



Buyout & Growth Equity Index and Selected Benchmark Statistics

March 31, 2018

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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 2,000 fund managers and their over 7,300 funds. In addition, we capture the performance information (gross) of over 80,000 investments underlying our venture capital, growth equity, buyout, subordinated capital and private equity energy funds. This is one of the largest collections of portfolio-level performance information in the world and represents the investments of approximately 77% of these funds on a count basis and 83% 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

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 nine 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 0.6% (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 8% (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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Buyout & Growth Equity: Fund Index Analysis

Buyout & Growth Equity: 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 & Growth Equity Index¹	2.86	20.69	14.05	14.24	9.35	14.56	12.40	13.62
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36	13.25	7.85	7.82
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06	8.59	4.29	7.65
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68	7.73	3.52	7.64
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32	8.70	4.87	3.64
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59	8.63	4.54	6.02
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90	9.15	5.24	7.41
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47

The index is a horizon calculation based on data compiled from 2,103 buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc. *Capital change only.

Notes: 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 & Growth Equity: 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 & Growth Equity Index¹	20.69	14.05	14.24	9.35	14.56	12.40	13.62
mPME Analysis ²							
MSCI EAFE Index (net)	14.90	5.41	6.62	3.64	6.61	4.75	4.97
Value-Add (bps)	579	864	762	571	796	766	865
MSCI Europe Index (net)	14.61	4.68	6.67	3.11	6.62	4.62	5.37
Value-Add (bps)	608	936	757	624	795	778	824
S&P 500 Index	14.10	10.36	13.61	10.23	10.04	7.90	8.74
Value-Add (bps)	659	368	63	-88	452	450	487
Russell 2000® Index	11.90	7.86	11.80	10.54	11.18	8.78	9.32
Value-Add (bps)	880	618	244	-119	338	363	430
Russell 3000® Index	13.92	9.77	13.36	10.36	10.30	8.10	8.90
Value-Add (bps)	678	428	88	-101	426	430	472
Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)	15.56	8.36	9.82	6.82	8.65	6.58	7.01
Value-Add (bps)	513	569	441	253	591	582	661

The index is a horizon calculation based on data compiled from 2,103 buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	1.91	1999 Q1	4.45	2005 Q3	6.85	2012 Q1	6.29
1986 Q2	4.54	1992 Q4	8.34	1999 Q2	9.64	2005 Q4	9.07	2012 Q2	-0.68
1986 Q3	-2.66	1993 Q1	2.58	1999 Q3	4.07	2006 Q1	6.30	2012 Q3	3.82
1986 Q4	1.16	1993 Q2	5.51	1999 Q4	17.00	2006 Q2	7.80	2012 Q4	4.13
1987 Q1	4.37	1993 Q3	6.25	2000 Q1	12.36	2006 Q3	3.76	2013 Q1	3.22
1987 Q2	1.24	1993 Q4	8.27	2000 Q2	-0.82	2006 Q4	15.87	2013 Q2	2.59
1987 Q3	1.86	1994 Q1	2.04	2000 Q3	-0.75	2007 Q1	5.17	2013 Q3	5.80
1987 Q4	-1.45	1994 Q2	2.83	2000 Q4	-5.03	2007 Q2	10.58	2013 Q4	7.51
1988 Q1	1.44	1994 Q3	1.98	2001 Q1	-6.06	2007 Q3	3.22	2014 Q1	3.13
1988 Q2	3.53	1994 Q4	6.24	2001 Q2	2.10	2007 Q4	4.37	2014 Q2	4.76
1988 Q3	3.02	1995 Q1	3.96	2001 Q3	-6.30	2008 Q1	-0.51	2014 Q3	-0.38
1988 Q4	3.04	1995 Q2	3.95	2001 Q4	-1.37	2008 Q2	-1.60	2014 Q4	2.13
1989 Q1	1.26	1995 Q3	4.16	2002 Q1	-0.66	2008 Q3	-10.36	2015 Q1	1.45
1989 Q2	3.02	1995 Q4	9.80	2002 Q2	-0.27	2008 Q4	-18.78	2015 Q2	5.37
1989 Q3	1.56	1996 Q1	5.38	2002 Q3	-4.51	2009 Q1	-5.01	2015 Q3	-1.04
1989 Q4	1.45	1996 Q2	6.66	2002 Q4	1.43	2009 Q2	6.75	2015 Q4	2.61
1990 Q1	-0.16	1996 Q3	6.40	2003 Q1	0.01	2009 Q3	7.57	2016 Q1	1.50
1990 Q2	5.90	1996 Q4	8.60	2003 Q2	7.18	2009 Q4	7.19	2016 Q2	2.55
1990 Q3	-0.25	1997 Q1	0.61	2003 Q3	4.71	2010 Q1	2.77	2016 Q3	3.98
1990 Q4	1.52	1997 Q2	10.23	2003 Q4	10.74	2010 Q2	0.23	2016 Q4	2.64
1991 Q1	2.02	1997 Q3	6.37	2004 Q1	2.54	2010 Q3	7.37	2017 Q1	4.28
1991 Q2	0.50	1997 Q4	8.71	2004 Q2	4.06	2010 Q4	9.35	2017 Q2	5.88
1991 Q3	3.15	1998 Q1	9.07	2004 Q3	3.18	2011 Q1	5.21	2017 Q3	4.83
1991 Q4	4.04	1998 Q2	5.60	2004 Q4	16.63	2011 Q2	5.17	2017 Q4	5.48
1992 Q1	0.93	1998 Q3	-5.11	2005 Q1	1.14	2011 Q3	-6.45	2018 Q1	2.86
1992 Q2	1.74	1998 Q4	6.72	2005 Q2	7.48	2011 Q4	3.17		

The index is a horizon calculation based on data compiled from 2,103 buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample. Benchmarks with "—" have an insufficient number of funds in the vintage year sample to produce a meaningful return.

Buyout & Growth Equity Index and Selected Benchmark Statistics

Data as of
March 31, 2018

Buyout & Growth Equity: Fund Index Details: Horizon Pooled Return Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	20.69	16 Years	13.50
2 Years	17.21	17 Years	12.42
3 Years	14.05	18 Years	11.16
4 Years	12.32	19 Years	12.42
5 Years	14.24	20 Years	12.40
6 Years	13.50	21 Years	12.96
7 Years	12.45	22 Years	13.18
8 Years	14.16	23 Years	13.41
9 Years	15.66	24 Years	13.45
10 Years	9.35	25 Years	13.62
11 Years	10.01		
12 Years	11.66		
13 Years	12.91		
14 Years	13.73		
15 Years	14.56		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	20.69	3/31/2003	-3.23
3/31/2017	14.12	3/31/2002	-6.27
3/31/2016	8.73	3/31/2001	-12.40
3/31/2015	8.27	3/31/2000	50.63
3/31/2014	20.24	3/31/1999	11.98
3/31/2013	10.89	3/31/1998	39.02
3/31/2012	7.86	3/31/1997	24.13
3/31/2011	23.91	3/31/1996	25.27
3/31/2010	26.33	3/31/1995	15.86
3/31/2009	-32.36	3/31/1994	23.84
3/31/2008	17.77		
3/31/2007	36.34		
3/31/2006	33.14		
3/31/2005	26.69		
3/31/2004	27.47		

The index is a horizon calculation based on data compiled from 2,103 buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



Buyout & Growth Equity: Fund Since Inception Analysis

Buyout & Growth Equity Index and Selected Benchmark Statistics

Data as of
March 31, 2018

Buyout & Growth Equity: 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
1993	26.07	17.80	20.31	21.20	32.75	9.50	27.82	2.37	0.00	2.37	28
1994	24.51	16.02	10.02	15.31	25.53	2.74	17.61	2.48	0.00	2.48	36
1995	21.24	14.88	10.88	17.47	28.60	-2.08	24.53	1.97	0.00	1.97	46
1996	11.19	9.52	8.49	9.35	13.45	-1.79	19.38	1.63	0.00	1.63	52
1997	9.40	9.81	9.48	9.72	16.38	0.65	19.35	1.60	0.00	1.60	85
1998	8.60	11.29	10.27	13.04	18.97	4.86	11.07	1.53	0.03	1.55	81
1999	15.00	13.22	12.14	12.95	21.51	4.31	15.14	1.88	0.01	1.89	78
2000	18.34	15.99	14.70	16.27	24.29	7.72	15.75	1.96	0.03	2.00	115
2001	23.92	20.34	18.27	20.68	31.52	11.37	17.57	2.10	0.07	2.17	46
2002	18.80	15.32	16.50	17.41	24.62	6.28	27.66	1.94	0.05	1.99	56
2003	16.33	16.98	14.26	17.29	26.53	6.29	17.51	1.77	0.06	1.83	51
2004	11.09	16.40	9.60	13.80	15.44	5.90	28.89	1.62	0.10	1.72	102
2005	7.57	8.10	7.99	9.77	14.78	2.21	14.95	1.39	0.13	1.52	151
2006	7.85	8.77	8.82	9.98	14.73	3.76	13.45	1.26	0.29	1.54	142
2007	11.26	8.72	9.09	9.23	14.90	4.39	12.58	1.20	0.45	1.65	171
2008	13.33	11.41	10.35	11.65	17.15	5.39	12.78	1.14	0.57	1.71	112
2009	17.43	13.80	11.12	14.64	21.07	6.93	12.41	0.92	1.00	1.93	51
2010	14.46	14.24	13.68	15.36	19.22	5.29	15.02	0.70	0.94	1.64	60
2011	16.65	14.31	14.09	14.53	19.43	7.89	10.96	0.56	1.05	1.61	102
2012	17.13	14.17	13.99	15.07	19.15	8.53	9.74	0.32	1.17	1.49	92
2013	15.88	14.65	14.00	17.36	21.33	8.49	13.06	0.19	1.17	1.35	89
2014	20.51	19.47	16.80	19.51	24.58	10.01	16.21	0.13	1.22	1.35	93
2015	14.28	8.19	9.42	13.21	21.89	-4.69	27.22	0.05	1.10	1.15	91
2016	3.90	-3.39	-2.53	4.03	7.08	-14.70	31.70	0.01	1.02	1.03	55

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Buyout & Growth 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	MSCI EAFE Index (Net)		MSCI Europe Index (Net)		CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)	CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	28	26.07	6.88	1,920	15.13	1,094	2.37	1.25	1.58	2.37	1.25	1.58
1994	36	24.51	6.70	1,780	12.70	1,181	2.48	1.27	1.53	2.48	1.27	1.53
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	85	9.40	3.34	606	3.63	577	1.60	1.18	1.20	1.60	1.18	1.20
1998	81	8.60	3.91	469	4.21	439	1.55	1.21	1.23	1.53	1.19	1.21
1999	78	15.00	6.56	845	7.12	789	1.89	1.30	1.33	1.88	1.30	1.32
2000	115	18.34	9.78	857	10.23	811	2.00	1.39	1.41	1.96	1.37	1.39
2001	46	23.92	10.99	1,293	11.47	1,245	2.17	1.39	1.41	2.10	1.37	1.38
2002	56	18.80	8.07	1,073	8.53	1,027	1.99	1.33	1.35	1.94	1.30	1.32
2003	51	16.33	5.06	1,127	5.46	1,087	1.83	1.21	1.23	1.77	1.17	1.19
2004	102	11.09	2.51	858	2.62	847	1.72	1.13	1.14	1.62	1.07	1.08
2005	151	7.57	1.64	593	1.52	606	1.52	1.10	1.09	1.39	1.00	1.00
2006	142	7.85	2.46	539	2.26	559	1.54	1.15	1.13	1.26	0.95	0.94
2007	171	11.26	5.10	616	4.97	629	1.65	1.25	1.24	1.20	0.94	0.94
2008	112	13.33	6.56	678	6.49	685	1.71	1.30	1.29	1.14	0.90	0.90
2009	51	17.43	6.60	1,083	6.29	1,114	1.93	1.28	1.26	0.92	0.68	0.68
2010	60	14.46	6.86	760	6.47	799	1.64	1.26	1.24	0.70	0.57	0.57
2011	102	16.65	6.57	1,008	5.88	1,076	1.61	1.21	1.18	0.56	0.44	0.44
2012	92	17.13	6.49	1,064	5.52	1,161	1.49	1.16	1.14	0.32	0.26	0.26
2013	89	15.88	7.51	837	6.45	942	1.35	1.16	1.13	0.19	0.16	0.16
2014	93	20.51	9.44	1,107	8.44	1,208	1.35	1.15	1.13	0.13	0.12	0.12
2015	91	14.28	12.51	177	11.59	270	1.15	1.13	1.12	0.05	0.05	0.05
2016	55	3.90	12.50	-859	11.30	-739	1.03	1.10	1.09	0.01	0.01	0.01

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth 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	S&P 500 Index		Russell 2000® Index		CA Benchmark	S&P 500 Index	Russell 2000® Index	CA Benchmark	S&P 500 Index	Russell 2000® Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	28	26.07	19.83	625	11.98	1,409	2.37	1.77	1.48	2.37	1.77	1.47
1994	36	24.51	16.32	819	10.07	1,444	2.48	1.66	1.44	2.48	1.66	1.44
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	610	7.01	418	1.63	1.24	1.38	1.63	1.24	1.38
1997	85	9.40	1.69	771	7.19	221	1.60	1.09	1.41	1.60	1.08	1.41
1998	81	8.60	1.78	683	7.38	122	1.55	1.09	1.42	1.53	1.07	1.39
1999	78	15.00	2.98	1,202	8.33	668	1.89	1.13	1.39	1.88	1.12	1.38
2000	115	18.34	5.74	1,261	9.73	861	2.00	1.24	1.41	1.96	1.21	1.38
2001	46	23.92	7.43	1,649	10.10	1,383	2.17	1.31	1.41	2.10	1.27	1.37
2002	56	18.80	6.84	1,197	8.32	1,048	1.99	1.33	1.41	1.94	1.29	1.36
2003	51	16.33	6.06	1,027	6.62	971	1.83	1.31	1.34	1.77	1.25	1.28
2004	102	11.09	5.86	523	6.21	488	1.72	1.36	1.39	1.62	1.27	1.29
2005	151	7.57	6.86	72	7.12	45	1.52	1.48	1.50	1.39	1.33	1.35
2006	142	7.85	8.58	-73	8.69	-84	1.54	1.62	1.62	1.26	1.30	1.31
2007	171	11.26	12.15	-89	11.80	-54	1.65	1.71	1.67	1.20	1.26	1.24
2008	112	13.33	14.02	-68	13.29	5	1.71	1.75	1.69	1.14	1.17	1.14
2009	51	17.43	13.94	350	12.51	492	1.93	1.66	1.58	0.92	0.86	0.82
2010	60	14.46	13.85	61	12.33	213	1.64	1.59	1.52	0.70	0.70	0.67
2011	102	16.65	13.07	357	11.53	512	1.61	1.45	1.39	0.56	0.53	0.51
2012	92	17.13	12.39	475	10.93	621	1.49	1.33	1.29	0.32	0.30	0.29
2013	89	15.88	12.41	347	11.26	462	1.35	1.27	1.24	0.19	0.18	0.18
2014	93	20.51	13.29	722	12.40	811	1.35	1.22	1.20	0.13	0.13	0.13
2015	91	14.28	14.62	-34	14.28	1	1.15	1.16	1.15	0.05	0.05	0.05
2016	55	3.90	14.13	-1,023	12.70	-879	1.03	1.11	1.10	0.01	0.01	0.01

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream.

Buyout & Growth 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	Russell 3000® Index		MSCI All Country World Index (gross)		CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)	CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	28	26.07	18.62	745	11.74	1,434	2.37	1.73	1.44	2.37	1.72	1.44
1994	36	24.51	15.44	906	10.39	1,411	2.48	1.63	1.42	2.48	1.63	1.42
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	85	9.40	2.49	691	2.87	653	1.60	1.13	1.15	1.60	1.13	1.15
1998	81	8.60	2.56	604	3.30	531	1.55	1.14	1.18	1.53	1.11	1.16
1999	78	15.00	3.76	1,125	5.36	964	1.89	1.17	1.25	1.88	1.16	1.24
2000	115	18.34	6.42	1,192	8.52	982	2.00	1.27	1.35	1.96	1.24	1.33
2001	46	23.92	8.04	1,589	10.01	1,392	2.17	1.33	1.39	2.10	1.29	1.35
2002	56	18.80	7.28	1,152	8.26	1,055	1.99	1.36	1.37	1.94	1.31	1.34
2003	51	16.33	6.36	998	6.34	999	1.83	1.32	1.30	1.77	1.26	1.24
2004	102	11.09	6.08	500	4.81	627	1.72	1.38	1.28	1.62	1.28	1.20
2005	151	7.57	7.04	53	4.53	304	1.52	1.50	1.29	1.39	1.34	1.17
2006	142	7.85	8.73	-88	5.53	232	1.54	1.63	1.36	1.26	1.31	1.10
2007	171	11.26	12.22	-96	8.30	296	1.65	1.71	1.44	1.20	1.26	1.07
2008	112	13.33	14.02	-69	9.87	347	1.71	1.75	1.48	1.14	1.17	1.01
2009	51	17.43	13.78	366	9.90	753	1.93	1.65	1.44	0.92	0.86	0.75
2010	60	14.46	13.66	79	10.06	440	1.64	1.58	1.41	0.70	0.70	0.62
2011	102	16.65	12.83	382	9.86	679	1.61	1.44	1.33	0.56	0.52	0.48
2012	92	17.13	12.11	503	9.77	736	1.49	1.33	1.26	0.32	0.30	0.28
2013	89	15.88	12.15	373	10.59	529	1.35	1.26	1.23	0.19	0.18	0.17
2014	93	20.51	13.09	743	12.21	830	1.35	1.21	1.20	0.13	0.13	0.13
2015	91	14.28	14.59	-31	14.71	-43	1.15	1.15	1.16	0.05	0.05	0.05
2016	55	3.90	14.04	-1,014	14.48	-1,058	1.03	1.11	1.12	0.01	0.01	0.01

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: 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
1993	2.37	2.12	2.02	2.75	1.56	28
1994	2.48	1.89	1.55	2.44	1.22	36
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	1.60	1.56	1.62	1.97	1.03	85
1998	1.55	1.88	1.61	2.07	1.29	81
1999	1.89	1.78	1.56	2.22	1.19	78
2000	2.00	1.93	1.88	2.36	1.40	115
2001	2.17	1.98	1.94	2.41	1.52	46
2002	1.99	1.99	1.92	2.39	1.48	56
2003	1.83	1.84	1.79	2.16	1.38	51
2004	1.72	1.79	1.61	1.98	1.31	102
2005	1.52	1.64	1.53	1.99	1.13	151
2006	1.54	1.68	1.55	1.93	1.22	142
2007	1.65	1.54	1.54	1.86	1.26	171
2008	1.71	1.64	1.58	1.91	1.28	112
2009	1.93	1.77	1.71	2.15	1.36	51
2010	1.64	1.71	1.56	1.99	1.27	60
2011	1.61	1.55	1.48	1.81	1.28	102
2012	1.49	1.44	1.42	1.58	1.26	92
2013	1.35	1.40	1.36	1.50	1.18	89
2014	1.35	1.35	1.27	1.43	1.15	93
2015	1.15	1.10	1.14	1.26	0.94	91
2016	1.03	0.96	0.98	1.06	0.89	55

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Buyout & Growth Equity: 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
1993	2.37	2.12	2.02	2.75	1.56	28
1994	2.48	1.89	1.55	2.44	1.22	36
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	1.60	1.56	1.60	1.96	1.03	85
1998	1.53	1.86	1.61	2.07	1.27	81
1999	1.88	1.77	1.56	2.21	1.14	78
2000	1.96	1.86	1.79	2.25	1.39	115
2001	2.10	1.95	1.93	2.35	1.50	46
2002	1.94	1.91	1.84	2.39	1.33	56
2003	1.77	1.78	1.74	2.12	1.18	51
2004	1.62	1.64	1.48	1.83	1.19	102
2005	1.39	1.47	1.36	1.81	0.90	151
2006	1.26	1.35	1.24	1.66	0.88	142
2007	1.20	1.12	1.12	1.49	0.64	171
2008	1.14	1.03	0.93	1.42	0.60	112
2009	0.92	0.79	0.57	1.25	0.34	51
2010	0.70	0.70	0.64	1.01	0.24	60
2011	0.56	0.51	0.42	0.80	0.13	102
2012	0.32	0.33	0.25	0.49	0.08	92
2013	0.19	0.26	0.15	0.34	0.01	89
2014	0.13	0.15	0.05	0.20	0.00	93
2015	0.05	0.05	0.00	0.01	0.00	91
2016	0.01	0.00	0.00	0.00	0.00	55

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Buyout & Growth Equity: 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
1993	0.00	0.00	0.00	0.00	0.00	28
1994	0.00	0.00	0.00	0.00	0.00	36
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	85
1998	0.03	0.03	0.00	0.00	0.00	81
1999	0.01	0.02	0.00	0.00	0.00	78
2000	0.03	0.07	0.00	0.03	0.00	115
2001	0.07	0.04	0.00	0.02	0.00	46
2002	0.05	0.08	0.00	0.08	0.00	56
2003	0.06	0.07	0.01	0.08	0.00	51
2004	0.10	0.15	0.04	0.17	0.01	102
2005	0.13	0.17	0.10	0.24	0.01	151
2006	0.29	0.33	0.25	0.44	0.07	142
2007	0.45	0.42	0.35	0.58	0.14	171
2008	0.57	0.61	0.58	0.82	0.35	112
2009	1.00	0.98	0.88	1.20	0.57	51
2010	0.94	1.01	0.93	1.09	0.64	60
2011	1.05	1.04	1.02	1.26	0.81	102
2012	1.17	1.12	1.16	1.26	0.95	92
2013	1.17	1.14	1.13	1.31	0.97	89
2014	1.22	1.20	1.17	1.34	1.01	93
2015	1.10	1.06	1.08	1.20	0.91	91
2016	1.02	0.96	0.98	1.05	0.89	55

Notes: Based on data compiled from 1,985 buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



US Buyout & Growth Equity: Fund Index Analysis



US Buyout & Growth Equity: 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 & Growth Equity Index¹	3.16	18.75	13.53	15.47	11.03	14.75	12.18	13.88
Bloomberg Barclays Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47
Wilshire 5000 Total Market Index	-0.76	13.69	10.48	13.13	9.65	10.57	6.76	9.52

The index is a horizon calculation based on data compiled from 1,088 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.
*Capital change only.

