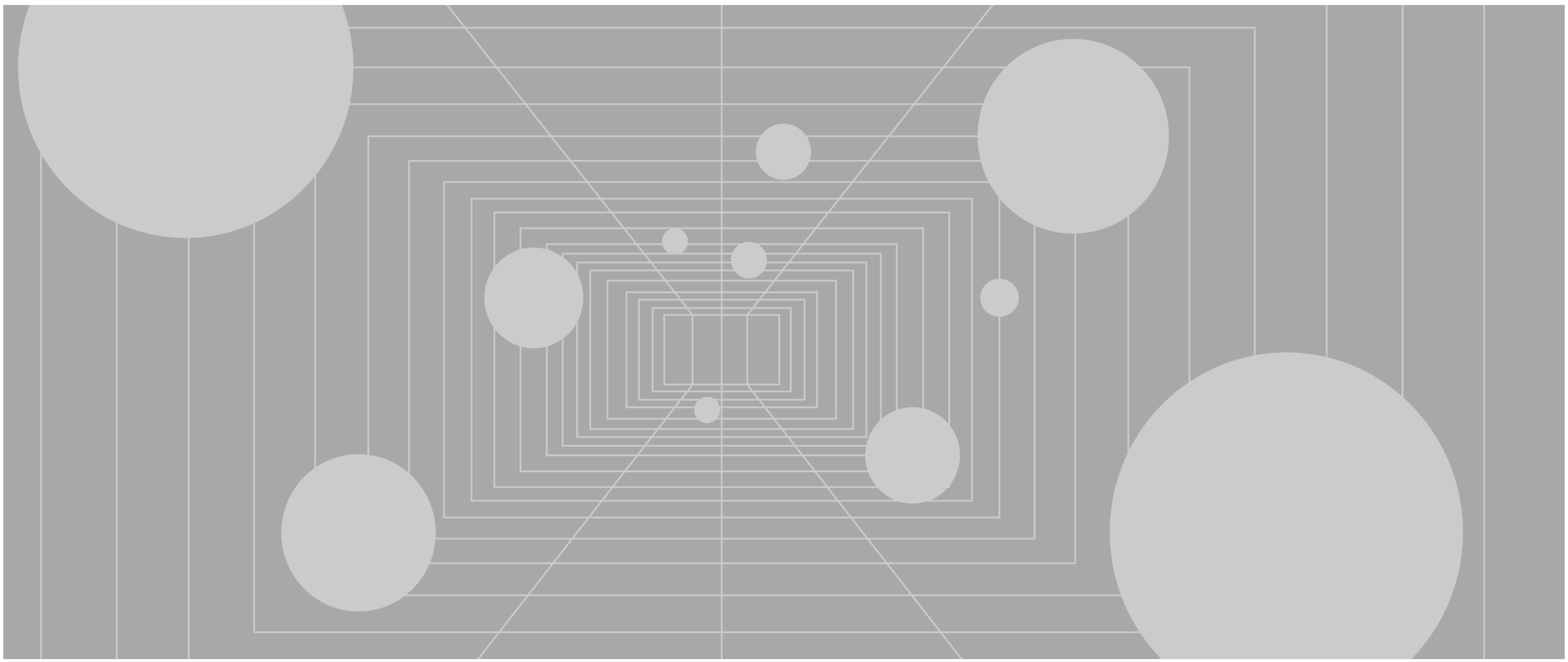
US PRIVATE EQUITY (LEGACY DEFINITION)

INDEX AND SELECTED BENCHMARK STATISTICS



CAMBRIDGE ASSOCIATES

SEPTEMBER 30, 2019

NOTE ON CHANGE TO PRIVATE EQUITY BENCHMARK

AS OF SEPTEMBER 30, 2019

Beginning in Q1 2019, we have reconfigured the asset class constituents of the CA Private Equity (PE) benchmark. The PE benchmarks now include only Buyout and Growth Equity funds, and exclude Private Equity Energy and Subordinated Capital strategies.

