were previously signed, for at least a quarter or two. In our view, the overall decline of capital calls was most likely due to a sharp drop in deal flow tied to deteriorating economic and market conditions.

FIGURE 6 CAPITAL CALLS ANALYSIS (% OF COMMITTED CAPITAL), Q1 2007 – Q4 2011



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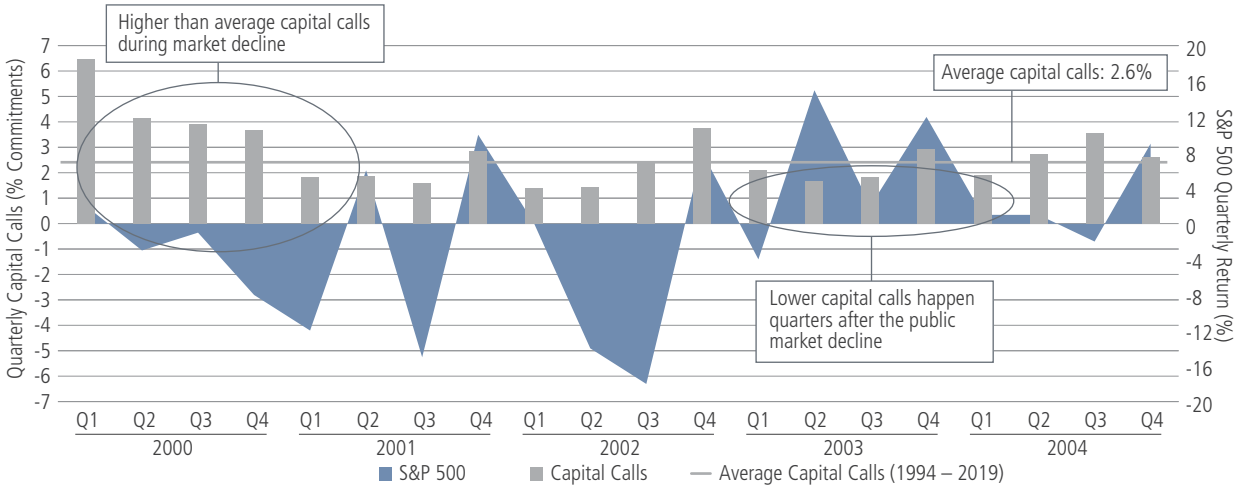
In 2000 – 03 the effect was broadly similar, with capital calls remaining at the historical average for a year and then dipping below average levels in a similarly lagged timeframe. Still, capital calls did not fall as far as in the global financial crisis, but dropped to approximately 23% below average for all of 2000 – 03, reflecting the reality that all sell-offs are different in some ways.

FIGURE 7: CAPITAL CALLS ANALYSIS (% OF COMMITTED CAPITAL), Q1 2000 – Q4 2004



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One factor that might have a greater impact in the current downturn than in the two previous periods discussed is the increased use of capital call lines of credit, which provide GPs with funds for deals before receiving them from investors. Generally, we believe that the need of GPs to pay down this debt could potentially extend the periods in which they seek capital calls from LPs by another quarter or two, relative to past crises. The most recent downturn in 2020 did not display the same pattern for cash flows—capital calls or distributions—as the prior two downturns. While practitioners may remember a similar theme playing out, both the deterioration and subsequent recovery in conditions were too fast for quarterly data to pick up on. Additionally, there is typically a one- to two-quarter lag between when private equity deals are agreed to and signed, and when they close and capital is funded. These transaction dynamics, coupled with the typical quick V-shaped recovery in public markets, may have dampened the patterns in private equity cash flows and valuations normally exhibited during periods of public markets distress.

Distributions

We also consider distribution patterns in each period of economic distress. In the chart below, we analyze distributions during the global financial crisis, with the bars representing quarterly distributions as a percentage of capital commitments, and the horizontal line representing the long-term average; the shaded areas represent S&P 500 performance. In contrast to capital call declines, distribution declines started almost immediately after the public market sell-off, falling to 60% of the historical average in 2008 – 09 and remaining low throughout the extended period of public market weakness and into recovery. They returned to the historical average in late 2010. Similarly, distributions in 2000 – 03 required a few years to fully recover, as shown below.