US Buyout & Growth Equity: 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 & Growth Equity Index¹	18.75	13.53	15.47	11.03	14.75	12.18	13.88
mPME Analysis ²							
Russell 2000® Index	11.91	8.07	11.91	10.42	11.31	8.49	9.19
Value-Add (bps)	684	546	356	61	344	368	470
Russell 2500™ Index	12.40	7.77	11.99	10.91	12.07	9.41	10.22
Value-Add (bps)	635	576	349	12	268	277	366
Russell 3000® Index	13.93	9.92	13.42	10.13	10.21	7.70	8.72
Value-Add (bps)	482	361	206	90	455	447	516
Russell Midcap® Index	12.28	7.61	12.62	10.86	12.17	9.56	10.45
Value-Add (bps)	647	592	286	17	258	262	343
S&P 500 Index	14.11	10.50	13.66	9.98	9.91	7.48	8.57
Value-Add (bps)	464	303	181	104	484	469	531
Constructed Index: MSCI World/MSCI All Country World Index (gross) ³	15.57	8.55	9.93	6.62	8.80	6.37	6.93
Value-Add (bps)	318	498	554	441	596	581	696

The index is a horizon calculation based on data compiled from 1,088 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	2.70	1999 Q1	5.85	2005 Q3	7.50	2012 Q1	5.55
1986 Q2	4.54	1992 Q4	9.80	1999 Q2	10.47	2005 Q4	7.83	2012 Q2	0.26
1986 Q3	-2.66	1993 Q1	2.83	1999 Q3	3.48	2006 Q1	5.60	2012 Q3	4.06
1986 Q4	1.16	1993 Q2	6.08	1999 Q4	19.11	2006 Q2	3.50	2012 Q4	3.79
1987 Q1	4.37	1993 Q3	6.68	2000 Q1	14.83	2006 Q3	3.70	2013 Q1	4.86
1987 Q2	1.29	1993 Q4	7.20	2000 Q2	-1.51	2006 Q4	12.57	2013 Q2	3.38
1987 Q3	1.97	1994 Q1	1.30	2000 Q3	-0.18	2007 Q1	5.70	2013 Q3	5.66
1987 Q4	-2.12	1994 Q2	3.19	2000 Q4	-7.02	2007 Q2	7.81	2013 Q4	7.50
1988 Q1	2.59	1994 Q3	1.78	2001 Q1	-6.37	2007 Q3	1.09	2014 Q1	3.26
1988 Q2	4.29	1994 Q4	6.94	2001 Q2	3.03	2007 Q4	2.77	2014 Q2	4.82
1988 Q3	4.18	1995 Q1	3.86	2001 Q3	-8.98	2008 Q1	-2.63	2014 Q3	1.64
1988 Q4	2.10	1995 Q2	4.05	2001 Q4	-0.12	2008 Q2	-0.18	2014 Q4	3.26
1989 Q1	1.67	1995 Q3	4.29	2002 Q1	-0.71	2008 Q3	-6.65	2015 Q1	3.36
1989 Q2	3.97	1995 Q4	11.27	2002 Q2	-2.92	2008 Q4	-16.65	2015 Q2	4.49
1989 Q3	1.49	1996 Q1	6.10	2002 Q3	-5.11	2009 Q1	-3.70	2015 Q3	-0.19
1989 Q4	1.46	1996 Q2	6.92	2002 Q4	-0.06	2009 Q2	4.76	2015 Q4	1.92
1990 Q1	-0.21	1996 Q3	6.67	2003 Q1	-0.33	2009 Q3	6.42	2016 Q1	0.48
1990 Q2	5.64	1996 Q4	6.66	2003 Q2	6.98	2009 Q4	6.25	2016 Q2	3.56
1990 Q3	-0.41	1997 Q1	0.85	2003 Q3	5.73	2010 Q1	4.91	2016 Q3	3.89
1990 Q4	1.22	1997 Q2	11.58	2003 Q4	9.40	2010 Q2	2.03	2016 Q4	3.75
1991 Q1	3.12	1997 Q3	7.39	2004 Q1	3.07	2010 Q3	4.89	2017 Q1	4.14
1991 Q2	1.12	1997 Q4	9.30	2004 Q2	3.43	2010 Q4	9.42	2017 Q2	4.44
1991 Q3	2.93	1998 Q1	10.61	2004 Q3	2.09	2011 Q1	5.24	2017 Q3	4.29
1991 Q4	3.93	1998 Q2	4.92	2004 Q4	15.30	2011 Q2	4.72	2017 Q4	5.41
1992 Q1	1.75	1998 Q3	-6.84	2005 Q1	0.99	2011 Q3	-4.43	2018 Q1	3.16
1992 Q2	1.18	1998 Q4	8.16	2005 Q2	8.22	2011 Q4	5.02		

The index is a horizon calculation based on data compiled from 1,088 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

US Buyout & Growth Equity: Fund Index Details: Horizon Pooled Return Net to Limited Partners

Multi-Year Returns				One Year Rolling Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)	One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
1 Year	18.75	16 Years	13.23	3/31/2018	18.75	3/31/2003	-7.96
2 Years	17.43	17 Years	12.04	3/31/2017	16.23	3/31/2002	-6.98
3 Years	13.53	18 Years	10.56	3/31/2016	6.93	3/31/2001	-14.58
4 Years	13.59	19 Years	12.18	3/31/2015	13.74	3/31/2000	56.93
5 Years	15.47	20 Years	12.18	3/31/2014	21.21	3/31/1999	12.26
6 Years	14.98	21 Years	13.00	3/31/2013	13.34	3/31/1998	44.88
7 Years	14.19	22 Years	13.25	3/31/2012	10.93	3/31/1997	22.93
8 Years	15.66	23 Years	13.61	3/31/2011	23.31	3/31/1996	28.07
9 Years	16.82	24 Years	13.68	3/31/2010	24.28	3/31/1995	16.67
10 Years	11.03	25 Years	13.88	3/31/2009	-25.56	3/31/1994	22.82
11 Years	10.79			3/31/2008	8.34		
12 Years	11.97			3/31/2007	27.80		
13 Years	13.24			3/31/2006	32.53		
14 Years	13.86			3/31/2005	22.96		
15 Years	14.75			3/31/2004	27.59		

The index is a horizon calculation based on data compiled from 1,088 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



US Buyout & Growth Equity: Fund Since Inception Analysis



Buyout & Growth Equity Index and Selected Benchmark Statistics

Data as of
March 31, 2018

US Buyout & Growth Equity: 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
1993	27.58	19.75	25.28	24.67	34.24	12.73	32.17	2.43	0.00	2.43	20
1994	25.52	13.92	9.67	14.57	18.92	2.33	16.11	2.58	0.00	2.58	15
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	7.11	6.68	6.92	5.72	12.67	-1.04	15.40	1.44	0.00	1.45	41
1998	7.18	9.85	9.63	10.29	14.65	4.32	9.93	1.42	0.03	1.45	48
1999	14.59	10.72	11.69	11.23	17.17	4.73	12.02	1.88	0.01	1.89	44
2000	15.24	13.25	13.78	13.08	21.75	7.59	12.24	1.80	0.03	1.83	69
2001	20.11	18.15	15.49	17.02	30.05	11.37	16.56	2.11	0.11	2.22	22
2002	15.93	12.11	16.10	14.24	22.45	5.55	25.26	1.83	0.06	1.89	27
2003	14.61	13.80	11.61	12.93	16.64	3.74	13.56	1.88	0.09	1.97	26
2004	10.29	10.63	10.04	10.60	13.24	7.64	7.03	1.62	0.09	1.71	56
2005	8.94	8.41	9.81	10.67	15.40	3.96	14.60	1.51	0.17	1.67	78
2006	9.10	12.17	11.98	11.94	15.89	7.44	14.11	1.32	0.35	1.67	61
2007	12.77	12.39	12.83	12.21	19.77	7.72	11.61	1.20	0.52	1.72	74
2008	15.66	16.36	13.88	15.44	22.07	9.41	10.72	1.23	0.58	1.81	53
2009	21.53	18.68	21.01	19.05	24.21	9.60	12.84	1.11	1.05	2.15	23
2010	20.54	23.36	17.69	22.09	23.89	13.86	18.08	0.99	1.06	2.05	20
2011	17.64	17.12	15.19	17.11	23.31	9.34	10.23	0.60	1.02	1.62	53
2012	18.61	17.09	17.11	18.37	21.45	11.79	9.28	0.26	1.19	1.44	38
2013	13.55	13.73	13.91	17.22	20.61	6.78	14.54	0.18	1.13	1.32	49
2014	20.55	18.93	16.29	18.48	21.80	9.32	16.68	0.15	1.22	1.37	56
2015	13.49	6.18	7.95	11.90	21.12	-6.82	28.41	0.04	1.10	1.14	52
2016	4.45	-2.27	-2.39	4.80	5.92	-12.54	37.72	0.01	1.03	1.04	32

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

US Buyout & Growth 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	Russell 2000® Index		Russell 2500™ Index		CA Benchmark	Russell 2000® Index	Russell 2500™ Index	CA Benchmark	Russell 2000® Index	Russell 2500™ Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	20	27.58	11.85	1,573	14.36	1,322	2.43	1.46	1.59	2.43	1.46	1.59
1994	15	25.52	9.34	1,618	11.86	1,366	2.58	1.45	1.61	2.58	1.45	1.61
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	41	7.11	7.33	-22	9.10	-200	1.45	1.45	1.58	1.44	1.44	1.57
1998	48	7.18	7.43	-25	8.95	-176	1.45	1.45	1.56	1.42	1.41	1.51
1999	44	14.59	8.28	631	9.41	518	1.89	1.39	1.46	1.88	1.39	1.45
2000	69	15.24	9.40	584	10.29	495	1.83	1.42	1.47	1.80	1.39	1.44
2001	22	20.11	8.70	1,140	9.57	1,053	2.22	1.44	1.50	2.11	1.37	1.42
2002	27	15.93	8.22	770	9.14	679	1.89	1.44	1.50	1.83	1.36	1.42
2003	26	14.61	6.31	830	7.14	747	1.97	1.37	1.43	1.88	1.29	1.35
2004	56	10.29	6.12	417	6.95	333	1.71	1.40	1.46	1.62	1.31	1.37
2005	78	8.94	7.37	156	8.19	75	1.67	1.54	1.61	1.51	1.37	1.44
2006	61	9.10	8.29	81	9.00	10	1.67	1.59	1.66	1.32	1.26	1.31
2007	74	12.77	12.07	70	12.77	0	1.72	1.66	1.70	1.20	1.18	1.21
2008	53	15.66	13.32	235	13.99	167	1.81	1.64	1.67	1.23	1.14	1.16
2009	23	21.53	12.65	888	13.04	849	2.15	1.54	1.56	1.11	0.89	0.90
2010	20	20.54	12.60	794	12.89	766	2.05	1.54	1.56	0.99	0.79	0.80
2011	53	17.64	11.54	610	11.64	600	1.62	1.37	1.38	0.60	0.53	0.53
2012	38	18.61	11.09	752	10.91	770	1.44	1.25	1.24	0.26	0.23	0.23
2013	49	13.55	11.01	254	10.77	278	1.32	1.25	1.25	0.18	0.18	0.18
2014	56	20.55	12.02	852	11.78	877	1.37	1.20	1.20	0.15	0.14	0.14
2015	52	13.49	14.45	-96	14.09	-59	1.14	1.15	1.15	0.04	0.05	0.05
2016	32	4.45	13.49	-903	13.57	-912	1.04	1.12	1.12	0.01	0.01	0.01

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., Standard & Poor's and Thomson Reuters Datastream.

US Buyout & Growth 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	Russell 3000® Index		Russell Midcap® Index		CA Benchmark	Russell 3000® Index	Russell Midcap® Index	CA Benchmark	Russell 3000® Index	Russell Midcap® Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	20	27.58	18.42	916	16.28	1,130	2.43	1.70	1.68	2.43	1.69	1.67
1994	15	25.52	13.63	1,189	13.35	1,217	2.58	1.60	1.69	2.58	1.60	1.69
1995	26	21.79	12.62	917	12.44	935	2.00	1.46	1.51	2.00	1.46	1.51
1996	28	10.42	4.98	544	9.12	130	1.60	1.25	1.54	1.60	1.25	1.54
1997	41	7.11	2.50	460	8.57	-146	1.45	1.14	1.54	1.44	1.13	1.54
1998	48	7.18	2.74	445	8.47	-128	1.45	1.15	1.53	1.42	1.12	1.49
1999	44	14.59	3.77	1,082	9.35	524	1.89	1.17	1.46	1.88	1.16	1.45
2000	69	15.24	6.33	891	10.55	470	1.83	1.28	1.49	1.80	1.25	1.46
2001	22	20.11	7.40	1,271	10.21	990	2.22	1.38	1.54	2.11	1.31	1.46
2002	27	15.93	7.23	870	9.78	614	1.89	1.39	1.54	1.83	1.31	1.46
2003	26	14.61	5.90	871	7.53	708	1.97	1.35	1.46	1.88	1.27	1.37
2004	56	10.29	5.96	433	7.21	308	1.71	1.39	1.49	1.62	1.30	1.39
2005	78	8.94	7.31	162	8.36	57	1.67	1.54	1.63	1.51	1.37	1.45
2006	61	9.10	8.30	79	9.12	-2	1.67	1.60	1.67	1.32	1.26	1.32
2007	74	12.77	12.49	28	13.09	-32	1.72	1.69	1.73	1.20	1.19	1.23
2008	53	15.66	13.98	168	14.44	122	1.81	1.69	1.70	1.23	1.16	1.18
2009	23	21.53	13.88	765	13.51	802	2.15	1.61	1.59	1.11	0.92	0.91
2010	20	20.54	13.86	668	13.33	721	2.05	1.61	1.58	0.99	0.82	0.81
2011	53	17.64	12.84	480	12.00	564	1.62	1.42	1.39	0.60	0.55	0.54
2012	38	18.61	12.13	648	10.83	779	1.44	1.27	1.24	0.26	0.23	0.23
2013	49	13.55	11.99	157	10.56	299	1.32	1.28	1.24	0.18	0.18	0.18
2014	56	20.55	12.84	771	11.34	920	1.37	1.22	1.19	0.15	0.14	0.14
2015	52	13.49	14.63	-114	13.14	36	1.14	1.15	1.14	0.04	0.05	0.05
2016	32	4.45	14.45	-999	12.85	-839	1.04	1.13	1.11	0.01	0.01	0.01

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., Standard & Poor's and Thomson Reuters Datastream.

US Buyout & Growth 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	S&P 500 Index		MSCI All Country World Index (gross)		CA Benchmark	S&P 500 Index	MSCI All Country World Index (gross)	CA Benchmark	S&P 500 Index	MSCI All Country World Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	20	27.58	19.60	798	11.59	1,599	2.43	1.74	1.42	2.43	1.73	1.42
1994	15	25.52	14.30	1,122	9.75	1,578	2.58	1.62	1.43	2.58	1.62	1.43
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	41	7.11	1.68	543	3.13	397	1.45	1.09	1.18	1.44	1.09	1.17
1998	48	7.18	1.97	521	3.41	377	1.45	1.11	1.19	1.42	1.08	1.17
1999	44	14.59	3.00	1,159	5.49	910	1.89	1.13	1.26	1.88	1.13	1.25
2000	69	15.24	5.69	955	8.21	703	1.83	1.25	1.36	1.80	1.22	1.33
2001	22	20.11	6.93	1,318	8.53	1,157	2.22	1.36	1.41	2.11	1.29	1.35
2002	27	15.93	6.79	914	8.15	778	1.89	1.36	1.40	1.83	1.29	1.34
2003	26	14.61	5.59	902	5.67	893	1.97	1.33	1.31	1.88	1.25	1.25
2004	56	10.29	5.74	455	4.63	566	1.71	1.37	1.28	1.62	1.28	1.20
2005	78	8.94	7.12	181	4.71	422	1.67	1.52	1.31	1.51	1.35	1.18
2006	61	9.10	8.15	95	5.23	387	1.67	1.59	1.34	1.32	1.25	1.07
2007	74	12.77	12.42	35	8.60	417	1.72	1.69	1.43	1.20	1.19	1.02
2008	53	15.66	13.97	170	9.87	579	1.81	1.69	1.45	1.23	1.16	1.01
2009	23	21.53	14.04	749	9.98	1,155	2.15	1.62	1.41	1.11	0.92	0.81
2010	20	20.54	14.04	650	10.16	1,039	2.05	1.62	1.42	0.99	0.82	0.73
2011	53	17.64	13.09	455	9.91	773	1.62	1.43	1.31	0.60	0.55	0.50
2012	38	18.61	12.40	621	10.27	834	1.44	1.28	1.23	0.26	0.23	0.22
2013	49	13.55	12.27	128	10.34	321	1.32	1.28	1.24	0.18	0.18	0.17
2014	56	20.55	13.07	747	11.84	871	1.37	1.22	1.20	0.15	0.14	0.14
2015	52	13.49	14.65	-115	14.75	-126	1.14	1.15	1.16	0.04	0.05	0.05
2016	32	4.45	14.50	-1,005	14.93	-1,047	1.04	1.13	1.13	0.01	0.01	0.01

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: 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
1993	2.43	2.22	2.11	3.31	1.58	20
1994	2.58	1.79	1.41	2.08	1.16	15
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	1.45	1.33	1.39	1.71	0.90	41
1998	1.45	1.64	1.49	1.99	1.28	48
1999	1.89	1.69	1.54	2.17	1.24	44
2000	1.83	1.81	1.78	2.21	1.35	69
2001	2.22	1.86	1.86	2.24	1.50	22
2002	1.89	1.86	1.88	2.39	1.37	27
2003	1.97	1.72	1.77	2.01	1.27	26
2004	1.71	1.72	1.65	1.95	1.46	56
2005	1.67	1.76	1.66	2.22	1.28	78
2006	1.67	1.83	1.76	2.08	1.45	61
2007	1.72	1.74	1.72	2.06	1.44	74
2008	1.81	1.82	1.74	1.99	1.49	53
2009	2.15	1.98	2.10	2.31	1.45	23
2010	2.05	2.10	1.89	2.10	1.61	20
2011	1.62	1.64	1.53	1.93	1.41	53
2012	1.44	1.50	1.46	1.55	1.33	38
2013	1.32	1.38	1.34	1.47	1.14	49
2014	1.37	1.34	1.24	1.42	1.14	56
2015	1.14	1.09	1.11	1.22	0.93	52
2016	1.04	0.96	0.99	1.06	0.89	32

