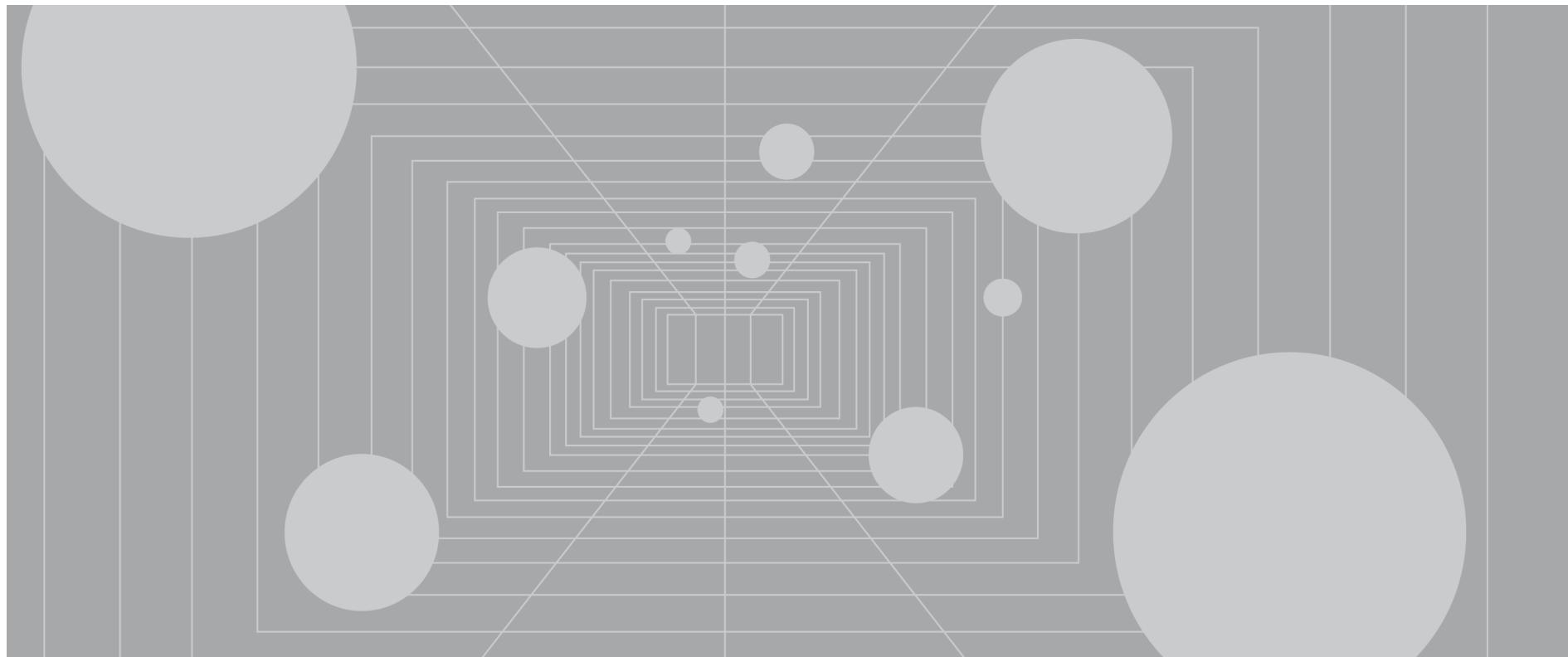


PRIVATE EQUITY

INDEX AND SELECTED BENCHMARK STATISTICS



CAMBRIDGE
ASSOCIATES

DECEMBER 31, 2019

NOTE ON UPCOMING PRIVATE EQUITY CHANGES

AS OF DECEMBER 31, 2019

Beginning in Q1 2020, to best reflect the private equity market environment and fundraising trends, we will be introducing an updated buyout fund capitalization matrix with updated classifications, which determines a fund's size category. The four buyout fund size categories are: Small Cap, Mid Cap, Large Cap, and Mega Cap. CA's new fund capitalization matrix will apply to vintage years beginning with 2005; classifications for previous vintage years will remain the same.

Please reach out to privatebenchmarks@cambridgeassociates.com with any questions.

DISCLAIMER

AS OF DECEMBER 31, 2019

DISCLAIMER

Our goal is to provide you with the most accurate and relevant performance information possible; as a result, Cambridge Associates' research organization continually monitors the constantly evolving private investments space and its fund managers. When we discern material changes in the structure of an asset class and/or a fund's investment strategy, it is in the interest of all users of our benchmark statistics that we implement the appropriate classification realignments.

In addition, Cambridge Associates is always working to grow our private investments performance database and ensure that our benchmarks are as representative as possible of investors' institutional-quality opportunity set. As a result we continually add funds to the database (both newly-raised funds and backfill funds) and occasionally we must remove funds that cease reporting. Our private investments performance database is dynamic and will reflect both classification adjustments and changes to the underlying pool of contributing funds. As a result, you may notice quarter to quarter changes in the results of some historical benchmark return analyses.

OVERVIEW

Cambridge Associates' Private Investments Database is one of the most robust collections of institutional quality private fund performance. It contains the historical performance records of over 2,100 fund managers and their over 8,000 funds. In addition, we capture the performance information (gross) of over 80,000 investments underlying our venture capital, growth equity, and buyout funds. This is one of the largest collections of portfolio-level performance information in the world and represents the investments of approximately 79% of these funds on a count basis and 87% on a total commitment basis. This fund and investment-level performance information is drawn from the quarterly and audited annual financial statements of the fund managers and each manager's reported performance numbers are independently recreated from the financial statements and verified by Cambridge Associates.

Institutional Quality Data

Cambridge Associates strives to include only institutional quality funds in our benchmarks. "Institutional quality" funds, in our definition, tend to meet the following criteria: closed-end funds, commingled funds that invest 3rd party capital (we exclude firms that invest off of their balance sheet, such as a bank's principal investing group or a corporate's venture capital arm), and fund vehicles. This institutional quality screen seeks to provide investors with performance data consistent with their investible opportunity set.

Sources of Benchmark Data

Our benchmark database utilizes the quarterly unaudited and annual audited fund financial statements produced by the fund managers (GPs) for their Limited Partners (LPs). These documents are provided to Cambridge Associates by the fund managers themselves. Unlike other data providers, Cambridge Associates does not use Freedom of Information Act (FOIA) requests, regulatory filings, manager surveys, or press "scrapings" to obtain information. Our goal is to have a complete historical record of the quarterly cash flows and net asset values for all funds in the benchmarks. We use a number of paths to encourage fund managers to submit their performance data to our database: our clients for whom we provide private investment performance reporting, our research organization's regular meetings with thousands of managers, our special projects designed to enhance existing benchmarks or launch new ones, our exclusive relationships with over ten globally-diverse fund manager associations, and finally, our exclusive relationships with Thomson Reuters and the Institutional Limited Partners Association (ILPA). By leveraging these varied sources and proprietary relationships, Cambridge Associates has constructed a rich and diversified benchmark data set.

Vintage Year Definition

Vintage year is defined as the legal inception date as noted in a fund's financial statement. This date can usually be found in the first note to the audited financial statements and is prior to the first close or capital call.

TIMING OF FINAL BENCHMARKS AND DATA EVOLUTION

AS OF DECEMBER 31, 2019

The Cambridge Associates' benchmarks are reported on a one-quarter lag from the end of the performance quarter due to the reporting time frame of private investments fund managers.

Published Data: When the vast majority of a benchmark group's (organized by asset class, e.g. Venture Capital or Real Estate) performance information is updated for a performance quarter, that benchmark is considered final and the data is "published" via the quarterly benchmark reports.

Changes to Data: After a benchmark group is published, any updates to historical data for these funds, which can include adding a fund and its performance history to the database ("backfills") and/or updating past information for an existing fund due to late-arriving, updated, or refined information, would be reflected when that group is published for the next performance quarter.

In addition, Cambridge Associates may change the classification of certain funds; this often driven by the evolution of private investments and the resulting need to introduce new benchmarks or refine our classification scheme. For example, as growth equity emerged as an asset class we reclassified certain venture capital and buyout funds accordingly.

Survivorship Bias: In order to track the performance of a fund in our benchmarks, we require the complete set of financial statements from the fund's inception to the most current reporting date. When an active fund stops providing financial statements, we reach out to the manager and make several attempts to encourage them to continue to submit their data. We may, during this communication period, roll forward the fund's last reported quarter's net asset value (NAV) for several quarters. When we are convinced that the manager will not resume reporting to us, the fund's entire performance history is removed from the database.

When fund managers stop reporting before their fund's return history is complete, an element of "survivorship bias" may be introduced to a performance database, which could skew the reported returns upwards if the funds dropping out had poorer returns than those funds that remained. Survivorship bias can affect all investment manager databases, including those for public stock managers and hedge funds. Compared to public stocks and hedge funds, however, the illiquid nature of private investments can actually help limit this survivorship effect. Whereas an underperforming stock manager may simply close up shop or drop out of databases as clients liquidate their positions and fire the manager, private investment partnerships owning illiquid assets continue to exist and require reporting to the limited partners, even if the original manager ceases to exist.

Over the last ten years the number of fund managers that stopped reporting to Cambridge Associates before liquidation represented an average of 0.7% (per year) of the total number of funds in the database during the respective year, and an average of 0.5% (per year) as a percentage of total NAV in the database during that respective year. During that same period the overall number of funds in our database increased by an average of 7% (per year). The performance of the small number of funds that have stopped reporting has been spread amongst all quartiles and has not been concentrated consistently in the poorer performing quartiles.

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PRIVATE EQUITY: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
PRIVATE EQUITY INDEX¹	5.78	17.24	16.33	13.38	14.06	12.84	11.70	13.48
BUYOUT INDEX¹	6.03	16.92	16.09	13.32	14.09	12.78	11.75	13.27
GROWTH EQUITY INDEX¹	5.06	18.19	17.10	13.59	13.92	13.18	11.45	14.79
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index (gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 2,256 private equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
PRIVATE EQUITY INDEX¹	17.24	16.33	13.38	14.06	12.84	11.70	13.48
MPME ANALYSIS²							
MSCI EAFE Index (net)	21.92	9.75	5.76	5.71	4.59	4.29	4.81
Value-Add (bps)	-468	659	762	835	826	741	867
MSCI Europe Index (net)	23.66	9.97	5.17	5.46	4.52	4.32	5.22
Value-Add (bps)	-642	636	821	860	833	739	826
S&P 500 Index	31.50	15.39	11.27	13.73	9.55	7.97	9.25
Value-Add (bps)	-1,426	94	212	33	329	373	422
Russell 2000® Index	25.48	8.77	8.09	12.59	8.67	8.61	9.16
Value-Add (bps)	-824	756	529	147	417	309	431
Russell 3000® Index	31.03	14.70	10.84	13.68	9.57	8.14	9.33
Value-Add (bps)	-1,379	164	254	38	327	356	415
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.24	13.26	8.84	9.43	7.36	6.40	7.17
Value-Add (bps)	-1,000	308	455	463	549	530	631

The index is a horizon calculation based on data compiled from 2,256 private equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

AS OF DECEMBER 31, 2019

PRIVATE EQUITY

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	3.96
1995 Q2	3.95
1995 Q3	4.16
1995 Q4	9.80
1996 Q1	5.38
1996 Q2	6.66
1996 Q3	6.40
1996 Q4	8.60
1997 Q1	0.61
1997 Q2	10.23
1997 Q3	6.37
1997 Q4	8.72
1998 Q1	9.11
1998 Q2	5.56
1998 Q3	-5.07
1998 Q4	6.74
1999 Q1	4.52
1999 Q2	9.79
1999 Q3	4.05
1999 Q4	17.16
2000 Q1	12.50
2000 Q2	-0.77
2000 Q3	-0.69
2000 Q4	-5.01
2001 Q1	-6.02
2001 Q2	2.17

QUARTER ENDING	HORIZON RETURN
2001 Q3	-6.68
2001 Q4	-0.99
2002 Q1	-0.55
2002 Q2	-0.31
2002 Q3	-4.45
2002 Q4	1.37
2003 Q1	-0.10
2003 Q2	7.18
2003 Q3	4.57
2003 Q4	10.78
2004 Q1	2.68
2004 Q2	4.24
2004 Q3	3.10
2004 Q4	16.40
2005 Q1	0.93
2005 Q2	7.58
2005 Q3	6.85
2005 Q4	9.12
2006 Q1	6.40
2006 Q2	7.82
2006 Q3	3.69
2006 Q4	15.89
2007 Q1	5.18
2007 Q2	10.51
2007 Q3	3.20
2007 Q4	4.32

QUARTER ENDING	HORIZON RETURN
2008 Q1	-0.51
2008 Q2	-1.71
2008 Q3	-10.41
2008 Q4	-18.87
2009 Q1	-5.04
2009 Q2	6.88
2009 Q3	7.56
2009 Q4	7.23
2010 Q1	2.75
2010 Q2	0.23
2010 Q3	7.32
2010 Q4	9.26
2011 Q1	5.24
2011 Q2	5.29
2011 Q3	-6.47
2011 Q4	3.17
2012 Q1	6.33
2012 Q2	-0.68
2012 Q3	3.92
2012 Q4	4.22
2013 Q1	3.27
2013 Q2	2.68
2013 Q3	5.85
2013 Q4	7.50
2014 Q1	3.18
2014 Q2	4.86

QUARTER ENDING	HORIZON RETURN
2014 Q3	-0.46
2014 Q4	2.16
2015 Q1	1.41
2015 Q2	5.42
2015 Q3	-1.04
2015 Q4	2.64
2016 Q1	1.48
2016 Q2	2.63
2016 Q3	4.06
2016 Q4	2.70
2017 Q1	4.37
2017 Q2	6.05
2017 Q3	4.73
2017 Q4	5.51
2018 Q1	2.63
2018 Q2	4.19
2018 Q3	3.26
2018 Q4	-0.99
2019 Q1	4.84
2019 Q2	4.34
2019 Q3	1.32
2019 Q4	5.78

AS OF DECEMBER 31, 2019

PRIVATE EQUITY

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	17.24	14 Years	12.06
2 Years	13.20	15 Years	12.84
3 Years	16.33	16 Years	13.68
4 Years	14.88	17 Years	14.27
5 Years	13.38	18 Years	13.29
6 Years	12.69	19 Years	12.03
7 Years	14.14	20 Years	11.70
8 Years	14.17	21 Years	12.56
9 Years	13.05	22 Years	12.66
10 Years	14.06	23 Years	12.98
11 Years	14.43	24 Years	13.29
12 Years	9.53	25 Years	13.48
13 Years	10.55		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	17.24	12/31/2006	37.97
12/31/2018	9.39	12/31/2005	26.25
12/31/2017	22.28	12/31/2004	27.94
12/31/2016	11.20	12/31/2003	24.21
12/31/2015	8.66	12/31/2002	-3.89
12/31/2014	10.15	12/31/2001	-11.22
12/31/2013	20.37	12/31/2000	4.48
12/31/2012	14.32	12/31/1999	40.89
12/31/2011	7.00	12/31/1998	16.42
12/31/2010	20.96	12/31/1997	28.45
12/31/2009	17.50	12/31/1996	29.72
12/31/2008	-30.12	12/31/1995	23.70
12/31/2007	24.99		

PRIVATE EQUITY: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
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PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	21.24	14.89	10.88	17.47	28.60	-2.08	24.53	1.97	0.00	1.97	46
1996	11.19	9.51	8.49	9.35	13.45	-1.79	19.38	1.63	0.00	1.63	52
1997	9.33	9.85	9.48	9.74	15.91	1.04	19.50	1.59	0.00	1.59	83
1998	8.63	11.35	10.76	13.10	18.97	4.83	11.13	1.54	0.02	1.56	80
1999	15.07	13.31	12.14	12.98	21.97	4.08	15.40	1.90	0.01	1.90	75
2000	18.48	16.43	15.57	16.70	24.43	8.25	15.74	2.00	0.02	2.02	112
2001	23.89	20.34	18.27	20.67	31.52	11.30	17.55	2.15	0.01	2.17	46
2002	19.08	15.73	17.56	18.30	26.80	6.86	29.17	2.01	0.02	2.03	50
2003	16.49	17.35	14.46	17.61	27.10	6.93	17.62	1.83	0.01	1.84	49
2004	10.95	16.16	9.61	13.40	14.57	5.32	29.34	1.65	0.06	1.72	99
2005	7.38	7.67	7.93	9.19	14.01	1.99	14.13	1.45	0.06	1.51	147
2006	7.70	8.36	8.38	9.73	14.12	2.92	13.75	1.40	0.15	1.55	135
2007	11.08	8.11	9.39	9.18	14.82	3.42	13.70	1.41	0.28	1.69	167
2008	13.31	10.86	10.55	11.64	16.83	4.24	15.36	1.43	0.33	1.76	102
2009	17.15	14.86	13.75	15.93	22.63	8.03	12.42	1.27	0.89	2.17	52
2010	13.37	13.25	12.97	14.59	19.82	3.56	15.34	1.04	0.69	1.73	56
2011	15.41	14.21	13.72	14.89	19.13	8.45	10.53	0.92	0.83	1.75	99
2012	16.32	14.01	13.98	14.58	19.18	7.98	9.21	0.69	1.02	1.71	88
2013	16.00	14.92	14.58	16.30	19.60	9.04	10.34	0.45	1.15	1.60	92
2014	19.68	16.80	15.25	18.41	22.60	10.74	9.24	0.37	1.18	1.55	99
2015	15.68	12.60	13.28	15.54	21.01	7.11	17.06	0.15	1.17	1.32	100
2016	19.60	15.53	15.52	18.51	20.58	8.21	20.53	0.06	1.25	1.31	86
2017	10.62	7.18	7.25	12.45	13.68	-3.29	25.96	0.02	1.07	1.09	71
2018	-1.21	-10.71	-7.60	0.62	5.70	-18.34	34.51	0.01	0.99	0.99	73

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PRIVATE EQUITY

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)			MSCI EUROPE INDEX (NET)		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)	CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	46	21.24	5.32	1,593		10.26	1,098	1.97	1.19	1.37	1.97	1.19	1.37
1996	52	11.19	3.86	733		5.11	608	1.63	1.19	1.26	1.63	1.19	1.26
1997	83	9.33	3.30	603		3.59	574	1.59	1.18	1.20	1.59	1.18	1.19
1998	80	8.63	3.87	476		4.17	446	1.56	1.21	1.23	1.54	1.20	1.22
1999	75	15.07	6.53	854		7.09	798	1.90	1.30	1.33	1.90	1.30	1.33
2000	112	18.48	9.81	867		10.27	821	2.02	1.39	1.41	2.00	1.38	1.40
2001	46	23.89	10.92	1,297		11.40	1,249	2.17	1.39	1.41	2.15	1.38	1.40
2002	50	19.08	7.98	1,109		8.42	1,065	2.03	1.33	1.35	2.01	1.32	1.34
2003	49	16.49	5.10	1,140		5.51	1,099	1.84	1.22	1.23	1.83	1.21	1.22
2004	99	10.95	2.51	844		2.62	833	1.72	1.13	1.14	1.65	1.09	1.10
2005	147	7.38	1.63	574		1.52	586	1.51	1.10	1.09	1.45	1.05	1.04
2006	135	7.70	2.37	533		2.18	552	1.55	1.14	1.13	1.40	1.04	1.03
2007	167	11.08	4.94	613		4.85	623	1.69	1.26	1.25	1.41	1.07	1.07
2008	102	13.31	6.24	707		6.21	710	1.76	1.30	1.29	1.43	1.08	1.08
2009	52	17.15	5.99	1,116		5.76	1,139	2.17	1.30	1.28	1.27	0.85	0.84
2010	56	13.37	6.03	734		5.75	762	1.73	1.28	1.26	1.04	0.80	0.79
2011	99	15.41	5.69	973		5.23	1,018	1.75	1.23	1.21	0.92	0.67	0.66
2012	88	16.32	5.34	1,098		4.79	1,153	1.71	1.19	1.17	0.69	0.52	0.50
2013	92	16.00	5.89	1,010		5.46	1,054	1.60	1.19	1.18	0.45	0.35	0.35
2014	99	19.68	6.79	1,289		6.55	1,313	1.55	1.16	1.16	0.37	0.29	0.29
2015	100	15.68	7.52	816		7.58	810	1.32	1.15	1.15	0.15	0.14	0.14
2016	86	19.60	7.67	1,193		7.91	1,170	1.31	1.11	1.12	0.06	0.05	0.05
2017	71	10.62	10.91	-29		11.70	-107	1.09	1.09	1.10	0.02	0.02	0.02
2018	73	-1.21	15.27	-1,648		16.29	-1,750	0.99	1.09	1.10	0.01	0.01	0.01

Notes: Based on data compiled from 2,059 private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		RUSSELL 2000® INDEX		CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX	CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	46	21.24	13.34	791	8.25	1,299	1.97	1.46	1.32	1.97	1.46	1.32
1996	52	11.19	5.09	609	7.01	418	1.63	1.24	1.38	1.63	1.24	1.38
1997	83	9.33	1.68	766	7.16	217	1.59	1.09	1.41	1.59	1.08	1.41
1998	80	8.63	1.79	684	7.35	128	1.56	1.10	1.42	1.54	1.08	1.41
1999	75	15.07	2.93	1,214	8.31	676	1.90	1.13	1.39	1.90	1.12	1.38
2000	112	18.48	5.79	1,268	9.74	873	2.02	1.24	1.41	2.00	1.23	1.40
2001	46	23.89	7.44	1,646	10.07	1,383	2.17	1.31	1.41	2.15	1.30	1.40
2002	50	19.08	6.85	1,223	8.32	1,076	2.03	1.34	1.41	2.01	1.32	1.39
2003	49	16.49	6.06	1,043	6.61	989	1.84	1.31	1.34	1.83	1.29	1.32
2004	99	10.95	5.97	498	6.22	473	1.72	1.38	1.39	1.65	1.30	1.33
2005	147	7.38	6.97	41	7.12	26	1.51	1.51	1.51	1.45	1.42	1.43
2006	135	7.70	8.64	-94	8.54	-83	1.55	1.66	1.63	1.40	1.46	1.46
2007	167	11.08	12.26	-118	11.52	-44	1.69	1.79	1.70	1.41	1.47	1.43
2008	102	13.31	14.01	-70	12.88	43	1.76	1.81	1.70	1.43	1.45	1.39
2009	52	17.15	13.85	331	11.56	560	2.17	1.83	1.65	1.27	1.13	1.06
2010	56	13.37	13.75	-38	11.17	220	1.73	1.75	1.57	1.04	1.03	0.97
2011	99	15.41	13.22	219	10.31	511	1.75	1.62	1.45	0.92	0.84	0.79
2012	88	16.32	12.84	348	9.45	687	1.71	1.53	1.36	0.69	0.62	0.59
2013	92	16.00	13.15	285	9.21	679	1.60	1.47	1.31	0.45	0.41	0.39
2014	99	19.68	13.99	570	9.48	1,020	1.55	1.37	1.24	0.37	0.33	0.31
2015	100	15.68	15.01	66	9.35	633	1.32	1.31	1.18	0.15	0.15	0.14
2016	86	19.60	15.48	412	8.63	1,098	1.31	1.24	1.13	0.06	0.06	0.05
2017	71	10.62	18.85	-823	10.84	-22	1.09	1.16	1.09	0.02	0.02	0.02
2018	73	-1.21	22.73	-2,394	15.34	-1,655	0.99	1.13	1.09	0.01	0.01	0.01

Notes: Based on data compiled from 2,059 private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, Frank Russell Company, Standard & Poor's, and Thomson Reuters Datastream.