As the private investments landscape continues to evolve, strategies once considered a part of the PE benchmark grouping have become more distinct. Historically, the private equity grouping has been comprised of four asset classes: Buyouts, Growth Equity, Private Equity Energy, and Subordinated Capital. The focus on Buyout and Growth Equity funds is to better represent the private equity asset class; the removed strategies are established independent strategies in their own right and should be analyzed separately. As a result of this reconfiguration, Private Equity Energy now belongs to one benchmark group, Natural Resources, and Subordinated Capital now belongs to one benchmark group, Private Credit.

The legacy definition, as referenced throughout this report, maintains the private equity grouping that is comprised of buyouts, growth equity, subordinated capital, and private equity energy funds.

DISCLAIMER

AS OF SEPTEMBER 30, 2019

DISCLAIMER

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

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

OVERVIEW

AS OF SEPTEMBER 30, 2019

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 7,800 funds. In addition, we capture the performance information (gross) of over 79,000 investments underlying our venture capital, growth equity, and buyout funds. This is one of the largest collections of portfolio-level performance information in the world and represents the investments of approximately 79% of these funds on a count basis and 87% on a total commitment basis. This fund and investment-level performance information is drawn from the quarterly and audited annual financial statements of the fund managers and each manager's reported performance numbers are independently recreated from the financial statements and verified by Cambridge Associates.

Institutional Quality Data

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

Sources of Benchmark Data

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

Vintage Year Definition

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

TIMING OF FINAL BENCHMARKS AND DATA EVOLUTION

AS OF SEPTEMBER 30, 2019

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

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

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

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

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

When fund managers stop reporting before their fund's return history is complete, an element of "survivorship bias" may be introduced to a performance database, which could skew the reported returns upwards if the funds dropping out had poorer returns than those funds that remained. Survivorship bias can affect all investment manager databases, including those for public stock managers and hedge funds. Compared to public stocks and hedge funds, however, the illiquid nature of private investments can actually help limit this survivorship effect. Whereas an underperforming stock manager may simply close up shop or drop out of databases as clients liquidate their positions and fire the manager, private investment partnerships owning illiquid assets continue to exist and require reporting to the limited partners, even if the original manager ceases to exist.
Over the last ten years the number of fund managers that stopped reporting to Cambridge Associates before liquidation represented an average of 0.7% (per year) of the total number of funds in the database during the respective year, and an average of 0.5% (per year) as a percentage of total NAV in the database during that respective year. During that same period the overall number of funds in our database increased by an average of 7% (per year). The performance of the small number of funds that have stopped reporting has been spread amongst all quartiles and has not been concentrated consistently in the poorer performing quartiles.

TABLE OF CONTENTS

AS OF SEPTEMBER 30, 2019

US PRIVATE EQUITY (LEGACY DEFINITION): FUND INDEX ANALYSIS

CAMBRIDGE ASSOCIATES

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

FUND INDEX SUMMARY: HORIZON POOLED RETURN

Net to Limited Partners

INDEX	1-QUARTER	YTD	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US PRIVATE EQUITY INDEX (LEGACY DEFINITION)®[1]	**1.31**	**9.92**	**7.74**	**14.71**	**11.51**	**14.77**	**13.44**	**11.71**	**13.35**
Bloomberg Barclays Capital Government/Credit Bond Index	2.64	9.72	11.32	3.16	3.61	3.94	4.26	5.12	5.65
Dow Jones Industrial Average Index	1.83	17.51	4.21	16.44	12.28	13.56	9.51	7.43	10.63
Dow Jones US Small Cap Index	-1.04	18.45	-3.14	9.33	8.05	11.77	9.10	9.42	10.21
Dow Jones US TopCap Index	1.63	20.57	4.27	13.45	10.82	13.29	9.27	6.59	9.85
Nasdaq Composite Index*	-0.09	20.56	-0.58	14.62	12.23	14.19	10.07	5.49	9.85
Russell 1000® Index	1.42	20.53	3.87	13.19	10.62	13.23	9.17	6.63	9.93
Russell 2000® Index	-2.40	14.18	-8.89	8.23	8.19	11.19	8.19	7.99	8.86
S&P 500 Index	1.70	20.55	4.25	13.39	10.84	13.24	9.01	6.33	9.83
Wilshire 5000 Total Market Index	1.22	20.11	2.95	12.91	10.58	13.09	9.18	6.80	9.80