FIGURE 8: DISTRIBUTIONS ANALYSIS (% OF COMMITTED CAPITAL): Q1 2007 – Q4 2011

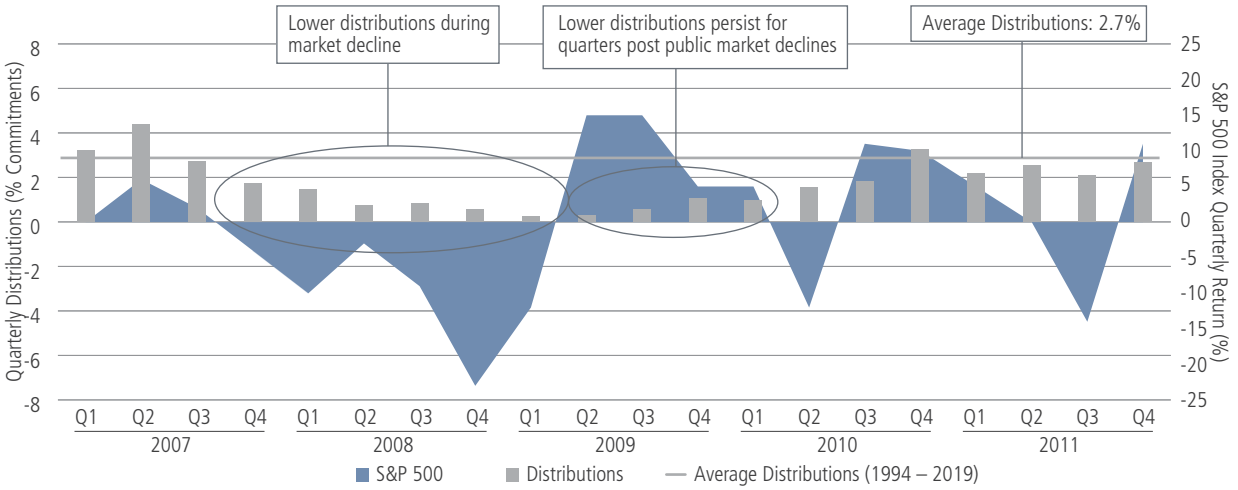

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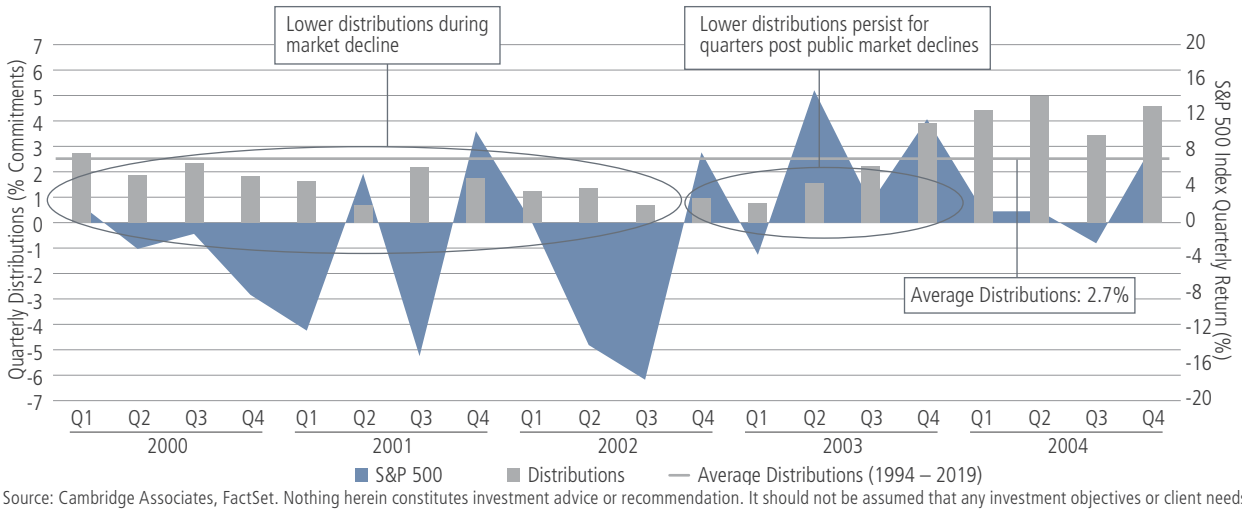
FIGURE 9: DISTRIBUTIONS ANALYSIS (% OF COMMITTED CAPITAL): Q1 2000 – Q4 2004



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Net Cash Flows

We round out our study by analyzing net cash flows, which were negative during the economic downturns analyzed. Because distributions declined almost immediately while capital calls remained at normal levels, the combined effect was negative net cash flows in the beginning quarters of public market weakness. Using charts similar to those above, the analysis shows that investors experienced negative net cash flows during the two market declines, which persisted for multiple quarters after the public market bottomed. Investors began to see positive net cash flows in Q3 2003 and Q4 2010, both almost 14 quarters after the beginning of the market decline.