AS OF DECEMBER 31, 2019

PRIVATE EQUITY

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 3000® INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	46	21.24	12.62	862	8.48	1,277	1.97	1.44	1.30	1.97	1.44	1.30
1996	52	11.19	5.45	574	4.53	666	1.63	1.26	1.22	1.63	1.26	1.22
1997	83	9.33	2.48	686	2.85	649	1.59	1.13	1.15	1.59	1.13	1.15
1998	80	8.63	2.57	606	3.27	536	1.56	1.14	1.18	1.54	1.12	1.17
1999	75	15.07	3.71	1,136	5.33	975	1.90	1.17	1.24	1.90	1.16	1.24
2000	112	18.48	6.47	1,201	8.56	992	2.02	1.28	1.36	2.00	1.26	1.34
2001	46	23.89	8.04	1,586	9.96	1,393	2.17	1.34	1.39	2.15	1.33	1.38
2002	50	19.08	7.30	1,178	8.21	1,086	2.03	1.37	1.38	2.01	1.34	1.36
2003	49	16.49	6.35	1,014	6.36	1,013	1.84	1.33	1.30	1.83	1.31	1.28
2004	99	10.95	6.18	477	4.86	609	1.72	1.40	1.28	1.65	1.32	1.22
2005	147	7.38	7.14	24	4.58	279	1.51	1.52	1.30	1.45	1.43	1.23
2006	135	7.70	8.76	-106	5.53	217	1.55	1.67	1.38	1.40	1.47	1.23
2007	167	11.08	12.28	-120	8.30	277	1.69	1.78	1.47	1.41	1.47	1.23
2008	102	13.31	13.97	-66	9.74	357	1.76	1.81	1.51	1.43	1.45	1.23
2009	52	17.15	13.58	357	9.64	751	2.17	1.81	1.53	1.27	1.12	0.97
2010	56	13.37	13.45	-8	9.69	368	1.73	1.73	1.49	1.04	1.03	0.90
2011	99	15.41	12.84	258	9.53	588	1.75	1.60	1.42	0.92	0.83	0.75
2012	88	16.32	12.38	394	9.38	693	1.71	1.50	1.37	0.69	0.62	0.57
2013	92	16.00	12.63	336	9.98	601	1.60	1.45	1.34	0.45	0.41	0.39
2014	99	19.68	13.44	624	10.93	876	1.55	1.35	1.28	0.37	0.33	0.31
2015	100	15.68	14.39	129	11.83	385	1.32	1.29	1.24	0.15	0.15	0.15
2016	86	19.60	14.73	487	12.08	752	1.31	1.23	1.18	0.06	0.06	0.06
2017	71	10.62	17.93	-731	15.36	-474	1.09	1.15	1.13	0.02	0.02	0.02
2018	73	-1.21	21.83	-2,303	19.53	-2,074	0.99	1.13	1.12	0.01	0.01	0.01

Notes: Based on data compiled from 2,059 private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., and Thomson Reuters Datastream.

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PRIVATE EQUITY

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.97	1.75	1.56	2.18	0.89	46
1996	1.63	1.56	1.51	1.89	0.91	52
1997	1.59	1.56	1.62	1.95	1.03	83
1998	1.56	1.89	1.61	2.09	1.28	80
1999	1.90	1.79	1.57	2.22	1.15	75
2000	2.02	1.96	1.93	2.42	1.44	112
2001	2.17	1.98	1.94	2.41	1.52	46
2002	2.03	2.03	1.98	2.47	1.46	50
2003	1.84	1.87	1.77	2.18	1.37	49
2004	1.72	1.77	1.55	1.96	1.28	99
2005	1.51	1.61	1.52	1.97	1.11	147
2006	1.55	1.67	1.55	1.98	1.19	135
2007	1.69	1.58	1.55	1.93	1.18	167
2008	1.76	1.69	1.65	1.99	1.26	102
2009	2.17	2.00	1.88	2.39	1.45	52
2010	1.73	1.84	1.58	2.22	1.22	56
2011	1.75	1.78	1.65	1.97	1.35	99
2012	1.71	1.63	1.59	1.88	1.34	88
2013	1.60	1.61	1.49	1.80	1.31	92
2014	1.55	1.56	1.43	1.58	1.29	99
2015	1.32	1.32	1.29	1.49	1.12	100
2016	1.31	1.26	1.23	1.34	1.12	86
2017	1.09	1.06	1.05	1.14	0.97	71
2018	0.99	0.91	0.95	1.04	0.88	73

PRIVATE EQUITY

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.97	1.75	1.56	2.18	0.89	46
1996	1.63	1.56	1.51	1.89	0.91	52
1997	1.59	1.56	1.62	1.95	1.03	83
1998	1.54	1.88	1.61	2.09	1.28	80
1999	1.90	1.78	1.57	2.20	1.15	75
2000	2.00	1.90	1.88	2.25	1.44	112
2001	2.15	1.97	1.94	2.41	1.50	46
2002	2.01	2.00	1.97	2.41	1.40	50
2003	1.83	1.84	1.76	2.15	1.25	49
2004	1.65	1.67	1.51	1.89	1.20	99
2005	1.45	1.52	1.40	1.94	1.01	147
2006	1.40	1.52	1.44	1.78	1.07	135
2007	1.41	1.31	1.35	1.73	0.86	167
2008	1.43	1.31	1.29	1.68	0.78	102
2009	1.27	1.29	1.06	1.77	0.67	52
2010	1.04	1.12	0.96	1.50	0.47	56
2011	0.92	0.89	0.91	1.22	0.37	99
2012	0.69	0.69	0.64	0.97	0.34	88
2013	0.45	0.53	0.39	0.72	0.13	92
2014	0.37	0.38	0.29	0.49	0.11	99
2015	0.15	0.18	0.08	0.24	0.00	100
2016	0.06	0.08	0.01	0.10	0.00	86
2017	0.02	0.03	0.00	0.00	0.00	71
2018	0.01	0.00	0.00	0.00	0.00	73

PRIVATE EQUITY

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	46
1996	0.00	0.00	0.00	0.00	0.00	52
1997	0.00	0.00	0.00	0.00	0.00	83
1998	0.02	0.01	0.00	0.00	0.00	80
1999	0.01	0.01	0.00	0.00	0.00	75
2000	0.02	0.06	0.00	0.01	0.00	112
2001	0.01	0.01	0.00	0.00	0.00	46
2002	0.02	0.04	0.00	0.01	0.00	50
2003	0.01	0.02	0.00	0.00	0.00	49
2004	0.06	0.10	0.01	0.07	0.00	99
2005	0.06	0.09	0.02	0.11	0.00	147
2006	0.15	0.15	0.07	0.20	0.01	135
2007	0.28	0.27	0.13	0.37	0.02	167
2008	0.33	0.39	0.27	0.53	0.11	102
2009	0.89	0.71	0.59	1.02	0.26	52
2010	0.69	0.73	0.67	0.88	0.51	56
2011	0.83	0.89	0.81	1.14	0.54	99
2012	1.02	0.94	0.94	1.15	0.69	88
2013	1.15	1.09	1.07	1.31	0.85	92
2014	1.18	1.18	1.14	1.28	0.95	99
2015	1.17	1.14	1.15	1.28	0.95	100
2016	1.25	1.18	1.17	1.27	1.08	86
2017	1.07	1.04	1.04	1.12	0.94	71
2018	0.99	0.91	0.95	1.04	0.88	73

US PRIVATE EQUITY: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US PRIVATE EQUITY INDEX¹	5.02	18.55	16.84	14.23	15.93	13.29	11.40	13.78
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22
Wilshire 5000 Total Market Index	9.08	31.02	14.52	11.38	13.44	9.11	6.37	10.22

The index is a horizon calculation based on data compiled from 1,186 US private equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, Standard & Poor's and Thomson Reuters Datastream, and Wilshire Associates.

*Capital change only

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US PRIVATE EQUITY INDEX¹	18.55	16.84	14.23	15.93	13.29	11.40	13.78

MPME ANALYSIS ²							
Russell 2000® Index	25.37	8.74	8.18	12.69	8.44	8.36	9.06
Value-Add (bps)	-681	809	605	324	485	303	472
Russell 2500™ Index	27.63	10.47	8.81	13.49	9.24	9.26	10.23
Value-Add (bps)	-907	637	542	245	405	213	355
Russell 3000® Index	30.94	14.68	10.97	13.71	9.31	7.69	9.18
Value-Add (bps)	-1,239	215	326	222	398	371	460
Russell Midcap® Index	30.44	12.18	9.11	13.98	9.78	9.51	10.66
Value-Add (bps)	-1,189	466	512	196	350	189	312
S&P 500 Index	31.41	15.38	11.40	13.76	9.28	7.49	9.10
Value-Add (bps)	-1,286	146	283	217	401	391	468
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.16	13.23	8.97	9.48	7.26	6.12	7.06
Value-Add (bps)	-861	360	526	645	603	527	672

The index is a horizon calculation based on data compiled from 1,186 US private equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

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Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

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AS OF DECEMBER 31, 2019

US PRIVATE EQUITY

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	3.86
1995 Q2	4.05
1995 Q3	4.29
1995 Q4	11.27
1996 Q1	6.10
1996 Q2	6.92
1996 Q3	6.67
1996 Q4	6.66
1997 Q1	0.85
1997 Q2	11.58
1997 Q3	7.39
1997 Q4	9.31
1998 Q1	10.64
1998 Q2	4.85
1998 Q3	-6.82
1998 Q4	8.17
1999 Q1	5.92
1999 Q2	10.64
1999 Q3	3.47
1999 Q4	19.20
2000 Q1	14.97
2000 Q2	-1.46
2000 Q3	-0.14
2000 Q4	-6.97
2001 Q1	-6.33
2001 Q2	3.09

QUARTER ENDING	HORIZON RETURN
2001 Q3	-9.01
2001 Q4	-0.03
2002 Q1	-0.66
2002 Q2	-2.94
2002 Q3	-5.04
2002 Q4	-0.15
2003 Q1	-0.37
2003 Q2	7.14
2003 Q3	5.52
2003 Q4	9.53
2004 Q1	3.07
2004 Q2	3.45
2004 Q3	2.15
2004 Q4	15.07
2005 Q1	0.64
2005 Q2	8.30
2005 Q3	7.49
2005 Q4	7.89
2006 Q1	5.76
2006 Q2	3.54
2006 Q3	3.56
2006 Q4	12.55
2007 Q1	5.62
2007 Q2	7.77
2007 Q3	1.06
2007 Q4	2.83

QUARTER ENDING	HORIZON RETURN
2008 Q1	-2.66
2008 Q2	-0.25
2008 Q3	-6.72
2008 Q4	-16.69
2009 Q1	-3.69
2009 Q2	4.90
2009 Q3	6.43
2009 Q4	6.33
2010 Q1	4.91
2010 Q2	2.11
2010 Q3	4.83
2010 Q4	9.39
2011 Q1	5.26
2011 Q2	4.79
2011 Q3	-4.47
2011 Q4	4.98
2012 Q1	5.61
2012 Q2	0.23
2012 Q3	4.09
2012 Q4	3.81
2013 Q1	4.90
2013 Q2	3.49
2013 Q3	5.78
2013 Q4	7.60
2014 Q1	3.31
2014 Q2	4.94

QUARTER ENDING	HORIZON RETURN
2014 Q3	1.62
2014 Q4	3.27
2015 Q1	3.36
2015 Q2	4.55
2015 Q3	-0.26
2015 Q4	1.93
2016 Q1	0.45
2016 Q2	3.61
2016 Q3	3.97
2016 Q4	3.81
2017 Q1	4.22
2017 Q2	4.62
2017 Q3	4.24
2017 Q4	5.39
2018 Q1	3.18
2018 Q2	5.67
2018 Q3	4.05
2018 Q4	-1.20
2019 Q1	5.54
2019 Q2	4.63
2019 Q3	2.23
2019 Q4	5.02

AS OF DECEMBER 31, 2019

US PRIVATE EQUITY

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	18.55	14 Years	12.49
2 Years	15.26	15 Years	13.29
3 Years	16.84	16 Years	13.97
4 Years	15.53	17 Years	14.55
5 Years	14.23	18 Years	13.15
6 Years	14.14	19 Years	11.74
7 Years	15.91	20 Years	11.40
8 Years	15.62	21 Years	12.51
9 Years	14.81	22 Years	12.63
10 Years	15.93	23 Years	13.12
11 Years	15.77	24 Years	13.50
12 Years	10.98	25 Years	13.78
13 Years	11.50		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	18.55	12/31/2006	27.75
12/31/2018	12.16	12/31/2005	26.12
12/31/2017	19.75	12/31/2004	24.83
12/31/2016	12.20	12/31/2003	23.43
12/31/2015	10.04	12/31/2002	-8.50
12/31/2014	13.82	12/31/2001	-12.09
12/31/2013	23.34	12/31/2000	4.44
12/31/2012	14.36	12/31/1999	45.34
12/31/2011	10.73	12/31/1998	16.75
12/31/2010	22.94	12/31/1997	32.18
12/31/2009	14.60	12/31/1996	28.95
12/31/2008	-25.31	12/31/1995	25.49
12/31/2007	18.07		

US PRIVATE EQUITY: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
ASSOCIATES

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	21.79	18.50	15.36	22.44	33.17	-0.49	25.71	2.00	0.00	2.00	26
1996	10.42	8.19	7.34	8.13	12.30	-0.54	18.84	1.60	0.00	1.60	28
1997	7.39	6.93	7.06	5.96	12.78	-0.74	15.52	1.46	0.00	1.46	40
1998	7.19	9.91	9.65	10.36	14.68	3.92	10.03	1.44	0.02	1.45	47
1999	14.62	10.74	11.95	11.25	17.68	4.55	12.16	1.89	0.01	1.90	43
2000	15.05	13.18	12.86	12.95	21.14	7.48	12.39	1.82	0.02	1.84	67
2001	20.09	18.20	15.48	17.02	30.06	11.30	16.46	2.21	0.02	2.23	22
2002	15.90	11.80	15.70	14.79	23.39	5.86	26.65	1.93	0.04	1.97	24
2003	14.73	14.05	12.17	13.09	16.98	3.11	13.75	1.96	0.02	1.98	25
2004	10.15	10.26	9.94	10.31	12.65	7.40	7.07	1.66	0.05	1.70	54
2005	8.79	8.30	9.62	10.64	15.31	3.94	14.31	1.60	0.07	1.67	75
2006	9.01	11.87	11.92	11.63	16.50	7.05	14.29	1.51	0.17	1.69	59
2007	12.40	12.07	12.01	12.10	19.61	7.80	11.68	1.41	0.35	1.76	74
2008	16.27	17.04	15.41	16.29	23.37	10.58	10.72	1.60	0.32	1.92	48
2009	20.95	19.96	20.60	21.28	25.28	11.86	12.67	1.49	0.96	2.45	26
2010	22.05	23.97	19.66	23.21	23.91	16.49	17.20	1.70	0.74	2.44	20
2011	17.00	17.08	15.93	17.72	20.30	11.77	10.04	0.99	0.84	1.83	54
2012	17.78	17.56	15.80	18.14	22.64	9.38	9.16	0.63	1.07	1.70	36
2013	15.77	15.87	15.66	17.60	20.09	10.44	10.64	0.47	1.16	1.62	51
2014	20.28	17.92	16.58	19.16	24.72	11.41	9.72	0.38	1.20	1.58	59
2015	16.77	15.59	13.62	17.48	24.77	7.85	13.87	0.17	1.16	1.34	60
2016	19.50	18.96	15.63	21.17	23.52	9.10	19.70	0.09	1.26	1.35	45
2017	10.95	9.79	8.42	14.83	14.69	-1.84	23.00	0.02	1.07	1.09	42
2018	-2.40	-10.72	-7.02	-0.22	7.80	-16.55	32.75	0.01	0.98	0.99	44

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	RUSSELL 2000® INDEX			RUSSELL 2500™ INDEX		CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX	CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	26	21.79	8.29	1,350		10.89	1,089	2.00	1.33	1.45	2.00	1.33	1.45
1996	28	10.42	6.86	356		8.92	150	1.60	1.39	1.53	1.60	1.39	1.53
1997	40	7.39	7.34	5		9.11	-172	1.46	1.44	1.57	1.46	1.44	1.57
1998	47	7.19	7.40	-21		8.92	-173	1.45	1.45	1.56	1.44	1.43	1.53
1999	43	14.62	8.28	634		9.42	520	1.90	1.39	1.46	1.89	1.39	1.45
2000	67	15.05	9.37	569		10.26	480	1.84	1.43	1.48	1.82	1.41	1.46
2001	22	20.09	8.68	1,141		9.56	1,054	2.23	1.44	1.50	2.21	1.43	1.49
2002	24	15.90	8.18	772		9.11	679	1.97	1.46	1.53	1.93	1.42	1.48
2003	25	14.73	6.24	848		7.08	765	1.98	1.37	1.43	1.96	1.35	1.41
2004	54	10.15	6.13	402		6.98	318	1.70	1.41	1.47	1.66	1.35	1.41
2005	75	8.79	7.35	144		8.18	61	1.67	1.55	1.63	1.60	1.46	1.54
2006	59	9.01	8.09	91		8.83	17	1.69	1.60	1.67	1.51	1.43	1.49
2007	74	12.40	11.68	72		12.45	-5	1.76	1.68	1.74	1.41	1.36	1.40
2008	48	16.27	12.96	331		13.72	256	1.92	1.64	1.69	1.60	1.40	1.44
2009	26	20.95	11.63	932		12.20	875	2.45	1.60	1.64	1.49	1.09	1.11
2010	20	22.05	11.65	1,040		12.12	993	2.44	1.57	1.60	1.70	1.18	1.20
2011	54	17.00	10.30	670		10.79	621	1.83	1.44	1.46	0.99	0.82	0.82
2012	36	17.78	9.25	853		9.84	794	1.70	1.32	1.35	0.63	0.51	0.52
2013	51	15.77	9.08	669		9.72	605	1.62	1.32	1.35	0.47	0.41	0.41
2014	59	20.28	9.41	1,088		10.23	1,005	1.58	1.24	1.26	0.38	0.32	0.32
2015	60	16.77	9.39	739		10.68	610	1.34	1.18	1.20	0.17	0.16	0.16
2016	45	19.50	8.43	1,107		10.09	940	1.35	1.14	1.17	0.09	0.08	0.08
2017	42	10.95	10.45	50		12.22	-127	1.09	1.09	1.11	0.02	0.02	0.02
2018	44	-2.40	18.00	-2,040		18.54	-2,094	0.99	1.09	1.10	0.01	0.01	0.01

Notes: Based on data compiled from 1,069 US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 3000® INDEX			RUSSELL MIDCAP® INDEX	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	RUSSELL MIDCAP® INDEX	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	RUSSELL MIDCAP® INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR						
1995	26	21.79	12.62	917		12.44	935		2.00	1.46	1.51	
1996	28	10.42	4.98	544		9.12	130		1.60	1.25	1.54	
1997	40	7.39	2.49	490		8.57	-118		1.46	1.13	1.54	
1998	47	7.19	2.75	444		8.44	-125		1.45	1.16	1.53	
1999	43	14.62	3.76	1,086		9.35	527		1.90	1.17	1.46	
2000	67	15.05	6.36	870		10.52	454		1.84	1.29	1.50	
2001	22	20.09	7.41	1,268		10.19	990		2.23	1.39	1.54	
2002	24	15.90	7.22	868		9.75	615		1.97	1.41	1.57	
2003	25	14.73	5.85	887		7.48	725		1.98	1.35	1.46	
2004	54	10.15	6.04	411		7.24	291		1.70	1.40	1.50	
2005	75	8.79	7.39	140		8.38	41		1.67	1.56	1.65	
2006	59	9.01	8.29	71		8.99	1		1.69	1.64	1.70	
2007	74	12.40	12.50	-10		12.87	-48		1.76	1.77	1.78	
2008	48	16.27	13.95	233		14.23	204		1.92	1.73	1.73	
2009	26	20.95	13.62	733		12.84	811		2.45	1.75	1.69	
2010	20	22.05	13.60	845		12.73	932		2.44	1.70	1.64	
2011	54	17.00	12.84	417		11.51	549		1.83	1.58	1.50	
2012	36	17.78	12.45	533		10.54	724		1.70	1.46	1.37	
2013	51	15.77	12.47	331		10.47	530		1.62	1.47	1.38	
2014	59	20.28	13.31	698		11.11	917		1.58	1.35	1.28	
2015	60	16.77	14.46	231		12.09	468		1.34	1.28	1.23	
2016	45	19.50	14.49	500		12.03	747		1.35	1.25	1.21	
2017	42	10.95	17.60	-665		14.86	-391		1.09	1.15	1.13	
2018	44	-2.40	23.93	-2,633		20.06	-2,246		0.99	1.12	1.10	