The index is a horizon calculation based on data compiled from 1,532 funds, including fully liquidated partnerships, formed between 1986 and 2019.
[1] Private indexes are pooled horizon internal rate of return (IRR) calculations, net of fees, expenses, and carried interest. The timing and magnitude of fund cash flows are integral to the IRR performance calculation. Public indexes are average annual compounded return (AACR) calculations which are time weighted measures over the specified time horizon, and are shown for reference and directional purposes only. Due to the fundamental differences between the two calculations, direct comparison of IRRs to AACRs is not recommended. For a more accurate means of comparing private investment performance relative to public alternatives, see the analyses in this document using CA Modified Public Market Equivalent (mPME). See Methodology section for more detail.
Sources: Cambridge Associates LLC, Bloomberg Barclays, Dow Jones Indices, Frank Russell Company, Standard & Poor's and Thomson Reuters Datastream, and Wilshire Associates.
*Capital change only

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

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

Net to Limited Partners

CA INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
US PRIVATE EQUITY INDEX (LEGACY DEFINITION)®[1]	**7.74**	**14.71**	**11.51**	**14.77**	**13.44**	**11.71**	**13.35**
MPME ANALYSIS[2]							
Russell 2000® Index	-8.76	8.52	8.47	12.11	8.74	8.58	8.80
Value-Add (bps)	1650	619	304	266	471	313	456
Russell 2500™ Index	-3.96	9.74	8.72	13.17	9.68	9.64	10.02
Value-Add (bps)	1170	497	278	160	377	207	333
Russell 3000® Index	2.94	12.99	10.41	13.53	9.50	8.02	9.09
Value-Add (bps)	479	172	110	124	394	369	426
Russell Midcap® Index	3.24	10.83	9.12	13.90	10.29	9.92	10.52
Value-Add (bps)	450	388	239	86	315	179	283
S&P 500 Index	4.27	13.53	10.76	13.61	9.44	7.80	9.04
Value-Add (bps)	347	118	74	116	400	390	431
Constructed Index: MSCI World/MSCI All Country World Index[3] (gross)	2.08	10.39	7.24	9.16	7.37	6.28	6.81
Value-Add (bps)	565	432	426	561	608	543	654

The index is a horizon calculation based on data compiled from 1,532 funds, including fully liquidated partnerships, formed between 1986 and 2019.
[1] Pooled horizon return, net of fees, expenses, and carried interest.
[2] CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.
[3] Constructed Index: MSCI World/MSCI All Country World Index: Data rom 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.
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. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