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

US Buyout & Growth Equity: 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
1993	2.43	2.22	2.11	3.31	1.58	20
1994	2.58	1.79	1.41	2.08	1.16	15
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	1.44	1.32	1.39	1.70	0.90	41
1998	1.42	1.60	1.46	1.92	1.26	48
1999	1.88	1.67	1.53	2.09	1.20	44
2000	1.80	1.71	1.69	2.19	1.35	69
2001	2.11	1.80	1.81	2.19	1.47	22
2002	1.83	1.78	1.88	2.39	1.27	27
2003	1.88	1.62	1.72	1.99	1.10	26
2004	1.62	1.58	1.50	1.82	1.30	56
2005	1.51	1.56	1.44	2.03	1.02	78
2006	1.32	1.43	1.40	1.79	1.06	61
2007	1.20	1.27	1.27	1.75	0.75	74
2008	1.23	1.23	1.23	1.59	0.80	53
2009	1.11	1.09	1.19	1.52	0.54	23
2010	0.99	0.88	0.76	1.02	0.58	20
2011	0.60	0.59	0.50	0.87	0.29	53
2012	0.26	0.37	0.26	0.51	0.11	38
2013	0.18	0.27	0.16	0.32	0.01	49
2014	0.15	0.16	0.07	0.22	0.00	56
2015	0.04	0.05	0.00	0.02	0.00	52
2016	0.01	0.00	0.00	0.00	0.00	32

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

US Buyout & Growth Equity: 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
1993	0.00	0.00	0.00	0.00	0.00	20
1994	0.00	0.00	0.00	0.00	0.00	15
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	41
1998	0.03	0.04	0.00	0.00	0.00	48
1999	0.01	0.02	0.00	0.01	0.00	44
2000	0.03	0.10	0.00	0.04	0.00	69
2001	0.11	0.06	0.00	0.09	0.00	22
2002	0.06	0.07	0.06	0.13	0.00	27
2003	0.09	0.10	0.02	0.13	0.01	26
2004	0.09	0.14	0.07	0.21	0.01	56
2005	0.17	0.20	0.13	0.28	0.03	78
2006	0.35	0.39	0.37	0.48	0.16	61
2007	0.52	0.46	0.40	0.69	0.22	74
2008	0.58	0.59	0.54	0.79	0.37	53
2009	1.05	0.88	0.87	1.07	0.62	23
2010	1.06	1.21	1.04	1.35	0.78	20
2011	1.02	1.05	1.03	1.20	0.89	53
2012	1.19	1.13	1.17	1.26	1.01	38
2013	1.13	1.11	1.11	1.20	0.95	49
2014	1.22	1.18	1.14	1.29	1.04	56
2015	1.10	1.04	1.04	1.16	0.90	52
2016	1.03	0.96	0.99	1.05	0.89	32

Notes: Based on data compiled from 1,011 US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



Ex US Buyout & Growth Equity: Fund Index Analysis



Ex US Buyout & Growth Equity: 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 & Growth Equity Index¹	2.43	23.70	14.82	12.55	7.07	14.22	12.87	13.10
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36	13.25	7.85	7.82
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06	8.59	4.29	7.65
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68	7.73	3.52	7.64
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32	8.70	4.87	3.64
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59	8.63	4.54	6.02
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90	9.15	5.24	7.41
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47

The index is a horizon calculation based on data compiled from 1,015 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1987 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.
*Capital change only.

Notes: 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 & Growth Equity: 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 & Growth Equity Index¹	23.70	14.82	12.55	7.07	14.22	12.87	13.10
mPME Analysis ²							
MSCI EAFE Index (net)	14.91	5.11	6.43	3.88	6.12	4.82	4.93
Value-Add (bps)	879	971	612	319	811	805	817
MSCI Europe Index (net)	14.63	4.38	6.47	3.40	6.04	4.68	5.05
Value-Add (bps)	907	1,044	608	367	819	819	805
S&P 500 Index	14.09	10.19	13.55	10.56	10.21	8.57	9.01
Value-Add (bps)	962	463	-100	-349	401	430	409
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	25.45	8.56	4.67	3.76	10.03	8.11	8.04
Value-Add (bps)	-175	626	788	331	419	476	505
Constructed Index: MSCI World/MSCI All Country World Index (gross) ⁴	15.56	8.10	9.68	7.07	8.41	6.90	7.12
Value-Add (bps)	814	672	287	0	582	596	598

The index is a horizon calculation based on data compiled from 1,015 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1987 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: Fund Index Details: One Quarter Horizon Pooled Return
Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	-3.63	1999 Q1	-0.38	2005 Q3	5.60	2012 Q1	7.43
1986 Q2	—	1992 Q4	-2.66	1999 Q2	6.70	2005 Q4	11.51	2012 Q2	-2.08
1986 Q3	—	1993 Q1	0.55	1999 Q3	6.19	2006 Q1	7.64	2012 Q3	3.45
1986 Q4	—	1993 Q2	0.89	1999 Q4	10.13	2006 Q2	16.07	2012 Q4	4.63
1987 Q1	—	1993 Q3	2.80	2000 Q1	4.32	2006 Q3	3.86	2013 Q1	0.94
1987 Q2	0.00	1993 Q4	17.38	2000 Q2	1.60	2006 Q4	21.64	2013 Q2	1.47
1987 Q3	0.58	1994 Q1	8.04	2000 Q3	-2.61	2007 Q1	4.33	2013 Q3	6.00
1987 Q4	6.44	1994 Q2	0.15	2000 Q4	1.41	2007 Q2	15.19	2013 Q4	7.54
1988 Q1	-9.47	1994 Q3	3.48	2001 Q1	-5.14	2007 Q3	6.65	2014 Q1	2.96
1988 Q2	-5.12	1994 Q4	1.53	2001 Q2	-0.61	2007 Q4	6.87	2014 Q2	4.67
1988 Q3	-11.37	1995 Q1	4.59	2001 Q3	1.71	2008 Q1	2.68	2014 Q3	-3.03
1988 Q4	13.75	1995 Q2	3.32	2001 Q4	-4.69	2008 Q2	-3.60	2014 Q4	0.60
1989 Q1	-3.59	1995 Q3	3.35	2002 Q1	-0.54	2008 Q3	-15.61	2015 Q1	-1.22
1989 Q2	-9.17	1995 Q4	0.98	2002 Q2	7.03	2008 Q4	-22.05	2015 Q2	6.67
1989 Q3	2.48	1996 Q1	1.06	2002 Q3	-3.02	2009 Q1	-7.16	2015 Q3	-2.25
1989 Q4	1.31	1996 Q2	5.16	2002 Q4	5.03	2009 Q2	10.10	2015 Q4	3.62
1990 Q1	0.33	1996 Q3	4.87	2003 Q1	0.78	2009 Q3	9.39	2016 Q1	3.01
1990 Q2	8.34	1996 Q4	19.50	2003 Q2	7.63	2009 Q4	8.61	2016 Q2	1.09
1990 Q3	1.23	1997 Q1	-0.52	2003 Q3	2.51	2010 Q1	-0.35	2016 Q3	4.11
1990 Q4	4.21	1997 Q2	4.32	2003 Q4	13.66	2010 Q2	-2.54	2016 Q4	0.97
1991 Q1	-6.71	1997 Q3	1.79	2004 Q1	1.45	2010 Q3	11.36	2017 Q1	4.51
1991 Q2	-4.71	1997 Q4	5.96	2004 Q2	5.35	2010 Q4	9.25	2017 Q2	8.09
1991 Q3	5.04	1998 Q1	2.30	2004 Q3	5.38	2011 Q1	5.18	2017 Q3	5.63
1991 Q4	4.87	1998 Q2	8.67	2004 Q4	19.20	2011 Q2	5.80	2017 Q4	5.58
1992 Q1	-4.82	1998 Q3	2.04	2005 Q1	1.43	2011 Q3	-9.27	2018 Q1	2.43
1992 Q2	5.73	1998 Q4	1.72	2005 Q2	6.10	2011 Q4	0.42		

The index is a horizon calculation based on data compiled from 1,015 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1987 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

Ex US Buyout & Growth Equity: Fund Index Details: Horizon Pooled Return
Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	23.70	16 Years	14.01
2 Years	16.89	17 Years	13.20
3 Years	14.82	18 Years	12.47
4 Years	10.60	19 Years	12.91
5 Years	12.55	20 Years	12.87
6 Years	11.48	21 Years	12.90
7 Years	10.10	22 Years	13.05
8 Years	12.06	23 Years	13.02
9 Years	13.96	24 Years	13.00
10 Years	7.07	25 Years	13.10
11 Years	8.83		
12 Years	11.15		
13 Years	12.36		
14 Years	13.51		
15 Years	14.22		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	23.70	3/31/2003	9.70
3/31/2017	11.04	3/31/2002	-4.23
3/31/2016	11.37	3/31/2001	-5.11
3/31/2015	1.09	3/31/2000	29.82
3/31/2014	18.90	3/31/1999	10.87
3/31/2013	7.37	3/31/1998	15.00
3/31/2012	3.50	3/31/1997	30.74
3/31/2011	24.81	3/31/1996	8.68
3/31/2010	29.69	3/31/1995	10.42
3/31/2009	-41.64	3/31/1994	31.96
3/31/2008	34.03		
3/31/2007	53.04		
3/31/2006	34.29		
3/31/2005	34.26		
3/31/2004	27.21		

The index is a horizon calculation based on data compiled from 1,015 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1987 and 2017. All returns are net of fees, expenses, and carried interest.



Ex US Buyout & Growth Equity: Fund Since Inception Analysis



Buyout & Growth Equity Index and Selected Benchmark Statistics

Data as of
March 31, 2018

Ex US Buyout & Growth Equity: 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
1993	16.12	12.94	10.26	15.56	20.86	7.53	11.77	1.89	0.00	1.89	8
1994	22.57	17.53	10.71	15.79	33.67	3.32	18.84	2.26	0.00	2.26	21
1995	19.32	10.18	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	16.71	-2.53	20.28	1.76	0.00	1.76	24
1997	12.24	12.66	11.13	13.24	19.01	4.88	22.13	1.79	0.00	1.79	44
1998	14.40	13.40	14.11	16.36	20.91	6.28	12.40	2.02	0.01	2.03	33
1999	15.73	16.44	15.68	15.25	22.78	4.02	18.09	1.88	0.01	1.89	34
2000	25.46	20.10	18.32	20.86	35.20	8.49	19.32	2.39	0.04	2.43	46
2001	28.75	22.36	20.55	23.17	31.61	11.49	18.57	2.10	0.01	2.10	24
2002	22.75	18.30	18.69	20.07	26.70	8.80	29.86	2.07	0.02	2.10	29
2003	19.27	20.29	16.98	21.81	32.89	10.56	20.61	1.66	0.03	1.69	25
2004	13.11	23.58	9.33	19.10	27.55	2.63	41.71	1.63	0.11	1.74	46
2005	5.66	7.77	6.89	8.65	13.06	-2.12	15.40	1.25	0.10	1.34	73
2006	6.07	6.21	5.94	8.53	11.56	0.98	12.42	1.17	0.22	1.39	81
2007	9.19	5.93	7.07	6.99	11.69	0.35	12.63	1.20	0.35	1.55	97
2008	10.84	6.97	7.80	8.34	12.64	3.91	12.93	1.04	0.55	1.59	59
2009	9.94	9.80	9.74	11.26	15.13	4.98	10.67	0.59	0.92	1.51	28
2010	12.03	9.69	8.62	11.70	15.79	2.95	10.88	0.61	0.90	1.50	40
2011	14.95	11.27	10.05	11.67	17.30	4.66	11.02	0.48	1.10	1.59	49
2012	16.18	12.12	12.14	12.89	18.75	7.27	9.60	0.38	1.15	1.54	54
2013	18.48	15.77	14.02	17.53	21.99	9.47	11.04	0.19	1.20	1.39	40
2014	20.43	20.29	18.61	21.47	25.40	12.92	15.67	0.10	1.21	1.31	37
2015	15.59	10.88	15.01	14.70	22.87	-1.08	25.65	0.06	1.11	1.17	39
2016	2.54	-4.94	-3.43	3.02	8.90	-18.76	21.41	0.00	1.02	1.02	23

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Ex US Buyout & Growth 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	MSCI EAFE Index (net)		MSCI Europe Index (net)		CA Benchmark	MSCI EAFE Index (net)	MSCI Europe Index (net)	CA Benchmark	MSCI EAFE Index (net)	MSCI Europe Index (net)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	8	16.12	7.22	890	16.65	-53	1.89	1.33	1.82	1.89	1.33	1.82
1994	21	22.57	6.26	1,631	14.99	758	2.26	1.21	1.54	2.26	1.21	1.54
1995	20	19.32	5.30	1,402	10.63	869	1.88	1.18	1.34	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	44	12.24	2.85	939	3.04	920	1.79	1.14	1.15	1.79	1.14	1.15
1998	33	14.40	3.75	1,065	4.05	1,036	2.03	1.18	1.19	2.02	1.17	1.19
1999	34	15.73	6.25	947	6.85	888	1.89	1.28	1.31	1.88	1.27	1.30
2000	46	25.46	10.82	1,464	11.28	1,418	2.43	1.40	1.42	2.39	1.38	1.40
2001	24	28.75	14.06	1,469	14.48	1,427	2.10	1.41	1.43	2.10	1.41	1.43
2002	29	22.75	8.24	1,451	8.66	1,409	2.10	1.30	1.32	2.07	1.29	1.31
2003	25	19.27	6.03	1,324	6.61	1,267	1.69	1.22	1.24	1.66	1.19	1.21
2004	46	13.11	3.03	1,007	3.18	993	1.74	1.14	1.15	1.63	1.08	1.09
2005	73	5.66	1.44	422	1.32	434	1.34	1.08	1.07	1.25	1.00	0.99
2006	81	6.07	2.81	325	2.62	345	1.39	1.17	1.15	1.17	0.99	0.98
2007	97	9.19	4.69	449	4.57	461	1.55	1.24	1.24	1.20	1.00	1.00
2008	59	10.84	6.54	430	6.48	436	1.59	1.32	1.32	1.04	0.89	0.89
2009	28	9.94	6.52	341	6.22	372	1.51	1.31	1.29	0.59	0.53	0.52
2010	40	12.03	6.82	521	6.43	561	1.50	1.26	1.24	0.61	0.53	0.53
2011	49	14.95	6.52	843	5.85	911	1.59	1.22	1.20	0.48	0.40	0.39
2012	54	16.18	6.07	1,012	5.15	1,103	1.54	1.18	1.15	0.38	0.31	0.31
2013	40	18.48	7.80	1,068	6.71	1,177	1.39	1.15	1.13	0.19	0.17	0.16
2014	37	20.43	10.60	982	9.66	1,076	1.31	1.15	1.14	0.10	0.10	0.10
2015	39	15.59	12.42	317	11.50	409	1.17	1.13	1.12	0.06	0.06	0.06
2016	23	2.54	10.98	-844	9.26	-672	1.02	1.07	1.06	0.00	0.00	0.00

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth 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	S&P 500 Index		MSCI Emerging Markets Index (gross)		CA Benchmark	S&P 500 Index	MSCI Emerging Markets Index (gross)	CA Benchmark	S&P 500 Index	MSCI Emerging Markets Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	8	16.12	21.22	-510	0.99	1,513	1.89	2.08	1.05	1.89	2.08	1.05
1994	21	22.57	19.89	268	-1.74	2,431	2.26	1.75	0.94	2.26	1.75	0.94
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	673	6.88	836	1.76	1.30	1.34	1.76	1.30	1.34
1997	44	12.24	1.81	1,043	9.71	253	1.79	1.09	1.60	1.79	1.09	1.59
1998	33	14.40	1.13	1,327	12.41	199	2.03	1.05	1.75	2.02	1.05	1.74
1999	34	15.73	2.98	1,275	15.17	56	1.89	1.13	1.86	1.88	1.12	1.85
2000	46	25.46	5.78	1,968	21.61	385	2.43	1.22	1.99	2.39	1.19	1.96
2001	24	28.75	8.08	2,067	26.18	257	2.10	1.25	1.90	2.10	1.25	1.90
2002	29	22.75	6.88	1,586	18.10	464	2.10	1.31	1.72	2.07	1.29	1.70
2003	25	19.27	6.64	1,263	14.60	468	1.69	1.29	1.52	1.66	1.25	1.49
2004	46	13.11	6.12	699	8.67	444	1.74	1.35	1.42	1.63	1.25	1.35
2005	73	5.66	6.51	-85	4.37	129	1.34	1.44	1.25	1.25	1.30	1.15
2006	81	6.07	9.15	-308	3.09	297	1.39	1.66	1.18	1.17	1.37	1.00
2007	97	9.19	11.80	-262	3.01	618	1.55	1.74	1.15	1.20	1.36	0.91
2008	59	10.84	14.07	-323	4.33	651	1.59	1.82	1.21	1.04	1.18	0.79
2009	28	9.94	13.76	-383	4.78	516	1.51	1.76	1.22	0.59	0.68	0.46
2010	40	12.03	13.77	-174	5.71	633	1.50	1.59	1.22	0.61	0.65	0.48
2011	49	14.95	13.05	191	7.02	793	1.59	1.49	1.25	0.48	0.48	0.38
2012	54	16.18	12.38	381	8.07	812	1.54	1.39	1.24	0.38	0.37	0.31
2013	40	18.48	12.57	591	13.35	513	1.39	1.25	1.27	0.19	0.18	0.17
2014	37	20.43	13.83	659	18.18	225	1.31	1.20	1.28	0.10	0.10	0.10
2015	39	15.59	14.59	100	22.20	-661	1.17	1.16	1.24	0.06	0.06	0.06
2016	23	2.54	13.19	-1,065	22.85	-2,030	1.02	1.09	1.15	0.00	0.00	0.00

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth 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	MSCI All Country World Index (gross)		CA Benchmark	MSCI All Country World Index (gross)	CA Benchmark	MSCI All Country World Index (gross)
			IRR	mPME IRR				
1993	8	16.12	12.61	351	1.89	1.60	1.89	1.60
1994	21	22.57	11.48	1,109	2.26	1.41	2.26	1.41
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	44	12.24	2.62	962	1.79	1.13	1.79	1.13
1998	33	14.40	2.90	1,150	2.03	1.14	2.02	1.13
1999	34	15.73	5.18	1,054	1.89	1.23	1.88	1.23
2000	46	25.46	9.06	1,640	2.43	1.34	2.39	1.32
2001	24	28.75	11.98	1,678	2.10	1.37	2.10	1.36
2002	29	22.75	8.33	1,442	2.10	1.34	2.07	1.33
2003	25	19.27	7.10	1,217	1.69	1.28	1.66	1.25
2004	46	13.11	5.19	792	1.74	1.27	1.63	1.19
2005	73	5.66	4.30	136	1.34	1.26	1.25	1.15
2006	81	6.07	5.94	13	1.39	1.38	1.17	1.16
2007	97	9.19	7.91	128	1.55	1.45	1.20	1.15
2008	59	10.84	9.86	98	1.59	1.52	1.04	1.00
2009	28	9.94	9.78	15	1.51	1.50	0.59	0.59
2010	40	12.03	10.02	201	1.50	1.40	0.61	0.58
2011	49	14.95	9.78	518	1.59	1.35	0.48	0.43
2012	54	16.18	9.44	674	1.54	1.29	0.38	0.34
2013	40	18.48	10.87	761	1.39	1.22	0.19	0.17
2014	37	20.43	13.14	728	1.31	1.19	0.10	0.10
2015	39	15.59	14.65	94	1.17	1.16	0.06	0.06
2016	23	2.54	13.35	-1,081	1.02	1.09	0.00	0.00