Notes: Based on data compiled from 1,069 US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD					
1995	26	21.79	13.31	847	8.50	1,329	2.00	1.47	1.31	2.00	1.47	1.31
1996	28	10.42	4.57	585	4.18	624	1.60	1.22	1.22	1.60	1.22	1.21
1997	40	7.39	1.66	573	3.13	426	1.46	1.09	1.17	1.46	1.09	1.17
1998	47	7.19	2.00	519	3.39	380	1.45	1.11	1.19	1.44	1.09	1.18
1999	43	14.62	3.00	1,163	5.49	913	1.90	1.13	1.26	1.89	1.13	1.25
2000	67	15.05	5.72	933	8.20	686	1.84	1.26	1.37	1.82	1.24	1.35
2001	22	20.09	6.95	1,314	8.51	1,158	2.23	1.36	1.41	2.21	1.35	1.40
2002	24	15.90	6.79	912	8.01	790	1.97	1.38	1.42	1.93	1.34	1.38
2003	25	14.73	5.55	918	5.66	907	1.98	1.33	1.31	1.96	1.31	1.29
2004	54	10.15	5.83	432	4.66	549	1.70	1.39	1.29	1.66	1.32	1.24
2005	75	8.79	7.22	157	4.74	404	1.67	1.55	1.32	1.60	1.45	1.25
2006	59	9.01	8.17	83	5.18	382	1.69	1.63	1.35	1.51	1.43	1.21
2007	74	12.40	12.49	-9	8.56	384	1.76	1.78	1.47	1.41	1.39	1.18
2008	48	16.27	13.97	230	9.74	653	1.92	1.74	1.46	1.60	1.45	1.24
2009	26	20.95	13.87	708	9.67	1,128	2.45	1.77	1.49	1.49	1.16	1.00
2010	20	22.05	13.87	819	9.74	1,231	2.44	1.72	1.47	1.70	1.26	1.09
2011	54	17.00	13.22	378	9.55	745	1.83	1.60	1.40	0.99	0.87	0.78
2012	36	17.78	12.94	484	9.65	812	1.70	1.48	1.34	0.63	0.55	0.51
2013	51	15.77	12.99	279	9.78	599	1.62	1.49	1.35	0.47	0.44	0.41
2014	59	20.28	13.86	642	10.76	952	1.58	1.37	1.27	0.38	0.34	0.32
2015	60	16.77	15.09	169	11.93	484	1.34	1.30	1.23	0.17	0.17	0.16
2016	45	19.50	15.24	426	11.91	759	1.35	1.26	1.20	0.09	0.08	0.08
2017	42	10.95	18.52	-757	15.02	-407	1.09	1.16	1.13	0.02	0.03	0.02
2018	44	-2.40	24.80	-2,720	21.62	-2,402	0.99	1.13	1.11	0.01	0.01	0.01

Notes: Based on data compiled from 1,069 US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	2.00	1.95	1.82	2.30	0.98	26
1996	1.60	1.45	1.30	1.83	0.97	28
1997	1.46	1.34	1.40	1.71	0.92	40
1998	1.45	1.64	1.50	2.00	1.27	47
1999	1.90	1.69	1.54	2.19	1.23	43
2000	1.84	1.83	1.79	2.24	1.35	67
2001	2.23	1.87	1.86	2.24	1.51	22
2002	1.97	1.91	1.97	2.43	1.37	24
2003	1.98	1.73	1.74	2.04	1.24	25
2004	1.70	1.71	1.64	1.92	1.42	54
2005	1.67	1.76	1.64	2.26	1.27	75
2006	1.69	1.82	1.73	2.19	1.45	59
2007	1.76	1.78	1.76	2.15	1.36	74
2008	1.92	1.96	1.84	2.26	1.57	48
2009	2.45	2.28	2.32	2.55	1.77	26
2010	2.44	2.55	2.25	2.53	1.85	20
2011	1.83	1.92	1.84	1.98	1.59	54
2012	1.70	1.74	1.63	2.01	1.38	36
2013	1.62	1.66	1.52	1.80	1.34	51
2014	1.58	1.61	1.49	1.73	1.31	59
2015	1.34	1.37	1.30	1.53	1.15	60
2016	1.35	1.31	1.24	1.45	1.13	45
2017	1.09	1.08	1.06	1.16	0.99	42
2018	0.99	0.92	0.95	1.07	0.90	44

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	2.00	1.95	1.82	2.30	0.98	26
1996	1.60	1.45	1.30	1.83	0.97	28
1997	1.46	1.34	1.40	1.71	0.90	40
1998	1.44	1.63	1.50	1.93	1.27	47
1999	1.89	1.68	1.54	2.11	1.23	43
2000	1.82	1.73	1.77	2.20	1.35	67
2001	2.21	1.85	1.83	2.19	1.49	22
2002	1.93	1.86	1.97	2.40	1.34	24
2003	1.96	1.70	1.74	2.04	1.18	25
2004	1.66	1.65	1.54	1.85	1.38	54
2005	1.60	1.67	1.61	2.10	1.15	75
2006	1.51	1.64	1.58	1.95	1.31	59
2007	1.41	1.51	1.46	2.00	1.13	74
2008	1.60	1.63	1.54	1.97	1.25	48
2009	1.49	1.64	1.55	2.11	0.92	26
2010	1.70	1.76	1.65	2.13	1.02	20
2011	0.99	1.03	1.02	1.31	0.47	54
2012	0.63	0.86	0.79	1.20	0.45	36
2013	0.47	0.53	0.40	0.69	0.14	51
2014	0.38	0.42	0.29	0.55	0.12	59
2015	0.17	0.19	0.09	0.30	0.01	60
2016	0.09	0.11	0.01	0.20	0.00	45
2017	0.02	0.04	0.00	0.01	0.00	42
2018	0.01	0.01	0.00	0.00	0.00	44

US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	26
1996	0.00	0.00	0.00	0.00	0.00	28
1997	0.00	0.00	0.00	0.00	0.00	40
1998	0.02	0.01	0.00	0.00	0.00	47
1999	0.01	0.01	0.00	0.00	0.00	43
2000	0.02	0.09	0.00	0.01	0.00	67
2001	0.02	0.02	0.00	0.02	0.00	22
2002	0.04	0.05	0.00	0.07	0.00	24
2003	0.02	0.04	0.00	0.03	0.00	25
2004	0.05	0.06	0.01	0.10	0.00	54
2005	0.07	0.09	0.03	0.12	0.00	75
2006	0.17	0.18	0.10	0.27	0.02	59
2007	0.35	0.28	0.19	0.38	0.05	74
2008	0.32	0.34	0.24	0.46	0.11	48
2009	0.96	0.64	0.59	0.97	0.32	26
2010	0.74	0.78	0.80	0.98	0.52	20
2011	0.84	0.89	0.83	1.14	0.56	54
2012	1.07	0.89	0.96	1.12	0.68	36
2013	1.16	1.13	1.09	1.33	0.93	51
2014	1.20	1.19	1.19	1.30	0.95	59
2015	1.16	1.17	1.17	1.27	1.02	60
2016	1.26	1.20	1.17	1.27	1.08	45
2017	1.07	1.04	1.04	1.13	0.95	42
2018	0.98	0.91	0.95	1.06	0.90	44

EX US PRIVATE EQUITY: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US PRIVATE EQUITY INDEX¹	7.03	15.19	15.53	12.10	11.44	12.09	12.36	12.87
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index(gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 1,070 Ex US private equity funds, including fully liquidated partnerships, formed between 1987 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US PRIVATE EQUITY INDEX¹	15.19	15.53	12.10	11.44	12.09	12.36	12.87

MPME ANALYSIS ²							
MSCI EAFE Index (net)	22.04	9.80	5.62	5.65	4.59	4.47	4.81
Value-Add (bps)	-685	573	648	580	750	789	806
MSCI Europe Index (net)	23.80	10.03	4.99	5.40	4.49	4.46	4.97
Value-Add (bps)	-861	551	711	605	760	790	790
S&P 500 Index	31.62	15.40	11.08	13.70	9.94	8.75	9.47
Value-Add (bps)	-1,643	13	102	-225	215	361	340
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	19.00	12.34	5.85	3.79	6.46	6.96	7.18
Value-Add (bps)	-381	320	625	766	563	540	569
Constructed Index: MSCI World/MSCI All Country World Index ⁴ (gross)	27.37	13.30	8.65	9.35	7.48	6.83	7.31
Value-Add (bps)	-1,218	224	345	209	461	553	556

The index is a horizon calculation based on data compiled from 1,070 Ex US private equity funds, including fully liquidated partnerships, formed between 1987 and 2019.

¹ Pooled horizon return, net of fees, expenses, and carried interest.

² CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³ Constructed MSCI EM Index: Data from 1/1/1986 to 12/31/1987 represented by GFD Emerging Markets price return. Data from 1/1/1988 to present represented by MSCI Emerging Markets total return gross.

⁴ Constructed Index: MSCI World/MSCI All Country World Index: Data from 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

Sources: Cambridge Associates LLC, Global Financial Data, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

AS OF DECEMBER 31, 2019

EX US PRIVATE EQUITY

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	4.59
1995 Q2	3.32
1995 Q3	3.35
1995 Q4	0.98
1996 Q1	1.06
1996 Q2	5.16
1996 Q3	4.87
1996 Q4	19.50
1997 Q1	-0.52
1997 Q2	4.32
1997 Q3	1.79
1997 Q4	5.97
1998 Q1	2.38
1998 Q2	8.69
1998 Q3	2.14
1998 Q4	1.78
1999 Q1	-0.31
1999 Q2	6.75
1999 Q3	6.15
1999 Q4	10.50
2000 Q1	4.45
2000 Q2	1.66
2000 Q3	-2.50
2000 Q4	1.38
2001 Q1	-5.08
2001 Q2	-0.54

QUARTER ENDING	HORIZON RETURN
2001 Q3	0.33
2001 Q4	-3.61
2002 Q1	-0.23
2002 Q2	6.98
2002 Q3	-2.99
2002 Q4	5.08
2003 Q1	0.53
2003 Q2	7.28
2003 Q3	2.47
2003 Q4	13.54
2004 Q1	1.87
2004 Q2	5.86
2004 Q3	5.01
2004 Q4	18.94
2005 Q1	1.46
2005 Q2	6.27
2005 Q3	5.66
2005 Q4	11.52
2006 Q1	7.61
2006 Q2	16.02
2006 Q3	3.92
2006 Q4	21.68
2007 Q1	4.47
2007 Q2	15.00
2007 Q3	6.61
2007 Q4	6.62

QUARTER ENDING	HORIZON RETURN
2008 Q1	2.71
2008 Q2	-3.76
2008 Q3	-15.62
2008 Q4	-22.21
2009 Q1	-7.25
2009 Q2	10.20
2009 Q3	9.35
2009 Q4	8.59
2010 Q1	-0.41
2010 Q2	-2.65
2010 Q3	11.32
2010 Q4	9.06
2011 Q1	5.21
2011 Q2	6.01
2011 Q3	-9.25
2011 Q4	0.48
2012 Q1	7.43
2012 Q2	-2.04
2012 Q3	3.65
2012 Q4	4.82
2013 Q1	1.00
2013 Q2	1.53
2013 Q3	5.95
2013 Q4	7.36
2014 Q1	3.02
2014 Q2	4.76

QUARTER ENDING	HORIZON RETURN
2014 Q3	-3.19
2014 Q4	0.64
2015 Q1	-1.33
2015 Q2	6.71
2015 Q3	-2.17
2015 Q4	3.71
2016 Q1	3.01
2016 Q2	1.18
2016 Q3	4.18
2016 Q4	1.02
2017 Q1	4.60
2017 Q2	8.30
2017 Q3	5.49
2017 Q4	5.68
2018 Q1	1.83
2018 Q2	1.97
2018 Q3	2.04
2018 Q4	-0.66
2019 Q1	3.76
2019 Q2	3.88
2019 Q3	-0.16
2019 Q4	7.03

AS OF DECEMBER 31, 2019

EX US PRIVATE EQUITY

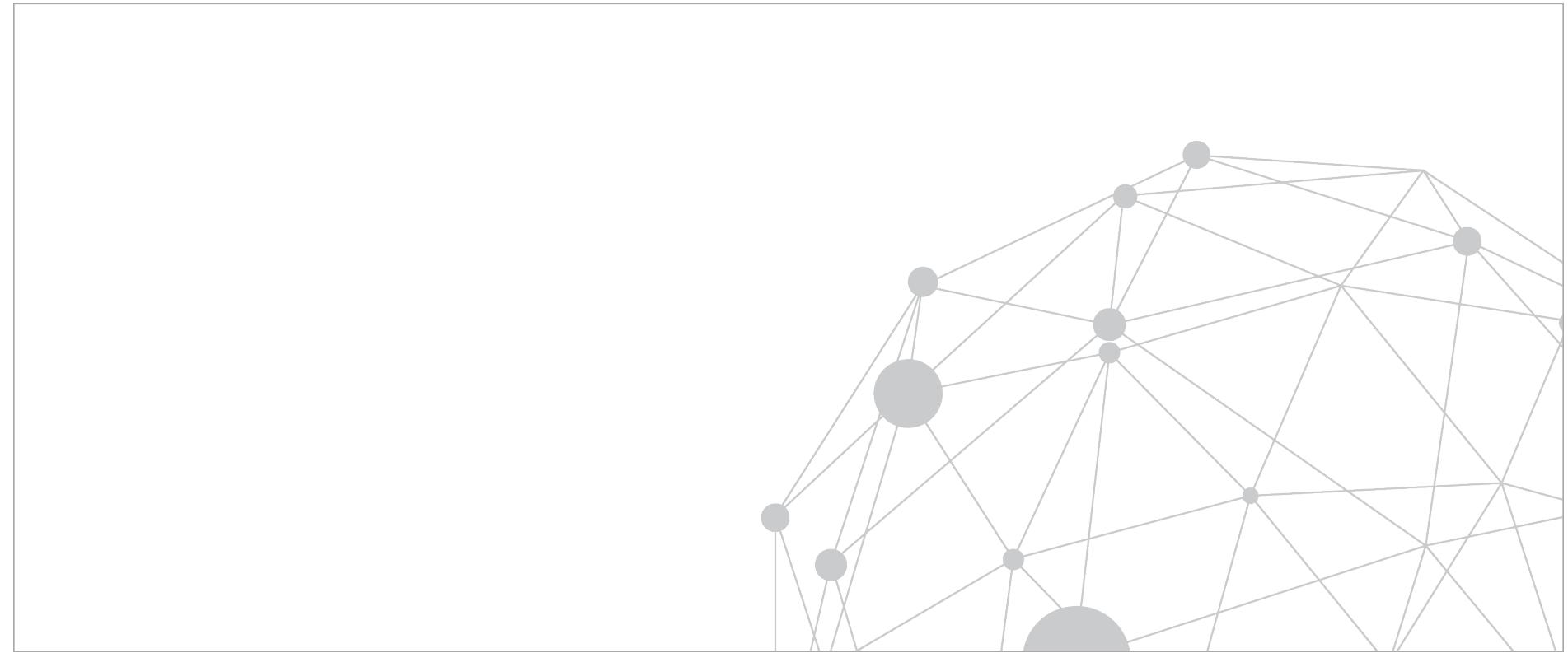
FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	15.19	14 Years	11.34
2 Years	10.07	15 Years	12.09
3 Years	15.53	16 Years	13.16
4 Years	13.86	17 Years	13.75
5 Years	12.10	18 Years	13.55
6 Years	10.63	19 Years	12.64
7 Years	11.68	20 Years	12.36
8 Years	12.09	21 Years	12.66
9 Years	10.58	22 Years	12.70
10 Years	11.44	23 Years	12.70
11 Years	12.45	24 Years	12.88
12 Years	7.46	25 Years	12.87
13 Years	9.09		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	15.19	12/31/2006	57.94
12/31/2018	5.30	12/31/2005	26.49
12/31/2017	26.27	12/31/2004	34.28
12/31/2016	9.70	12/31/2003	25.99
12/31/2015	6.71	12/31/2002	8.89
12/31/2014	5.31	12/31/2001	-8.63
12/31/2013	16.38	12/31/2000	4.58
12/31/2012	14.25	12/31/1999	26.24
12/31/2011	1.70	12/31/1998	15.12
12/31/2010	18.11	12/31/1997	12.50
12/31/2009	22.16	12/31/1996	33.97
12/31/2008	-37.08	12/31/1995	12.54
12/31/2007	36.46		

EX US PRIVATE EQUITY: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
ASSOCIATES

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	19.32	10.19	6.04	11.05	14.53	-3.02	22.67	1.88	0.00	1.88	20
1996	15.24	11.06	10.25	10.63	16.70	-2.53	20.28	1.76	0.00	1.76	24
1997	11.83	12.51	11.06	13.07	18.88	4.81	22.37	1.77	0.00	1.77	43
1998	14.40	13.39	14.11	16.36	20.91	6.28	12.40	2.03	0.01	2.03	33
1999	15.87	16.77	16.02	15.40	22.95	3.31	18.56	1.90	0.00	1.91	32
2000	26.28	21.28	19.39	22.16	35.31	9.23	18.83	2.45	0.02	2.47	45
2001	28.70	22.29	20.55	23.15	31.55	11.49	18.62	2.08	0.00	2.09	24
2002	22.90	19.36	20.08	21.16	32.25	11.76	31.40	2.09	0.01	2.10	26
2003	19.56	20.80	17.58	22.38	33.33	10.78	20.65	1.69	0.01	1.70	24
2004	12.95	23.40	9.05	18.58	27.75	2.78	42.23	1.65	0.10	1.75	45
2005	5.46	7.00	6.25	7.42	12.47	-0.69	14.00	1.29	0.05	1.33	72
2006	5.84	5.63	5.67	8.28	12.45	0.73	12.75	1.26	0.12	1.38	76
2007	9.23	4.96	6.57	6.85	11.15	-0.86	14.41	1.41	0.18	1.59	93
2008	10.02	5.37	7.19	7.49	11.31	3.33	16.80	1.24	0.33	1.57	54
2009	9.81	9.76	8.47	10.73	14.67	3.97	9.99	0.87	0.76	1.63	26
2010	9.49	7.29	6.98	8.73	15.33	-0.60	10.35	0.81	0.67	1.48	36
2011	12.18	10.77	11.60	11.24	14.51	3.80	10.18	0.78	0.82	1.59	45
2012	15.21	11.56	13.37	12.31	15.71	6.43	8.49	0.76	0.96	1.72	52
2013	16.22	13.74	13.42	14.60	18.76	7.27	9.97	0.43	1.15	1.58	41
2014	18.35	15.16	14.44	17.05	21.12	10.60	8.33	0.34	1.15	1.50	40
2015	13.32	8.12	12.88	12.87	17.12	2.71	20.33	0.11	1.19	1.30	40
2016	19.79	11.76	14.01	15.69	18.43	7.67	21.01	0.03	1.23	1.27	41
2017	10.00	3.49	4.96	8.10	12.80	-8.72	29.68	0.00	1.08	1.08	29
2018	0.57	-10.69	-8.08	1.76	1.85	-19.90	37.61	0.00	1.00	1.00	29

C A Notes: Based on data compiled from 990 Ex US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

AS OF DECEMBER 31, 2019

EX US PRIVATE EQUITY

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)		MSCI EUROPE INDEX (NET)		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)	CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	20	19.32	5.30	1,402	10.63	869	1.88	1.18	1.35	1.88	1.17	1.34
1996	24	15.24	5.37	987	7.48	776	1.76	1.21	1.29	1.76	1.21	1.29
1997	43	11.83	2.75	907	2.93	890	1.77	1.14	1.15	1.77	1.14	1.15
1998	33	14.40	3.75	1,065	4.05	1,035	2.03	1.18	1.19	2.03	1.17	1.19
1999	32	15.87	6.15	972	6.76	911	1.91	1.27	1.30	1.90	1.27	1.30
2000	45	26.28	11.00	1,528	11.46	1,482	2.47	1.40	1.42	2.45	1.39	1.41
2001	24	28.70	13.93	1,477	14.36	1,434	2.09	1.41	1.42	2.08	1.41	1.42
2002	26	22.90	8.30	1,460	8.72	1,418	2.10	1.31	1.32	2.09	1.30	1.32
2003	24	19.56	6.14	1,342	6.72	1,284	1.70	1.22	1.24	1.69	1.22	1.23
2004	45	12.95	3.04	991	3.19	976	1.75	1.15	1.15	1.65	1.09	1.10
2005	72	5.46	1.47	399	1.36	410	1.33	1.08	1.08	1.29	1.04	1.03
2006	76	5.84	2.78	306	2.61	324	1.38	1.17	1.16	1.26	1.06	1.05
2007	93	9.23	4.63	461	4.53	470	1.59	1.25	1.24	1.41	1.14	1.13
2008	54	10.02	6.22	380	6.19	383	1.57	1.33	1.32	1.24	1.04	1.04
2009	26	9.81	5.97	385	5.76	405	1.63	1.34	1.33	0.87	0.75	0.74
2010	36	9.49	6.00	349	5.73	376	1.48	1.28	1.27	0.81	0.70	0.69
2011	45	12.18	5.70	647	5.26	691	1.59	1.25	1.23	0.78	0.61	0.60
2012	52	15.21	5.16	1,005	4.59	1,062	1.72	1.20	1.18	0.76	0.57	0.55
2013	41	16.22	6.07	1,016	5.65	1,057	1.58	1.19	1.18	0.43	0.33	0.33
2014	40	18.35	7.16	1,119	7.01	1,134	1.50	1.17	1.17	0.34	0.28	0.28
2015	40	13.32	7.23	608	7.23	609	1.30	1.15	1.15	0.11	0.11	0.10
2016	41	19.79	7.84	1,194	8.08	1,171	1.27	1.10	1.10	0.03	0.03	0.03
2017	29	10.00	11.58	-157	12.40	-239	1.08	1.09	1.10	0.00	0.00	0.00
2018	29	0.57	12.23	-1,166	13.15	-1,258	1.00	1.09	1.10	0.00	0.00	0.00

Notes: Based on data compiled from 990 Ex US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, MSCI, Inc., and Thomson Returns Datastream.