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
1994 Q1	1.19	2000 Q3	-0.06	2007 Q1	5.97	2013 Q3	5.17
1994 Q2	2.73	2000 Q4	-6.28	2007 Q2	7.57	2013 Q4	7.04
1994 Q3	1.94	2001 Q1	-6.00	2007 Q3	1.10	2014 Q1	3.15
1994 Q4	6.32	2001 Q2	3.31	2007 Q4	3.23	2014 Q2	5.50
1995 Q1	3.90	2001 Q3	-9.08	2008 Q1	-2.19	2014 Q3	1.50
1995 Q2	4.11	2001 Q4	0.16	2008 Q2	0.86	2014 Q4	0.90
1995 Q3	4.33	2002 Q1	-0.40	2008 Q3	-6.66	2015 Q1	2.65
1995 Q4	10.23	2002 Q2	-2.68	2008 Q4	-16.04	2015 Q2	3.89
1996 Q1	5.95	2002 Q3	-4.86	2009 Q1	-3.38	2015 Q3	-1.39
1996 Q2	6.45	2002 Q4	0.11	2009 Q2	4.46	2015 Q4	0.56
1996 Q3	6.34	2003 Q1	-0.35	2009 Q3	5.76	2016 Q1	0.04
1996 Q4	7.07	2003 Q2	6.99	2009 Q4	6.07	2016 Q2	4.09
1997 Q1	0.94	2003 Q3	5.22	2010 Q1	4.45	2016 Q3	4.03
1997 Q2	10.99	2003 Q4	9.37	2010 Q2	1.66	2016 Q4	4.72
1997 Q3	7.84	2004 Q1	2.77	2010 Q3	5.10	2017 Q1	4.00
1997 Q4	8.23	2004 Q2	3.44	2010 Q4	9.11	2017 Q2	3.71
1998 Q1	9.64	2004 Q3	2.28	2011 Q1	5.19	2017 Q3	4.07
1998 Q2	5.05	2004 Q4	15.22	2011 Q2	4.70	2017 Q4	5.47
1998 Q3	-6.60	2005 Q1	1.32	2011 Q3	-4.16	2018 Q1	2.84
1998 Q4	7.38	2005 Q2	9.05	2011 Q4	5.35	2018 Q2	5.37
1999 Q1	5.60	2005 Q3	7.57	2012 Q1	5.52	2018 Q3	3.84
1999 Q2	10.25	2005 Q4	8.11	2012 Q2	-0.09	2018 Q4	-1.95
1999 Q3	3.48	2006 Q1	5.52	2012 Q3	3.68	2019 Q1	4.89
1999 Q4	17.90	2006 Q2	4.08	2012 Q4	3.82	2019 Q2	3.42
2000 Q1	14.75	2006 Q3	3.93	2013 Q1	4.64	2019 Q3	1.31
2000 Q2	-1.33	2006 Q4	12.66	2013 Q2	3.16		

The index is a horizon calculation based on data compiled from 1,532 funds, including fully liquidated partnerships, formed between 1986 and 2019. All returns are net of fees, expenses, and carried interest.

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

FUND INDEX DETAILS: HORIZON POOLED RETURN

Net to Limited Partners

MULTI-YEAR RETURNS			
YEARS	HORIZON RETURN (%)	YEARS	HORIZON RETURN (%)
1 Year	7.74	14 Years	12.13
2 Years	13.19	15 Years	13.44
3 Years	14.71	16 Years	13.78
4 Years	13.09	17 Years	13.71
5 Years	11.51	18 Years	12.51
6 Years	12.88	19 Years	10.90
7 Years	13.79	20 Years	11.71
8 Years	14.03	21 Years	12.25
9 Years	14.24	22 Years	12.35
10 Years	14.77	23 Years	12.75
11 Years	11.83	24 Years	13.20
12 Years	10.22	25 Years	13.35
13 Years	11.44		

ONE YEAR ROLLING RETURNS			
ONE YEAR ENDED	HORIZON RETURN (%)	ONE YEAR ENDED	HORIZON RETURN (%)
9/30/2019	7.74	9/30/2006	23.41
9/30/2018	18.70	9/30/2005	37.20
9/30/2017	17.57	9/30/2004	19.26
9/30/2016	8.84	9/30/2003	12.54
9/30/2015	6.19	9/30/2002	-7.72
9/30/2014	18.47	9/30/2001	-17.21
9/30/2013	17.81	9/30/2000	31.97
9/30/2012	15.18	9/30/1999	29.19
9/30/2011	15.46	9/30/1998	15.82
9/30/2010	18.32	9/30/1997	29.37
9/30/2009	-9.59	9/30/1996	32.18
9/30/2008	-5.55	9/30/1995	19.99
9/30/2007	29.64		

The index is a horizon calculation based on data compiled from 1,532 funds, including fully liquidated partnerships, formed between 1986 and 2019. All returns are net of fees, expenses, and carried interest.