FIGURE 10: NET CASH FLOWS ANALYSIS (% OF COMMITTED CAPITAL): Q1 2007 – Q4 2011

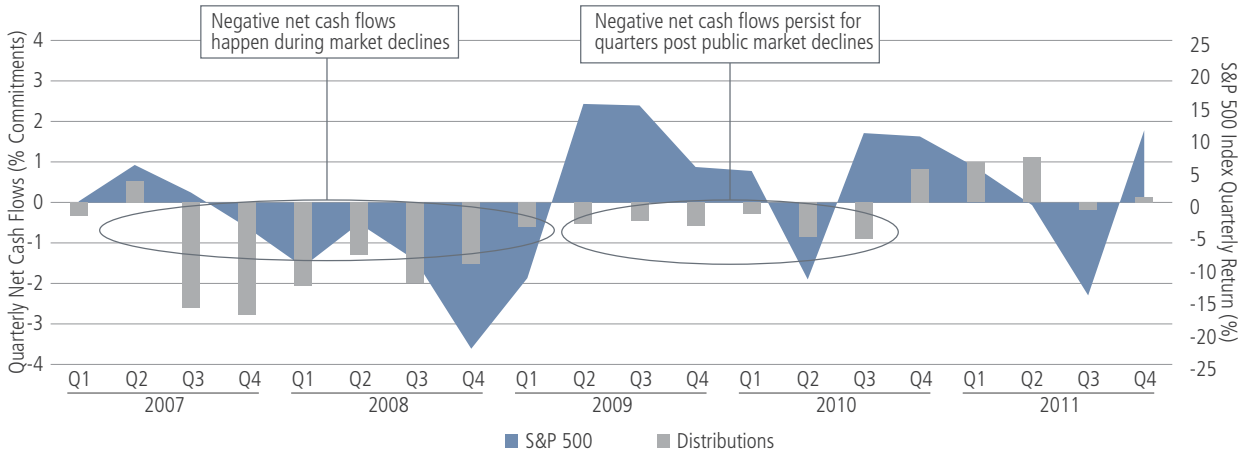

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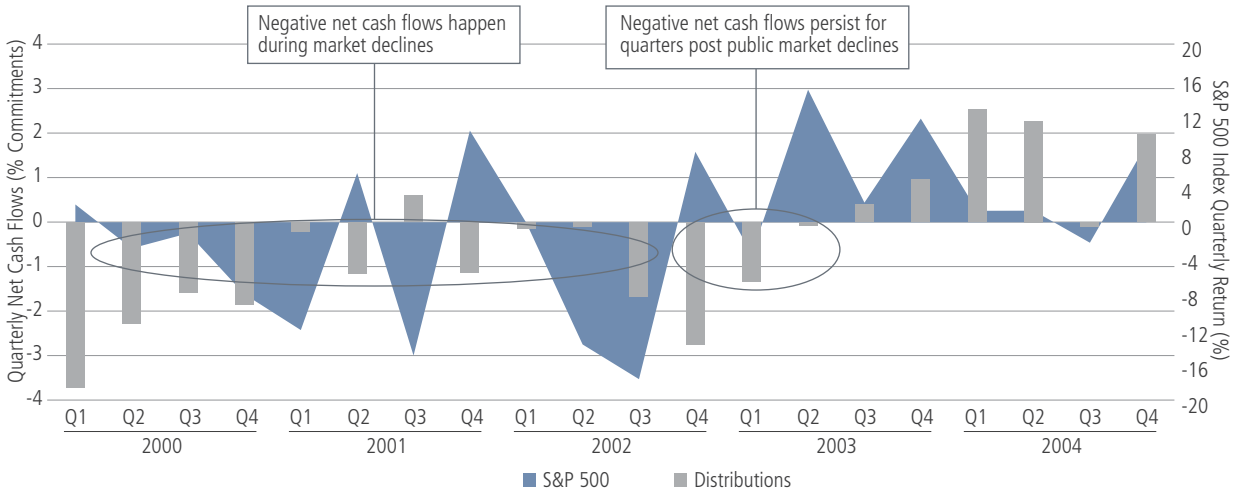
FIGURE 11: NET CASH FLOWS ANALYSIS (% OF COMMITTED CAPITAL): Q1 2000 – Q4 2004



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Conclusion

To reiterate, we are not suggesting that the experiences of the early 2000s economic downturn, the global financial crisis, or even the 2020 COVID market are indicative of what may occur in our current circumstances. One period reflected the after-effects of a speculative period for tech stocks and volatility associated with the September 11 terrorist attacks and the second Gulf War; another began as a financial crisis, with roots in excess valuation and leverage across the real estate and mortgage markets; and the third resulted from an unprecedented pandemic and an extraordinarily quick shutdown of the global economy in an effort to control the spread of the virus. As we have seen historically, each downturn and recovery is unique.

However, we believe our study is instructive as to the historical patterns of private equity portfolios during times of economic stress. Historically, private equity portfolios have generally experienced shallower peak-to-trough declines than the public markets as illustrated above. Given the historical experiences of the last three major economic downturns, we believe private equity broadly is positioned to weather the storm and take advantage of opportunities that arise.