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AS OF DECEMBER 31, 2019

EX US PRIVATE EQUITY

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		MSCI EMERGING MARKETS INDEX (GROSS)		CA BENCHMARK INDEX	S&P 500 INDEX	MSCI EMERGING MARKETS INDEX (GROSS)	CA BENCHMARK INDEX	S&P 500 INDEX	MSCI EMERGING MARKETS INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	20	19.32	13.57	576	2.03	1,729	1.88	1.42	1.08	1.88	1.42	1.08
1996	24	15.24	8.51	672	6.87	836	1.76	1.30	1.34	1.76	1.30	1.34
1997	43	11.83	1.82	1,001	9.54	228	1.77	1.09	1.60	1.77	1.09	1.60
1998	33	14.40	1.15	1,325	12.41	199	2.03	1.05	1.75	2.03	1.05	1.74
1999	32	15.87	2.85	1,302	15.05	82	1.91	1.12	1.85	1.90	1.12	1.85
2000	45	26.28	5.89	2,040	21.81	447	2.47	1.22	1.98	2.45	1.20	1.97
2001	24	28.70	8.06	2,064	26.14	257	2.09	1.25	1.89	2.08	1.25	1.89
2002	26	22.90	6.91	1,600	18.21	470	2.10	1.31	1.72	2.09	1.30	1.71
2003	24	19.56	6.71	1,285	14.70	486	1.70	1.30	1.53	1.69	1.29	1.52
2004	45	12.95	6.27	669	8.55	440	1.75	1.37	1.42	1.65	1.27	1.36
2005	72	5.46	6.66	-121	4.26	120	1.33	1.47	1.24	1.29	1.38	1.19
2006	76	5.84	9.25	-341	2.91	293	1.38	1.70	1.17	1.26	1.49	1.06
2007	93	9.23	11.95	-271	2.71	652	1.59	1.80	1.14	1.41	1.60	1.03
2008	54	10.02	14.05	-403	3.78	624	1.57	1.91	1.19	1.24	1.42	0.93
2009	26	9.81	13.81	-400	3.76	605	1.63	1.97	1.21	0.87	1.02	0.66
2010	36	9.49	13.72	-423	4.32	517	1.48	1.77	1.20	0.81	0.90	0.64
2011	45	12.18	13.22	-104	5.14	703	1.59	1.67	1.22	0.78	0.76	0.59
2012	52	15.21	12.77	244	5.39	982	1.72	1.58	1.22	0.76	0.70	0.57
2013	41	16.22	13.31	292	7.53	869	1.58	1.46	1.24	0.43	0.39	0.35
2014	40	18.35	14.26	409	8.61	974	1.50	1.37	1.21	0.34	0.32	0.29
2015	40	13.32	14.86	-154	8.16	516	1.30	1.34	1.17	0.11	0.11	0.11
2016	41	19.79	15.88	390	8.14	1,165	1.27	1.21	1.10	0.03	0.03	0.03
2017	29	10.00	19.50	-949	11.44	-144	1.08	1.16	1.09	0.00	0.00	0.00
2018	29	0.57	19.86	-1,929	12.61	-1,204	1.00	1.15	1.10	0.00	0.00	0.00

Notes: Based on data compiled from 990 Ex US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

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AS OF DECEMBER 31, 2019

EX US PRIVATE EQUITY

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)			TOTAL VALUE TO PAID IN (TVPI)		DISTRIBUTIONS TO PAID IN (DPI)	
		CA BENCHMARK INDEX	MSCI ALL COUNTRYWORLD INDEX (GROSS)		CA BENCHMARK INDEX	MSCI ALL COUNTRYWORLD INDEX (GROSS)		CA BENCHMARK INDEX
			IRR	MPME IRR		TVPI	MPME TVPI	
1995	20	19.32	8.47	1,085	1.88	1.27	1.88	1.27
1996	24	15.24	6.71	853	1.76	1.25	1.76	1.25
1997	43	11.83	2.57	925	1.77	1.13	1.77	1.13
1998	33	14.40	2.91	1,149	2.03	1.14	2.03	1.13
1999	32	15.87	5.07	1,080	1.91	1.23	1.90	1.22
2000	45	26.28	9.20	1,709	2.47	1.34	2.45	1.33
2001	24	28.70	11.90	1,681	2.09	1.36	2.08	1.36
2002	26	22.90	8.37	1,453	2.10	1.34	2.09	1.34
2003	24	19.56	7.18	1,238	1.70	1.29	1.69	1.28
2004	45	12.95	5.26	770	1.75	1.28	1.65	1.20
2005	72	5.46	4.38	107	1.33	1.28	1.29	1.21
2006	76	5.84	5.98	-14	1.38	1.40	1.26	1.25
2007	93	9.23	7.95	128	1.59	1.47	1.41	1.32
2008	54	10.02	9.74	29	1.57	1.56	1.24	1.19
2009	26	9.81	9.61	20	1.63	1.61	0.87	0.86
2010	36	9.49	9.69	-20	1.48	1.50	0.81	0.78
2011	45	12.18	9.51	267	1.59	1.45	0.78	0.68
2012	52	15.21	9.17	604	1.72	1.39	0.76	0.63
2013	41	16.22	10.18	604	1.58	1.34	0.43	0.37
2014	40	18.35	11.27	707	1.50	1.28	0.34	0.30
2015	40	13.32	11.61	171	1.30	1.26	0.11	0.11
2016	41	19.79	12.36	742	1.27	1.16	0.03	0.03
2017	29	10.00	16.02	-602	1.08	1.13	0.00	0.00
2018	29	0.57	16.59	-1,602	1.00	1.13	0.00	0.00

Notes: Based on data compiled from 990 Ex US private equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, MSCI, Inc., and Thomson Returns Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.88	1.50	1.21	1.92	0.87	20
1996	1.76	1.69	1.59	2.02	0.85	24
1997	1.77	1.77	1.80	2.09	1.24	43
1998	2.03	2.24	1.74	2.22	1.48	33
1999	1.91	1.91	1.87	2.27	1.13	32
2000	2.47	2.17	2.00	2.84	1.60	45
2001	2.09	2.09	2.09	2.60	1.62	24
2002	2.10	2.15	1.99	2.44	1.52	26
2003	1.70	2.01	1.86	2.47	1.52	24
2004	1.75	1.84	1.50	2.15	1.10	45
2005	1.33	1.44	1.41	1.74	0.96	72
2006	1.38	1.55	1.38	1.72	1.05	76
2007	1.59	1.42	1.44	1.73	0.95	93
2008	1.57	1.46	1.39	1.74	1.13	54
2009	1.63	1.72	1.54	1.91	1.21	26
2010	1.48	1.45	1.34	1.68	0.97	36
2011	1.59	1.61	1.51	1.83	1.18	45
2012	1.72	1.56	1.55	1.81	1.29	52
2013	1.58	1.55	1.47	1.79	1.24	41
2014	1.50	1.48	1.37	1.53	1.28	40
2015	1.30	1.25	1.26	1.48	1.05	40
2016	1.27	1.22	1.21	1.31	1.11	41
2017	1.08	1.04	1.05	1.12	0.92	29
2018	1.00	0.91	0.95	1.02	0.86	29

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.88	1.50	1.21	1.92	0.87	20
1996	1.76	1.69	1.59	2.00	0.85	24
1997	1.77	1.76	1.80	2.09	1.24	43
1998	2.03	2.23	1.74	2.22	1.48	33
1999	1.90	1.91	1.87	2.27	1.12	32
2000	2.45	2.16	2.00	2.82	1.60	45
2001	2.08	2.08	2.09	2.59	1.62	24
2002	2.09	2.13	1.99	2.43	1.52	26
2003	1.69	2.00	1.86	2.47	1.52	24
2004	1.65	1.69	1.47	1.93	1.02	45
2005	1.29	1.36	1.35	1.69	0.82	72
2006	1.26	1.43	1.28	1.61	0.84	76
2007	1.41	1.15	1.19	1.50	0.72	93
2008	1.24	1.03	0.92	1.40	0.57	54
2009	0.87	0.95	0.82	1.25	0.53	26
2010	0.81	0.76	0.63	1.24	0.32	36
2011	0.78	0.71	0.54	1.12	0.26	45
2012	0.76	0.58	0.56	0.96	0.31	52
2013	0.43	0.52	0.39	0.77	0.12	41
2014	0.34	0.32	0.27	0.44	0.08	40
2015	0.11	0.15	0.07	0.20	0.00	40
2016	0.03	0.05	0.00	0.08	0.00	41
2017	0.00	0.01	0.00	0.00	0.00	29
2018	0.00	0.00	0.00	0.00	0.00	29

EX US PRIVATE EQUITY

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	20
1996	0.00	0.00	0.00	0.00	0.00	24
1997	0.00	0.00	0.00	0.00	0.00	43
1998	0.01	0.01	0.00	0.00	0.00	33
1999	0.00	0.00	0.00	0.00	0.00	32
2000	0.02	0.01	0.00	0.00	0.00	45
2001	0.00	0.01	0.00	0.00	0.00	24
2002	0.01	0.02	0.00	0.00	0.00	26
2003	0.01	0.01	0.00	0.00	0.00	24
2004	0.10	0.15	0.01	0.06	0.00	45
2005	0.05	0.09	0.01	0.09	0.00	72
2006	0.12	0.13	0.05	0.16	0.00	76
2007	0.18	0.27	0.09	0.35	0.02	93
2008	0.33	0.43	0.34	0.56	0.11	54
2009	0.76	0.77	0.57	1.10	0.26	26
2010	0.67	0.70	0.65	0.85	0.51	36
2011	0.82	0.89	0.81	1.17	0.51	45
2012	0.96	0.98	0.89	1.16	0.70	52
2013	1.15	1.03	0.99	1.26	0.83	41
2014	1.15	1.16	1.09	1.23	0.94	40
2015	1.19	1.10	1.08	1.30	0.93	40
2016	1.23	1.17	1.17	1.27	1.08	41
2017	1.08	1.03	1.05	1.11	0.92	29
2018	1.00	0.91	0.95	1.02	0.86	29

BUYOUT: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
BUYOUT INDEX¹	6.03	16.92	16.09	13.32	14.09	12.78	11.75	13.27
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index(gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 1,626 buyout funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
BUYOUT INDEX¹	16.92	16.09	13.32	14.09	12.78	11.75	13.27

MPME ANALYSIS ²							
MSCI EAFE Index (net)	21.93	9.83	5.71	5.68	4.51	4.20	4.73
Value-Add (bps)	-501	626	762	840	827	755	854
MSCI Europe Index (net)	23.66	10.06	5.09	5.43	4.45	4.24	5.18
Value-Add (bps)	-674	604	823	866	833	751	810
S&P 500 Index	31.50	15.42	11.13	13.74	9.38	7.76	9.09
Value-Add (bps)	-1,458	67	219	35	340	399	418
Russell 2000® Index	25.49	8.83	8.03	12.75	8.61	8.56	9.13
Value-Add (bps)	-857	726	530	134	417	320	414
Russell 3000® Index	31.03	14.73	10.71	13.71	9.42	7.95	9.18
Value-Add (bps)	-1,411	136	261	38	336	380	409
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.25	13.32	8.73	9.39	7.24	6.25	7.04
Value-Add (bps)	-1,033	277	460	470	554	550	623

The index is a horizon calculation based on data compiled from 1,626 buyout funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

AS OF DECEMBER 31, 2019

BUYOUT

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	3.41
1995 Q2	3.66
1995 Q3	3.82
1995 Q4	10.07
1996 Q1	5.23
1996 Q2	6.22
1996 Q3	6.49
1996 Q4	9.25
1997 Q1	0.52
1997 Q2	8.59
1997 Q3	5.79
1997 Q4	10.55
1998 Q1	8.62
1998 Q2	7.12
1998 Q3	-4.97
1998 Q4	6.67
1999 Q1	4.02
1999 Q2	9.02
1999 Q3	3.61
1999 Q4	11.29
2000 Q1	11.34
2000 Q2	-1.46
2000 Q3	-2.32
2000 Q4	-4.52
2001 Q1	-5.33
2001 Q2	2.16

QUARTER ENDING	HORIZON RETURN
2001 Q3	-5.93
2001 Q4	-1.57
2002 Q1	-0.21
2002 Q2	0.38
2002 Q3	-3.74
2002 Q4	1.73
2003 Q1	0.41
2003 Q2	7.29
2003 Q3	4.34
2003 Q4	11.31
2004 Q1	2.44
2004 Q2	4.73
2004 Q3	3.44
2004 Q4	17.26
2005 Q1	0.83
2005 Q2	7.58
2005 Q3	6.67
2005 Q4	9.89
2006 Q1	6.17
2006 Q2	8.90
2006 Q3	3.49
2006 Q4	16.63
2007 Q1	4.74
2007 Q2	10.52
2007 Q3	3.03
2007 Q4	3.84

QUARTER ENDING	HORIZON RETURN
2008 Q1	0.19
2008 Q2	-1.90
2008 Q3	-11.00
2008 Q4	-19.46
2009 Q1	-5.31
2009 Q2	6.66
2009 Q3	7.72
2009 Q4	7.42
2010 Q1	2.40
2010 Q2	0.24
2010 Q3	7.52
2010 Q4	9.05
2011 Q1	5.49
2011 Q2	5.47
2011 Q3	-6.64
2011 Q4	3.09
2012 Q1	6.36
2012 Q2	-0.57
2012 Q3	4.10
2012 Q4	4.34
2013 Q1	3.35
2013 Q2	2.82
2013 Q3	5.82
2013 Q4	7.30
2014 Q1	3.14
2014 Q2	4.93

QUARTER ENDING	HORIZON RETURN
2014 Q3	-0.87
2014 Q4	2.35
2015 Q1	1.05
2015 Q2	5.40
2015 Q3	-0.62
2015 Q4	2.46
2016 Q1	1.92
2016 Q2	2.86
2016 Q3	4.08
2016 Q4	2.84
2017 Q1	4.43
2017 Q2	6.62
2017 Q3	4.80
2017 Q4	5.68
2018 Q1	2.18
2018 Q2	3.70
2018 Q3	3.21
2018 Q4	-1.43
2019 Q4	4.42
2019 Q2	4.15
2019 Q3	1.40
2019 Q4	6.03

AS OF DECEMBER 31, 2019

BUYOUT

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	16.92	14 Years	11.93
2 Years	12.24	15 Years	12.78
3 Years	16.09	16 Years	13.74
4 Years	14.94	17 Years	14.42
5 Years	13.32	18 Years	13.52
6 Years	12.57	19 Years	12.24
7 Years	14.12	20 Years	11.75
8 Years	14.25	21 Years	12.33
9 Years	13.08	22 Years	12.46
10 Years	14.09	23 Years	12.78
11 Years	14.46	24 Years	13.10
12 Years	9.26	25 Years	13.27
13 Years	10.24		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	16.92	12/31/2006	39.61
12/31/2018	7.91	12/31/2005	26.78
12/31/2017	23.28	12/31/2004	29.47
12/31/2016	12.12	12/31/2003	25.30
12/31/2015	8.49	12/31/2002	-1.82
12/31/2014	9.95	12/31/2001	-10.42
12/31/2013	20.37	12/31/2000	1.28
12/31/2012	14.81	12/31/1999	31.31
12/31/2011	7.18	12/31/1998	17.61
12/31/2010	20.57	12/31/1997	27.91
12/31/2009	17.31	12/31/1996	29.80
12/31/2008	-30.85	12/31/1995	22.59
12/31/2007	23.69		

BUYOUT: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
ASSOCIATES

BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	16.07	14.16	11.29	15.42	22.08	-0.46	21.65	1.76	0.00	1.76	35
1996	11.36	10.27	8.60	9.21	13.00	-0.85	21.37	1.63	0.00	1.63	39
1997	9.04	8.28	8.35	8.36	14.44	0.64	18.80	1.57	0.00	1.57	71
1998	8.34	11.88	11.66	13.64	19.87	5.77	11.41	1.54	0.02	1.55	67
1999	16.53	14.52	12.45	14.29	22.65	5.56	15.20	1.96	0.00	1.97	63
2000	20.90	19.69	18.63	20.46	28.04	10.64	16.00	2.09	0.02	2.11	83
2001	26.40	23.06	20.84	23.55	32.20	11.81	17.17	2.14	0.01	2.15	39
2002	19.22	14.37	18.21	18.04	28.55	7.38	28.84	2.01	0.02	2.04	43
2003	16.49	16.39	14.24	16.38	26.81	3.87	17.57	1.83	0.01	1.84	42
2004	11.13	13.51	9.91	13.47	14.32	7.28	16.40	1.67	0.06	1.73	79
2005	6.54	6.90	7.49	8.14	13.23	2.21	13.78	1.40	0.05	1.45	111
2006	7.69	8.66	9.07	9.25	14.27	4.06	14.42	1.40	0.15	1.55	106
2007	11.34	9.53	10.35	10.04	15.63	4.93	13.85	1.41	0.27	1.68	118
2008	13.82	12.17	12.66	13.23	17.90	8.08	17.56	1.48	0.27	1.75	68
2009	18.57	16.94	16.91	18.38	24.74	8.83	13.96	1.36	0.86	2.22	34
2010	12.92	12.64	13.34	15.74	19.81	0.75	13.33	1.07	0.59	1.66	30
2011	15.77	14.77	14.34	15.31	19.64	8.26	11.42	0.91	0.81	1.73	64
2012	16.86	15.66	15.05	16.13	21.06	9.67	8.98	0.71	1.01	1.73	58
2013	15.85	15.27	15.68	17.39	20.33	9.76	9.80	0.44	1.12	1.56	56
2014	19.14	16.65	16.81	17.82	22.62	10.74	8.33	0.36	1.13	1.49	63
2015	13.45	10.04	11.68	13.12	18.32	4.55	18.75	0.14	1.12	1.27	64
2016	18.83	13.94	14.82	16.27	20.10	7.05	23.84	0.05	1.24	1.29	52
2017	8.06	6.49	7.11	11.42	13.03	-6.24	27.75	0.01	1.05	1.06	50
2018	-2.79	-15.69	-8.49	-2.89	5.75	-25.13	39.90	0.00	0.98	0.98	40

BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)			MSCI EUROPE INDEX (NET)		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)	CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	35		16.07	4.62	1,145	9.11	697	1.76	1.18	1.36	1.76	1.18	1.36
1996	39		11.36	3.85	752	5.11	626	1.63	1.19	1.26	1.63	1.19	1.26
1997	71		9.04	3.29	575	3.59	545	1.57	1.18	1.20	1.57	1.18	1.20
1998	67		8.34	4.19	416	4.50	385	1.55	1.23	1.25	1.54	1.22	1.24
1999	63		16.53	6.87	966	7.43	910	1.97	1.31	1.34	1.96	1.30	1.33
2000	83		20.90	10.36	1,055	10.83	1,007	2.11	1.39	1.41	2.09	1.38	1.40
2001	39		26.40	11.48	1,491	11.98	1,441	2.15	1.37	1.39	2.14	1.37	1.38
2002	43		19.22	7.85	1,137	8.29	1,093	2.04	1.33	1.34	2.01	1.31	1.33
2003	42		16.49	5.14	1,135	5.56	1,093	1.84	1.22	1.23	1.83	1.21	1.23
2004	79		11.13	2.49	864	2.60	852	1.73	1.13	1.14	1.67	1.09	1.10
2005	111		6.54	1.67	487	1.55	500	1.45	1.10	1.09	1.40	1.06	1.05
2006	106		7.69	2.36	534	2.17	552	1.55	1.14	1.13	1.40	1.04	1.03
2007	118		11.34	4.97	637	4.87	647	1.68	1.25	1.24	1.41	1.07	1.06
2008	68		13.82	6.30	753	6.29	754	1.75	1.28	1.28	1.48	1.10	1.10
2009	34		18.57	5.98	1,259	5.69	1,287	2.22	1.28	1.26	1.36	0.88	0.87
2010	30		12.92	5.96	696	5.65	728	1.66	1.26	1.25	1.07	0.84	0.83
2011	64		15.77	5.74	1,003	5.29	1,048	1.73	1.22	1.20	0.91	0.67	0.66
2012	58		16.86	5.40	1,145	4.86	1,200	1.73	1.19	1.17	0.71	0.53	0.51
2013	56		15.85	6.04	980	5.64	1,021	1.56	1.19	1.17	0.44	0.35	0.34
2014	63		19.14	6.84	1,229	6.64	1,250	1.49	1.15	1.15	0.36	0.29	0.29
2015	64		13.45	7.56	589	7.66	579	1.27	1.14	1.14	0.14	0.13	0.13
2016	52		18.83	7.81	1,103	8.05	1,078	1.29	1.11	1.12	0.05	0.05	0.05
2017	50		8.06	11.83	-378	12.66	-460	1.06	1.09	1.10	0.01	0.01	0.01
2018	40		-2.79	17.08	-1,987	18.14	-2,093	0.98	1.10	1.10	0.00	0.00	0.00

Notes: Based on data compiled from 1,475 buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpMPE Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpMPE).

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		RUSSELL 2000® INDEX		CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX	CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	35	16.07	11.55	452	7.81	826	1.76	1.44	1.33	1.76	1.44	1.33
1996	39	11.36	5.16	620	7.01	436	1.63	1.24	1.38	1.63	1.24	1.38
1997	71	9.04	1.67	737	7.14	190	1.57	1.09	1.42	1.57	1.09	1.42
1998	67	8.34	2.08	626	7.49	86	1.55	1.12	1.45	1.54	1.10	1.43
1999	63	16.53	3.17	1,336	8.49	804	1.97	1.14	1.39	1.96	1.13	1.38
2000	83	20.90	6.02	1,489	10.20	1,070	2.11	1.24	1.40	2.09	1.22	1.39
2001	39	26.40	7.66	1,874	10.47	1,593	2.15	1.29	1.39	2.14	1.28	1.38
2002	43	19.22	6.85	1,237	8.26	1,096	2.04	1.34	1.41	2.01	1.32	1.39
2003	42	16.49	6.06	1,043	6.58	991	1.84	1.31	1.34	1.83	1.29	1.32
2004	79	11.13	5.96	517	6.22	491	1.73	1.38	1.39	1.67	1.31	1.33
2005	111	6.54	7.15	-61	7.30	-75	1.45	1.53	1.53	1.40	1.45	1.46
2006	106	7.69	8.61	-92	8.53	-84	1.55	1.66	1.63	1.40	1.46	1.46
2007	118	11.34	12.32	-98	11.54	-20	1.68	1.76	1.67	1.41	1.45	1.41
2008	68	13.82	14.06	-23	13.01	82	1.75	1.77	1.67	1.48	1.46	1.41
2009	34	18.57	13.78	478	11.58	699	2.22	1.77	1.60	1.36	1.15	1.08
2010	30	12.92	13.67	-75	11.07	185	1.66	1.70	1.53	1.07	1.08	1.01
2011	64	15.77	13.22	255	10.36	541	1.73	1.58	1.43	0.91	0.83	0.78
2012	58	16.86	12.89	397	9.55	731	1.73	1.52	1.36	0.71	0.64	0.60
2013	56	15.85	13.28	257	9.24	660	1.56	1.45	1.30	0.44	0.41	0.38
2014	63	19.14	14.09	505	9.42	972	1.49	1.34	1.22	0.36	0.33	0.31
2015	64	13.45	15.09	-164	9.35	410	1.27	1.30	1.18	0.14	0.15	0.14
2016	52	18.83	15.56	327	8.78	1,006	1.29	1.24	1.13	0.05	0.05	0.05
2017	50	8.06	19.71	-1,165	11.96	-390	1.06	1.16	1.09	0.01	0.01	0.01
2018	40	-2.79	24.53	-2,731	17.51	-2,030	0.98	1.14	1.10	0.00	0.00	0.00

Notes: Based on data compiled from 1,475 buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, Frank Russell Company, Standard & Poor's, and Thomson Reuters Datastream.