US PRIVATE EQUITY (LEGACY DEFINITION): FUND SINCE INCEPTION ANALYSIS

CAMBRIDGE ASSOCIATES

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

SINCE INCEPTION IRR & MULTIPLES BY FUND VINTAGE YEAR

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN (%)	ARITHMETIC MEAN (%)	MEDIAN (%)	EQUAL-WEIGHTED POOLED RETURN (%)	UPPER QUARTILE (%)	LOWER QUARTILE (%)	STANDARD DEVIATION (%)	DPI	RVPI	TVPI	NUMBER OF FUNDS
1994	23.97	13.56	9.68	14.18	23.40	1.02	15.17	2.41	0.00	2.41	21
1995	20.63	16.15	10.93	18.97	30.90	0.64	23.56	1.96	0.00	1.96	33
1996	10.63	9.69	8.27	8.75	12.30	1.77	18.45	1.60	0.00	1.60	36
1997	6.85	7.06	7.30	6.87	13.32	0.12	15.52	1.41	0.00	1.41	49
1998	7.84	11.39	9.93	12.51	16.30	4.92	11.00	1.48	0.02	1.49	54
1999	15.20	12.32	12.13	12.94	18.06	5.12	14.12	1.91	0.01	1.91	51
2000	15.04	13.17	12.39	12.98	21.14	7.48	12.05	1.81	0.02	1.83	75
2001	22.20	21.88	17.02	21.36	32.62	11.43	17.83	2.20	0.02	2.22	32
2002	18.89	17.25	18.21	18.50	30.68	7.56	26.69	1.94	0.03	1.97	31
2003	15.79	14.64	12.72	13.89	16.98	3.12	13.61	1.89	0.02	1.92	33
2004	10.28	10.72	9.91	10.46	13.38	7.27	9.73	1.64	0.05	1.69	65
2005	8.59	7.52	8.20	9.85	14.02	3.83	14.27	1.56	0.07	1.63	91
2006	8.44	10.85	11.08	11.01	15.21	6.26	13.41	1.44	0.16	1.60	81
2007	11.81	10.76	11.20	11.13	17.20	5.63	11.91	1.35	0.34	1.69	94
2008	10.71	16.16	12.39	14.50	21.70	7.95	21.23	1.26	0.28	1.54	76
2009	20.17	19.85	17.78	21.02	24.65	10.46	15.52	1.46	0.80	2.26	35
2010	15.31	20.48	17.71	21.25	22.75	11.20	16.89	1.25	0.50	1.74	32
2011	15.22	14.35	14.15	15.47	19.49	8.62	11.26	0.88	0.82	1.70	68
2012	14.51	12.55	13.19	14.19	19.43	8.15	14.54	0.58	0.95	1.54	55
2013	12.03	14.15	14.78	15.07	20.08	8.12	10.98	0.40	1.02	1.42	72
2014	18.85	16.38	14.04	18.04	22.85	9.43	11.43	0.35	1.11	1.46	78
2015	15.32	15.34	10.70	15.63	21.29	6.99	25.86	0.16	1.13	1.29	79
2016	15.46	13.25	11.92	16.35	17.70	6.12	19.69	0.10	1.14	1.24	67
2017	4.68	3.35	2.37	9.98	9.78	-6.47	22.32	0.03	1.01	1.04	58

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Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. 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 PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