RISK CONSIDERATIONS RELATING TO PRIVATE EQUITY FUNDS

Prospective investors should be aware that an investment in any private equity fund is speculative and involves a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of such investment and for which the investment does not represent a complete investment program. An investment should only be considered by persons who can afford a loss of their entire investment. This material is not intended to replace any the materials that would be provided in connection with an investor's consideration to invest in an actual private equity fund, which would only be done pursuant to the terms of a confidential private placement memorandum and other related material. Prospective investors are urged to consult with their own tax and legal advisors about the implications of investing in a private equity strategy, including the risks and fees of such an investment.

You should consider the risks inherent with investing in private equity funds:

Market Conditions: Private equity strategies are based, in part, upon the premise that investments will be available for purchase at prices considered favorable. To the extent that current market conditions change or change more quickly, anticipated investment opportunities may cease to be available. There can be no assurance or guarantee that investment objectives will be achieved, that the past, targeted or estimated results will be achieved or that investors will receive any return on their investments. Performance may be volatile. An investment should only be considered by persons who can afford a loss of their entire investment.

Legal, Tax and Regulatory Risks: Legal, tax and regulatory changes (including changing enforcement priorities, changing interpretations of legal and regulatory precedents or varying applications of laws and regulations to particular facts and circumstances) could occur that may adversely affect a private equity strategy.

Default or Excuse: If an Investor defaults on or is excused from its obligation to contribute capital to a private equity fund, other Investors may be required to make additional contributions to replace such shortfall. In addition, an Investor may experience significant economic consequences should it fail to make required capital contributions.

Leverage: Investments in underlying portfolio companies whose capital structures may have significant leverage. These companies may be subject to restrictive financial and operating covenants. The leverage may impair these companies' ability to finance their future operations and capital needs. The leveraged capital structure of such investments will increase the exposure of the portfolio companies to adverse economic factors such as rising interest rates, downturns in the economy or deteriorations in the condition of the portfolio company or its industry.

Highly Competitive Market for Investment Opportunities: The activity of identifying, completing and realizing attractive investments is highly competitive, and involves a high degree of uncertainty. There can be no assurance or guarantee that a private equity strategy will be able to locate, consummate and exit investments that satisfy rate of return objectives or realize upon their values or that it will be able to invest fully its committed capital.

Reliance on Key Management Personnel: The success of a private equity strategy may depend, in large part, upon the skill and expertise of investment professionals that manage the strategy.

Limited Liquidity: There is no organized secondary market for investors in most private equity funds, and none is expected to develop. There are typically also restrictions on withdrawal and transfer of interests.

Epidemics, Pandemics, Outbreaks of Disease and Public Health Issues: Private equity funds' operations and investments could be materially adversely affected by outbreaks of disease, epidemics and public health issues in Asia, Europe, North America, the Middle East and/or globally, such as COVID-19 (and other novel coronaviruses), Ebola, H1N1 flu, H7N9 flu, H5N1 flu, Severe Acute Respiratory Syndrome, or SARS, or other epidemics, pandemics, outbreaks of disease or public health issues. In particular, coronavirus, or COVID-19, has spread and is currently spreading rapidly around the world since its initial emergence in December 2019, and has negatively affected (and will likely continue to negatively affect or materially impact) the global economy, global equity markets and supply chains (including as a result of quarantines and other government-directed or mandated measures or actions to stop the spread of outbreaks). Although the long-term effects of coronavirus, or COVID-19 (and the actions and measures taken by governments around the world to halt the spread of such virus), cannot currently be predicted, previous occurrences of other epidemics, pandemics and outbreaks of disease, such as H5N1, H1N1 and the Spanish flu, had material adverse effects on the economies, equity markets and operations of those countries and jurisdictions in which they were most prevalent. A recurrence of an outbreak of any kind of epidemic, communicable disease, virus or major public health issue could cause a slowdown in the levels of economic activity generally (or push the world or local economies into recession), which would be reasonably likely to adversely affect the business, financial condition and operations of private equity funds. Should these or other major public health issues, including pandemics, arise or spread further (or continue to worsen), private equity funds could be adversely affected by more stringent travel restrictions (such as mandatory quarantines and social distancing), additional limitations on fund operations and business activities and governmental actions limiting the movement of people and goods between regions and other activities or operations.

Valuation Risk: Due to the illiquid nature of many fund investments, any approximation of their value will be based on a good-faith determination as to the fair value of those investments. There can be no assurance that these values will equal or approximate the price at which such investments may be sold or otherwise liquidated or disposed of. In particular, the impact of the recent COVID-19 pandemic is likely to lead to adverse impacts on valuations and other financial analyses for current and future periods.

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