AS OF DECEMBER 31, 2019

BUYOUT

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 3000® INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	35	16.07	10.99	509	7.34	873	1.76	1.42	1.29	1.76	1.42	1.29
1996	39	11.36	5.51	586	4.56	681	1.63	1.27	1.23	1.63	1.27	1.23
1997	71	9.04	2.46	658	2.84	620	1.57	1.13	1.15	1.57	1.13	1.15
1998	67	8.34	2.84	550	3.57	477	1.55	1.16	1.20	1.54	1.14	1.19
1999	63	16.53	3.95	1,259	5.63	1,090	1.97	1.17	1.25	1.96	1.17	1.25
2000	83	20.90	6.72	1,418	8.95	1,195	2.11	1.27	1.35	2.09	1.25	1.34
2001	39	26.40	8.28	1,811	10.36	1,603	2.15	1.31	1.37	2.14	1.31	1.36
2002	43	19.22	7.29	1,193	8.15	1,107	2.04	1.37	1.38	2.01	1.34	1.36
2003	42	16.49	6.35	1,014	6.39	1,010	1.84	1.33	1.30	1.83	1.31	1.29
2004	79	11.13	6.17	496	4.84	629	1.73	1.39	1.28	1.67	1.32	1.23
2005	111	6.54	7.32	-78	4.66	188	1.45	1.55	1.31	1.40	1.47	1.25
2006	106	7.69	8.73	-104	5.51	219	1.55	1.66	1.37	1.40	1.47	1.23
2007	118	11.34	12.33	-99	8.34	300	1.68	1.76	1.46	1.41	1.46	1.23
2008	68	13.82	14.03	-21	9.77	405	1.75	1.76	1.48	1.48	1.46	1.24
2009	34	18.57	13.53	504	9.64	893	2.22	1.75	1.49	1.36	1.14	0.99
2010	30	12.92	13.36	-44	9.62	330	1.66	1.68	1.46	1.07	1.07	0.94
2011	64	15.77	12.85	292	9.56	621	1.73	1.56	1.39	0.91	0.82	0.74
2012	58	16.86	12.44	442	9.44	742	1.73	1.50	1.36	0.71	0.63	0.58
2013	56	15.85	12.76	308	10.14	570	1.56	1.43	1.33	0.44	0.40	0.38
2014	63	19.14	13.53	560	11.00	814	1.49	1.33	1.26	0.36	0.33	0.31
2015	64	13.45	14.45	-100	11.88	157	1.27	1.29	1.23	0.14	0.14	0.14
2016	52	18.83	14.82	402	12.19	664	1.29	1.22	1.18	0.05	0.05	0.05
2017	50	8.06	18.81	-1,075	16.26	-820	1.06	1.15	1.13	0.01	0.01	0.01
2018	40	-2.79	23.64	-2,643	21.28	-2,407	0.98	1.13	1.12	0.00	0.00	0.00

Notes: Based on data compiled from 1,475 buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

BUYOUT

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.76	1.67	1.57	2.16	0.98	35
1996	1.63	1.50	1.52	1.78	0.96	39
1997	1.57	1.46	1.50	1.91	1.02	71
1998	1.55	1.97	1.62	2.20	1.38	67
1999	1.97	1.83	1.64	2.23	1.29	63
2000	2.11	2.13	2.05	2.62	1.61	83
2001	2.15	2.08	1.97	2.50	1.62	39
2002	2.04	1.96	1.97	2.39	1.47	43
2003	1.84	1.80	1.76	2.16	1.24	42
2004	1.73	1.78	1.63	1.96	1.36	79
2005	1.45	1.52	1.50	1.84	1.11	111
2006	1.55	1.61	1.59	1.99	1.20	106
2007	1.68	1.60	1.61	1.98	1.29	118
2008	1.75	1.72	1.70	2.01	1.33	68
2009	2.22	2.05	1.90	2.52	1.49	34
2010	1.66	1.87	1.60	2.17	1.02	30
2011	1.73	1.73	1.65	1.92	1.34	64
2012	1.73	1.68	1.64	1.93	1.37	58
2013	1.56	1.60	1.49	1.76	1.32	56
2014	1.49	1.48	1.39	1.56	1.26	63
2015	1.27	1.25	1.21	1.44	1.10	64
2016	1.29	1.22	1.21	1.32	1.12	52
2017	1.06	1.04	1.04	1.13	0.97	50
2018	0.98	0.86	0.93	1.03	0.86	40

BUYOUT

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.76	1.67	1.57	2.16	0.98	35
1996	1.63	1.50	1.52	1.78	0.96	39
1997	1.57	1.46	1.50	1.91	1.02	71
1998	1.54	1.96	1.61	2.20	1.38	67
1999	1.96	1.82	1.64	2.23	1.28	63
2000	2.09	2.06	2.00	2.57	1.61	83
2001	2.14	2.06	1.97	2.49	1.60	39
2002	2.01	1.93	1.97	2.39	1.43	43
2003	1.83	1.78	1.74	2.13	1.20	42
2004	1.67	1.70	1.53	1.92	1.33	79
2005	1.40	1.46	1.40	1.79	1.01	111
2006	1.40	1.46	1.48	1.81	1.07	106
2007	1.41	1.38	1.41	1.76	1.05	118
2008	1.48	1.43	1.38	1.70	1.12	68
2009	1.36	1.54	1.39	2.10	0.81	34
2010	1.07	1.19	0.96	1.59	0.36	30
2011	0.91	0.95	0.96	1.21	0.47	64
2012	0.71	0.78	0.77	0.97	0.40	58
2013	0.44	0.56	0.44	0.64	0.24	56
2014	0.36	0.37	0.29	0.49	0.09	63
2015	0.14	0.20	0.07	0.30	0.00	64
2016	0.05	0.07	0.00	0.10	0.00	52
2017	0.01	0.02	0.00	0.00	0.00	50
2018	0.00	0.01	0.00	0.00	0.00	40

BUYOUT

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	35
1996	0.00	0.00	0.00	0.00	0.00	39
1997	0.00	0.00	0.00	0.00	0.00	71
1998	0.02	0.01	0.00	0.00	0.00	67
1999	0.00	0.01	0.00	0.00	0.00	63
2000	0.02	0.07	0.00	0.01	0.00	83
2001	0.01	0.01	0.00	0.00	0.00	39
2002	0.02	0.04	0.00	0.01	0.00	43
2003	0.01	0.02	0.00	0.01	0.00	42
2004	0.06	0.08	0.01	0.07	0.00	79
2005	0.05	0.06	0.02	0.08	0.00	111
2006	0.15	0.15	0.07	0.20	0.01	106
2007	0.27	0.21	0.12	0.30	0.02	118
2008	0.27	0.29	0.23	0.44	0.04	68
2009	0.86	0.51	0.38	0.76	0.20	34
2010	0.59	0.68	0.64	0.80	0.50	30
2011	0.81	0.78	0.70	0.99	0.47	64
2012	1.01	0.90	0.90	1.09	0.67	58
2013	1.12	1.04	1.01	1.25	0.85	56
2014	1.13	1.11	1.11	1.25	0.94	63
2015	1.12	1.05	1.09	1.20	0.87	64
2016	1.24	1.15	1.14	1.26	1.06	52
2017	1.05	1.02	1.04	1.13	0.94	50
2018	0.98	0.86	0.93	1.03	0.86	40

US BUYOUT: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US BUYOUT INDEX¹	4.97	17.37	15.85	13.75	15.81	13.10	11.23	13.10
US BUYOUT SMALL CAP INDEX¹	3.39	11.88	12.48	11.88	16.58	15.28	12.99	13.22
US BUYOUT MID CAP INDEX¹	3.45	17.97	15.22	13.98	14.33	13.76	11.31	15.20
US BUYOUT LARGE CAP INDEX¹	5.71	18.39	16.62	14.08	15.55	13.86	11.12	15.36
US BUYOUT MEGA CAP INDEX¹	5.13	17.16	15.92	13.70	16.22	12.50	11.13	11.62
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22
Wilshire 5000 Total Market Index	9.08	31.02	14.52	11.38	13.44	9.11	6.37	10.22

The index is a horizon calculation based on data compiled from 902 US buyout funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, Standard & Poor's and Thomson Reuters Datastream, and Wilshire Associates.

*Capital change only

US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US BUYOUT INDEX¹	17.37	15.85	13.75	15.81	13.10	11.23	13.10

MPME ANALYSIS ²							
Russell 2000® Index	25.35	8.77	8.13	12.81	8.37	8.27	9.02
Value-Add (bps)	-799	708	562	300	473	296	409
Russell 2500™ Index	27.61	10.49	8.76	13.60	9.17	9.17	10.21
Value-Add (bps)	-1,025	536	499	221	393	205	289
Russell 3000® Index	30.93	14.70	10.88	13.74	9.18	7.45	9.04
Value-Add (bps)	-1,356	115	287	207	392	378	407
Russell Midcap® Index	30.42	12.19	9.03	14.08	9.71	9.39	10.63
Value-Add (bps)	-1,306	365	472	173	339	183	247
S&P 500 Index	31.40	15.39	11.31	13.76	9.13	7.24	8.94
Value-Add (bps)	-1,404	45	244	204	397	399	416
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.15	13.25	8.89	9.45	7.16	5.93	6.92
Value-Add (bps)	-978	259	486	635	595	530	618

The index is a horizon calculation based on data compiled from 902 US buyout funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

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AS OF DECEMBER 31, 2019

US BUYOUT

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	3.11
1995 Q2	3.60
1995 Q3	3.82
1995 Q4	11.10
1996 Q1	5.80
1996 Q2	6.18
1996 Q3	6.57
1996 Q4	7.02
1997 Q1	0.98
1997 Q2	9.15
1997 Q3	6.32
1997 Q4	10.69
1998 Q1	9.95
1998 Q2	6.05
1998 Q3	-6.83
1998 Q4	8.25
1999 Q1	5.28
1999 Q2	9.74
1999 Q3	2.52
1999 Q4	11.59
2000 Q1	13.63
2000 Q2	-2.65
2000 Q3	-2.33
2000 Q4	-6.83
2001 Q1	-5.23
2001 Q2	3.04

QUARTER ENDING	HORIZON RETURN
2001 Q3	-8.33
2001 Q4	-0.57
2002 Q1	-0.03
2002 Q2	-2.57
2002 Q3	-4.49
2002 Q4	-0.05
2003 Q1	0.12
2003 Q2	7.23
2003 Q3	5.50
2003 Q4	9.84
2004 Q1	3.00
2004 Q2	3.76
2004 Q3	2.52
2004 Q4	15.80
2005 Q1	0.78
2005 Q2	8.30
2005 Q3	7.33
2005 Q4	8.78
2006 Q1	5.47
2006 Q2	4.13
2006 Q3	3.42
2006 Q4	13.27
2007 Q1	5.38
2007 Q2	7.56
2007 Q3	0.64
2007 Q4	2.57

QUARTER ENDING	HORIZON RETURN
2008 Q1	-2.50
2008 Q2	-0.32
2008 Q3	-7.23
2008 Q4	-17.29
2009 Q1	-3.71
2009 Q2	4.72
2009 Q3	6.64
2009 Q4	6.76
2010 Q1	4.99
2010 Q2	2.29
2010 Q3	4.89
2010 Q4	9.16
2011 Q1	5.46
2011 Q2	4.72
2011 Q3	-4.67
2011 Q4	4.77
2012 Q1	5.52
2012 Q2	0.31
2012 Q3	4.14
2012 Q4	3.94
2013 Q1	5.12
2013 Q2	3.53
2013 Q3	5.33
2013 Q4	7.43
2014 Q1	3.32
2014 Q2	4.95

QUARTER ENDING	HORIZON RETURN
2014 Q3	1.66
2014 Q4	3.64
2015 Q1	3.41
2015 Q2	4.45
2015 Q3	-0.08
2015 Q4	1.96
2016 Q1	0.48
2016 Q2	3.85
2016 Q3	3.69
2016 Q4	4.08
2017 Q1	4.18
2017 Q2	4.65
2017 Q3	4.07
2017 Q4	5.66
2018 Q1	2.49
2018 Q2	5.19
2018 Q3	3.85
2018 Q4	-1.64
2019 Q1	5.24
2019 Q2	3.63
2019 Q3	2.52
2019 Q4	4.97

AS OF DECEMBER 31, 2019

US BUYOUT

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	17.37	14 Years	12.22
2 Years	13.68	15 Years	13.10
3 Years	15.85	16 Years	13.91
4 Years	14.87	17 Years	14.58
5 Years	13.75	18 Years	13.23
6 Years	13.87	19 Years	11.83
7 Years	15.69	20 Years	11.23
8 Years	15.46	21 Years	11.92
9 Years	14.60	22 Years	12.08
10 Years	15.81	23 Years	12.50
11 Years	15.72	24 Years	12.86
12 Years	10.66	25 Years	13.10
13 Years	11.12		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	17.37	12/31/2006	28.72
12/31/2018	10.24	12/31/2005	27.13
12/31/2017	19.84	12/31/2004	26.20
12/31/2016	12.44	12/31/2003	24.43
12/31/2015	10.24	12/31/2002	-6.95
12/31/2014	14.30	12/31/2001	-10.96
12/31/2013	22.98	12/31/2000	-0.57
12/31/2012	14.52	12/31/1999	32.51
12/31/2011	10.42	12/31/1998	17.38
12/31/2010	23.05	12/31/1997	29.83
12/31/2009	15.07	12/31/1996	27.98
12/31/2008	-26.25	12/31/1995	23.29
12/31/2007	16.77		

US BUYOUT: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
ASSOCIATES

US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	13.54	12.52	10.88	13.70	28.49	-1.47	19.53	1.66	0.00	1.66	22
1996	10.25	8.64	7.94	8.38	11.80	0.64	20.04	1.60	0.00	1.60	23
1997	7.06	6.21	6.92	5.35	12.46	-0.79	15.04	1.44	0.00	1.44	39
1998	6.51	10.14	9.65	10.39	14.68	5.13	10.49	1.40	0.02	1.42	39
1999	16.07	12.00	12.04	12.36	19.16	7.40	11.78	1.96	0.01	1.97	36
2000	16.79	15.64	14.08	15.42	22.57	9.90	11.39	1.88	0.02	1.91	51
2001	23.06	20.20	18.24	19.18	31.68	11.36	16.31	2.19	0.03	2.22	19
2002	16.32	11.64	16.23	15.42	27.69	4.83	29.21	1.94	0.04	1.98	20
2003	14.77	12.56	12.17	12.49	16.28	2.96	11.12	1.98	0.01	1.99	23
2004	10.51	10.37	9.94	10.37	12.81	7.51	7.12	1.68	0.04	1.72	48
2005	7.89	7.07	8.10	9.30	13.91	3.54	14.79	1.54	0.06	1.60	55
2006	9.28	12.69	12.27	12.30	17.36	7.71	15.11	1.54	0.18	1.72	51
2007	12.61	12.60	13.08	12.36	16.04	8.11	11.06	1.38	0.35	1.74	57
2008	15.75	17.74	15.60	16.76	22.28	10.79	10.59	1.56	0.29	1.86	38
2009	22.20	22.36	23.36	24.71	27.44	13.73	13.51	1.51	1.02	2.54	19
2010	22.16	21.07	19.01	23.56	22.36	16.49	9.74	1.65	0.73	2.38	13
2011	17.10	17.26	16.41	17.55	20.50	11.71	10.43	0.94	0.84	1.78	36
2012	18.13	18.39	17.16	19.15	23.94	11.45	9.66	0.63	1.07	1.70	28
2013	14.77	15.49	15.66	17.53	20.16	10.32	8.96	0.41	1.13	1.54	33
2014	19.71	17.44	18.13	19.00	24.74	11.23	8.92	0.38	1.13	1.51	37
2015	14.14	12.73	11.64	14.37	20.43	7.78	13.74	0.15	1.13	1.28	41
2016	18.47	16.23	14.57	17.56	19.68	5.92	22.88	0.07	1.26	1.33	26
2017	7.27	10.65	8.54	14.33	13.03	1.79	23.32	0.01	1.05	1.06	30
2018	-1.20	-14.90	-7.95	-0.38	7.29	-19.52	35.57	0.00	0.99	0.99	25

US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	RUSSELL 2000® INDEX			RUSSELL 2500™ INDEX		CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX	CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	22	13.54	7.70	584	10.18	335	1.66	1.36	1.50	1.66	1.36	1.50	
1996	23	10.25	6.84	341	8.87	137	1.60	1.39	1.53	1.60	1.39	1.53	
1997	39	7.06	7.29	-23	9.05	-199	1.44	1.45	1.58	1.44	1.44	1.57	
1998	39	6.51	7.61	-110	9.09	-258	1.42	1.48	1.60	1.40	1.46	1.57	
1999	36	16.07	8.47	761	9.57	650	1.97	1.39	1.46	1.96	1.39	1.45	
2000	51	16.79	9.74	705	10.62	618	1.91	1.42	1.48	1.88	1.41	1.45	
2001	19	23.06	8.78	1,427	9.63	1,342	2.22	1.40	1.45	2.19	1.39	1.44	
2002	20	16.32	8.07	825	8.99	733	1.98	1.45	1.52	1.94	1.41	1.47	
2003	23	14.77	6.19	858	7.03	774	1.99	1.37	1.43	1.98	1.35	1.41	
2004	48	10.51	6.11	439	6.96	355	1.72	1.40	1.47	1.68	1.35	1.41	
2005	55	7.89	7.64	25	8.48	-59	1.60	1.59	1.67	1.54	1.52	1.59	
2006	51	9.28	8.06	122	8.80	48	1.72	1.60	1.67	1.54	1.43	1.49	
2007	57	12.61	11.64	97	12.40	21	1.74	1.65	1.71	1.38	1.31	1.35	
2008	38	15.75	13.00	275	13.75	200	1.86	1.63	1.68	1.56	1.39	1.43	
2009	19	22.20	11.63	1,057	12.18	1,002	2.54	1.58	1.62	1.51	1.07	1.08	
2010	13	22.16	11.48	1,067	11.91	1,024	2.38	1.55	1.58	1.65	1.15	1.17	
2011	36	17.10	10.36	674	10.83	627	1.78	1.41	1.44	0.94	0.78	0.79	
2012	28	18.13	9.25	888	9.83	829	1.70	1.31	1.34	0.63	0.52	0.52	
2013	33	14.77	9.13	563	9.82	495	1.54	1.30	1.33	0.41	0.37	0.37	
2014	37	19.71	9.26	1,045	10.18	953	1.51	1.21	1.24	0.38	0.32	0.32	
2015	41	14.14	9.37	478	10.68	346	1.28	1.18	1.20	0.15	0.14	0.14	
2016	26	18.47	8.53	994	10.16	831	1.33	1.14	1.17	0.07	0.07	0.07	
2017	30	7.27	11.06	-379	12.72	-545	1.06	1.09	1.11	0.01	0.01	0.01	
2018	25	-1.20	18.33	-1,953	18.83	-2,002	0.99	1.10	1.10	0.00	0.00	0.00	

Notes: Based on data compiled from 809 US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 3000® INDEX			RUSSELL MIDCAP® INDEX	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	RUSSELL MIDCAP® INDEX	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	RUSSELL MIDCAP® INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR						
1995	22	13.54	10.31	323	11.36	218	1.66	1.43	1.55	1.66	1.43	1.55
1996	23	10.25	4.91	533	9.07	118	1.60	1.25	1.55	1.60	1.25	1.55
1997	39	7.06	2.44	462	8.52	-146	1.44	1.13	1.54	1.44	1.13	1.54
1998	39	6.51	3.16	335	8.67	-216	1.42	1.19	1.58	1.40	1.16	1.55
1999	36	16.07	4.02	1,205	9.54	654	1.97	1.18	1.46	1.96	1.17	1.45
2000	51	16.79	6.61	1,018	10.85	594	1.91	1.29	1.49	1.88	1.27	1.47
2001	19	23.06	7.57	1,548	10.25	1,281	2.22	1.35	1.48	2.19	1.34	1.47
2002	20	16.32	7.18	913	9.62	669	1.98	1.40	1.56	1.94	1.36	1.51
2003	23	14.77	5.80	897	7.43	734	1.99	1.35	1.46	1.98	1.33	1.44
2004	48	10.51	6.01	449	7.22	329	1.72	1.40	1.49	1.68	1.34	1.43
2005	55	7.89	7.73	17	8.70	-81	1.60	1.61	1.70	1.54	1.52	1.61
2006	51	9.28	8.25	103	8.95	33	1.72	1.63	1.69	1.54	1.44	1.50
2007	57	12.61	12.52	9	12.84	-23	1.74	1.74	1.75	1.38	1.35	1.37
2008	38	15.75	13.99	176	14.27	147	1.86	1.72	1.72	1.56	1.44	1.45
2009	19	22.20	13.57	862	12.82	938	2.54	1.72	1.66	1.51	1.12	1.10
2010	13	22.16	13.47	869	12.51	964	2.38	1.68	1.62	1.65	1.22	1.19
2011	36	17.10	12.87	423	11.52	558	1.78	1.54	1.47	0.94	0.82	0.80
2012	28	18.13	12.45	568	10.53	760	1.70	1.45	1.37	0.63	0.55	0.52
2013	33	14.77	12.66	211	10.58	418	1.54	1.44	1.36	0.41	0.39	0.37
2014	37	19.71	13.38	633	11.16	855	1.51	1.32	1.26	0.38	0.34	0.33
2015	41	14.14	14.48	-34	12.14	201	1.28	1.28	1.23	0.15	0.14	0.14
2016	26	18.47	14.53	394	12.05	642	1.33	1.25	1.21	0.07	0.07	0.07
2017	30	7.27	18.03	-1,076	15.21	-794	1.06	1.15	1.13	0.01	0.01	0.01
2018	25	-1.20	24.27	-2,547	20.31	-2,151	0.99	1.13	1.11	0.00	0.01	0.00