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

Net to Limited Partners

		POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	RUSSELL 2000® INDEX		RUSSELL 2500™ INDEX		CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX	CA BENCHMARK INDEX	RUSSELL 2000® INDEX	RUSSELL 2500™ INDEX
VINTAGE YEAR	NUMBER OF FUNDS	IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI	MPME DPI
1994	21	23.97	9.55	1,442	12.07	1,190	2.41	1.45	1.60	2.41	1.45	1.60
1995	33	20.63	8.26	1,238	10.85	978	1.96	1.33	1.46	1.96	1.33	1.46
1996	36	10.63	6.89	374	8.97	166	1.60	1.38	1.52	1.60	1.38	1.52
1997	49	6.85	7.20	-34	8.97	-212	1.41	1.42	1.55	1.41	1.42	1.55
1998	54	7.84	7.34	50	8.89	-105	1.49	1.43	1.54	1.48	1.41	1.52
1999	51	15.20	8.31	689	9.45	575	1.91	1.38	1.45	1.91	1.38	1.44
2000	75	15.04	9.38	566	10.27	477	1.83	1.42	1.48	1.81	1.40	1.46
2001	32	22.20	9.30	1,290	10.19	1,201	2.22	1.42	1.47	2.20	1.41	1.46
2002	31	18.89	8.44	1,044	9.38	951	1.97	1.42	1.48	1.94	1.39	1.44
2003	33	15.79	6.15	964	7.00	880	1.92	1.32	1.38	1.89	1.30	1.35
2004	65	10.28	6.08	420	6.92	335	1.69	1.39	1.46	1.64	1.34	1.40
2005	91	8.59	7.13	145	7.97	62	1.63	1.52	1.59	1.56	1.44	1.51
2006	81	8.44	8.15	29	8.90	-47	1.60	1.58	1.65	1.44	1.42	1.48
2007	94	11.81	11.37	43	12.21	-40	1.69	1.64	1.70	1.35	1.33	1.37
2008	76	10.71	12.62	-191	13.45	-273	1.54	1.66	1.71	1.26	1.35	1.38
2009	35	20.17	11.50	867	12.16	801	2.26	1.55	1.59	1.46	1.12	1.14
2010	32	15.31	11.41	390	12.01	330	1.74	1.49	1.52	1.25	1.12	1.14
2011	68	15.22	9.48	574	10.14	508	1.70	1.38	1.42	0.88	0.77	0.77
2012	55	14.51	8.16	636	8.97	554	1.54	1.27	1.30	0.58	0.52	0.52
2013	72	12.03	7.40	464	8.32	372	1.42	1.24	1.27	0.40	0.38	0.38
2014	78	18.85	6.91	1,194	8.30	1,055	1.46	1.15	1.18	0.35	0.30	0.30
2015	79	15.32	5.78	954	7.79	754	1.29	1.10	1.14	0.16	0.15	0.15
2016	67	15.46	3.35	1,211	6.13	933	1.24	1.05	1.09	0.10	0.09	0.09
2017	58	4.68	-0.10	479	4.00	68	1.04	1.00	1.03	0.03	0.03	0.03

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with "—" have an insufficient number of funds in the vintage year sample to produce a meaningful return.
mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).
Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