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 & Growth Equity: 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
1993	1.89	1.88	1.65	2.08	1.46	8
1994	2.26	1.97	1.65	2.50	1.30	21
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	1.79	1.78	1.81	2.12	1.27	44
1998	2.03	2.24	1.74	2.22	1.48	33
1999	1.89	1.91	1.87	2.32	1.15	34
2000	2.43	2.11	2.00	2.82	1.57	46
2001	2.10	2.09	2.10	2.60	1.62	24
2002	2.10	2.11	1.97	2.27	1.53	29
2003	1.69	1.97	1.79	2.42	1.54	25
2004	1.74	1.87	1.51	2.21	1.25	46
2005	1.34	1.52	1.44	1.76	0.87	73
2006	1.39	1.57	1.38	1.75	1.05	81
2007	1.55	1.40	1.46	1.70	1.02	97
2008	1.59	1.47	1.40	1.79	1.20	59
2009	1.51	1.60	1.48	1.78	1.16	28
2010	1.50	1.51	1.43	1.75	1.12	40
2011	1.59	1.46	1.38	1.72	1.19	49
2012	1.54	1.40	1.36	1.67	1.22	54
2013	1.39	1.42	1.37	1.53	1.21	40
2014	1.31	1.36	1.33	1.43	1.15	37
2015	1.17	1.13	1.17	1.28	0.98	39
2016	1.02	0.97	0.98	1.06	0.88	23

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Ex US Buyout & Growth Equity: 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
1993	1.89	1.88	1.65	2.08	1.46	8
1994	2.26	1.96	1.65	2.50	1.30	21
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	1.79	1.77	1.81	2.12	1.27	44
1998	2.02	2.23	1.74	2.22	1.48	33
1999	1.88	1.89	1.87	2.23	1.12	34
2000	2.39	2.08	1.97	2.81	1.56	46
2001	2.10	2.08	2.10	2.59	1.62	24
2002	2.07	2.03	1.80	2.23	1.40	29
2003	1.66	1.95	1.77	2.42	1.43	25
2004	1.63	1.70	1.45	2.05	1.01	46
2005	1.25	1.38	1.21	1.70	0.76	73
2006	1.17	1.29	1.11	1.54	0.72	81
2007	1.20	1.01	0.97	1.42	0.50	97
2008	1.04	0.85	0.78	1.15	0.50	59
2009	0.59	0.55	0.48	0.66	0.31	28
2010	0.61	0.60	0.43	0.93	0.17	40
2011	0.48	0.43	0.27	0.61	0.04	49
2012	0.38	0.29	0.23	0.49	0.05	54
2013	0.19	0.24	0.12	0.37	0.00	40
2014	0.10	0.13	0.01	0.13	0.00	37
2015	0.06	0.04	0.00	0.00	0.00	39
2016	0.00	0.01	0.00	0.00	0.00	23

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Ex US Buyout & Growth Equity: 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
1993	0.00	0.00	0.00	0.00	0.00	8
1994	0.00	0.00	0.00	0.00	0.00	21
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	0.01	0.00	0.00	0.00	44
1998	0.01	0.01	0.00	0.00	0.00	33
1999	0.01	0.01	0.00	0.00	0.00	34
2000	0.04	0.03	0.00	0.02	0.00	46
2001	0.01	0.01	0.00	0.00	0.00	24
2002	0.02	0.08	0.00	0.03	0.00	29
2003	0.03	0.03	0.00	0.00	0.00	25
2004	0.11	0.17	0.03	0.10	0.00	46
2005	0.10	0.14	0.06	0.18	0.00	73
2006	0.22	0.28	0.17	0.37	0.04	81
2007	0.35	0.39	0.32	0.51	0.11	97
2008	0.55	0.62	0.64	0.82	0.29	59
2009	0.92	1.05	0.94	1.27	0.51	28
2010	0.90	0.91	0.85	1.02	0.62	40
2011	1.10	1.03	0.97	1.34	0.74	49
2012	1.15	1.11	1.14	1.25	0.92	54
2013	1.20	1.18	1.21	1.33	1.01	40
2014	1.21	1.23	1.22	1.36	1.01	37
2015	1.11	1.09	1.14	1.26	0.93	39
2016	1.02	0.96	0.98	1.05	0.88	23

Notes: Based on data compiled from 974 Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



Buyout: Fund Index Analysis



Buyout: 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	2.47	20.89	14.47	14.31	9.08	14.77	12.27	13.45
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36	13.25	7.85	7.82
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06	8.59	4.29	7.65
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68	7.73	3.52	7.64
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32	8.70	4.87	3.64
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59	8.63	4.54	6.02
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90	9.15	5.24	7.41
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47

The index is a horizon calculation based on data compiled from 1,522 buyout funds, including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc. *Capital change only.

Notes: 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: 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	20.89	14.47	14.31	9.08	14.77	12.27	13.45
mPME Analysis ²							
MSCI EAFE Index (net)	14.94	5.24	6.61	3.49	6.63	4.66	4.90
Value-Add (bps)	595	923	770	559	815	761	855
MSCI Europe Index (net)	14.66	4.51	6.72	2.97	6.67	4.56	5.34
Value-Add (bps)	623	996	759	611	811	771	811
S&P 500 Index	14.12	10.23	13.68	10.11	9.96	7.74	8.61
Value-Add (bps)	677	424	63	-103	481	453	484
Russell 2000® Index	11.91	7.67	11.86	10.49	11.21	8.70	9.26
Value-Add (bps)	898	680	245	-141	357	357	419
Russell 3000® Index	13.93	9.62	13.43	10.26	10.24	7.95	8.77
Value-Add (bps)	695	485	88	-118	453	432	468
Constructed Index: MSCI World/MSCI All Country World Index (gross) ³	15.59	8.19	9.82	6.68	8.63	6.46	6.90
Value-Add (bps)	530	628	450	240	615	581	655

The index is a horizon calculation based on data compiled from 1,522 buyout funds, including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	1.81	1999 Q1	3.94	2005 Q3	6.70	2012 Q1	6.32
1986 Q2	4.54	1992 Q4	8.34	1999 Q2	8.86	2005 Q4	9.82	2012 Q2	-0.54
1986 Q3	-1.67	1993 Q1	2.91	1999 Q3	3.63	2006 Q1	6.08	2012 Q3	4.01
1986 Q4	0.73	1993 Q2	5.62	1999 Q4	11.16	2006 Q2	8.86	2012 Q4	4.22
1987 Q1	4.24	1993 Q3	5.97	2000 Q1	11.18	2006 Q3	3.58	2013 Q1	3.32
1987 Q2	1.20	1993 Q4	8.03	2000 Q2	-1.51	2006 Q4	16.59	2013 Q2	2.79
1987 Q3	1.23	1994 Q1	1.75	2000 Q3	-2.37	2007 Q1	4.77	2013 Q3	5.72
1987 Q4	-1.19	1994 Q2	3.09	2000 Q4	-4.55	2007 Q2	10.61	2013 Q4	7.25
1988 Q1	1.44	1994 Q3	1.64	2001 Q1	-5.39	2007 Q3	3.07	2014 Q1	3.10
1988 Q2	3.64	1994 Q4	6.29	2001 Q2	2.08	2007 Q4	3.86	2014 Q2	4.85
1988 Q3	3.10	1995 Q1	3.41	2001 Q3	-5.87	2008 Q1	0.18	2014 Q3	-0.84
1988 Q4	3.12	1995 Q2	3.66	2001 Q4	-1.60	2008 Q2	-1.79	2014 Q4	2.30
1989 Q1	1.25	1995 Q3	3.82	2002 Q1	-0.35	2008 Q3	-10.91	2015 Q1	1.05
1989 Q2	3.11	1995 Q4	10.07	2002 Q2	0.40	2008 Q4	-19.36	2015 Q2	5.28
1989 Q3	1.58	1996 Q1	5.23	2002 Q3	-3.82	2009 Q1	-5.28	2015 Q3	-0.53
1989 Q4	1.39	1996 Q2	6.22	2002 Q4	1.80	2009 Q2	6.48	2015 Q4	2.43
1990 Q1	-0.26	1996 Q3	6.49	2003 Q1	0.52	2009 Q3	7.70	2016 Q1	1.92
1990 Q2	6.05	1996 Q4	9.25	2003 Q2	7.29	2009 Q4	7.31	2016 Q2	2.80
1990 Q3	-0.26	1997 Q1	0.52	2003 Q3	4.52	2010 Q1	2.46	2016 Q3	4.02
1990 Q4	1.62	1997 Q2	8.59	2003 Q4	11.23	2010 Q2	0.24	2016 Q4	2.78
1991 Q1	2.00	1997 Q3	5.79	2004 Q1	2.30	2010 Q3	7.55	2017 Q1	4.32
1991 Q2	0.48	1997 Q4	10.54	2004 Q2	4.51	2010 Q4	9.10	2017 Q2	6.47
1991 Q3	2.89	1998 Q1	8.57	2004 Q3	3.53	2011 Q1	5.47	2017 Q3	4.80
1991 Q4	3.88	1998 Q2	7.17	2004 Q4	17.55	2011 Q2	5.37	2017 Q4	5.38
1992 Q1	0.82	1998 Q3	-5.01	2005 Q1	1.08	2011 Q3	-6.58	2018 Q1	2.47
1992 Q2	1.84	1998 Q4	6.65	2005 Q2	7.47	2011 Q4	3.12		

The index is a horizon calculation based on data compiled from 1,522 buyout funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

Buyout & Growth Equity Index and Selected Benchmark Statistics

Data as of
March 31, 2018

Buyout: Fund Index Details: Horizon Pooled Return Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	20.89	16 Years	13.79
2 Years	17.54	17 Years	12.69
3 Years	14.47	18 Years	11.32
4 Years	12.37	19 Years	12.25
5 Years	14.31	20 Years	12.27
6 Years	13.66	21 Years	12.80
7 Years	12.54	22 Years	13.03
8 Years	14.34	23 Years	13.25
9 Years	15.83	24 Years	13.29
10 Years	9.08	25 Years	13.45
11 Years	9.79		
12 Years	11.59		
13 Years	12.92		
14 Years	13.89		
15 Years	14.77		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	20.89	3/31/2003	-1.00
3/31/2017	14.63	3/31/2002	-5.78
3/31/2016	9.47	3/31/2001	-13.38
3/31/2015	7.67	3/31/2000	39.99
3/31/2014	20.07	3/31/1999	12.95
3/31/2013	11.46	3/31/1998	37.97
3/31/2012	7.88	3/31/1997	24.37
3/31/2011	24.14	3/31/1996	24.63
3/31/2010	25.90	3/31/1995	15.20
3/31/2009	-33.60	3/31/1994	23.01
3/31/2008	17.93		
3/31/2007	37.75		
3/31/2006	33.57		
3/31/2005	28.61		
3/31/2004	27.65		

The index is a horizon calculation based on data compiled from 1,522 buyout funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



Buyout: Fund Since Inception Analysis



Buyout: 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
1993	26.56	18.76	20.46	22.86	32.49	9.92	28.46	2.40	0.00	2.41	25
1994	16.15	18.63	11.16	17.88	30.52	7.19	16.82	1.92	0.00	1.92	25
1995	16.07	14.15	11.29	15.42	22.08	-0.46	21.66	1.76	0.00	1.76	35
1996	11.36	10.28	8.60	9.21	13.00	-0.85	21.37	1.63	0.00	1.63	39
1997	9.12	8.27	8.35	8.38	14.45	0.57	18.63	1.58	0.00	1.58	73
1998	8.31	11.80	11.46	13.56	19.76	5.89	11.34	1.52	0.03	1.55	68
1999	16.43	14.35	12.30	14.19	22.36	5.68	14.90	1.94	0.01	1.95	66
2000	20.73	19.20	18.37	20.01	27.66	10.57	16.11	2.05	0.03	2.08	85
2001	26.42	23.05	20.84	23.56	32.34	11.81	17.20	2.09	0.06	2.15	39
2002	19.36	14.67	18.60	18.13	27.01	8.42	28.20	1.96	0.04	2.00	45
2003	16.32	16.01	13.49	16.06	26.25	5.03	17.42	1.77	0.06	1.83	44
2004	11.25	13.83	9.94	13.81	15.22	7.44	16.13	1.65	0.09	1.74	82
2005	6.65	6.92	7.67	8.22	13.52	2.36	14.17	1.33	0.12	1.45	112
2006	7.83	9.16	9.31	9.59	14.95	4.21	14.25	1.26	0.29	1.54	109
2007	11.64	9.99	10.27	10.09	15.75	5.18	13.03	1.21	0.44	1.65	118
2008	13.94	12.65	12.91	13.09	17.37	7.25	14.44	1.21	0.51	1.72	75
2009	18.68	15.54	16.78	15.82	22.63	8.09	14.00	0.96	1.01	1.97	33
2010	14.13	13.81	14.61	16.54	22.73	3.61	13.28	0.74	0.85	1.59	30
2011	17.01	14.86	14.09	15.36	19.87	7.89	11.73	0.57	1.03	1.60	67
2012	17.59	15.60	17.08	16.68	21.02	10.42	9.61	0.32	1.17	1.50	61
2013	15.72	14.81	15.78	17.77	23.13	6.61	13.42	0.19	1.13	1.32	54
2014	19.73	19.66	16.80	19.22	25.40	11.81	12.93	0.13	1.19	1.32	57
2015	12.81	2.51	5.13	8.31	21.17	-7.82	27.31	0.04	1.09	1.14	55
2016	3.85	0.97	-2.53	3.98	6.10	-10.95	33.25	0.01	1.02	1.03	31

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

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	MSCI EAFE Index (Net)		MSCI Europe Index (Net)		CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)	CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	25	26.56	6.91	1,965	15.24	1,133	2.41	1.25	1.58	2.40	1.25	1.58
1994	25	16.15	4.56	1,158	9.65	650	1.92	1.20	1.42	1.92	1.20	1.42
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	73	9.12	3.33	579	3.62	550	1.58	1.18	1.20	1.58	1.18	1.20
1998	68	8.31	4.23	409	4.54	378	1.55	1.23	1.25	1.52	1.21	1.23
1999	66	16.43	6.90	953	7.45	898	1.95	1.31	1.34	1.94	1.30	1.33
2000	85	20.73	10.31	1,041	10.78	995	2.08	1.38	1.40	2.05	1.37	1.39
2001	39	26.42	11.56	1,486	12.06	1,436	2.15	1.37	1.39	2.09	1.35	1.37
2002	45	19.36	7.93	1,143	8.40	1,096	2.00	1.32	1.34	1.96	1.29	1.31
2003	44	16.32	5.11	1,121	5.52	1,080	1.83	1.22	1.23	1.77	1.18	1.19
2004	82	11.25	2.49	876	2.60	865	1.74	1.13	1.14	1.65	1.07	1.08
2005	112	6.65	1.68	497	1.55	510	1.45	1.10	1.09	1.33	1.01	1.00
2006	109	7.83	2.44	540	2.24	559	1.54	1.14	1.13	1.26	0.95	0.94
2007	118	11.64	5.16	649	5.03	661	1.65	1.24	1.23	1.21	0.94	0.94
2008	75	13.94	6.58	737	6.53	741	1.72	1.28	1.28	1.21	0.93	0.94
2009	33	18.68	6.64	1,205	6.29	1,240	1.97	1.27	1.25	0.96	0.69	0.69
2010	30	14.13	6.85	728	6.44	769	1.59	1.25	1.23	0.74	0.61	0.60
2011	67	17.01	6.63	1,038	5.95	1,106	1.60	1.20	1.18	0.57	0.46	0.45
2012	61	17.59	6.59	1,099	5.63	1,196	1.50	1.16	1.14	0.32	0.26	0.26
2013	54	15.72	7.84	788	6.78	894	1.32	1.15	1.13	0.19	0.17	0.17
2014	57	19.73	9.52	1,021	8.51	1,122	1.32	1.14	1.13	0.13	0.12	0.12
2015	55	12.81	12.37	44	11.49	132	1.14	1.13	1.12	0.04	0.05	0.05
2016	31	3.85	12.59	-874	11.42	-757	1.03	1.10	1.09	0.01	0.01	0.01

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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	S&P 500 Index		Russell 2000® Index		CA Benchmark	S&P 500 Index	Russell 2000® Index	CA Benchmark	S&P 500 Index	Russell 2000® Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	25	26.56	19.97	659	12.00	1,456	2.41	1.77	1.47	2.40	1.77	1.47
1994	25	16.15	12.31	384	8.59	756	1.92	1.51	1.40	1.92	1.51	1.40
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	73	9.12	1.68	744	7.16	196	1.58	1.09	1.42	1.58	1.08	1.41
1998	68	8.31	2.05	626	7.52	80	1.55	1.11	1.45	1.52	1.08	1.41
1999	66	16.43	3.22	1,321	8.51	793	1.95	1.14	1.39	1.94	1.13	1.38
2000	85	20.73	5.96	1,477	10.17	1,055	2.08	1.23	1.40	2.05	1.21	1.38
2001	39	26.42	7.65	1,877	10.50	1,593	2.15	1.29	1.39	2.09	1.25	1.35
2002	45	19.36	6.82	1,254	8.23	1,112	2.00	1.33	1.40	1.96	1.29	1.36
2003	44	16.32	6.06	1,025	6.60	971	1.83	1.31	1.34	1.77	1.25	1.27
2004	82	11.25	5.86	540	6.21	504	1.74	1.36	1.39	1.65	1.27	1.30
2005	112	6.65	7.06	-40	7.31	-66	1.45	1.51	1.52	1.33	1.36	1.38
2006	109	7.83	8.54	-70	8.68	-84	1.54	1.61	1.62	1.26	1.30	1.31
2007	118	11.64	12.26	-62	11.86	-22	1.65	1.69	1.65	1.21	1.25	1.23
2008	75	13.94	14.04	-10	13.36	58	1.72	1.71	1.66	1.21	1.21	1.18
2009	33	18.68	13.92	477	12.53	615	1.97	1.63	1.55	0.96	0.87	0.83
2010	30	14.13	13.82	31	12.29	184	1.59	1.57	1.49	0.74	0.75	0.72
2011	67	17.01	13.07	394	11.56	545	1.60	1.43	1.37	0.57	0.54	0.52
2012	61	17.59	12.45	514	11.06	653	1.50	1.33	1.29	0.32	0.30	0.29
2013	54	15.72	12.52	320	11.48	424	1.32	1.25	1.22	0.19	0.19	0.18
2014	57	19.73	13.24	649	12.35	739	1.32	1.20	1.19	0.13	0.13	0.13
2015	55	12.81	14.50	-169	14.08	-127	1.14	1.16	1.15	0.04	0.05	0.05
2016	31	3.85	14.23	-1,038	12.93	-908	1.03	1.12	1.11	0.01	0.01	0.01

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream.