Notes: Based on data compiled from 809 US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD					
1995	22	13.54	10.77	276	6.88	666	1.66	1.44	1.29	1.66	1.44	1.29
1996	23	10.25	4.50	574	4.13	611	1.60	1.23	1.22	1.60	1.23	1.22
1997	39	7.06	1.62	545	3.08	398	1.44	1.09	1.17	1.44	1.08	1.17
1998	39	6.51	2.43	408	3.84	267	1.42	1.14	1.23	1.40	1.12	1.21
1999	36	16.07	3.26	1,281	5.83	1,025	1.97	1.14	1.27	1.96	1.14	1.26
2000	51	16.79	5.96	1,083	8.51	829	1.91	1.26	1.37	1.88	1.24	1.35
2001	19	23.06	7.12	1,593	8.61	1,445	2.22	1.33	1.37	2.19	1.32	1.36
2002	20	16.32	6.76	955	7.87	844	1.98	1.38	1.41	1.94	1.33	1.37
2003	23	14.77	5.50	927	5.63	914	1.99	1.33	1.31	1.98	1.31	1.30
2004	48	10.51	5.80	471	4.63	588	1.72	1.38	1.28	1.68	1.32	1.24
2005	55	7.89	7.56	33	4.91	299	1.60	1.60	1.35	1.54	1.51	1.28
2006	51	9.28	8.13	115	5.15	413	1.72	1.63	1.35	1.54	1.43	1.21
2007	57	12.61	12.52	9	8.58	403	1.74	1.75	1.46	1.38	1.35	1.15
2008	38	15.75	14.01	174	9.79	595	1.86	1.72	1.46	1.56	1.44	1.23
2009	19	22.20	13.83	837	9.71	1,249	2.54	1.74	1.48	1.51	1.13	0.98
2010	13	22.16	13.77	839	9.72	1,243	2.38	1.70	1.46	1.65	1.23	1.07
2011	36	17.10	13.25	385	9.59	751	1.78	1.56	1.38	0.94	0.83	0.75
2012	28	18.13	12.94	518	9.67	846	1.70	1.47	1.33	0.63	0.55	0.51
2013	33	14.77	13.18	158	10.04	473	1.54	1.47	1.34	0.41	0.39	0.37
2014	37	19.71	13.95	576	10.80	891	1.51	1.34	1.25	0.38	0.34	0.32
2015	41	14.14	15.12	-97	11.91	223	1.28	1.30	1.23	0.15	0.15	0.14
2016	26	18.47	15.27	320	11.97	650	1.33	1.27	1.21	0.07	0.07	0.07
2017	30	7.27	18.94	-1,167	15.42	-815	1.06	1.16	1.13	0.01	0.01	0.01
2018	25	-1.20	25.16	-2,636	21.88	-2,307	0.99	1.13	1.11	0.00	0.01	0.01

Notes: Based on data compiled from 809 US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

US BUYOUT

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.66	1.60	1.56	2.21	0.91	22
1996	1.60	1.47	1.33	1.76	1.05	23
1997	1.44	1.31	1.39	1.69	0.92	39
1998	1.42	1.67	1.60	2.03	1.33	39
1999	1.97	1.73	1.54	2.22	1.29	36
2000	1.91	1.94	1.95	2.26	1.49	51
2001	2.22	1.92	1.78	2.22	1.52	19
2002	1.98	1.90	1.97	2.43	1.34	20
2003	1.99	1.75	1.76	2.07	1.21	23
2004	1.72	1.69	1.64	1.91	1.44	48
2005	1.60	1.65	1.59	2.01	1.25	55
2006	1.72	1.87	1.78	2.19	1.55	51
2007	1.74	1.76	1.79	2.13	1.41	57
2008	1.86	1.93	1.81	2.10	1.64	38
2009	2.54	2.39	2.36	2.59	1.80	19
2010	2.38	2.62	2.18	2.48	1.78	13
2011	1.78	1.81	1.73	1.97	1.48	36
2012	1.70	1.76	1.68	2.01	1.38	28
2013	1.54	1.60	1.49	1.73	1.34	33
2014	1.51	1.53	1.43	1.56	1.25	37
2015	1.28	1.29	1.20	1.44	1.13	41
2016	1.33	1.25	1.19	1.39	1.10	26
2017	1.06	1.07	1.06	1.15	1.00	30
2018	0.99	0.88	0.95	1.08	0.87	25

US BUYOUT

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	1.66	1.60	1.56	2.21	0.91	22
1996	1.60	1.47	1.33	1.76	1.05	23
1997	1.44	1.31	1.39	1.69	0.90	39
1998	1.40	1.65	1.53	1.97	1.32	39
1999	1.96	1.72	1.54	2.11	1.28	36
2000	1.88	1.84	1.88	2.21	1.48	51
2001	2.19	1.90	1.78	2.18	1.49	19
2002	1.94	1.84	1.97	2.43	1.28	20
2003	1.98	1.72	1.76	2.06	1.18	23
2004	1.68	1.63	1.54	1.83	1.39	48
2005	1.54	1.58	1.59	2.00	1.03	55
2006	1.54	1.69	1.66	1.97	1.42	51
2007	1.38	1.51	1.45	1.93	1.26	57
2008	1.56	1.61	1.54	1.92	1.26	38
2009	1.51	1.83	1.89	2.26	1.01	19
2010	1.65	1.82	1.61	2.16	0.96	13
2011	0.94	1.07	1.03	1.30	0.63	36
2012	0.63	0.92	0.79	1.23	0.50	28
2013	0.41	0.50	0.42	0.57	0.28	33
2014	0.38	0.39	0.31	0.56	0.10	37
2015	0.15	0.19	0.08	0.30	0.00	41
2016	0.07	0.08	0.00	0.14	0.00	26
2017	0.01	0.02	0.00	0.01	0.00	30
2018	0.00	0.01	0.00	0.00	0.00	25

US BUYOUT

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	22
1996	0.00	0.00	0.00	0.00	0.00	23
1997	0.00	0.00	0.00	0.00	0.00	39
1998	0.02	0.02	0.00	0.00	0.00	39
1999	0.01	0.01	0.00	0.00	0.00	36
2000	0.02	0.11	0.00	0.01	0.00	51
2001	0.03	0.02	0.00	0.02	0.00	19
2002	0.04	0.06	0.00	0.07	0.00	20
2003	0.01	0.03	0.00	0.02	0.00	23
2004	0.04	0.06	0.01	0.08	0.00	48
2005	0.06	0.08	0.03	0.10	0.00	55
2006	0.18	0.18	0.10	0.27	0.02	51
2007	0.35	0.25	0.18	0.34	0.04	57
2008	0.29	0.32	0.24	0.45	0.11	38
2009	1.02	0.56	0.43	0.78	0.23	19
2010	0.73	0.80	0.79	1.08	0.55	13
2011	0.84	0.75	0.70	0.97	0.48	36
2012	1.07	0.84	0.92	1.04	0.66	28
2013	1.13	1.10	1.07	1.29	0.89	33
2014	1.13	1.14	1.13	1.28	0.95	37
2015	1.13	1.10	1.16	1.22	0.88	41
2016	1.26	1.17	1.13	1.26	1.04	26
2017	1.05	1.04	1.06	1.14	0.95	30
2018	0.99	0.87	0.95	1.05	0.87	25

EX US BUYOUT: FUND INDEX ANALYSIS



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EX US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US BUYOUT INDEX¹	7.88	16.17	16.51	12.65	11.69	12.23	12.90	13.64
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index(gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 724 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

EX US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US BUYOUT INDEX¹	16.17	16.51	12.65	11.69	12.23	12.90	13.64
MPME ANALYSIS²							
MSCI EAFE Index (net)	22.07	9.99	5.55	5.61	4.50	4.46	4.79
Value-Add (bps)	-591	652	710	609	774	844	884
MSCI Europe Index (net)	23.83	10.21	4.89	5.35	4.41	4.47	4.94
Value-Add (bps)	-766	630	776	634	783	843	870
S&P 500 Index	31.66	15.46	10.87	13.70	9.72	8.64	9.31
Value-Add (bps)	-1,549	105	178	-201	251	425	433
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	19.06	12.64	5.68	3.61	6.53	7.15	7.38
Value-Add (bps)	-289	387	697	809	570	575	626
Constructed Index: MSCI World/MSCI All Country World Index ⁴ (gross)	27.41	13.43	8.49	9.30	7.33	6.77	7.22
Value-Add (bps)	-1,124	308	417	240	491	613	641

The index is a horizon calculation based on data compiled from 724 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2019.

¹ Pooled horizon return, net of fees, expenses, and carried interest.

² CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³ Constructed MSCI EM Index: Data from 1/1/1986 to 12/31/1987 represented by GFD Emerging Markets price return. Data from 1/1/1988 to present represented by MSCI Emerging Markets total return gross.

⁴ Constructed Index: MSCI World/MSCI All Country World Index: Data from 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

Sources: Cambridge Associates LLC, Global Financial Data, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

EX US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	5.76
1995 Q2	4.09
1995 Q3	3.87
1995 Q4	2.60
1996 Q1	1.10
1996 Q2	6.49
1996 Q3	6.00
1996 Q4	24.04
1997 Q1	-1.92
1997 Q2	5.75
1997 Q3	3.13
1997 Q4	9.83
1998 Q1	2.36
1998 Q2	12.24
1998 Q3	3.11
1998 Q4	0.96
1999 Q1	-0.53
1999 Q2	6.32
1999 Q3	7.83
1999 Q4	10.28
2000 Q1	3.64
2000 Q2	2.92
2000 Q3	-2.31
2000 Q4	3.32
2001 Q1	-5.65
2001 Q2	-0.54

QUARTER ENDING	HORIZON RETURN
2001 Q3	1.52
2001 Q4	-4.35
2002 Q1	-0.72
2002 Q2	8.79
2002 Q3	-1.85
2002 Q4	6.10
2003 Q1	1.09
2003 Q2	7.45
2003 Q3	1.83
2003 Q4	14.49
2004 Q1	1.30
2004 Q2	6.68
2004 Q3	5.25
2004 Q4	19.97
2005 Q1	0.92
2005 Q2	6.31
2005 Q3	5.49
2005 Q4	11.97
2006 Q1	7.45
2006 Q2	17.65
2006 Q3	3.62
2006 Q4	22.16
2007 Q1	3.75
2007 Q2	15.22
2007 Q3	6.72
2007 Q4	5.73

QUARTER ENDING	HORIZON RETURN
2008 Q1	4.13
2008 Q2	-4.04
2008 Q3	-16.11
2008 Q4	-22.67
2009 Q1	-7.85
2009 Q2	9.80
2009 Q3	9.34
2009 Q4	8.38
2010 Q1	-1.28
2010 Q2	-2.86
2010 Q3	11.71
2010 Q4	8.88
2011 Q1	5.54
2011 Q2	6.52
2011 Q3	-9.31
2011 Q4	0.65
2012 Q1	7.64
2012 Q2	-1.84
2012 Q3	4.04
2012 Q4	4.92
2013 Q1	0.94
2013 Q2	1.83
2013 Q3	6.51
2013 Q4	7.11
2014 Q1	2.91
2014 Q2	4.90

QUARTER ENDING	HORIZON RETURN
2014 Q3	-4.21
2014 Q4	0.54
2015 Q1	-2.36
2015 Q2	6.86
2015 Q3	-1.45
2015 Q4	3.25
2016 Q1	4.22
2016 Q2	1.33
2016 Q3	4.69
2016 Q4	0.86
2017 Q1	4.84
2017 Q2	9.91
2017 Q3	5.97
2017 Q4	5.70
2018 Q1	1.70
2018 Q2	1.35
2018 Q3	2.14
2018 Q4	-1.08
2019 Q1	3.04
2019 Q2	5.04
2019 Q3	-0.52
2019 Q4	7.88

EX US BUYOUT

AS OF DECEMBER 31, 2019

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	16.17	14 Years	11.44
2 Years	9.91	15 Years	12.23
3 Years	16.51	16 Years	13.46
4 Years	15.05	17 Years	14.14
5 Years	12.65	18 Years	14.08
6 Years	10.67	19 Years	13.09
7 Years	11.90	20 Years	12.90
8 Years	12.48	21 Years	13.22
9 Years	10.92	22 Years	13.31
10 Years	11.69	23 Years	13.37
11 Years	12.62	24 Years	13.61
12 Years	7.27	25 Years	13.64
13 Years	8.92		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	16.17	12/31/2006	60.03
12/31/2018	4.22	12/31/2005	26.16
12/31/2017	29.07	12/31/2004	35.94
12/31/2016	11.60	12/31/2003	27.24
12/31/2015	5.95	12/31/2002	12.64
12/31/2014	4.20	12/31/2001	-8.79
12/31/2013	16.92	12/31/2000	7.49
12/31/2012	15.23	12/31/1999	27.08
12/31/2011	2.65	12/31/1998	18.63
12/31/2010	17.08	12/31/1997	18.48
12/31/2009	20.76	12/31/1996	42.12
12/31/2008	-37.31	12/31/1995	17.21
12/31/2007	34.76		

EX US BUYOUT: FUND SINCE INCEPTION ANALYSIS



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EX US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	27.62	16.92	11.98	18.44	20.04	0.57	25.46	2.14	0.00	2.14	13
1996	20.29	12.62	10.78	10.56	18.54	-2.53	23.62	1.86	0.00	1.86	16
1997	11.96	10.74	10.83	12.12	18.86	4.26	22.47	1.77	0.00	1.77	32
1998	15.00	14.31	13.60	17.28	21.61	6.46	12.35	2.14	0.01	2.15	28
1999	17.34	17.89	17.52	16.91	22.99	5.22	18.54	1.96	0.00	1.96	27
2000	29.50	26.15	27.12	28.06	38.18	17.38	19.94	2.58	0.01	2.60	32
2001	29.05	25.77	26.00	26.48	33.50	15.14	17.93	2.09	0.00	2.09	20
2002	22.48	16.74	19.92	19.99	30.40	12.22	28.95	2.08	0.01	2.09	23
2003	19.83	21.03	25.96	22.21	33.95	9.70	22.60	1.66	0.01	1.67	19
2004	12.67	18.54	9.32	19.64	23.67	5.78	24.27	1.65	0.10	1.75	31
2005	4.98	6.73	7.24	6.87	12.26	0.94	12.84	1.26	0.04	1.30	56
2006	5.30	4.92	5.67	6.21	11.24	1.58	12.78	1.22	0.11	1.34	55
2007	9.66	6.66	8.41	7.81	13.18	3.91	15.58	1.46	0.14	1.60	61
2008	11.43	5.11	8.32	8.61	14.76	3.53	21.85	1.37	0.25	1.62	30
2009	8.17	10.07	9.50	9.91	16.56	2.58	11.60	0.98	0.47	1.45	15
2010	8.58	6.19	7.07	7.06	13.54	-3.61	12.20	0.86	0.54	1.40	17
2011	13.61	11.57	10.65	12.35	14.91	3.88	12.02	0.87	0.77	1.63	28
2012	15.80	13.12	13.64	13.52	15.69	9.20	7.59	0.80	0.95	1.76	30
2013	16.85	14.95	15.73	17.16	20.37	6.82	11.11	0.46	1.12	1.58	23
2014	17.74	15.53	15.50	15.79	22.07	10.48	7.44	0.32	1.12	1.45	26
2015	11.98	5.24	12.66	10.79	17.30	0.03	25.01	0.14	1.10	1.24	23
2016	19.52	11.65	15.30	14.92	20.55	8.21	25.00	0.03	1.21	1.24	26
2017	9.60	0.47	1.72	4.68	12.81	-9.76	32.85	0.00	1.06	1.07	20
2018	-6.66	-17.01	-13.67	-7.74	1.78	-29.15	47.57	0.00	0.95	0.95	15

EX US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)			MSCI EUROPE INDEX (NET)		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)	CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	13	27.62	6.07	2,155		11.84	1,578	2.14	1.17	1.33	2.14	1.17	1.33
1996	16	20.29	6.15	1,415		9.00	1,129	1.86	1.21	1.31	1.86	1.21	1.31
1997	32	11.96	2.72	924		2.87	909	1.77	1.14	1.14	1.77	1.14	1.14
1998	28	15.00	3.44	1,157		3.72	1,128	2.15	1.17	1.18	2.14	1.16	1.18
1999	27	17.34	6.44	1,090		7.06	1,028	1.96	1.28	1.30	1.96	1.27	1.30
2000	32	29.50	11.79	1,771		12.26	1,724	2.60	1.40	1.41	2.58	1.39	1.41
2001	20	29.05	14.03	1,502		14.46	1,459	2.09	1.41	1.42	2.09	1.41	1.42
2002	23	22.48	8.28	1,420		8.70	1,378	2.09	1.31	1.32	2.08	1.30	1.32
2003	19	19.83	6.33	1,350		6.93	1,289	1.67	1.23	1.24	1.66	1.22	1.24
2004	31	12.67	3.08	959		3.23	944	1.75	1.15	1.16	1.65	1.10	1.11
2005	56	4.98	1.46	352		1.34	364	1.30	1.08	1.08	1.26	1.04	1.04
2006	55	5.30	2.80	251		2.63	267	1.34	1.17	1.16	1.22	1.06	1.05
2007	61	9.66	4.69	497		4.61	505	1.60	1.24	1.24	1.46	1.16	1.15
2008	30	11.43	6.27	516		6.28	515	1.62	1.30	1.30	1.37	1.09	1.09
2009	15	8.17	5.85	231		5.58	258	1.45	1.30	1.28	0.98	0.90	0.89
2010	17	8.58	5.90	269		5.61	297	1.40	1.26	1.25	0.86	0.78	0.77
2011	28	13.61	5.71	790		5.27	834	1.63	1.23	1.21	0.87	0.66	0.65
2012	30	15.80	5.25	1,055		4.69	1,111	1.76	1.21	1.18	0.80	0.59	0.58
2013	23	16.85	6.09	1,077		5.69	1,117	1.58	1.18	1.17	0.46	0.36	0.36
2014	26	17.74	7.39	1,035		7.27	1,047	1.45	1.17	1.16	0.32	0.27	0.27
2015	23	11.98	7.47	450		7.53	444	1.24	1.14	1.15	0.14	0.13	0.13
2016	26	19.52	8.08	1,144		8.33	1,119	1.24	1.10	1.10	0.03	0.03	0.03
2017	20	9.60	13.58	-398		14.51	-490	1.07	1.10	1.10	0.00	0.00	0.00
2018	15	-6.66	15.62	-2,228		16.68	-2,334	0.95	1.11	1.11	0.00	0.00	0.00

Notes: Based on data compiled from 666 Ex US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, MSCI, Inc., and Thomson Returns Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

AS OF DECEMBER 31, 2019

EX US BUYOUT

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		MSCI EMERGING MARKETS INDEX (GROSS)		CA BENCHMARK INDEX	S&P 500 INDEX	MSCI EMERGING MARKETS INDEX (GROSS)	CA BENCHMARK INDEX	S&P 500 INDEX	MSCI EMERGING MARKETS INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD					
1995	13	27.62	15.20	1,242	1.51	2,612	2.14	1.40	1.05	2.14	1.40	1.05
1996	16	20.29	11.12	917	5.71	1,459	1.86	1.35	1.26	1.86	1.35	1.26
1997	32	11.96	1.90	1,007	9.41	255	1.77	1.09	1.59	1.77	1.09	1.59
1998	28	15.00	0.90	1,410	12.11	289	2.15	1.04	1.75	2.14	1.04	1.74
1999	27	17.34	3.03	1,431	15.40	194	1.96	1.12	1.83	1.96	1.12	1.83
2000	32	29.50	6.11	2,339	22.70	680	2.60	1.20	1.93	2.58	1.19	1.92
2001	20	29.05	8.11	2,094	26.25	280	2.09	1.25	1.88	2.09	1.25	1.88
2002	23	22.48	6.92	1,555	18.14	434	2.09	1.31	1.72	2.08	1.30	1.72
2003	19	19.83	6.86	1,297	14.98	484	1.67	1.30	1.53	1.66	1.29	1.52
2004	31	12.67	6.29	638	8.55	412	1.75	1.38	1.43	1.65	1.28	1.37
2005	56	4.98	6.72	-174	4.13	85	1.30	1.47	1.24	1.26	1.40	1.19
2006	55	5.30	9.26	-396	2.93	237	1.34	1.69	1.17	1.22	1.49	1.07
2007	61	9.66	12.06	-240	2.63	703	1.60	1.78	1.13	1.46	1.62	1.05
2008	30	11.43	14.12	-268	3.66	778	1.62	1.83	1.17	1.37	1.48	0.98
2009	15	8.17	13.68	-551	3.74	443	1.45	1.84	1.19	0.98	1.22	0.81
2010	17	8.58	13.63	-504	4.06	452	1.40	1.71	1.18	0.86	1.00	0.71
2011	28	13.61	13.17	44	5.20	841	1.63	1.61	1.21	0.87	0.82	0.65
2012	30	15.80	12.85	296	5.41	1,039	1.76	1.58	1.22	0.80	0.73	0.59
2013	23	16.85	13.37	348	7.59	926	1.58	1.44	1.23	0.46	0.42	0.38
2014	26	17.74	14.42	331	8.79	895	1.45	1.35	1.20	0.32	0.31	0.28
2015	23	11.98	15.03	-306	8.28	369	1.24	1.31	1.16	0.14	0.14	0.14
2016	26	19.52	16.11	341	8.43	1,109	1.24	1.20	1.10	0.03	0.03	0.03
2017	20	9.60	21.24	-1,164	13.57	-396	1.07	1.15	1.10	0.00	0.00	0.00
2018	15	-6.66	23.03	-2,969	15.81	-2,246	0.95	1.16	1.11	0.00	0.00	0.00

Notes: Based on data compiled from 666 Ex US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, MSCI, Inc., Standard & Poor's, and Thomson Returns Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

EX US BUYOUT

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)			TOTAL VALUE TO PAID IN (TVPI)		DISTRIBUTIONS TO PAID IN (DPI)	
		CA BENCHMARK INDEX	MSCI ALL COUNTRYWORLD INDEX (GROSS)		CA BENCHMARK INDEX	MSCI ALL COUNTRYWORLD INDEX (GROSS)		CA BENCHMARK INDEX
			IRR	MPME IRR		TVPI	MPME TVPI	
1995	13	27.62	9.54	1,808	2.14	1.27	2.14	1.26
1996	16	20.29	8.17	1,213	1.86	1.28	1.86	1.28
1997	32	11.96	2.58	938	1.77	1.13	1.77	1.13
1998	28	15.00	2.61	1,239	2.15	1.12	2.14	1.12
1999	27	17.34	5.32	1,202	1.96	1.23	1.96	1.23
2000	32	29.50	9.74	1,976	2.60	1.33	2.58	1.32
2001	20	29.05	11.97	1,708	2.09	1.36	2.09	1.36
2002	23	22.48	8.36	1,411	2.09	1.35	2.08	1.34
2003	19	19.83	7.35	1,248	1.67	1.29	1.66	1.28
2004	31	12.67	5.28	739	1.75	1.29	1.65	1.21
2005	56	4.98	4.39	59	1.30	1.28	1.26	1.22
2006	55	5.30	5.99	-69	1.34	1.40	1.22	1.25
2007	61	9.66	8.01	164	1.60	1.46	1.46	1.34
2008	30	11.43	9.75	168	1.62	1.52	1.37	1.25
2009	15	8.17	9.48	-132	1.45	1.53	0.98	1.03
2010	17	8.58	9.56	-98	1.40	1.46	0.86	0.87
2011	28	13.61	9.49	412	1.63	1.41	0.87	0.74
2012	30	15.80	9.25	656	1.76	1.39	0.80	0.66
2013	23	16.85	10.24	661	1.58	1.32	0.46	0.39
2014	26	17.74	11.47	627	1.45	1.27	0.32	0.29
2015	23	11.98	11.80	18	1.24	1.23	0.14	0.14
2016	26	19.52	12.60	692	1.24	1.15	0.03	0.03
2017	20	9.60	17.92	-832	1.07	1.13	0.00	0.00
2018	15	-6.66	19.88	-2,654	0.95	1.13	0.00	0.00