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	Russell 3000® Index		MSCI All Country World Index (gross)		CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)	CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	25	26.56	18.75	781	11.82	1,475	2.41	1.73	1.44	2.40	1.72	1.44
1994	25	16.15	11.74	441	7.46	869	1.92	1.49	1.32	1.92	1.49	1.32
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	73	9.12	2.47	665	2.86	626	1.58	1.13	1.15	1.58	1.13	1.15
1998	68	8.31	2.82	549	3.59	472	1.55	1.16	1.20	1.52	1.13	1.18
1999	66	16.43	3.99	1,244	5.67	1,077	1.95	1.17	1.25	1.94	1.17	1.25
2000	85	20.73	6.67	1,406	8.91	1,182	2.08	1.26	1.34	2.05	1.24	1.33
2001	39	26.42	8.28	1,814	10.41	1,601	2.15	1.31	1.37	2.09	1.28	1.34
2002	45	19.36	7.26	1,210	8.18	1,118	2.00	1.35	1.36	1.96	1.31	1.33
2003	44	16.32	6.36	996	6.37	995	1.83	1.32	1.30	1.77	1.26	1.24
2004	82	11.25	6.08	517	4.80	645	1.74	1.38	1.28	1.65	1.29	1.20
2005	112	6.65	7.24	-59	4.62	203	1.45	1.52	1.30	1.33	1.37	1.18
2006	109	7.83	8.69	-86	5.50	233	1.54	1.63	1.36	1.26	1.31	1.11
2007	118	11.64	12.32	-68	8.37	327	1.65	1.69	1.43	1.21	1.25	1.07
2008	75	13.94	14.06	-12	9.88	406	1.72	1.71	1.46	1.21	1.21	1.04
2009	33	18.68	13.76	492	9.94	874	1.97	1.62	1.42	0.96	0.87	0.76
2010	30	14.13	13.63	50	10.05	408	1.59	1.56	1.39	0.74	0.74	0.67
2011	67	17.01	12.83	418	9.89	712	1.60	1.42	1.31	0.57	0.54	0.49
2012	61	17.59	12.18	541	9.86	773	1.50	1.32	1.25	0.32	0.30	0.28
2013	54	15.72	12.28	344	10.85	487	1.32	1.24	1.21	0.19	0.19	0.18
2014	57	19.73	13.05	669	12.23	750	1.32	1.20	1.19	0.13	0.13	0.12
2015	55	12.81	14.45	-164	14.54	-173	1.14	1.16	1.16	0.04	0.05	0.05
2016	31	3.85	14.16	-1,030	14.57	-1,071	1.03	1.12	1.12	0.01	0.01	0.01

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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
1993	2.41	2.24	2.10	3.29	1.62	25
1994	1.92	1.92	1.65	2.46	1.34	25
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	1.58	1.46	1.50	1.93	1.01	73
1998	1.55	1.96	1.61	2.19	1.37	68
1999	1.95	1.82	1.61	2.23	1.29	66
2000	2.08	2.10	2.01	2.60	1.54	85
2001	2.15	2.07	1.97	2.49	1.62	39
2002	2.00	1.95	1.95	2.39	1.50	45
2003	1.83	1.78	1.79	2.14	1.25	44
2004	1.74	1.79	1.65	1.98	1.38	82
2005	1.45	1.52	1.51	1.82	1.14	112
2006	1.54	1.62	1.60	1.95	1.26	109
2007	1.65	1.57	1.60	1.89	1.30	118
2008	1.72	1.67	1.63	1.94	1.36	75
2009	1.97	1.78	1.72	2.26	1.39	33
2010	1.59	1.71	1.56	1.92	1.19	30
2011	1.60	1.54	1.46	1.74	1.28	67
2012	1.50	1.47	1.44	1.64	1.27	61
2013	1.32	1.39	1.33	1.49	1.13	54
2014	1.32	1.32	1.28	1.39	1.17	57
2015	1.14	1.03	1.07	1.22	0.91	55
2016	1.03	0.99	0.98	1.06	0.91	31

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Buyout: 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
1993	2.40	2.24	2.10	3.29	1.62	25
1994	1.92	1.92	1.65	2.46	1.34	25
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	1.58	1.46	1.50	1.93	1.01	73
1998	1.52	1.93	1.61	2.19	1.29	68
1999	1.94	1.81	1.60	2.22	1.26	66
2000	2.05	2.02	1.97	2.56	1.54	85
2001	2.09	2.04	1.94	2.47	1.60	39
2002	1.96	1.90	1.90	2.39	1.34	45
2003	1.77	1.71	1.71	2.06	1.17	44
2004	1.65	1.67	1.48	1.89	1.31	82
2005	1.33	1.38	1.36	1.69	0.98	112
2006	1.26	1.31	1.35	1.69	0.98	109
2007	1.21	1.20	1.21	1.58	0.76	118
2008	1.21	1.16	1.13	1.55	0.64	75
2009	0.96	0.95	0.89	1.41	0.49	33
2010	0.74	0.74	0.68	1.01	0.23	30
2011	0.57	0.55	0.46	0.83	0.16	67
2012	0.32	0.35	0.28	0.50	0.14	61
2013	0.19	0.26	0.16	0.35	0.01	54
2014	0.13	0.16	0.04	0.20	0.00	57
2015	0.04	0.05	0.00	0.01	0.00	55
2016	0.01	0.01	0.00	0.00	0.00	31

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Buyout: 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
1993	0.00	0.00	0.00	0.00	0.00	25
1994	0.00	0.00	0.00	0.00	0.00	25
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	73
1998	0.03	0.03	0.00	0.00	0.00	68
1999	0.01	0.02	0.00	0.00	0.00	66
2000	0.03	0.08	0.00	0.02	0.00	85
2001	0.06	0.03	0.00	0.01	0.00	39
2002	0.04	0.05	0.00	0.06	0.00	45
2003	0.06	0.07	0.01	0.08	0.00	44
2004	0.09	0.13	0.04	0.15	0.01	82
2005	0.12	0.14	0.07	0.20	0.01	112
2006	0.29	0.31	0.21	0.44	0.07	109
2007	0.44	0.37	0.32	0.52	0.12	118
2008	0.51	0.51	0.54	0.74	0.25	75
2009	1.01	0.83	0.88	1.11	0.49	33
2010	0.85	0.97	0.85	1.02	0.63	30
2011	1.03	0.98	0.98	1.20	0.71	67
2012	1.17	1.12	1.16	1.24	1.00	61
2013	1.13	1.13	1.11	1.21	0.96	54
2014	1.19	1.16	1.17	1.30	1.06	57
2015	1.09	0.98	1.02	1.19	0.88	55
2016	1.02	0.99	0.98	1.05	0.91	31

Notes: Based on data compiled from 1,428 buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



US Buyout: Fund Index Analysis



US Buyout: 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	2.45	17.55	13.20	15.31	10.81	14.86	11.71	13.24
US Buyout Small Cap Index¹	2.69	15.49	11.98	14.86	12.64	16.22	13.05	13.57
US Buyout Mid Cap Index¹	2.92	16.59	13.23	14.49	10.34	15.58	12.29	15.23
US Buyout Large Cap Index¹	2.16	16.71	12.83	14.04	10.32	15.16	12.27	15.70
US Buyout Mega Cap Index¹	2.44	18.30	13.43	16.06	10.99	14.43	11.20	—
Bloomberg Barclays Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47
Wilshire 5000 Total Market Index	-0.76	13.69	10.48	13.13	9.65	10.57	6.76	9.52

The index is a horizon calculation based on data compiled from 844 US buyout funds (271 small cap, 289 mid cap, 181 large cap and 103 mega cap funds), including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.
*Capital change only.

US Buyout: 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	17.55	13.20	15.31	10.81	14.86	11.71	13.24
mPME Analysis ²							
Russell 2000® Index	11.91	7.92	11.96	10.37	11.41	8.39	9.13
Value-Add (bps)	564	528	335	43	346	332	411
Russell 2500™ Index	12.40	7.63	12.04	10.88	12.19	9.32	10.18
Value-Add (bps)	515	558	327	-7	268	239	305
Russell 3000® Index	13.93	9.80	13.47	10.05	10.20	7.53	8.60
Value-Add (bps)	362	340	184	75	466	418	464
Russell Midcap® Index	12.29	7.48	12.69	10.82	12.27	9.47	10.41
Value-Add (bps)	527	572	262	-1	260	225	283
S&P 500 Index	14.11	10.39	13.71	9.90	9.89	7.30	8.44
Value-Add (bps)	344	281	160	91	497	441	480
Constructed Index: MSCI World/MSCI All Country World Index (gross) ³	15.58	8.41	9.92	6.52	8.82	6.22	6.81
Value-Add (bps)	197	479	539	429	605	549	643

The index is a horizon calculation based on data compiled from 844 US buyout funds (271 small cap, 289 mid cap, 181 large cap and 103 mega cap funds), including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	2.56	1999 Q1	5.20	2005 Q3	7.37	2012 Q1	5.44
1986 Q2	4.54	1992 Q4	9.57	1999 Q2	9.55	2005 Q4	8.71	2012 Q2	0.37
1986 Q3	-1.67	1993 Q1	3.21	1999 Q3	2.53	2006 Q1	5.30	2012 Q3	4.11
1986 Q4	0.73	1993 Q2	6.15	1999 Q4	11.54	2006 Q2	4.08	2012 Q4	3.90
1987 Q1	4.24	1993 Q3	6.33	2000 Q1	13.48	2006 Q3	3.58	2013 Q1	5.08
1987 Q2	1.24	1993 Q4	6.95	2000 Q2	-2.69	2006 Q4	13.31	2013 Q2	3.45
1987 Q3	1.28	1994 Q1	0.87	2000 Q3	-2.35	2007 Q1	5.50	2013 Q3	5.21
1987 Q4	-1.86	1994 Q2	3.41	2000 Q4	-6.90	2007 Q2	7.65	2013 Q4	7.32
1988 Q1	2.63	1994 Q3	1.43	2001 Q1	-5.29	2007 Q3	0.68	2014 Q1	3.30
1988 Q2	4.44	1994 Q4	6.77	2001 Q2	2.98	2007 Q4	2.55	2014 Q2	4.84
1988 Q3	4.32	1995 Q1	3.11	2001 Q3	-8.29	2008 Q1	-2.49	2014 Q3	1.66
1988 Q4	2.15	1995 Q2	3.60	2001 Q4	-0.68	2008 Q2	-0.20	2014 Q4	3.56
1989 Q1	1.67	1995 Q3	3.82	2002 Q1	-0.09	2008 Q3	-7.18	2015 Q1	3.40
1989 Q2	4.02	1995 Q4	11.10	2002 Q2	-2.55	2008 Q4	-17.25	2015 Q2	4.35
1989 Q3	1.51	1996 Q1	5.80	2002 Q3	-4.58	2009 Q1	-3.68	2015 Q3	0.00
1989 Q4	1.38	1996 Q2	6.18	2002 Q4	0.06	2009 Q2	4.57	2015 Q4	1.97
1990 Q1	-0.28	1996 Q3	6.57	2003 Q1	0.16	2009 Q3	6.63	2016 Q1	0.47
1990 Q2	5.74	1996 Q4	7.02	2003 Q2	7.05	2009 Q4	6.67	2016 Q2	3.74
1990 Q3	-0.43	1997 Q1	0.98	2003 Q3	5.74	2010 Q1	4.98	2016 Q3	3.65
1990 Q4	1.34	1997 Q2	9.15	2003 Q4	9.68	2010 Q2	2.22	2016 Q4	4.00
1991 Q1	3.12	1997 Q3	6.32	2004 Q1	3.01	2010 Q3	4.96	2017 Q1	4.06
1991 Q2	1.14	1997 Q4	10.68	2004 Q2	3.74	2010 Q4	9.19	2017 Q2	4.53
1991 Q3	2.53	1998 Q1	9.91	2004 Q3	2.44	2011 Q1	5.42	2017 Q3	4.00
1991 Q4	3.70	1998 Q2	6.12	2004 Q4	16.07	2011 Q2	4.66	2017 Q4	5.16
1992 Q1	1.66	1998 Q3	-6.85	2005 Q1	1.18	2011 Q3	-4.61	2018 Q1	2.45
1992 Q2	1.24	1998 Q4	8.24	2005 Q2	8.23	2011 Q4	4.81		

The index is a horizon calculation based on data compiled from 844 US buyout funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

US Buyout: Fund Index Details: Horizon Pooled Return Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	17.55	16 Years	13.38
2 Years	16.92	17 Years	12.19
3 Years	13.20	18 Years	10.54
4 Years	13.49	19 Years	11.68
5 Years	15.31	20 Years	11.71
6 Years	14.97	21 Years	12.42
7 Years	14.03	22 Years	12.67
8 Years	15.60	23 Years	12.99
9 Years	16.88	24 Years	13.05
10 Years	10.81	25 Years	13.24
11 Years	10.53		
12 Years	11.81		
13 Years	13.14		
14 Years	13.90		
15 Years	14.86		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	17.55	3/31/2003	-6.51
3/31/2017	16.35	3/31/2002	-6.28
3/31/2016	7.07	3/31/2001	-16.38
3/31/2015	14.17	3/31/2000	42.88
3/31/2014	20.64	3/31/1999	12.79
3/31/2013	13.86	3/31/1998	41.28
3/31/2012	10.30	3/31/1997	22.52
3/31/2011	23.57	3/31/1996	26.40
3/31/2010	24.88	3/31/1995	15.49
3/31/2009	-26.52	3/31/1994	21.68
3/31/2008	7.69		
3/31/2007	28.94		
3/31/2006	33.05		
3/31/2005	24.81		
3/31/2004	27.95		

The index is a horizon calculation based on data compiled from 844 US buyout funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



US Buyout: Fund Since Inception Analysis



US Buyout: 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
1993	27.65	20.13	25.28	25.66	33.75	14.63	33.12	2.45	0.00	2.45	18
1994	7.50	9.75	7.49	9.52	13.66	2.33	10.00	1.51	0.00	1.51	11
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	8.65	7.94	8.38	11.80	0.64	20.04	1.60	0.00	1.60	23
1997	6.79	5.96	6.78	5.12	12.38	-1.25	14.92	1.43	0.00	1.43	40
1998	6.52	10.05	9.63	10.30	14.65	5.34	10.38	1.38	0.04	1.42	40
1999	16.02	11.95	12.04	12.32	18.68	8.25	11.62	1.95	0.01	1.96	37
2000	16.97	15.62	14.15	15.51	22.82	9.66	11.25	1.86	0.03	1.89	53
2001	23.06	20.17	18.24	19.19	31.68	11.41	16.36	2.08	0.12	2.20	19
2002	16.85	12.48	17.59	15.71	25.89	5.27	27.92	1.85	0.06	1.92	22
2003	14.65	12.35	11.61	12.35	15.94	3.13	10.96	1.90	0.08	1.98	24
2004	10.63	10.75	10.04	10.66	13.49	7.69	7.08	1.65	0.08	1.73	50
2005	8.05	7.38	8.21	9.65	14.30	3.92	15.21	1.46	0.15	1.61	57
2006	9.33	12.95	13.43	12.61	16.88	7.68	15.05	1.34	0.36	1.69	52
2007	13.11	12.95	13.72	12.51	16.92	8.04	11.01	1.19	0.52	1.71	57
2008	15.31	16.76	13.96	15.71	20.29	9.90	10.78	1.22	0.55	1.77	44
2009	22.20	20.43	21.67	21.16	26.17	12.75	13.42	1.10	1.10	2.20	18
2010	21.45	20.84	16.76	23.16	24.77	13.52	11.36	1.09	0.98	2.08	12
2011	17.84	17.47	15.19	17.46	23.51	8.66	10.58	0.60	1.00	1.60	37
2012	19.11	18.14	17.36	19.97	21.72	12.45	10.12	0.26	1.18	1.45	29
2013	12.59	12.91	14.60	15.69	22.38	6.33	13.47	0.17	1.09	1.26	32
2014	18.59	19.32	16.41	18.19	21.29	10.37	13.69	0.13	1.17	1.31	35
2015	9.94	-1.27	0.18	6.00	16.05	-10.29	25.43	0.02	1.09	1.10	35
2016	4.49	6.80	-0.22	4.82	5.92	-7.08	40.59	0.01	1.03	1.04	16

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

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	Russell 2000® Index		Russell 2500™ Index		CA Benchmark	Russell 2000® Index	Russell 2500™ Index	CA Benchmark	Russell 2000® Index	Russell 2500™ Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	18	27.65	11.84	1,581	14.35	1,330	2.45	1.46	1.59	2.45	1.46	1.59
1994	11	7.50	7.48	2	9.64	-214	1.51	1.51	1.70	1.51	1.51	1.70
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	40	6.79	7.28	-50	9.04	-226	1.43	1.45	1.58	1.43	1.44	1.58
1998	40	6.52	7.64	-112	9.11	-260	1.42	1.48	1.60	1.38	1.43	1.54
1999	37	16.02	8.46	756	9.56	646	1.96	1.39	1.46	1.95	1.39	1.45
2000	53	16.97	9.77	720	10.65	632	1.89	1.41	1.46	1.86	1.39	1.44
2001	19	23.06	8.80	1,426	9.65	1,341	2.20	1.40	1.45	2.08	1.33	1.38
2002	22	16.85	8.05	881	8.95	790	1.92	1.41	1.47	1.85	1.34	1.40
2003	24	14.65	6.26	839	7.09	756	1.98	1.37	1.43	1.90	1.30	1.35
2004	50	10.63	6.10	453	6.94	369	1.73	1.39	1.46	1.65	1.31	1.37
2005	57	8.05	7.67	38	8.49	-44	1.61	1.58	1.66	1.46	1.41	1.48
2006	52	9.33	8.27	106	8.98	36	1.69	1.59	1.66	1.34	1.26	1.31
2007	57	13.11	12.05	107	12.73	38	1.71	1.62	1.67	1.19	1.15	1.18
2008	44	15.31	13.34	196	14.02	128	1.77	1.63	1.66	1.22	1.14	1.17
2009	18	22.20	12.67	953	13.05	915	2.20	1.54	1.56	1.10	0.86	0.87
2010	12	21.45	12.45	900	12.67	878	2.08	1.53	1.54	1.09	0.83	0.84
2011	37	17.84	11.56	629	11.64	620	1.60	1.35	1.36	0.60	0.53	0.53
2012	29	19.11	11.11	800	10.92	819	1.45	1.24	1.24	0.26	0.23	0.23
2013	32	12.59	11.28	131	10.99	160	1.26	1.23	1.23	0.17	0.17	0.17
2014	35	18.59	11.90	669	11.69	690	1.31	1.19	1.19	0.13	0.13	0.13
2015	35	9.94	14.23	-429	13.84	-390	1.10	1.15	1.15	0.02	0.02	0.02
2016	16	4.49	13.78	-929	13.77	-928	1.04	1.13	1.13	0.01	0.01	0.01

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., Standard & Poor's and Thomson Reuters Datastream.

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	Russell 3000® Index		Russell Midcap® Index		CA Benchmark	Russell 3000® Index	Russell Midcap® Index	CA Benchmark	Russell 3000® Index	Russell Midcap® Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	18	27.65	18.47	918	16.30	1,135	2.45	1.70	1.68	2.45	1.70	1.67
1994	11	7.50	7.46	4	10.38	-288	1.51	1.45	1.76	1.51	1.45	1.75
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	534	9.07	118	1.60	1.25	1.55	1.60	1.25	1.55
1997	40	6.79	2.46	433	8.52	-173	1.43	1.14	1.55	1.43	1.13	1.54
1998	40	6.52	3.14	338	8.70	-218	1.42	1.19	1.57	1.38	1.14	1.52
1999	37	16.02	4.03	1,199	9.53	649	1.96	1.18	1.46	1.95	1.17	1.45
2000	53	16.97	6.58	1,039	10.87	610	1.89	1.28	1.48	1.86	1.26	1.45
2001	19	23.06	7.56	1,550	10.26	1,279	2.20	1.35	1.48	2.08	1.28	1.41
2002	22	16.85	7.15	970	9.60	725	1.92	1.37	1.51	1.85	1.30	1.43
2003	24	14.65	5.85	880	7.48	717	1.98	1.35	1.46	1.90	1.27	1.38
2004	50	10.63	5.94	469	7.19	344	1.73	1.38	1.48	1.65	1.30	1.39
2005	57	8.05	7.65	39	8.69	-64	1.61	1.58	1.68	1.46	1.41	1.50
2006	52	9.33	8.27	106	9.09	25	1.69	1.60	1.67	1.34	1.26	1.32
2007	57	13.11	12.50	61	13.07	4	1.71	1.66	1.69	1.19	1.16	1.20
2008	44	15.31	13.99	132	14.47	84	1.77	1.68	1.69	1.22	1.16	1.19
2009	18	22.20	13.86	834	13.53	868	2.20	1.61	1.59	1.10	0.89	0.89
2010	12	21.45	13.70	775	13.09	836	2.08	1.59	1.56	1.09	0.87	0.85
2011	37	17.84	12.83	501	11.98	587	1.60	1.40	1.37	0.60	0.55	0.54
2012	29	19.11	12.12	699	10.81	830	1.45	1.26	1.23	0.26	0.24	0.23
2013	32	12.59	12.13	47	10.65	194	1.26	1.25	1.22	0.17	0.17	0.16
2014	35	18.59	12.76	583	11.27	732	1.31	1.20	1.18	0.13	0.13	0.13
2015	35	9.94	14.39	-445	12.91	-298	1.10	1.15	1.14	0.02	0.02	0.02
2016	16	4.49	14.61	-1,012	12.98	-849	1.04	1.13	1.12	0.01	0.01	0.01

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., Standard & Poor's and Thomson Reuters Datastream.

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	S&P 500 Index		MSCI All Country World Index (gross)		CA Benchmark	S&P 500 Index	MSCI All Country World Index (gross)	CA Benchmark	S&P 500 Index	MSCI All Country World Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	18	27.65	19.66	799	11.63	1,602	2.45	1.74	1.43	2.45	1.74	1.42
1994	11	7.50	7.46	4	5.50	200	1.51	1.44	1.34	1.51	1.44	1.34
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	612	1.60	1.23	1.22	1.60	1.23	1.22
1997	40	6.79	1.64	515	3.09	370	1.43	1.09	1.18	1.43	1.08	1.17
1998	40	6.52	2.39	413	3.85	267	1.42	1.14	1.23	1.38	1.10	1.19
1999	37	16.02	3.27	1,276	5.82	1,020	1.96	1.14	1.27	1.95	1.14	1.26
2000	53	16.97	5.92	1,105	8.51	846	1.89	1.25	1.36	1.86	1.23	1.34
2001	19	23.06	7.10	1,596	8.63	1,443	2.20	1.33	1.36	2.08	1.26	1.31
2002	22	16.85	6.73	1,013	7.98	888	1.92	1.35	1.38	1.85	1.28	1.32
2003	24	14.65	5.54	910	5.65	900	1.98	1.33	1.31	1.90	1.25	1.25
2004	50	10.63	5.71	492	4.60	603	1.73	1.37	1.27	1.65	1.28	1.21
2005	57	8.05	7.47	58	4.88	317	1.61	1.57	1.33	1.46	1.40	1.20
2006	52	9.33	8.12	121	5.20	414	1.69	1.59	1.34	1.34	1.24	1.07
2007	57	13.11	12.45	67	8.62	449	1.71	1.66	1.42	1.19	1.16	1.00
2008	44	15.31	13.96	135	9.89	541	1.77	1.68	1.44	1.22	1.16	1.01
2009	18	22.20	14.01	819	10.04	1,216	2.20	1.62	1.41	1.10	0.90	0.79
2010	12	21.45	13.90	755	10.14	1,131	2.08	1.60	1.41	1.09	0.87	0.77
2011	37	17.84	13.08	477	9.93	791	1.60	1.41	1.30	0.60	0.55	0.51
2012	29	19.11	12.39	672	10.30	881	1.45	1.27	1.22	0.26	0.24	0.23
2013	32	12.59	12.39	20	10.69	190	1.26	1.26	1.22	0.17	0.17	0.16
2014	35	18.59	12.99	560	11.81	678	1.31	1.21	1.19	0.13	0.13	0.13
2015	35	9.94	14.41	-447	14.41	-447	1.10	1.15	1.15	0.02	0.02	0.02
2016	16	4.49	14.65	-1,016	15.07	-1,058	1.04	1.13	1.14	0.01	0.01	0.01

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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, Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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
1993	2.45	2.32	2.16	3.36	1.72	18
1994	1.51	1.52	1.34	1.82	1.16	11
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	1.43	1.30	1.38	1.68	0.89	40
1998	1.42	1.66	1.54	2.03	1.34	40
1999	1.96	1.72	1.55	2.19	1.31	37
2000	1.89	1.92	1.90	2.28	1.46	53
2001	2.20	1.91	1.78	2.22	1.52	19
2002	1.92	1.87	1.92	2.39	1.38	22
2003	1.98	1.74	1.81	2.06	1.23	24
2004	1.73	1.71	1.65	1.93	1.46	50
2005	1.61	1.67	1.63	2.07	1.25	57
2006	1.69	1.87	1.79	2.09	1.49	52
2007	1.71	1.72	1.73	2.03	1.46	57
2008	1.77	1.81	1.73	1.97	1.49	44
2009	2.20	2.06	2.20	2.32	1.62	18
2010	2.08	2.20	1.74	2.15	1.55	12
2011	1.60	1.60	1.49	1.75	1.40	37
2012	1.45	1.53	1.46	1.55	1.34	29
2013	1.26	1.33	1.32	1.41	1.12	32
2014	1.31	1.31	1.23	1.38	1.15	35
2015	1.10	1.00	1.00	1.17	0.90	35
2016	1.04	1.01	1.00	1.06	0.95	16

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

US Buyout: 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
1993	2.45	2.32	2.16	3.36	1.72	18
1994	1.51	1.52	1.34	1.82	1.16	11
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	1.43	1.29	1.38	1.68	0.89	40
1998	1.38	1.62	1.46	1.96	1.28	40
1999	1.95	1.70	1.54	2.07	1.27	37
2000	1.86	1.81	1.84	2.21	1.45	53
2001	2.08	1.85	1.78	2.18	1.48	19
2002	1.85	1.80	1.89	2.39	1.26	22
2003	1.90	1.64	1.73	2.03	1.15	24
2004	1.65	1.57	1.49	1.81	1.33	50
2005	1.46	1.49	1.41	1.76	1.01	57
2006	1.34	1.48	1.47	1.80	1.13	52
2007	1.19	1.29	1.27	1.67	0.82	57
2008	1.22	1.25	1.23	1.56	0.83	44
2009	1.10	1.18	1.37	1.63	0.61	18
2010	1.09	0.96	0.88	1.08	0.63	12
2011	0.60	0.60	0.50	0.87	0.29	37
2012	0.26	0.40	0.29	0.52	0.15	29
2013	0.17	0.23	0.10	0.30	0.01	32
2014	0.13	0.14	0.06	0.20	0.00	35
2015	0.02	0.03	0.00	0.01	0.00	35
2016	0.01	0.00	0.00	0.00	0.00	16

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

US Buyout: 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
1993	0.00	0.00	0.00	0.00	0.00	18
1994	0.00	0.00	0.00	0.00	0.00	11
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	40
1998	0.04	0.04	0.00	0.00	0.00	40
1999	0.01	0.02	0.00	0.01	0.00	37
2000	0.03	0.11	0.00	0.02	0.00	53
2001	0.12	0.06	0.00	0.09	0.00	19
2002	0.06	0.07	0.06	0.11	0.00	22
2003	0.08	0.10	0.02	0.12	0.01	24
2004	0.08	0.14	0.05	0.17	0.01	50
2005	0.15	0.18	0.12	0.25	0.03	57
2006	0.36	0.39	0.38	0.49	0.16	52
2007	0.52	0.44	0.36	0.69	0.20	57
2008	0.55	0.56	0.56	0.75	0.34	44
2009	1.10	0.88	0.81	1.19	0.59	18
2010	0.98	1.23	0.97	1.33	0.68	12
2011	1.00	1.00	1.03	1.20	0.78	37
2012	1.18	1.12	1.16	1.26	1.01	29
2013	1.09	1.09	1.10	1.16	0.95	32
2014	1.17	1.16	1.16	1.26	1.08	35
2015	1.09	0.97	1.00	1.14	0.85	35
2016	1.03	1.01	1.00	1.05	0.95	16

Notes: Based on data compiled from 783 US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



Ex US Buyout: Fund Index Analysis



Ex US Buyout: 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	2.49	26.52	16.52	12.89	6.73	14.62	13.50	13.91
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36	13.25	7.85	7.82
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06	8.59	4.29	7.65
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68	7.73	3.52	7.64
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32	8.70	4.87	3.64
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59	8.63	4.54	6.02
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90	9.15	5.24	7.41
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47

The index is a horizon calculation based on data compiled from 678 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.

*Capital change only.

Notes: 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: 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	26.52	16.52	12.89	6.73	14.62	13.50	13.91
mPME Analysis ²							
MSCI EAFE Index (net)	14.97	4.86	6.42	3.67	6.07	4.80	4.90
Value-Add (bps)	1,155	1,166	647	306	855	870	902
MSCI Europe Index (net)	14.70	4.14	6.54	3.20	6.01	4.68	5.01
Value-Add (bps)	1,182	1,238	635	354	860	882	890
S&P 500 Index	14.12	10.00	13.64	10.39	10.05	8.48	8.87
Value-Add (bps)	1,240	652	-75	-366	457	502	504
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	25.50	8.11	4.25	3.51	10.18	8.25	8.21
Value-Add (bps)	102	841	864	323	444	525	571
Constructed Index: MSCI World/MSCI All Country World Index (gross) ⁴	15.60	7.85	9.67	6.88	8.31	6.85	7.05
Value-Add (bps)	1,092	867	322	-14	631	665	687

The index is a horizon calculation based on data compiled from 678 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1987 Q1	—	1993 Q2	0.69	1999 Q3	7.86	2005 Q4	11.92	2012 Q1	7.68
1987 Q2	0.00	1993 Q3	2.54	1999 Q4	9.84	2006 Q1	7.52	2012 Q2	-1.89
1987 Q3	0.58	1993 Q4	18.81	2000 Q1	3.49	2006 Q2	17.72	2012 Q3	3.85
1987 Q4	6.44	1994 Q1	10.18	2000 Q2	2.83	2006 Q3	3.57	2012 Q4	4.69
1988 Q1	-9.47	1994 Q2	0.38	2000 Q3	-2.43	2006 Q4	22.07	2013 Q1	0.85
1988 Q2	-5.12	1994 Q3	3.36	2000 Q4	3.32	2007 Q1	3.63	2013 Q2	1.84
1988 Q3	-11.37	1994 Q4	2.44	2001 Q1	-5.71	2007 Q2	15.38	2013 Q3	6.46
1988 Q4	13.75	1995 Q1	5.76	2001 Q2	-0.62	2007 Q3	6.81	2013 Q4	7.16
1989 Q1	-3.59	1995 Q2	4.09	2001 Q3	1.58	2007 Q4	5.86	2014 Q1	2.82
1989 Q2	-9.17	1995 Q3	3.87	2001 Q4	-4.13	2008 Q1	4.13	2014 Q2	4.88
1989 Q3	2.55	1995 Q4	2.60	2002 Q1	-1.08	2008 Q2	-3.97	2014 Q3	-4.22
1989 Q4	1.49	1996 Q1	1.10	2002 Q2	8.80	2008 Q3	-16.06	2014 Q4	0.50
1990 Q1	0.00	1996 Q2	6.49	2002 Q3	-1.91	2008 Q4	-22.54	2015 Q1	-2.42
1990 Q2	9.39	1996 Q3	6.00	2002 Q4	6.07	2009 Q1	-7.83	2015 Q2	6.74
1990 Q3	1.59	1996 Q4	24.04	2003 Q1	1.36	2009 Q2	9.62	2015 Q3	-1.34
1990 Q4	4.33	1997 Q1	-1.92	2003 Q2	7.84	2009 Q3	9.35	2015 Q4	3.18
1991 Q1	-7.76	1997 Q2	5.75	2003 Q3	1.90	2009 Q4	8.26	2016 Q1	4.26
1991 Q2	-5.65	1997 Q3	3.13	2003 Q4	14.56	2010 Q1	-1.18	2016 Q2	1.34
1991 Q3	6.48	1997 Q4	9.82	2004 Q1	0.86	2010 Q2	-2.80	2016 Q3	4.61
1991 Q4	5.44	1998 Q1	2.25	2004 Q2	6.08	2010 Q3	11.76	2016 Q4	0.80
1992 Q1	-5.90	1998 Q2	12.21	2004 Q3	5.67	2010 Q4	8.96	2017 Q1	4.75
1992 Q2	6.67	1998 Q3	2.98	2004 Q4	20.32	2011 Q1	5.55	2017 Q2	9.71
1992 Q3	-4.24	1998 Q4	0.90	2005 Q1	0.91	2011 Q2	6.38	2017 Q3	6.10
1992 Q4	-2.47	1999 Q1	-0.62	2005 Q2	6.13	2011 Q3	-9.31	2017 Q4	5.72
1993 Q1	0.10	1999 Q2	6.26	2005 Q3	5.47	2011 Q4	0.61	2018 Q1	2.49

The index is a horizon calculation based on data compiled from 678 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

Ex US Buyout: Fund Index Details: Horizon Pooled Return
Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	26.52	16 Years	14.61
2 Years	18.53	17 Years	13.73
3 Years	16.52	18 Years	13.06
4 Years	10.77	19 Years	13.50
5 Years	12.89	20 Years	13.50
6 Years	11.82	21 Years	13.61
7 Years	10.45	22 Years	13.81
8 Years	12.52	23 Years	13.80
9 Years	14.26	24 Years	13.79
10 Years	6.73	25 Years	13.91
11 Years	8.67		
12 Years	11.23		
13 Years	12.55		
14 Years	13.87		
15 Years	14.62		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	26.52	3/31/2003	14.47
3/31/2017	11.90	3/31/2002	-4.32
3/31/2016	13.32	3/31/2001	-2.60
3/31/2015	-1.13	3/31/2000	29.66
3/31/2014	19.28	3/31/1999	13.63
3/31/2013	7.99	3/31/1998	22.18
3/31/2012	4.41	3/31/1997	36.70
3/31/2011	25.00	3/31/1996	11.91
3/31/2010	27.54	3/31/1995	12.85
3/31/2009	-43.00	3/31/1994	35.36
3/31/2008	35.21		
3/31/2007	54.35		
3/31/2006	34.51		
3/31/2005	36.14		
3/31/2004	26.99		

The index is a horizon calculation based on data compiled from 678 Ex US buyout funds, including fully liquidated partnerships, formed between 1987 and 2017. All returns are net of fees, expenses, and carried interest.



Ex US Buyout: Fund Since Inception Analysis



Ex US Buyout: 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
1993	18.60	15.25	10.60	18.12	—	—	—	2.01	0.00	2.01	7
1994	31.62	25.61	18.94	23.76	45.76	10.82	18.06	2.75	0.00	2.75	14
1995	27.62	16.91	11.98	18.44	20.04	0.57	25.47	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	12.43	11.00	11.21	12.39	18.91	4.68	22.16	1.80	0.00	1.80	33
1998	15.01	14.31	13.60	17.28	21.61	6.46	12.35	2.14	0.01	2.15	28
1999	17.15	17.42	16.85	16.63	22.90	5.49	18.01	1.94	0.01	1.94	29
2000	28.76	25.12	26.33	26.93	38.18	16.33	20.82	2.53	0.03	2.56	32
2001	29.10	25.79	26.01	26.49	33.70	15.14	17.94	2.10	0.01	2.11	20
2002	22.50	16.78	19.99	20.02	30.40	12.22	28.94	2.07	0.02	2.09	23
2003	19.50	20.39	21.47	21.43	33.47	9.84	22.45	1.63	0.03	1.66	20
2004	12.81	18.80	9.60	20.03	25.27	7.10	23.89	1.64	0.11	1.75	32
2005	5.00	6.44	7.11	6.56	12.43	-1.30	13.14	1.21	0.09	1.30	55
2006	5.55	5.69	5.88	6.67	11.34	2.51	12.65	1.15	0.20	1.35	57
2007	9.69	7.21	7.41	7.84	13.53	3.66	14.21	1.24	0.32	1.57	61
2008	12.19	6.82	9.44	9.30	15.96	3.57	16.96	1.19	0.46	1.64	31
2009	7.65	9.67	8.89	8.97	16.04	3.67	12.71	0.59	0.75	1.35	15
2010	11.09	9.13	8.55	10.73	17.81	-0.39	12.62	0.62	0.81	1.43	18
2011	15.81	11.64	9.67	12.60	17.34	5.49	12.45	0.53	1.07	1.60	30
2012	16.53	13.31	13.04	13.87	18.83	8.53	8.65	0.39	1.16	1.55	32
2013	18.90	17.56	16.06	20.57	26.55	11.44	13.15	0.21	1.16	1.37	22
2014	22.86	20.21	21.49	21.39	27.54	13.75	11.91	0.11	1.22	1.33	22
2015	17.45	9.13	16.28	12.08	24.02	-2.27	29.82	0.09	1.10	1.19	20
2016	2.05	-5.24	-4.34	2.95	8.25	-18.76	22.88	0.00	1.01	1.01	15

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

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	MSCI EAFE Index (net)		MSCI Europe Index (net)		CA Benchmark	MSCI EAFE Index (net)	MSCI Europe Index (net)	CA Benchmark	MSCI EAFE Index (net)	MSCI Europe Index (net)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	7	18.60	7.58	1,102	17.46	114	2.01	1.32	1.80	2.01	1.32	1.80
1994	14	31.62	6.67	2,495	15.80	1,582	2.75	1.20	1.50	2.75	1.20	1.50
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	33	12.43	2.83	960	3.00	943	1.80	1.14	1.15	1.80	1.14	1.15
1998	28	15.01	3.44	1,157	3.72	1,129	2.15	1.17	1.18	2.14	1.16	1.18
1999	29	17.15	6.55	1,060	7.15	1,000	1.94	1.28	1.31	1.94	1.28	1.30
2000	32	28.76	11.61	1,715	12.08	1,669	2.56	1.39	1.41	2.53	1.38	1.40
2001	20	29.10	14.16	1,494	14.58	1,452	2.11	1.41	1.43	2.10	1.41	1.43
2002	23	22.50	8.28	1,421	8.70	1,379	2.09	1.31	1.32	2.07	1.30	1.31
2003	20	19.50	6.21	1,329	6.81	1,269	1.66	1.22	1.24	1.63	1.19	1.21
2004	32	12.81	3.07	973	3.22	959	1.75	1.15	1.15	1.64	1.09	1.09
2005	55	5.00	1.46	355	1.33	367	1.30	1.08	1.07	1.21	1.00	1.00
2006	57	5.55	2.79	276	2.61	294	1.35	1.16	1.15	1.15	1.00	0.99
2007	61	9.69	4.82	487	4.72	497	1.57	1.24	1.24	1.24	1.03	1.03
2008	31	12.19	6.55	564	6.53	566	1.64	1.30	1.30	1.19	0.97	0.97
2009	15	7.65	6.41	124	6.06	159	1.35	1.28	1.26	0.59	0.57	0.57
2010	18	11.09	6.84	425	6.44	465	1.43	1.24	1.23	0.62	0.56	0.56
2011	30	15.81	6.59	922	5.93	988	1.60	1.22	1.19	0.53	0.43	0.43
2012	32	16.53	6.19	1,035	5.30	1,124	1.55	1.18	1.15	0.39	0.31	0.31
2013	22	18.90	7.92	1,098	6.82	1,208	1.37	1.14	1.12	0.21	0.19	0.18
2014	22	22.86	10.97	1,189	10.02	1,284	1.33	1.15	1.14	0.11	0.11	0.11
2015	20	17.45	12.71	474	11.94	551	1.19	1.14	1.13	0.09	0.09	0.09
2016	15	2.05	10.62	-858	8.78	-674	1.01	1.07	1.06	0.00	0.00	0.00

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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	S&P 500 Index		MSCI Emerging Markets Index (gross)		CA Benchmark	S&P 500 Index	MSCI Emerging Markets Index (gross)	CA Benchmark	S&P 500 Index	MSCI Emerging Markets Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	7	18.60	22.27	-367	0.64	1,796	2.01	2.06	1.03	2.01	2.06	1.03
1994	14	31.62	20.90	1,072	-2.53	3,415	2.75	1.69	0.93	2.75	1.69	0.93
1995	13	27.62	15.20	1,242	1.51	2,612	2.14	1.4	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	33	12.43	1.88	1,054	9.62	281	1.80	1.09	1.58	1.80	1.09	1.58
1998	28	15.01	0.88	1,413	12.12	289	2.15	1.04	1.75	2.14	1.04	1.74
1999	29	17.15	3.18	1,397	15.53	162	1.94	1.13	1.84	1.94	1.13	1.83
2000	32	28.76	6.01	2,275	22.53	623	2.56	1.2	1.94	2.53	1.19	1.92
2001	20	29.10	8.14	2,096	26.30	280	2.11	1.25	1.90	2.10	1.25	1.89
2002	23	22.50	6.91	1,558	18.15	434	2.09	1.31	1.72	2.07	1.30	1.71
2003	20	19.50	6.78	1,272	14.88	462	1.66	1.3	1.53	1.63	1.25	1.49
2004	32	12.81	6.15	665	8.67	414	1.75	1.36	1.43	1.64	1.26	1.36
2005	55	5.00	6.61	-161	4.25	75	1.30	1.45	1.24	1.21	1.31	1.15
2006	57	5.55	9.12	-357	3.08	247	1.35	1.65	1.17	1.15	1.38	1.01
2007	61	9.69	12.02	-233	2.92	677	1.57	1.73	1.14	1.24	1.39	0.93
2008	31	12.19	14.14	-195	4.12	808	1.64	1.77	1.18	1.19	1.28	0.86
2009	15	7.65	13.66	-600	4.81	284	1.35	1.69	1.21	0.59	0.74	0.51
2010	18	11.09	13.78	-269	5.54	555	1.43	1.55	1.20	0.62	0.69	0.51
2011	30	15.81	13.05	276	7.15	866	1.60	1.47	1.24	0.53	0.52	0.41
2012	32	16.53	12.49	404	8.10	844	1.55	1.39	1.24	0.39	0.37	0.31
2013	22	18.90	12.66	624	13.73	517	1.37	1.24	1.26	0.21	0.20	0.20
2014	22	22.86	13.92	893	18.73	412	1.33	1.19	1.27	0.11	0.11	0.11
2015	20	17.45	14.64	280	22.08	-464	1.19	1.16	1.25	0.09	0.09	0.10
2016	15	2.05	13.00	-1,095	22.61	-2,056	1.01	1.08	1.15	0.00	0.00	0.00