Notes: Based on data compiled from 666 Ex US buyout funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, MSCI, Inc., and Thomson Returns Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

EX US BUYOUT

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	2.14	1.79	1.58	1.96	1.06	13
1996	1.86	1.53	1.59	1.81	0.85	16
1997	1.77	1.64	1.76	2.08	1.18	32
1998	2.15	2.39	1.78	2.42	1.48	28
1999	1.96	1.96	1.93	2.31	1.27	27
2000	2.60	2.43	2.35	2.98	1.92	32
2001	2.09	2.22	2.15	2.81	1.73	20
2002	2.09	2.02	1.97	2.24	1.52	23
2003	1.67	1.87	1.77	2.40	1.37	19
2004	1.75	1.91	1.52	2.23	1.27	31
2005	1.30	1.39	1.48	1.68	1.06	56
2006	1.34	1.36	1.38	1.70	1.09	55
2007	1.60	1.44	1.48	1.79	1.21	61
2008	1.62	1.45	1.43	1.77	1.14	30
2009	1.45	1.62	1.54	1.90	1.14	15
2010	1.40	1.30	1.32	1.59	0.82	17
2011	1.63	1.63	1.46	1.74	1.18	28
2012	1.76	1.60	1.63	1.82	1.34	30
2013	1.58	1.60	1.49	1.83	1.20	23
2014	1.45	1.41	1.36	1.56	1.27	26
2015	1.24	1.17	1.22	1.45	1.00	23
2016	1.24	1.19	1.21	1.30	1.13	26
2017	1.07	1.00	1.02	1.12	0.90	20
2018	0.95	0.84	0.91	1.02	0.81	15

EX US BUYOUT

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	2.14	1.79	1.58	1.96	1.06	13
1996	1.86	1.53	1.59	1.81	0.85	16
1997	1.77	1.64	1.76	2.08	1.18	32
1998	2.14	2.38	1.78	2.42	1.48	28
1999	1.96	1.96	1.93	2.31	1.27	27
2000	2.58	2.43	2.35	2.98	1.89	32
2001	2.09	2.22	2.15	2.81	1.73	20
2002	2.08	2.00	1.97	2.23	1.52	23
2003	1.66	1.86	1.72	2.40	1.37	19
2004	1.65	1.81	1.48	2.16	1.21	31
2005	1.26	1.34	1.37	1.62	0.95	56
2006	1.22	1.24	1.30	1.57	0.89	55
2007	1.46	1.27	1.39	1.70	0.91	61
2008	1.37	1.21	1.19	1.51	0.75	30
2009	0.98	1.17	1.06	1.50	0.68	15
2010	0.86	0.71	0.61	1.16	0.26	17
2011	0.87	0.80	0.75	1.12	0.31	28
2012	0.80	0.66	0.70	0.97	0.34	30
2013	0.46	0.64	0.55	0.97	0.16	23
2014	0.32	0.33	0.27	0.46	0.08	26
2015	0.14	0.21	0.06	0.37	0.01	23
2016	0.03	0.06	0.01	0.08	0.00	26
2017	0.00	0.01	0.00	0.00	0.00	20
2018	0.00	0.00	0.00	0.00	0.00	15

EX US BUYOUT

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	13
1996	0.00	0.00	0.00	0.00	0.00	16
1997	0.00	0.00	0.00	0.00	0.00	32
1998	0.01	0.01	0.00	0.00	0.00	28
1999	0.00	0.00	0.00	0.00	0.00	27
2000	0.01	0.01	0.00	0.00	0.00	32
2001	0.00	0.00	0.00	0.00	0.00	20
2002	0.01	0.02	0.00	0.01	0.00	23
2003	0.01	0.01	0.00	0.00	0.00	19
2004	0.10	0.10	0.01	0.06	0.00	31
2005	0.04	0.05	0.01	0.06	0.00	56
2006	0.11	0.12	0.05	0.12	0.00	55
2007	0.14	0.18	0.08	0.20	0.02	61
2008	0.25	0.24	0.15	0.43	0.01	30
2009	0.47	0.45	0.34	0.68	0.18	15
2010	0.54	0.58	0.64	0.71	0.50	17
2011	0.77	0.83	0.72	1.04	0.46	28
2012	0.95	0.94	0.88	1.11	0.82	30
2013	1.12	0.96	0.97	1.11	0.84	23
2014	1.12	1.07	1.09	1.22	0.94	26
2015	1.10	0.96	1.00	1.15	0.87	23
2016	1.21	1.13	1.17	1.26	1.08	26
2017	1.06	0.99	1.02	1.10	0.90	20
2018	0.95	0.84	0.91	1.02	0.81	15

GROWTH EQUITY: FUND INDEX ANALYSIS



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AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
GROWTH EQUITY INDEX¹	5.06	18.19	17.10	13.59	13.92	13.18	11.45	14.79
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index(gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 630 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
GROWTH EQUITY INDEX¹	18.19	17.10	13.59	13.92	13.18	11.45	14.79
MPME ANALYSIS²							
MSCI EAFE Index (net)	21.92	9.48	5.95	5.83	4.97	4.69	5.12
Value-Add (bps)	-373	762	764	809	821	676	967
MSCI Europe Index (net)	23.66	9.71	5.44	5.58	4.85	4.66	5.36
Value-Add (bps)	-547	739	815	834	833	679	943
S&P 500 Index	31.49	15.29	11.75	13.70	10.39	8.95	9.97
Value-Add (bps)	-1,330	181	184	22	279	250	482
Russell 2000® Index	25.47	8.58	8.30	11.85	8.95	8.85	9.24
Value-Add (bps)	-728	852	529	207	423	260	555
Russell 3000® Index	31.02	14.58	11.29	13.54	10.32	9.03	9.96
Value-Add (bps)	-1,283	251	230	39	286	243	483
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.24	13.05	9.22	9.60	7.96	7.10	7.73
Value-Add (bps)	-905	404	437	433	522	435	706

The index is a horizon calculation based on data compiled from 630 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

AS OF DECEMBER 31, 2019

GROWTHEQUITY

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	10.13
1995 Q2	7.02
1995 Q3	7.49
1995 Q4	7.33
1996 Q1	6.61
1996 Q2	10.10
1996 Q3	5.72
1996 Q4	4.17
1997 Q1	1.24
1997 Q2	21.00
1997 Q3	9.74
1997 Q4	-1.66
1998 Q1	12.15
1998 Q2	-3.77
1998 Q3	-5.76
1998 Q4	7.21
1999 Q1	7.72
1999 Q2	14.35
1999 Q3	6.61
1999 Q4	53.09
2000 Q1	18.53
2000 Q2	2.88
2000 Q3	8.15
2000 Q4	-7.63
2001 Q1	-9.75
2001 Q2	2.23

QUARTER ENDING	HORIZON RETURN
2001 Q3	-10.91
2001 Q4	2.31
2002 Q1	-2.38
2002 Q2	-4.15
2002 Q3	-8.69
2002 Q4	-0.98
2003 Q1	-3.68
2003 Q2	6.37
2003 Q3	6.22
2003 Q4	6.95
2004 Q1	4.43
2004 Q2	0.89
2004 Q3	0.74
2004 Q4	10.50
2005 Q1	1.65
2005 Q2	7.64
2005 Q3	8.10
2005 Q4	3.62
2006 Q1	8.17
2006 Q2	-0.16
2006 Q3	5.24
2006 Q4	10.41
2007 Q1	8.62
2007 Q2	10.39
2007 Q3	4.43
2007 Q4	7.75

QUARTER ENDING	HORIZON RETURN
2008 Q1	-5.33
2008 Q2	-0.31
2008 Q3	-6.19
2008 Q4	-14.80
2009 Q1	-3.26
2009 Q2	8.31
2009 Q3	6.61
2009 Q4	6.04
2010 Q1	4.95
2010 Q2	0.16
2010 Q3	6.09
2010 Q4	10.60
2011 Q1	3.68
2011 Q2	4.15
2011 Q3	-5.41
2011 Q4	3.66
2012 Q1	6.13
2012 Q2	-1.30
2012 Q3	2.92
2012 Q4	3.57
2013 Q1	2.81
2013 Q2	1.89
2013 Q3	6.00
2013 Q4	8.60
2014 Q1	3.38
2014 Q2	4.50

QUARTER ENDING	HORIZON RETURN
2014 Q3	1.54
2014 Q4	1.32
2015 Q1	3.01
2015 Q2	5.52
2015 Q3	-2.69
2015 Q4	3.36
2016 Q1	-0.21
2016 Q2	1.76
2016 Q3	3.97
2016 Q4	2.22
2017 Q1	4.16
2017 Q2	4.11
2017 Q3	4.50
2017 Q4	4.93
2018 Q1	4.17
2018 Q2	5.74
2018 Q3	3.42
2018 Q4	0.33
2019 Q1	6.08
2019 Q2	4.90
2019 Q3	1.08
2019 Q4	5.06

AS OF DECEMBER 31, 2019

GROWTHEQUITY

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	18.19	14 Years	12.76
2 Years	16.19	15 Years	13.18
3 Years	17.10	16 Years	13.36
4 Years	14.69	17 Years	13.49
5 Years	13.59	18 Years	12.19
6 Years	13.17	19 Years	11.03
7 Years	14.20	20 Years	11.45
8 Years	13.85	21 Years	13.98
9 Years	12.92	22 Years	13.84
10 Years	13.92	23 Years	14.24
11 Years	14.32	24 Years	14.51
12 Years	10.92	25 Years	14.79
13 Years	12.16		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	18.19	12/31/2006	25.83
12/31/2018	14.22	12/31/2005	22.48
12/31/2017	18.89	12/31/2004	17.32
12/31/2016	7.90	12/31/2003	16.57
12/31/2015	9.34	12/31/2002	-15.37
12/31/2014	11.14	12/31/2001	-15.50
12/31/2013	20.36	12/31/2000	23.39
12/31/2012	11.58	12/31/1999	102.72
12/31/2011	5.92	12/31/1998	8.98
12/31/2010	23.47	12/31/1997	32.03
12/31/2009	18.75	12/31/1996	29.05
12/31/2008	-25.13	12/31/1995	35.82
12/31/2007	34.82		

GROWTH EQUITY: FUND SINCE INCEPTION ANALYSIS



CAMBRIDGE
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GROWTHEQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1995	49.48	17.21	2.78	23.35	30.55	-3.54	33.24	3.44	0.00	3.44	11
1996	10.04	7.23	6.73	9.66	14.76	-3.55	11.92	1.59	0.00	1.60	13
1997	13.32	19.03	14.44	16.51	26.88	9.24	21.82	1.82	0.00	1.83	12
1998	10.14	8.61	9.74	9.49	15.18	2.01	9.48	1.58	0.00	1.58	13
1999	3.11	6.96	0.74	7.68	17.17	-3.78	15.53	1.21	0.02	1.22	12
2000	9.07	7.10	7.51	7.41	14.70	2.40	10.52	1.59	0.02	1.61	29
2001	14.47	5.16	10.58	6.88	—	—	—	2.25	0.00	2.25	7
2002	15.70	24.10	15.86	19.43	—	—	—	1.96	0.01	1.98	7
2003	16.56	23.12	14.49	24.09	—	—	—	1.90	0.04	1.94	7
2004	8.16	26.50	7.64	13.13	23.90	0.91	56.26	1.38	0.10	1.48	20
2005	11.86	10.02	9.76	12.06	16.40	1.36	15.13	1.75	0.11	1.86	36
2006	7.81	7.26	5.21	11.11	12.49	0.74	11.11	1.42	0.12	1.54	29
2007	9.83	4.70	4.80	7.43	11.20	-2.23	12.82	1.39	0.36	1.75	49
2008	11.29	8.25	6.96	9.08	11.57	2.94	9.23	1.22	0.58	1.79	34
2009	14.93	10.94	8.47	12.33	15.25	7.73	7.68	1.12	0.94	2.07	18
2010	14.00	13.94	9.53	13.44	19.65	3.70	17.64	0.99	0.86	1.85	26
2011	14.63	13.19	12.74	14.33	15.46	9.92	8.73	0.94	0.88	1.82	35
2012	12.97	10.83	10.87	11.99	16.24	6.69	8.95	0.56	1.04	1.60	30
2013	16.36	14.38	13.49	15.09	18.54	8.87	11.26	0.49	1.26	1.75	36
2014	20.89	17.06	14.23	19.07	21.22	11.90	10.77	0.39	1.36	1.75	36
2015	19.26	17.15	15.09	18.54	24.77	9.22	12.54	0.18	1.26	1.43	36
2016	23.17	17.95	15.96	21.35	23.74	10.11	14.07	0.10	1.31	1.42	34
2017	15.91	8.78	7.39	14.34	22.70	-2.92	21.75	0.03	1.12	1.16	21
2018	0.62	-4.66	-6.44	2.97	5.44	-13.89	25.88	0.01	1.00	1.00	33

GROWTHEQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)			
		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)			MSCI EUROPE INDEX (NET)		CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)	CA BENCHMARK INDEX	MSCI EAFE INDEX (NET)	MSCI EUROPE INDEX (NET)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD						
1995	11	49.48	7.72	4,176		14.46	3,502	3.44	1.21	1.41	3.44	1.21	1.41
1996	13	10.04	3.93	611		5.09	495	1.60	1.19	1.25	1.59	1.19	1.24
1997	12	13.32	3.37	995		3.60	972	1.83	1.17	1.18	1.82	1.16	1.18
1998	13	10.14	2.33	781		2.56	758	1.58	1.11	1.12	1.58	1.11	1.12
1999	12	3.11	3.98	-87		4.62	-150	1.22	1.24	1.29	1.21	1.23	1.28
2000	29	9.07	7.48	159		7.85	122	1.61	1.42	1.44	1.59	1.40	1.42
2001	7	14.47	8.25	622		8.64	583	2.25	1.53	1.56	2.25	1.53	1.55
2002	7	15.70	12.37	333		12.72	298	1.98	1.62	1.64	1.96	1.61	1.63
2003	7	16.56	4.01	1,255		4.22	1,233	1.94	1.18	1.18	1.90	1.15	1.16
2004	20	8.16	2.83	532		2.90	525	1.48	1.16	1.16	1.38	1.07	1.07
2005	36	11.86	1.47	1,039		1.42	1,044	1.86	1.08	1.08	1.75	1.01	1.01
2006	29	7.81	2.52	529		2.32	549	1.54	1.16	1.15	1.42	1.02	1.01
2007	49	9.83	4.82	501		4.74	509	1.75	1.30	1.30	1.39	1.09	1.09
2008	34	11.29	6.02	528		5.91	538	1.79	1.36	1.35	1.22	0.97	0.96
2009	18	14.93	6.01	891		5.87	906	2.07	1.33	1.32	1.12	0.80	0.79
2010	26	14.00	6.13	787		5.90	810	1.85	1.31	1.29	0.99	0.73	0.72
2011	35	14.63	5.57	905		5.11	952	1.82	1.26	1.23	0.94	0.68	0.67
2012	30	12.97	4.97	800		4.40	856	1.60	1.20	1.18	0.56	0.44	0.43
2013	36	16.36	5.51	1,085		4.98	1,138	1.75	1.21	1.19	0.49	0.36	0.35
2014	36	20.89	6.67	1,422		6.36	1,452	1.75	1.20	1.19	0.39	0.29	0.28
2015	36	19.26	7.44	1,182		7.44	1,182	1.43	1.15	1.15	0.18	0.15	0.15
2016	34	23.17	7.04	1,613		7.25	1,592	1.42	1.12	1.12	0.10	0.08	0.08
2017	21	15.91	9.00	691		9.70	621	1.16	1.09	1.09	0.03	0.03	0.03
2018	33	0.62	13.26	-1,264		14.24	-1,362	1.00	1.08	1.09	0.01	0.01	0.01

Notes: Based on data compiled from 584 growth equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

GROWTHEQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		RUSSELL 2000® INDEX		CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX	CA BENCHMARK INDEX	S&P 500 INDEX	RUSSELL 2000® INDEX
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	11	49.48	19.21	3,026	10.01	3,946	3.44	1.55	1.29	3.44	1.55	1.29
1996	13	10.04	4.61	543	7.08	296	1.60	1.21	1.37	1.59	1.20	1.36
1997	12	13.32	1.75	1,158	7.44	588	1.83	1.08	1.39	1.82	1.07	1.38
1998	13	10.14	0.33	982	6.65	349	1.58	1.01	1.32	1.58	1.01	1.32
1999	12	3.11	1.23	188	6.92	-381	1.22	1.07	1.45	1.21	1.06	1.43
2000	29	9.07	5.09	398	8.01	106	1.61	1.31	1.50	1.59	1.29	1.47
2001	7	14.47	6.50	797	8.29	618	2.25	1.48	1.62	2.25	1.47	1.61
2002	7	15.70	6.99	871	10.34	535	1.98	1.36	1.55	1.96	1.35	1.54
2003	7	16.56	6.03	1,053	7.00	956	1.94	1.32	1.37	1.90	1.27	1.32
2004	20	8.16	6.26	190	6.31	184	1.48	1.44	1.43	1.38	1.26	1.28
2005	36	11.86	6.03	583	6.20	565	1.86	1.42	1.42	1.75	1.28	1.30
2006	29	7.81	8.96	-114	8.62	-80	1.54	1.72	1.67	1.42	1.46	1.44
2007	49	9.83	11.98	-215	11.39	-157	1.75	1.97	1.87	1.39	1.57	1.53
2008	34	11.29	13.82	-253	12.33	-104	1.79	2.05	1.87	1.22	1.35	1.29
2009	18	14.93	13.94	98	11.52	341	2.07	1.95	1.73	1.12	1.08	1.00
2010	26	14.00	13.85	15	11.31	269	1.85	1.83	1.63	0.99	0.96	0.90
2011	35	14.63	13.21	142	10.17	446	1.82	1.72	1.51	0.94	0.88	0.81
2012	30	12.97	12.56	41	8.86	411	1.60	1.58	1.38	0.56	0.55	0.51
2013	36	16.36	12.81	355	9.11	725	1.75	1.55	1.37	0.49	0.44	0.41
2014	36	20.89	13.75	714	9.62	1,127	1.75	1.45	1.30	0.39	0.33	0.31
2015	36	19.26	14.89	438	9.34	992	1.43	1.32	1.19	0.18	0.17	0.15
2016	34	23.17	15.11	806	7.92	1,525	1.42	1.26	1.13	0.10	0.09	0.09
2017	21	15.91	17.11	-120	8.51	739	1.16	1.17	1.08	0.03	0.03	0.03
2018	33	0.62	20.77	-2,015	12.94	-1,231	1.00	1.13	1.08	0.01	0.01	0.01

Notes: Based on data compiled from 584 growth equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).

Sources: Cambridge Associates LLC, Frank Russell Company, Standard & Poor's, and Thomson Reuters Datastream.

GROWTHEQUITY

AS OF DECEMBER 31, 2019

SINCE INCEPTION IRR & MULTIPLES COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 3000® INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	RUSSELL 3000® INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
			IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI
1995	11	49.48	18.04	3,143	12.41	3,707	3.44	1.52	1.35	3.44	1.52	1.35
1996	13	10.04	5.06	498	4.33	571	1.60	1.23	1.21	1.59	1.23	1.20
1997	12	13.32	2.59	1,073	2.91	1,041	1.83	1.12	1.14	1.82	1.12	1.14
1998	13	10.14	1.18	896	1.77	837	1.58	1.05	1.08	1.58	1.05	1.08
1999	12	3.11	2.02	109	3.11	0	1.22	1.12	1.19	1.21	1.10	1.18
2000	29	9.07	5.64	343	7.01	206	1.61	1.35	1.42	1.59	1.32	1.40
2001	7	14.47	6.98	749	8.15	632	2.25	1.52	1.57	2.25	1.51	1.57
2002	7	15.70	7.74	796	10.42	528	1.98	1.40	1.53	1.96	1.39	1.52
2003	7	16.56	6.37	1,019	5.68	1,088	1.94	1.34	1.27	1.90	1.29	1.23
2004	20	8.16	6.45	171	5.16	300	1.48	1.46	1.32	1.38	1.28	1.19
2005	36	11.86	6.20	565	4.22	764	1.86	1.43	1.26	1.75	1.29	1.16
2006	29	7.81	9.05	-123	5.78	203	1.54	1.73	1.41	1.42	1.47	1.22
2007	49	9.83	12.02	-219	8.14	169	1.75	1.96	1.57	1.39	1.58	1.29
2008	34	11.29	13.71	-242	9.60	169	1.79	2.03	1.64	1.22	1.35	1.12
2009	18	14.93	13.67	126	9.65	528	2.07	1.92	1.59	1.12	1.07	0.91
2010	26	14.00	13.56	44	9.78	422	1.85	1.81	1.54	0.99	0.95	0.83
2011	35	14.63	12.81	182	9.47	516	1.82	1.69	1.48	0.94	0.87	0.77
2012	30	12.97	12.05	92	9.04	392	1.60	1.55	1.39	0.56	0.54	0.50
2013	36	16.36	12.31	406	9.58	679	1.75	1.52	1.39	0.49	0.43	0.40
2014	36	20.89	13.23	766	10.76	1,013	1.75	1.43	1.34	0.39	0.33	0.31
2015	36	19.26	14.27	499	11.74	752	1.43	1.31	1.25	0.18	0.16	0.16
2016	34	23.17	14.33	884	11.56	1,160	1.42	1.25	1.20	0.10	0.09	0.09
2017	21	15.91	16.14	-23	13.52	239	1.16	1.16	1.13	0.03	0.03	0.03
2018	33	0.62	19.84	-1,922	17.59	-1,697	1.00	1.13	1.11	0.01	0.01	0.01

Notes: Based on data compiled from 584 growth equity funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with “—” have an insufficient number of funds in the vintage year sample to produce a meaningful return.

mpME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mpME).

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., and Thomson Reuters Datastream.