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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	MSCI All Country World Index (gross)		CA Benchmark	MSCI All Country World Index (gross)	CA Benchmark	MSCI All Country World Index (gross)
			IRR	mPME IRR				
1993	7	18.60	13.24	535	2.01	1.58	2.01	1.58
1994	14	31.62	12.17	1,945	2.75	1.38	2.75	1.38
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	33	12.43	2.64	979	1.80	1.13	1.80	1.13
1998	28	15.01	2.61	1,240	2.15	1.12	2.14	1.12
1999	29	17.15	5.44	1,171	1.94	1.24	1.94	1.23
2000	32	28.76	9.61	1,916	2.56	1.33	2.53	1.32
2001	20	29.10	12.05	1,705	2.11	1.37	2.10	1.36
2002	23	22.50	8.36	1,413	2.09	1.34	2.07	1.33
2003	20	19.50	7.26	1,224	1.66	1.29	1.63	1.25
2004	32	12.81	5.22	758	1.75	1.28	1.64	1.20
2005	55	5.00	4.34	66	1.30	1.27	1.21	1.16
2006	57	5.55	5.91	-36	1.35	1.38	1.15	1.17
2007	61	9.69	8.04	165	1.57	1.44	1.24	1.17
2008	31	12.19	9.86	233	1.64	1.49	1.19	1.09
2009	15	7.65	9.69	-204	1.35	1.45	0.59	0.64
2010	18	11.09	10.00	109	1.43	1.38	0.62	0.61
2011	30	15.81	9.82	599	1.60	1.34	0.53	0.47
2012	32	16.53	9.54	699	1.55	1.29	0.39	0.34
2013	22	18.90	11.01	789	1.37	1.20	0.21	0.19
2014	22	22.86	13.39	947	1.33	1.19	0.11	0.11
2015	20	17.45	14.76	269	1.19	1.16	0.09	0.09
2016	15	2.05	13.09	-1,104	1.01	1.08	0.00	0.00

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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: 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
1993	2.01	2.03	1.68	—	—	7
1994	2.75	2.23	2.01	2.62	1.56	14
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	1.80	1.66	1.80	2.12	1.18	33
1998	2.15	2.39	1.78	2.42	1.48	28
1999	1.94	1.95	1.93	2.35	1.27	29
2000	2.56	2.39	2.35	2.98	1.85	32
2001	2.11	2.22	2.19	2.81	1.73	20
2002	2.09	2.02	1.98	2.25	1.52	23
2003	1.66	1.83	1.75	2.39	1.43	20
2004	1.75	1.93	1.58	2.24	1.33	32
2005	1.30	1.37	1.48	1.65	0.92	55
2006	1.35	1.40	1.38	1.74	1.11	57
2007	1.57	1.43	1.46	1.72	1.20	61
2008	1.64	1.48	1.42	1.90	1.12	31
2009	1.35	1.44	1.40	1.72	1.16	15
2010	1.43	1.39	1.34	1.69	0.98	18
2011	1.60	1.46	1.34	1.73	1.19	30
2012	1.55	1.42	1.42	1.70	1.23	32
2013	1.37	1.47	1.40	1.59	1.20	22
2014	1.33	1.34	1.33	1.39	1.21	22
2015	1.19	1.08	1.19	1.27	0.97	20
2016	1.01	0.97	0.96	1.06	0.86	15

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Ex US Buyout: 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
1993	2.01	2.03	1.68	—	—	7
1994	2.75	2.23	2.01	2.62	1.56	14
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	1.80	1.66	1.80	2.12	1.18	33
1998	2.14	2.38	1.78	2.42	1.48	28
1999	1.94	1.94	1.93	2.23	1.18	29
2000	2.53	2.36	2.35	2.97	1.72	32
2001	2.10	2.22	2.19	2.81	1.73	20
2002	2.07	2.00	1.95	2.23	1.52	23
2003	1.63	1.80	1.68	2.39	1.34	20
2004	1.64	1.82	1.48	2.23	1.26	32
2005	1.21	1.27	1.32	1.63	0.84	55
2006	1.15	1.16	1.13	1.50	0.86	57
2007	1.24	1.11	1.20	1.45	0.75	61
2008	1.19	1.04	1.11	1.43	0.60	31
2009	0.59	0.68	0.56	0.92	0.46	15
2010	0.62	0.59	0.48	0.87	0.15	18
2011	0.53	0.49	0.38	0.63	0.07	30
2012	0.39	0.31	0.25	0.49	0.10	32
2013	0.21	0.29	0.16	0.38	0.02	22
2014	0.11	0.18	0.01	0.29	0.00	22
2015	0.09	0.08	0.00	0.00	0.00	20
2016	0.00	0.01	0.00	0.00	0.00	15

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Ex US Buyout: 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
1993	0.00	0.00	0.00	—	—	7
1994	0.00	0.00	0.00	0.00	0.00	14
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	33
1998	0.01	0.01	0.00	0.00	0.00	28
1999	0.01	0.01	0.00	0.00	0.00	29
2000	0.03	0.03	0.00	0.01	0.00	32
2001	0.01	0.00	0.00	0.00	0.00	20
2002	0.02	0.03	0.00	0.02	0.00	23
2003	0.03	0.03	0.00	0.01	0.00	20
2004	0.11	0.10	0.03	0.07	0.00	32
2005	0.09	0.10	0.05	0.13	0.00	55
2006	0.20	0.24	0.14	0.32	0.03	57
2007	0.32	0.31	0.22	0.46	0.09	61
2008	0.46	0.44	0.48	0.73	0.06	31
2009	0.75	0.77	0.88	1.04	0.43	15
2010	0.81	0.79	0.82	0.95	0.63	18
2011	1.07	0.97	0.89	1.22	0.71	30
2012	1.16	1.11	1.16	1.24	1.00	32
2013	1.16	1.18	1.15	1.31	1.00	22
2014	1.22	1.16	1.20	1.34	1.01	22
2015	1.10	1.01	1.16	1.25	0.90	20
2016	1.01	0.96	0.96	1.05	0.86	15

Notes: Based on data compiled from 645 Ex US buyout funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



Growth Equity: Fund Index Analysis



Growth Equity: 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	4.16	20.04	12.53	13.92	10.82	13.46	13.26	14.77
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65	3.97	4.88	5.29
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86	10.38	7.65	10.66
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14	12.04	8.63	10.45
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65	10.40	6.61	9.45
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36	13.25	7.85	7.82
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06	8.59	4.29	7.65
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68	7.73	3.52	7.64
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32	8.70	4.87	3.64
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59	8.63	4.54	6.02
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90	9.15	5.24	7.41
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98	11.71	6.97	9.75
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61	10.35	6.68	9.57
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84	11.50	7.37	9.36
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49	10.10	6.46	9.47

The index is a horizon calculation based on data compiled from 581 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.

*Capital change only.

Notes: Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

Growth Equity: 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	20.04	12.53	13.92	10.82	13.46	13.26	14.77
mPME Analysis ²							
MSCI EAFE Index (net)	14.77	6.04	6.64	4.35	6.55	5.14	5.28
Value-Add (bps)	528	649	729	647	691	812	949
MSCI Europe Index (net)	14.44	5.30	6.45	3.80	6.42	4.91	5.48
Value-Add (bps)	561	724	748	702	704	835	930
S&P 500 Index	14.04	10.84	13.33	10.83	10.47	8.68	9.36
Value-Add (bps)	601	169	60	-1	299	459	541
Russell 2000® Index	11.84	8.55	11.53	10.81	11.07	9.14	9.56
Value-Add (bps)	820	398	240	2	239	412	521
Russell 3000® Index	13.86	10.29	13.05	10.89	10.64	8.82	9.46
Value-Add (bps)	619	224	87	-7	282	444	531
Constructed Index: MSCI World/MSCI All Country World Index (gross) ³	15.47	8.98	9.86	7.50	8.81	7.16	7.48
Value-Add (bps)	457	355	406	332	465	610	730

The index is a horizon calculation based on data compiled from 581 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

Growth Equity: Fund Index Details: One Quarter Horizon Pooled Return Net to Limited Partners

Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return	Quarter Ending	Horizon Return
1986 Q1	—	1992 Q3	3.35	1999 Q1	7.72	2005 Q3	7.90	2012 Q1	6.15
1986 Q2	—	1992 Q4	8.35	1999 Q2	14.35	2005 Q4	3.71	2012 Q2	-1.46
1986 Q3	-19.34	1993 Q1	-2.16	1999 Q3	6.61	2006 Q1	8.02	2012 Q3	2.77
1986 Q4	13.82	1993 Q2	3.84	1999 Q4	53.09	2006 Q2	-0.11	2012 Q4	3.65
1987 Q1	8.38	1993 Q3	10.34	2000 Q1	18.53	2006 Q3	5.13	2013 Q1	2.70
1987 Q2	2.95	1993 Q4	11.60	2000 Q2	2.88	2006 Q4	10.48	2013 Q2	1.46
1987 Q3	25.54	1994 Q1	6.02	2000 Q3	8.11	2007 Q1	8.31	2013 Q3	6.25
1987 Q4	-9.87	1994 Q2	-0.63	2000 Q4	-7.60	2007 Q2	10.40	2013 Q4	8.90
1988 Q1	1.44	1994 Q3	6.56	2001 Q1	-9.74	2007 Q3	4.30	2014 Q1	3.27
1988 Q2	0.67	1994 Q4	5.65	2001 Q2	2.21	2007 Q4	8.00	2014 Q2	4.30
1988 Q3	1.07	1995 Q1	10.13	2001 Q3	-8.70	2008 Q1	-5.15	2014 Q3	1.78
1988 Q4	1.03	1995 Q2	7.02	2001 Q4	-0.09	2008 Q2	-0.26	2014 Q4	1.38
1989 Q1	1.56	1995 Q3	7.49	2002 Q1	-2.38	2008 Q3	-6.49	2015 Q1	3.21
1989 Q2	0.33	1995 Q4	7.33	2002 Q2	-4.10	2008 Q4	-14.86	2015 Q2	5.77
1989 Q3	1.05	1996 Q1	6.61	2002 Q3	-8.67	2009 Q1	-3.32	2015 Q3	-3.05
1989 Q4	2.81	1996 Q2	10.10	2002 Q4	-1.06	2009 Q2	8.47	2015 Q4	3.31
1990 Q1	1.97	1996 Q3	5.72	2003 Q1	-3.67	2009 Q3	6.78	2016 Q1	-0.07
1990 Q2	2.31	1996 Q4	4.17	2003 Q2	6.36	2009 Q4	6.45	2016 Q2	1.64
1990 Q3	-0.15	1997 Q1	1.24	2003 Q3	6.18	2010 Q1	4.72	2016 Q3	3.83
1990 Q4	-0.58	1997 Q2	21.00	2003 Q4	7.10	2010 Q2	0.14	2016 Q4	2.13
1991 Q1	2.52	1997 Q3	9.74	2004 Q1	4.37	2010 Q3	6.27	2017 Q1	4.15
1991 Q2	0.78	1997 Q4	-1.66	2004 Q2	0.92	2010 Q4	10.91	2017 Q2	3.86
1991 Q3	7.59	1998 Q1	12.15	2004 Q3	0.78	2011 Q1	3.68	2017 Q3	4.92
1991 Q4	6.56	1998 Q2	-3.77	2004 Q4	10.34	2011 Q2	3.95	2017 Q4	5.83
1992 Q1	2.54	1998 Q3	-5.76	2005 Q1	1.55	2011 Q3	-5.72	2018 Q1	4.16
1992 Q2	0.36	1998 Q4	7.21	2005 Q2	7.52	2011 Q4	3.44		

The index is a horizon calculation based on data compiled from 581 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

Growth Equity: Fund Index Details: Horizon Pooled Return Net to Limited Partners

Multi-Year Returns			
Years	Horizon Return (%)	Years	Horizon Return (%)
1 Year	20.04	16 Years	12.01
2 Years	16.07	17 Years	11.07
3 Years	12.53	18 Years	10.33
4 Years	12.15	19 Years	13.51
5 Years	13.92	20 Years	13.26
6 Years	12.80	21 Years	14.02
7 Years	12.04	22 Years	14.19
8 Years	13.30	23 Years	14.46
9 Years	14.85	24 Years	14.57
10 Years	10.82	25 Years	14.77
11 Years	11.21		
12 Years	12.00		
13 Years	12.84		
14 Years	12.90		
15 Years	13.46		

One Year Rolling Returns			
One Year Ended	Horizon Return (%)	One Year Ended	Horizon Return (%)
3/31/2018	20.04	3/31/2003	-16.47
3/31/2017	12.30	3/31/2002	-9.00
3/31/2016	5.83	3/31/2001	-6.66
3/31/2015	11.03	3/31/2000	121.18
3/31/2014	21.09	3/31/1999	6.16
3/31/2013	7.79	3/31/1998	45.83
3/31/2012	7.77	3/31/1997	22.40
3/31/2011	22.51	3/31/1996	31.45
3/31/2010	28.99	3/31/1995	24.08
3/31/2009	-23.54	3/31/1994	35.90
3/31/2008	16.67		
3/31/2007	26.29		
3/31/2006	30.06		
3/31/2005	14.06		
3/31/2004	26.17		

The index is a horizon calculation based on data compiled from 581 growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



Growth Equity: Fund Since Inception Analysis



Growth Equity: 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
1993	7.20	9.76	—	2.43	—	—	—	1.27	0.00	1.27	3
1994	35.13	10.10	0.22	10.76	9.90	-1.29	18.72	3.62	0.00	3.62	11
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	7.24	6.73	9.67	14.76	-3.55	11.92	1.59	0.00	1.60	13
1997	13.33	19.04	14.47	16.53	26.89	9.24	21.82	1.82	0.00	1.83	12
1998	10.14	8.63	9.74	9.51	15.18	2.01	9.45	1.57	0.01	1.58	13
1999	3.13	6.96	0.77	7.69	17.18	-3.87	15.54	1.21	0.02	1.23	12
2000	8.98	6.91	6.91	7.20	14.00	2.28	10.38	1.54	0.06	1.60	30
2001	14.54	5.25	10.58	7.06	—	—	—	2.17	0.09	2.26	7
2002	10.16	17.94	8.80	15.16	17.82	6.04	26.45	1.58	0.14	1.72	11
2003	16.59	23.12	14.50	24.11	—	—	—	1.89	0.05	1.94	7
2004	8.51	26.81	8.25	13.75	24.15	1.73	56.16	1.32	0.19	1.50	20
2005	12.26	11.50	10.14	13.69	17.58	1.69	16.70	1.68	0.22	1.91	39
2006	8.01	7.50	6.27	11.04	11.42	0.81	10.46	1.26	0.29	1.56	33
2007	9.49	5.92	7.18	7.55	11.17	-2.57	11.13	1.14	0.49	1.64	53
2008	10.91	8.91	7.25	9.19	12.18	4.12	8.12	0.86	0.81	1.67	37
2009	14.82	10.63	10.12	12.98	14.96	5.97	8.22	0.84	0.99	1.82	18
2010	14.94	14.67	13.21	14.38	17.84	6.11	16.81	0.63	1.09	1.72	30
2011	15.81	13.25	14.09	13.35	18.59	8.09	9.38	0.53	1.11	1.64	35
2012	14.29	11.36	10.68	12.28	15.27	7.46	9.51	0.32	1.13	1.45	31
2013	16.23	14.40	13.51	16.93	19.28	9.36	12.67	0.17	1.30	1.47	35
2014	21.87	19.17	17.05	19.82	22.11	7.47	20.57	0.14	1.28	1.42	36
2015	16.37	16.87	12.40	18.69	26.56	1.67	25.02	0.06	1.12	1.17	36
2016	4.15	-9.02	-4.87	4.10	7.98	-21.66	29.31	0.00	1.03	1.03	24

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Growth 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	MSCI EAFE Index (Net)		MSCI Europe Index (Net)		CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)	CA Benchmark	MSCI EAFE Index (Net)	MSCI Europe Index (Net)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	3	7.20	4.83	236	9.90	-271	1.27	1.29	1.62	1.27	1.16	1.46
1994	11	35.13	8.43	2,670	15.01	2,012	3.62	1.38	1.73	3.62	1.38	1.73
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	13.33	3.37	996	3.60	973	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	1.57	1.11	1.12
1999	12	3.13	3.99	-86	4.63	-150	1.23	1.24	1.29	1.21	1.23	1.28
2000	30	8.98	7.51	147	7.88	110	1.60	1.42	1.44	1.54	1.36	1.39
2001	7	14.54	8.30	624	8.69	585	2.26	1.53	1.56	2.17	1.47	1.50
2002	11	10.16	10.41	-25	10.80	-64	1.72	1.65	1.67	1.58	1.53	1.56
2003	7	16.59	4.01	1,258	4.22	1,236	1.94	1.17	1.18	1.89	1.14	1.15
2004	20	8.51	2.83	568	2.89	562	1.50	1.15	1.15	1.32	1.02	1.03
2005	39	12.26	1.44	1,081	1.39	1,086	1.91	1.08	1.08	1.68	0.97	0.97
2006	33	8.01	2.70	531	2.48	553	1.56	1.17	1.15	1.26	0.93	0.92
2007	53	9.49	4.83	466	4.71	477	1.64	1.28	1.27	1.14	0.93	0.93
2008	37	10.91	6.48	443	6.31	460	1.67	1.35	1.34	0.86	0.72	0.72
2009	18	14.82	6.53	829	6.30	852	1.82	1.30	1.29	0.84	0.65	0.65
2010	30	14.94	6.87	808	6.52	842	1.72	1.28	1.26	0.63	0.50	0.50
2011	35	15.81	6.41	940	5.71	1,010	1.64	1.23	1.20	0.53	0.41	0.40
2012	31	14.29	5.84	845	4.87	942	1.45	1.17	1.14	0.32	0.26	0.26
2013	35	16.23	6.76	947	5.70	1,052	1.47	1.18	1.15	0.17	0.14	0.14
2014	36	21.87	9.30	1,258	8.29	1,358	1.42	1.17	1.15	0.14	0.12	0.12
2015	36	16.37	12.71	365	11.72	465	1.17	1.13	1.12	0.06	0.06	0.06
2016	24	4.15	11.97	-782	10.62	-647	1.03	1.08	1.07	0.00	0.00	0.00

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

Growth 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	S&P 500 Index		Russell 2000® Index		CA Benchmark	S&P 500 Index	Russell 2000® Index	CA Benchmark	S&P 500 Index	Russell 2000® Index
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	3	7.20	12.41	-522	10.38	-318	1.27	1.77	1.70	1.27	1.59	1.49
1994	11	35.13	19.16	1,597	11.39	2,374	3.62	1.94	1.56	3.62	1.94	1.56
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	4.60	545	7.08	297	1.60	1.21	1.37	1.59	1.20	1.36
1997	12	13.33	1.72	1,160	7.44	589	1.83	1.08	1.39	1.82	1.07	1.38
1998	13	10.14	0.32	982	6.65	349	1.58	1.01	1.32	1.57	1.01	1.32
1999	12	3.13	1.19	194	6.93	-380	1.23	1.07	1.45	1.21	1.06	1.43
2000	30	8.98	5.04	394	8.04	94	1.60	1.31	1.50	1.54	1.23	1.41
2001	7	14.54	6.48	806	8.32	622	2.26	1.47	1.62	2.17	1.38	1.52
2002	11	10.16	7.29	287	9.87	29	1.72	1.51	1.71	1.58	1.34	1.53
2003	7	16.59	5.95	1,064	7.00	959	1.94	1.31	1.36	1.89	1.25	1.31
2004	20	8.51	6.02	249	6.27	223	1.50	1.40	1.41	1.32	1.18	1.20
2005	39	12.26	5.85	641	6.18	608	1.91	1.39	1.41	1.68	1.21	1.24
2006	33	8.01	8.99	-98	8.88	-87	1.56	1.69	1.67	1.26	1.29	1.29
2007	53	9.49	11.69	-220	11.53	-205	1.64	1.84	1.81	1.14	1.27	1.27
2008	37	10.91	13.92	-301	12.99	-208	1.67	1.92	1.83	0.86	0.96	0.93
2009	18	14.82	13.98	84	12.48	235	1.82	1.74	1.64	0.84	0.84	0.80
2010	30	14.94	13.89	106	12.40	255	1.72	1.65	1.56	0.63	0.63	0.60
2011	35	15.81	13.08	272	11.44	436	1.64	1.51	1.44	0.53	0.50	0.47
2012	31	14.29	12.00	229	10.12	417	1.45	1.37	1.30	0.32	0.31	0.30
2013	35	16.23	12.15	408	10.75	548	1.47	1.34	1.29	0.17	0.16	0.16
2014	36	21.87	13.37	850	12.49	938	1.42	1.24	1.23	0.14	0.13	0.13
2015	36	16.37	14.80	157	14.55	181	1.17	1.15	1.15	0.06	0.06	0.06
2016	24	4.15	13.58	-943	11.39	-724	1.03	1.09	1.08	0.00	0.00	0.00

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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., Standard & Poor's and Thomson Reuters Datastream.