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GROWTHEQUITY

AS OF DECEMBER 31, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	3.44	2.03	1.18	2.31	0.85	11
1996	1.60	1.75	1.43	2.02	0.77	13
1997	1.83	2.17	1.88	2.52	1.58	12
1998	1.58	1.48	1.50	1.78	1.14	13
1999	1.22	1.58	1.07	2.08	0.81	12
2000	1.61	1.48	1.44	1.88	1.14	29
2001	2.25	1.47	1.51	—	—	7
2002	1.98	2.46	2.32	—	—	7
2003	1.94	2.26	1.77	—	—	7
2004	1.48	1.73	1.39	1.89	1.05	20
2005	1.86	1.87	1.62	2.38	1.13	36
2006	1.54	1.91	1.33	1.91	1.06	29
2007	1.75	1.54	1.28	1.75	0.89	49
2008	1.79	1.64	1.43	1.95	1.15	34
2009	2.07	1.91	1.66	2.19	1.43	18
2010	1.85	1.81	1.49	2.29	1.24	26
2011	1.82	1.86	1.80	1.98	1.53	35
2012	1.60	1.54	1.47	1.81	1.28	30
2013	1.75	1.63	1.48	1.90	1.30	36
2014	1.75	1.70	1.49	1.75	1.34	36
2015	1.43	1.45	1.42	1.67	1.20	36
2016	1.42	1.33	1.27	1.45	1.14	34
2017	1.16	1.12	1.08	1.24	0.98	21
2018	1.00	0.98	0.95	1.04	0.91	33

GROWTH EQUITY

AS OF DECEMBER 31, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	3.44	2.03	1.18	2.31	0.85	11
1996	1.59	1.74	1.43	1.98	0.77	13
1997	1.82	2.16	1.88	2.52	1.58	12
1998	1.58	1.48	1.50	1.78	1.14	13
1999	1.21	1.56	1.06	2.08	0.72	12
2000	1.59	1.44	1.44	1.87	1.14	29
2001	2.25	1.45	1.51	—	—	7
2002	1.96	2.44	2.32	—	—	7
2003	1.90	2.22	1.77	—	—	7
2004	1.38	1.54	1.27	1.67	0.86	20
2005	1.75	1.69	1.40	2.13	0.65	36
2006	1.42	1.74	1.23	1.66	0.91	29
2007	1.39	1.13	0.89	1.50	0.52	49
2008	1.22	1.07	0.90	1.41	0.58	34
2009	1.12	0.83	0.85	1.05	0.52	18
2010	0.99	1.03	0.87	1.41	0.49	26
2011	0.94	0.76	0.52	1.25	0.29	35
2012	0.56	0.52	0.41	0.86	0.14	30
2013	0.49	0.47	0.35	0.73	0.07	36
2014	0.39	0.40	0.28	0.49	0.15	36
2015	0.18	0.15	0.09	0.18	0.00	36
2016	0.10	0.11	0.02	0.16	0.00	34
2017	0.03	0.05	0.00	0.00	0.00	21
2018	0.01	0.00	0.00	0.00	0.00	33

GROWTHEQUITY

AS OF DECEMBER 31, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1995	0.00	0.00	0.00	0.00	0.00	11
1996	0.00	0.00	0.00	0.00	0.00	13
1997	0.00	0.01	0.00	0.00	0.00	12
1998	0.00	0.00	0.00	0.00	0.00	13
1999	0.02	0.02	0.00	0.01	0.00	12
2000	0.02	0.04	0.00	0.01	0.00	29
2001	0.00	0.02	0.00	—	—	7
2002	0.01	0.02	0.00	—	—	7
2003	0.04	0.03	0.00	—	—	7
2004	0.10	0.20	0.02	0.10	0.00	20
2005	0.11	0.18	0.07	0.22	0.00	36
2006	0.12	0.17	0.08	0.18	0.00	29
2007	0.36	0.41	0.16	0.51	0.03	49
2008	0.58	0.58	0.46	0.87	0.19	34
2009	0.94	1.08	1.08	1.20	0.59	18
2010	0.86	0.78	0.82	0.95	0.57	26
2011	0.88	1.10	1.00	1.39	0.65	35
2012	1.04	1.03	1.07	1.30	0.72	30
2013	1.26	1.16	1.18	1.45	0.93	36
2014	1.36	1.29	1.20	1.39	0.97	36
2015	1.26	1.30	1.22	1.49	1.07	36
2016	1.31	1.22	1.20	1.31	1.10	34
2017	1.12	1.07	1.02	1.11	0.98	21
2018	1.00	0.97	0.95	1.04	0.91	33

US GROWTH EQUITY: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

US GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US GROWTH EQUITY INDEX¹	5.15	22.46	20.34	16.03	16.51	14.21	12.29	20.14
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22
Wilshire 5000 Total Market Index	9.08	31.02	14.52	11.38	13.44	9.11	6.37	10.22

The index is a horizon calculation based on data compiled from 284 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, Standard & Poor's and Thomson Reuters Datastream, and Wilshire Associates.

*Capital change only

US GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US GROWTH EQUITY INDEX¹	22.46	20.34	16.03	16.51	14.21	12.29	20.14

MPME ANALYSIS ²							
Russell 2000® Index	25.41	8.67	8.37	12.15	8.77	8.78	9.17
Value-Add (bps)	-295	1,167	766	435	544	351	1,097
Russell 2500™ Index	27.67	10.40	9.03	12.94	9.55	9.64	10.19
Value-Add (bps)	-521	994	700	356	466	265	995
Russell 3000® Index	30.98	14.64	11.33	13.60	9.94	8.74	9.67
Value-Add (bps)	-851	570	470	291	427	355	1,047
Russell Midcap® Index	30.49	12.15	9.42	13.50	10.14	10.01	10.66
Value-Add (bps)	-802	819	661	300	407	228	948
S&P 500 Index	31.45	15.35	11.77	13.72	9.97	8.63	9.64
Value-Add (bps)	-899	499	425	278	424	367	1,050
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	27.19	13.17	9.29	9.59	7.78	7.00	7.64
Value-Add (bps)	-473	717	674	691	643	530	1,250

The index is a horizon calculation based on data compiled from 284 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2019.

¹Pooled horizon return, net of fees, expenses, and carried interest.

²CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

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US GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	15.18
1995 Q2	10.30
1995 Q3	10.45
1995 Q4	13.30
1996 Q1	9.30
1996 Q2	14.17
1996 Q3	7.58
1996 Q4	3.56
1997 Q1	-0.19
1997 Q2	31.44
1997 Q3	14.58
1997 Q4	0.49
1998 Q1	15.49
1998 Q2	-2.94
1998 Q3	-6.77
1998 Q4	7.59
1999 Q1	10.45
1999 Q2	16.48
1999 Q3	9.55
1999 Q4	70.40
2000 Q1	22.17
2000 Q2	5.26
2000 Q3	12.48
2000 Q4	-7.72
2001 Q1	-12.53
2001 Q2	3.35

QUARTER ENDING	HORIZON RETURN
2001 Q3	-13.01
2001 Q4	3.18
2002 Q1	-4.20
2002 Q2	-5.12
2002 Q3	-8.39
2002 Q4	-0.82
2003 Q1	-3.80
2003 Q2	6.51
2003 Q3	5.66
2003 Q4	7.36
2004 Q1	3.50
2004 Q2	1.47
2004 Q3	-0.17
2004 Q4	10.56
2005 Q1	-0.22
2005 Q2	8.31
2005 Q3	8.45
2005 Q4	2.22
2006 Q1	7.80
2006 Q2	-0.35
2006 Q3	4.49
2006 Q4	7.91
2007 Q1	7.27
2007 Q2	9.16
2007 Q3	3.83
2007 Q4	4.48

QUARTER ENDING	HORIZON RETURN
2008 Q1	-3.65
2008 Q2	0.19
2008 Q3	-3.50
2008 Q4	-12.98
2009 Q1	-3.60
2009 Q2	5.97
2009 Q3	5.19
2009 Q4	3.84
2010 Q1	4.44
2010 Q2	1.02
2010 Q3	4.51
2010 Q4	10.77
2011 Q1	4.13
2011 Q2	5.18
2011 Q3	-3.30
2011 Q4	6.17
2012 Q1	6.14
2012 Q2	-0.15
2012 Q3	3.86
2012 Q4	3.16
2013 Q1	3.71
2013 Q2	3.32
2013 Q3	8.21
2013 Q4	8.50
2014 Q1	3.24
2014 Q2	4.86

QUARTER ENDING	HORIZON RETURN
2014 Q3	1.41
2014 Q4	1.52
2015 Q1	3.13
2015 Q2	5.00
2015 Q3	-1.03
2015 Q4	1.82
2016 Q1	0.31
2016 Q2	2.64
2016 Q3	5.12
2016 Q4	2.78
2017 Q1	4.39
2017 Q2	4.50
2017 Q3	4.87
2017 Q4	4.40
2018 Q1	5.77
2018 Q2	7.37
2018 Q3	4.71
2018 Q4	0.27
2019 Q1	6.49
2019 Q2	7.88
2019 Q3	1.33
2019 Q4	5.15

AS OF DECEMBER 31, 2019

US GROWTH EQUITY

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	22.46	14 Years	13.90
2 Years	20.82	15 Years	14.21
3 Years	20.34	16 Years	14.30
4 Years	17.89	17 Years	14.40
5 Years	16.03	18 Years	12.78
6 Years	15.21	19 Years	11.31
7 Years	16.80	20 Years	12.29
8 Years	16.27	21 Years	17.04
9 Years	15.77	22 Years	16.80
10 Years	16.51	23 Years	18.17
11 Years	16.03	24 Years	18.95
12 Years	12.57	25 Years	20.14
13 Years	13.47		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	22.46	12/31/2006	21.32
12/31/2018	19.21	12/31/2005	19.85
12/31/2017	19.44	12/31/2004	16.01
12/31/2016	11.20	12/31/2003	16.49
12/31/2015	9.15	12/31/2002	-17.37
12/31/2014	11.46	12/31/2001	-18.28
12/31/2013	25.32	12/31/2000	37.34
12/31/2012	13.52	12/31/1999	138.19
12/31/2011	12.53	12/31/1998	12.36
12/31/2010	22.26	12/31/1997	51.34
12/31/2009	11.85	12/31/1996	38.83
12/31/2008	-19.40	12/31/1995	59.10
12/31/2007	26.87		

EX US GROWTH EQUITY: FUND INDEX ANALYSIS



CAMBRIDGE
ASSOCIATES

EX US GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US GROWTH EQUITY INDEX¹	4.92	12.76	12.95	10.44	10.33	11.31	9.89	9.73
Bloomberg Barclays Capital Government/Credit Bond Index	-0.01	9.71	4.35	3.23	3.96	4.21	5.14	5.63
Dow Jones Industrial Average Index	6.67	25.34	15.73	12.59	13.40	9.45	7.19	10.90
Dow Jones US Small Cap Index	7.68	27.56	9.84	7.89	12.06	8.74	8.67	10.62
Dow Jones US TopCap Index	9.10	31.54	15.37	11.69	13.60	9.22	6.21	10.25
MSCI Emerging Markets Index(gross)	11.93	18.88	11.99	6.01	4.04	7.85	7.03	6.01
MSCI Europe Index (US\$) (net)	8.84	23.77	9.77	5.06	5.17	4.75	3.56	7.03
MSCI Europe Index (€) (net)	5.71	26.05	7.51	6.65	7.78	6.10	2.97	7.46
MSCI Pacific Index (net)	7.03	19.25	9.35	7.00	6.33	5.11	2.83	2.76
MSCI World Ex US Index (net)	7.86	22.49	9.34	5.42	5.32	4.90	3.45	5.31
MSCI World Index (net)	8.56	27.67	12.57	8.74	9.47	6.92	4.50	7.39
Nasdaq Composite Index*	12.17	35.23	18.57	13.63	14.74	9.91	4.03	10.43
Russell 1000® Index	9.04	31.43	15.05	11.48	13.54	9.12	6.29	10.33
Russell 2000® Index	9.94	25.52	8.59	8.23	11.83	7.92	7.59	9.35
S&P 500 Index	9.07	31.49	15.27	11.70	13.56	9.00	6.06	10.22

The index is a horizon calculation based on data compiled from 346 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2019.

¹ Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.

Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets Indices are gross of dividend taxes. Total Returns for MSCI Developed Markets Indices are net of dividend taxes.

EX US GROWTH EQUITY

AS OF DECEMBER 31, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
EX US GROWTH EQUITY INDEX¹	12.76	12.95	10.44	10.33	11.31	9.89	9.73

MPME ANALYSIS ²							
MSCI EAFE Index (net)	21.97	9.32	5.82	5.82	5.03	4.50	4.92
Value-Add (bps)	-922	363	462	452	628	539	482
MSCI Europe Index (net)	23.73	9.54	5.29	5.56	4.87	4.41	5.12
Value-Add (bps)	-1,097	341	515	478	644	548	462
S&P 500 Index	31.51	15.24	11.72	13.68	10.98	9.10	10.16
Value-Add (bps)	-1,875	-229	-128	-334	34	79	-43
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	18.85	11.53	6.35	4.53	6.14	6.16	6.34
Value-Add (bps)	-609	142	410	581	517	373	339
Constructed Index: MSCI World/MSCI All Country World Index ⁴ (gross)	27.28	12.95	9.14	9.61	8.23	7.06	7.70
Value-Add (bps)	-1,452	0	130	73	308	284	204

The index is a horizon calculation based on data compiled from 346 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2019.

¹ Pooled horizon return, net of fees, expenses, and carried interest.

² CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

³ Constructed MSCI EM Index: Data from 1/1/1986 to 12/31/1987 represented by GFD Emerging Markets price return. Data from 1/1/1988 to present represented by MSCI Emerging Markets total return gross.

⁴ Constructed Index: MSCI World/MSCI All Country World Index: Data from 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

Sources: Cambridge Associates LLC, Global Financial Data, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

AS OF DECEMBER 31, 2019

EX US GROWTH EQUITY

FUND INDEX DETAILS: ONE QUARTER HORIZON POOLED RETURN

Net to Limited Partners

QUARTER ENDING	HORIZON RETURN
1995 Q1	0.07
1995 Q2	0.48
1995 Q3	1.53
1995 Q4	-4.38
1996 Q1	0.92
1996 Q2	1.13
1996 Q3	1.39
1996 Q4	5.62
1997 Q1	4.46
1997 Q2	-0.42
1997 Q3	-2.78
1997 Q4	-7.75
1998 Q1	2.50
1998 Q2	-6.37
1998 Q3	-2.76
1998 Q4	6.18
1999 Q1	0.78
1999 Q2	8.71
1999 Q3	-1.07
1999 Q4	11.47
2000 Q1	8.17
2000 Q2	-3.72
2000 Q3	-3.37
2000 Q4	-7.39
2001 Q1	-2.21
2001 Q2	-0.52

QUARTER ENDING	HORIZON RETURN
2001 Q3	-5.47
2001 Q4	0.18
2002 Q1	2.18
2002 Q2	-1.86
2002 Q3	-9.39
2002 Q4	-1.35
2003 Q1	-3.42
2003 Q2	6.03
2003 Q3	7.57
2003 Q4	5.97
2004 Q1	6.68
2004 Q2	-0.51
2004 Q3	3.07
2004 Q4	10.36
2005 Q1	6.44
2005 Q2	5.91
2005 Q3	7.16
2005 Q4	7.41
2006 Q1	9.15
2006 Q2	0.37
2006 Q3	7.25
2006 Q4	16.89
2007 Q1	11.73
2007 Q2	13.07
2007 Q3	5.64
2007 Q4	14.22

QUARTER ENDING	HORIZON RETURN
2008 Q1	-8.35
2008 Q2	-1.24
2008 Q3	-11.28
2008 Q4	-18.41
2009 Q1	-2.55
2009 Q2	13.24
2009 Q3	9.42
2009 Q4	10.17
2010 Q1	5.84
2010 Q2	-1.28
2010 Q3	8.77
2010 Q4	10.32
2011 Q1	2.96
2011 Q2	2.51
2011 Q3	-8.83
2011 Q4	-0.65
2012 Q1	6.12
2012 Q2	-3.30
2012 Q3	1.30
2012 Q4	4.25
2013 Q1	1.41
2013 Q2	-0.25
2013 Q3	2.75
2013 Q4	8.75
2014 Q1	3.58
2014 Q2	4.03

QUARTER ENDING	HORIZON RETURN
2014 Q3	1.71
2014 Q4	1.06
2015 Q1	2.87
2015 Q2	6.16
2015 Q3	-4.73
2015 Q4	5.29
2016 Q1	-0.82
2016 Q2	0.70
2016 Q3	2.55
2016 Q4	1.50
2017 Q1	3.87
2017 Q2	3.61
2017 Q3	4.01
2017 Q4	5.61
2018 Q1	2.21
2018 Q2	3.71
2018 Q3	1.79
2018 Q4	0.40
2019 Q1	5.55
2019 Q2	1.08
2019 Q3	0.74
2019 Q4	4.92

C | A The index is a horizon calculation based on data compiled from 346 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2019. All returns are net of fees, expenses, and carried interest.

AS OF DECEMBER 31, 2019

EX US GROWTH EQUITY

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	12.76	14 Years	10.78
2 Years	10.51	15 Years	11.31
3 Years	12.95	16 Years	11.59
4 Years	10.65	17 Years	11.75
5 Years	10.44	18 Years	11.02
6 Years	10.49	19 Years	10.42
7 Years	10.85	20 Years	9.89
8 Years	10.58	21 Years	10.10
9 Years	9.17	22 Years	9.98
10 Years	10.33	23 Years	9.80
11 Years	11.65	24 Years	9.80
12 Years	8.41	25 Years	9.73
13 Years	10.00		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
12/31/2019	12.76	12/31/2006	38.01
12/31/2018	8.26	12/31/2005	29.65
12/31/2017	18.19	12/31/2004	20.62
12/31/2016	3.92	12/31/2003	16.76
12/31/2015	9.57	12/31/2002	-10.31
12/31/2014	10.72	12/31/2001	-7.82
12/31/2013	13.32	12/31/2000	-8.22
12/31/2012	8.33	12/31/1999	22.37
12/31/2011	-4.53	12/31/1998	0.02
12/31/2010	25.54	12/31/1997	-8.08
12/31/2009	33.34	12/31/1996	9.74
12/31/2008	-35.23	12/31/1995	-3.13
12/31/2007	52.50		

DESCRIPTION OF PERFORMANCE MEASUREMENT METHODOLOGY

Cambridge Associates LLC (CA) has established a database to monitor investments made by venture capital and other alternative asset partnerships. On December 31, 2019, 2,256 private equity funds (buyout & growth equity only) from the years 1986 through 2019 were included in the sample. Users of the analysis may find the following description of the data sources and calculation techniques helpful to their interpretation of information presented in the report:

Partnership financial statements and narratives are the primary source of information concerning cash flows and ending residual/ net asset values (NAV) for both partnerships and portfolio company investments.

Recognizing the alternative asset community's sensitivity to the distribution of information pertaining to individual fund investments, as a matter of policy CA only releases aggregated figures in its benchmark report.

Vintage year is defined as the legal inception date as noted in a fund's financial statement. This date can usually be found in the first note to the audited financial statements and is prior to the first close or capital call.

CA uses both the since inception internal rate of return and the end-to-end or horizon performance calculation in its benchmark reports:

The since inception internal rate of return (SIIRR) is a since inception calculation that solves for the discount rate, which makes the net present value of an investment equal to zero. The calculation is based on cash-on-cash returns over equal periods modified for the residual value of the partnership's equity or portfolio company's NAV. The residual value attributed to each respective group being measured is incorporated as its ending value. Transactions are accounted for on a quarterly basis, and annualized values are used for reporting purposes. Please note that all transactions are recorded on the 45th day or midpoint of the quarter.

Cambridge Associates uses the end-to-end or horizon internal rate of return calculation to calculate the official quarterly, annual, and multi-year index figures. The horizon IRR performance calculation is a money-weighted return similar to the since inception IRR; however, it is measuring performance between two points in time. The calculation incorporates the beginning NAV (if any, treated as an inflow), interim cash flows and the ending NAV (if any, treated as an outflow). All interim cash flows are recorded on the mid-period date of the quarter. In order for a fund to be included in a horizon IRR calculation, the fund must have at least one quarterly contribution, distribution or NAV during the time frame being measured. Similar to the since inception IRR, the horizon IRR is annualized for time frames greater than one year.

DESCRIPTION OF PERFORMANCE MEASUREMENT METHODOLOGY

Additional Calculation Definitions:

In order to provide meaningful statistics, Cambridge Associates has applied minimum fund count thresholds for each calculation. See minimum counts in parenthesis after each calculation.

Pooled return aggregates all cash flows and ending NAVs in a sample to calculate a dollar-weighted return. (minimum 3 funds)

Arithmetic mean averages the individual fund IRRs included in a vintage year. (minimum 3 funds)

Median is the middle fund IRR of the group of individual fund IRRs included in a vintage year. (minimum 5 funds)

Equal-weighted pooled return equally weights all cash flows and ending NAVs based on committed capital to calculate a dollar-weighted return. (minimum 3 funds)

Upper/ lower quartile are the thresholds for the upper (top 25%) and lower (bottom 25%) quartiles based on the individual fund IRRs included in a vintage year. Can be used in conjunction with the median to determine quartile placement. (minimum 8 funds)

Top 5 percent/ bottom 5 percent are the thresholds for the upper and lower 5th percentiles based on the individual fund IRRs included in a vintage year. (minimum 8 funds)

Standard deviation is a measure of the dispersion of the individual returns. The calculation employs the standard methodology for calculating a sample mean (not a population mean). (minimum 8 funds)

Realization ratio exhibits (TVPI, DPI, RVPI): CA has independently calculated the proper realization ratio for each fund in each vintage year. Please note that each fund has been ranked within its respective vintage year by the corresponding realization ratio, as opposed to being ranked by IRR as they are ranked in the since inception IRR exhibit. As a result a fund's ranking within its vintage year may change. For example, it is possible that a vintage year can have a different median fund when ranked by IRR vs. when ranked by TVPI, DPI or RVPI.

Cambridge Associates Modified Public Market Equivalent (mPME): The mPME calculation is a private-to-public comparison that seeks to replicate private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and the mPME NAV (the value of the shares held by the public equivalent) is a function of mPME cash flows and public index returns. The mPME attempts to evaluate what return would have been earned had the dollars been deployed in the public markets instead of in private investments while avoiding the "negative NAV" issue inherent in some PME methodologies. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return.

Exhibits detailing data for portfolio companies are grouped by year of the fund's initial investment in a company, as opposed to vintage year. Returns are gross returns.



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