Growth 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	Russell 3000® Index		MSCI All Country World Index (gross)		CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)	CA Benchmark	Russell 3000® Index	MSCI All Country World Index (gross)
			IRR	mPME IRR	Value-Add	mPME IRR						
1993	3	7.20	12.04	-485	7.79	-59	1.27	1.76	1.48	1.27	1.57	1.32
1994	11	35.13	18.11	1,702	12.68	2,245	3.62	1.89	1.60	3.62	1.89	1.60
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	499	4.33	571	1.60	1.23	1.20	1.59	1.23	1.20
1997	12	13.33	2.58	1,075	2.90	1,043	1.83	1.12	1.14	1.82	1.12	1.14
1998	13	10.14	1.18	897	1.77	837	1.58	1.05	1.08	1.57	1.05	1.08
1999	12	3.13	1.99	114	3.11	2	1.23	1.12	1.19	1.21	1.10	1.18
2000	30	8.98	5.60	338	7.02	197	1.60	1.34	1.42	1.54	1.26	1.35
2001	7	14.54	6.97	757	8.17	637	2.26	1.51	1.57	2.17	1.42	1.49
2002	11	10.16	7.90	227	9.53	63	1.72	1.56	1.64	1.58	1.39	1.49
2003	7	16.59	6.30	1,028	5.65	1,094	1.94	1.33	1.27	1.89	1.27	1.22
2004	20	8.51	6.24	227	5.06	345	1.50	1.41	1.30	1.32	1.19	1.12
2005	39	12.26	6.04	621	4.12	813	1.91	1.40	1.25	1.68	1.22	1.11
2006	33	8.01	9.11	-110	5.87	214	1.56	1.70	1.40	1.26	1.30	1.09
2007	53	9.49	11.79	-230	7.99	150	1.64	1.85	1.51	1.14	1.28	1.07
2008	37	10.91	13.87	-296	9.82	109	1.67	1.91	1.59	0.86	0.96	0.81
2009	18	14.82	13.81	101	9.83	500	1.82	1.73	1.48	0.84	0.84	0.72
2010	30	14.94	13.71	123	10.08	487	1.72	1.64	1.44	0.63	0.62	0.55
2011	35	15.81	12.83	298	9.79	602	1.64	1.50	1.36	0.53	0.49	0.45
2012	31	14.29	11.65	264	9.24	505	1.45	1.35	1.27	0.32	0.31	0.29
2013	35	16.23	11.84	438	9.99	624	1.47	1.33	1.27	0.17	0.16	0.15
2014	36	21.87	13.15	872	12.17	970	1.42	1.24	1.22	0.14	0.13	0.13
2015	36	16.37	14.79	157	14.95	141	1.17	1.15	1.16	0.06	0.06	0.06
2016	24	4.15	13.43	-928	14.00	-985	1.03	1.09	1.10	0.00	0.00	0.00

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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 Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

Growth Equity: 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
1993	1.27	1.12	—	—	—	3
1994	3.62	1.83	1.02	2.02	0.94	11
1995	3.44	2.03	1.18	2.31	0.85	11
1996	1.60	1.75	1.44	2.02	0.77	13
1997	1.83	2.18	1.88	2.52	1.58	12
1998	1.58	1.48	1.50	1.78	1.14	13
1999	1.23	1.58	1.07	2.08	0.81	12
2000	1.60	1.47	1.40	1.86	1.14	30
2001	2.26	1.49	1.51	—	—	7
2002	1.72	2.15	1.75	2.47	1.45	11
2003	1.94	2.25	1.78	—	—	7
2004	1.50	1.78	1.43	1.88	1.20	20
2005	1.91	1.98	1.66	2.35	1.13	39
2006	1.56	1.87	1.39	1.77	1.05	33
2007	1.64	1.48	1.50	1.73	0.90	53
2008	1.67	1.57	1.47	1.80	1.27	37
2009	1.82	1.76	1.51	2.04	1.24	18
2010	1.72	1.71	1.57	2.04	1.30	30
2011	1.64	1.58	1.53	1.91	1.34	35
2012	1.45	1.38	1.33	1.53	1.24	31
2013	1.47	1.42	1.36	1.52	1.21	35
2014	1.42	1.39	1.26	1.54	1.13	36
2015	1.17	1.22	1.16	1.32	1.01	36
2016	1.03	0.93	0.97	1.05	0.82	24

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Growth Equity: 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
1993	1.27	1.12	—	—	—	3
1994	3.62	1.83	1.02	2.02	0.94	11
1995	3.44	2.03	1.18	2.31	0.85	11
1996	1.59	1.74	1.40	1.98	0.77	13
1997	1.82	2.16	1.88	2.52	1.58	12
1998	1.57	1.46	1.50	1.78	1.14	13
1999	1.21	1.56	1.06	2.08	0.72	12
2000	1.54	1.41	1.39	1.79	1.03	30
2001	2.17	1.43	1.51	—	—	7
2002	1.58	1.96	1.40	2.37	1.17	11
2003	1.89	2.21	1.77	—	—	7
2004	1.32	1.51	1.26	1.64	0.86	20
2005	1.68	1.72	1.38	2.19	0.63	39
2006	1.26	1.49	1.11	1.48	0.71	33
2007	1.14	0.96	0.87	1.42	0.42	53
2008	0.86	0.77	0.69	0.92	0.41	37
2009	0.84	0.51	0.36	0.64	0.23	18
2010	0.63	0.65	0.58	0.96	0.27	30
2011	0.53	0.43	0.34	0.76	0.08	35
2012	0.32	0.27	0.14	0.39	0.04	31
2013	0.17	0.26	0.14	0.33	0.00	35
2014	0.14	0.13	0.05	0.17	0.00	36
2015	0.06	0.05	0.00	0.01	0.00	36
2016	0.00	0.00	0.00	0.00	0.00	24

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.

Growth Equity: 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
1993	0.00	0.00	—	—	—	3
1994	0.00	0.01	0.00	0.00	0.00	11
1995	0.00	0.00	0.00	0.00	0.00	11
1996	0.00	0.01	0.00	0.00	0.00	13
1997	0.00	0.02	0.00	0.00	0.00	12
1998	0.01	0.02	0.00	0.00	0.00	13
1999	0.02	0.02	0.00	0.02	0.00	12
2000	0.06	0.06	0.00	0.08	0.00	30
2001	0.09	0.06	0.02	—	—	7
2002	0.14	0.19	0.01	0.30	0.00	11
2003	0.05	0.04	0.00	—	—	7
2004	0.19	0.27	0.05	0.28	0.01	20
2005	0.22	0.26	0.18	0.41	0.04	39
2006	0.29	0.38	0.30	0.43	0.07	33
2007	0.49	0.53	0.41	0.68	0.17	53
2008	0.81	0.80	0.73	1.08	0.48	37
2009	0.99	1.25	0.97	1.38	0.77	18
2010	1.09	1.05	0.97	1.13	0.77	30
2011	1.11	1.15	1.10	1.36	0.90	35
2012	1.13	1.11	1.14	1.30	0.88	31
2013	1.30	1.16	1.19	1.34	1.02	35
2014	1.28	1.26	1.17	1.45	1.00	36
2015	1.12	1.17	1.12	1.24	1.00	36
2016	1.03	0.93	0.97	1.05	0.82	24

Notes: Based on data compiled from 557 growth equity funds, including fully liquidated partnerships, formed between 1993 and 2016. 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.



US Growth Equity: Fund Index Analysis



US Growth Equity: Fund Index Summary: Horizon Pooled Return Net to Limited Partners

Index	1-Quarter	1-Year	3-Year	5-Year	10-Year
US Growth Equity Index¹	5.78	23.37	14.90	16.22	12.24
Bloomberg Barclays Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49
Wilshire 5000 Total Market Index	-0.76	13.69	10.48	13.13	9.65

The index is a horizon calculation based on data compiled from 244 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc.

*Capital change only.

US Growth Equity: 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
US Growth Equity Index¹	23.37	14.90	16.22	12.24
mPME Analysis ²				
Russell 2000® Index	11.88	8.68	11.70	10.64
Value-Add (bps)	1,149	621	452	160
Russell 2500™ Index	12.40	8.37	11.74	11.08
Value-Add (bps)	1,098	653	448	116
Russell 3000® Index	13.91	10.39	13.16	10.52
Value-Add (bps)	946	451	306	173
Russell Midcap® Index	12.27	8.16	12.26	11.04
Value-Add (bps)	1,110	674	396	121
S&P 500 Index	14.09	10.93	13.42	10.42
Value-Add (bps)	928	397	280	183
Constructed Index: MSCI World/MSCI All Country World Index (gross) ³	15.52	9.13	9.98	7.11
Value-Add (bps)	785	577	625	513

The index is a horizon calculation based on data compiled from 244 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017.

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

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 Growth Equity: Fund Index Details: One Quarter Horizon Pooled Return
Net to Limited Partners

Quarter Ending	Horizon Return
2003 Q1	-3.81
2003 Q2	6.51
2003 Q3	5.64
2003 Q4	7.37
2004 Q1	3.50
2004 Q2	1.44
2004 Q3	-0.12
2004 Q4	10.49
2005 Q1	-0.25
2005 Q2	8.19
2005 Q3	8.35
2005 Q4	2.20
2006 Q1	7.69
2006 Q2	-0.36
2006 Q3	4.45
2006 Q4	7.80
2007 Q1	7.02
2007 Q2	8.90
2007 Q3	3.76
2007 Q4	4.23
2008 Q1	-3.57
2008 Q2	-0.06
2008 Q3	-3.27
2008 Q4	-12.93

Quarter Ending	Horizon Return
2009 Q1	-3.81
2009 Q2	5.89
2009 Q3	5.17
2009 Q4	3.80
2010 Q1	4.52
2010 Q2	0.87
2010 Q3	4.48
2010 Q4	10.80
2011 Q1	4.17
2011 Q2	5.09
2011 Q3	-3.37
2011 Q4	6.21
2012 Q1	6.22
2012 Q2	-0.35
2012 Q3	3.78
2012 Q4	3.20
2013 Q1	3.64
2013 Q2	2.95
2013 Q3	8.28
2013 Q4	8.48
2014 Q1	3.03
2014 Q2	4.77
2014 Q3	1.54
2014 Q4	1.74

Quarter Ending	Horizon Return
2015 Q1	3.17
2015 Q2	5.13
2015 Q3	-1.08
2015 Q4	1.73
2016 Q1	0.51
2016 Q2	2.81
2016 Q3	4.92
2016 Q4	2.72
2017 Q1	4.44
2017 Q2	4.08
2017 Q3	5.45
2017 Q4	6.38
2018 Q1	5.78

The index is a horizon calculation based on data compiled from 244 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

US Growth Equity: Fund Index Details: Horizon Pooled Return
Net to Limited Partners

Multi-Year Returns	
Years	Horizon Return (%)
1 Year	23.37
2 Years	19.47
3 Years	14.90
4 Years	14.04
5 Years	16.22
6 Years	15.04
7 Years	14.97
8 Years	15.93
9 Years	16.52
10 Years	12.24

One Year Rolling Returns	
One Year Ended	Horizon Return (%)
3/31/2018	23.37
3/31/2017	15.74
3/31/2016	6.33
3/31/2015	11.61
3/31/2014	24.48
3/31/2013	10.48
3/31/2012	14.67
3/31/2011	21.71
3/31/2010	20.78
3/31/2009	-19.34

The index is a horizon calculation based on data compiled from 244 US growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017. All returns are net of fees, expenses, and carried interest.



Ex US Growth Equity: Fund Index Analysis



Ex US Growth Equity: Fund Index Summary: Horizon Pooled Return Net to Limited Partners

Index	1-Quarter	1-Year	3-Year	5-Year	10-Year
Ex US Growth Equity Index¹	2.26	16.14	9.85	11.31	8.86
Bloomberg Barclays Capital Government/Credit Bond Index	-1.58	1.38	1.22	1.84	3.65
Dow Jones Industrial Average Index	-1.96	19.39	13.48	13.32	9.86
Dow Jones US Small Cap Index	-0.60	10.62	6.61	10.56	10.14
Dow Jones US TopCap Index	-0.65	14.20	10.58	13.24	9.65
MSCI Emerging Markets Index (gross)	1.47	25.37	9.21	5.37	3.36
MSCI Europe Index (US\$) (net)	-1.98	14.49	4.79	6.37	2.06
MSCI Europe Index (€) (net)	-4.30	-0.43	0.16	7.29	4.68
MSCI Pacific Index (net)	-0.68	15.78	7.26	6.84	4.32
MSCI World Ex US Index (net)	-2.04	13.92	5.30	6.04	2.59
MSCI World Index (net)	-1.28	13.59	7.97	9.70	5.90
Nasdaq Composite Index*	2.32	19.48	12.96	16.67	11.98
Russell 1000® Index	-0.69	13.98	10.39	13.17	9.61
Russell 2000® Index	-0.08	11.79	8.39	11.47	9.84
S&P 500 Index	-0.76	13.99	10.78	13.31	9.49

The index is a horizon calculation based on data compiled from 337 Ex US growth equity funds including fully liquidated partnerships, formed between 1989 and 2016.

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, Frank Russell Company, Standard & Poor's, Thomson Reuters Datastream, and Wilshire Associates, Inc. *Capital change only.

Notes: 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 Growth Equity: 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
Ex US Growth Equity Index¹	16.14	9.85	11.31	8.86
mPME Analysis ²				
MSCI EAFE Index (net)	14.74	5.82	6.46	4.81
Value-Add (bps)	140	403	485	405
MSCI Europe Index (net)	14.43	5.07	6.23	4.28
Value-Add (bps)	171	478	508	458
S&P 500 Index	13.98	10.75	13.22	11.33
Value-Add (bps)	216	-89	-191	-246
Constructed Index: Global Financial Data Emerging Markets/MSCI Emerging Markets (gross) ³	25.32	9.89	6.14	4.86
Value-Add (bps)	-918	-3	516	400
Constructed Index: MSCI World/MSCI All Country World Index (gross) ⁴	15.42	8.82	9.74	7.96
Value-Add (bps)	72	103	157	90

The index is a horizon calculation based on data compiled from 337 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2016.

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

Sources: Cambridge Associates LLC, Frank Russell Company Global Financial Data, Inc., MSCI Inc., Standard & Poor's and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: 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 Growth Equity: Fund Index Details: Horizon Pooled Return
Net to Limited Partners

Quarter Ending	Horizon Return
2003 Q1	-3.34
2003 Q2	6.00
2003 Q3	7.49
2003 Q4	6.44
2004 Q1	6.46
2004 Q2	-0.31
2004 Q3	3.04
2004 Q4	9.98
2005 Q1	6.16
2005 Q2	5.80
2005 Q3	6.72
2005 Q4	7.77
2006 Q1	8.88
2006 Q2	0.53
2006 Q3	6.93
2006 Q4	17.35
2007 Q1	11.23
2007 Q2	13.59
2007 Q3	5.37
2007 Q4	15.06
2008 Q1	-7.79
2008 Q2	-0.59
2008 Q3	-12.03

Quarter Ending	Horizon Return
2008 Q4	-18.35
2009 Q1	-2.38
2009 Q2	13.38
2009 Q3	9.66
2009 Q4	10.97
2010 Q1	5.02
2010 Q2	-0.97
2010 Q3	8.98
2010 Q4	11.06
2011 Q1	3.00
2011 Q2	2.35
2011 Q3	-9.04
2011 Q4	-0.69
2012 Q1	6.02
2012 Q2	-3.12
2012 Q3	1.28
2012 Q4	4.28
2013 Q1	1.44
2013 Q2	-0.48
2013 Q3	3.67
2013 Q4	9.41
2014 Q1	3.56
2014 Q2	3.77

Quarter Ending	Horizon Return
2014 Q3	2.06
2014 Q4	0.98
2015 Q1	3.26
2015 Q2	6.46
2015 Q3	-5.16
2015 Q4	5.05
2016 Q1	-0.68
2016 Q2	0.37
2016 Q3	2.62
2016 Q4	1.46
2017 Q1	3.82
2017 Q2	3.61
2017 Q3	4.28
2017 Q4	5.18
2018 Q1	2.26

The index is a horizon calculation based on data compiled from 337 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2016. All returns are net of fees, expenses, and carried interest. Historic quarterly returns are updated in each year-end report to adjust for changes in the index sample.

Ex US Growth Equity: Fund Index Details: Horizon Pooled Return
Net to Limited Partners

Multi-Year Returns	
Years	Horizon Return (%)
1 Year	16.14
2 Years	12.24
3 Years	9.85
4 Years	9.98
5 Years	11.31
6 Years	10.17
7 Years	8.66
8 Years	10.09
9 Years	12.54
10 Years	8.86

One Year Rolling Returns	
One Year Ended	Horizon Return (%)
3/31/2018	16.14
3/31/2017	8.55
3/31/2016	5.28
3/31/2015	10.38
3/31/2014	17.08
3/31/2013	4.06
3/31/2012	-1.65
3/31/2011	23.69
3/31/2010	44.49
3/31/2009	-30.57

The index is a horizon calculation based on data compiled 337 Ex US growth equity funds, including fully liquidated partnerships, formed between 1989 and 2016. All returns are net of fees, expenses, and carried interest.

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 March 31, 2018, 2,103 US and Ex US buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2017 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:

1. 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.
2. 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.
3. 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.
4. CA uses both the since inception internal rate of return and the end-to-end or horizon performance calculation in its benchmark reports:
 - a. The since inception internal rate of return (SI IRR) 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.
 - b. 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 (Continued)

5. 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.

- a. **Pooled return** aggregates all cash flows and ending NAVs in a sample to calculate a dollar-weighted return. (minimum 3 funds)
 - b. **Arithmetic mean** averages the individual fund IRRs included in a vintage year. (minimum 3 funds)
 - c. **Median** is the middle fund IRR of the group of individual fund IRRs included in a vintage year. (minimum 5 funds)
 - d. **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)
 - e. **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)
 - f. **Standard deviation** is 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)
6. **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.
7. **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.
8. 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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