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

Net to Limited Partners

VINTAGE YEAR	NUMBER OF FUNDS	POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS): CA BENCHMARK INDEX IRR	RUSSELL 3000® INDEX MPME IRR	RUSSELL 3000® INDEX VALUE-ADD	RUSSELL MIDCAP® INDEX MPME IRR	RUSSELL MIDCAP® INDEX VALUE-ADD	TOTAL VALUE TO PAID IN (TVPI): CA BENCHMARK INDEX TVPI	RUSSELL 3000® INDEX MPME TVPI	RUSSELL MIDCAP® INDEX MPME TVPI	DISTRIBUTIONS TO PAID IN (DPI): CA BENCHMARK INDEX DPI	RUSSELL 3000® INDEX MPME DPI	RUSSELL MIDCAP® INDEX MPME DPI
1994	21	23.97	13.77	1,020	13.51	1,046	2.41	1.59	1.67	2.41	1.59	1.67
1995	33	20.63	12.30	833	12.33	830	1.96	1.45	1.52	1.96	1.45	1.52
1996	36	10.63	5.17	547	9.21	143	1.60	1.25	1.53	1.60	1.25	1.53
1997	49	6.85	2.37	449	8.43	-157	1.41	1.12	1.51	1.41	1.12	1.51
1998	54	7.84	2.66	519	8.40	-55	1.49	1.15	1.52	1.48	1.13	1.49
1999	51	15.20	3.69	1,151	9.35	586	1.91	1.16	1.45	1.91	1.16	1.44
2000	75	15.04	6.36	867	10.54	450	1.83	1.29	1.50	1.81	1.27	1.47
2001	32	22.20	7.64	1,457	10.85	1,135	2.22	1.35	1.51	2.20	1.34	1.50
2002	31	18.89	7.40	1,149	10.09	880	1.97	1.37	1.52	1.94	1.34	1.48
2003	33	15.79	5.80	999	7.44	835	1.92	1.31	1.41	1.89	1.28	1.37
2004	65	10.28	5.99	429	7.20	308	1.69	1.39	1.48	1.64	1.33	1.42
2005	91	8.59	7.15	143	8.17	42	1.63	1.53	1.62	1.56	1.44	1.53
2006	81	8.44	8.30	14	9.07	-64	1.60	1.61	1.67	1.44	1.43	1.49
2007	94	11.81	12.16	-36	12.67	-86	1.69	1.72	1.74	1.35	1.36	1.39
2008	76	10.71	13.69	-298	14.04	-333	1.54	1.75	1.76	1.26	1.39	1.41
2009	35	20.17	13.44	673	12.89	728	2.26	1.68	1.63	1.46	1.18	1.16
2010	32	15.31	13.43	188	12.72	259	1.74	1.61	1.56	1.25	1.18	1.15
2011	68	15.22	12.15	307	11.06	417	1.70	1.52	1.46	0.88	0.80	0.78
2012	55	14.51	11.42	309	9.97	454	1.54	1.40	1.34	0.58	0.54	0.52
2013	72	12.03	11.02	102	9.37	266	1.42	1.37	1.31	0.40	0.39	0.38
2014	78	18.85	11.47	738	9.75	910	1.46	1.26	1.22	0.35	0.31	0.30
2015	79	15.32	11.55	377	9.95	537	1.29	1.21	1.18	0.16	0.15	0.15
2016	67	15.46	10.77	469	9.24	622	1.24	1.16	1.14	0.10	0.09	0.09
2017	58	4.68	10.11	-542	9.38	-470	1.04	1.08	1.07	0.03	0.03	0.03

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with "—" have an insufficient number of funds in the vintage year sample to produce a meaningful return.
mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).
Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

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

Net to Limited Partners

		POOLED IRR (%) AND IRR-BASED VALUE-ADD (BPS)					TOTAL VALUE TO PAID IN (TVPI)			DISTRIBUTIONS TO PAID IN (DPI)		
		CA BENCHMARK INDEX	S&P 500 INDEX		MSCI ALL COUNTRY WORLD INDEX (GROSS)		CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)	CA BENCHMARK INDEX	S&P 500 INDEX	MSCI ALL COUNTRY WORLD INDEX (GROSS)
VINTAGE YEAR	NUMBER OF FUNDS	IRR	MPME IRR	VALUE-ADD	MPME IRR	VALUE-ADD	TVPI	MPME TVPI	MPME TVPI	DPI	MPME DPI	MPME DPI
1994	21	23.97	14.45	952	9.73	1,425	2.41	1.61	1.42	2.41	1.60	1.42
1995	33	20.63	12.95	768	8.28	1,235	1.96	1.47	1.31	1.96	1.47	1.31
1996	36	10.63	4.78	585	4.28	636	1.60	1.23	1.22	1.60	1.23	1.21
1997	49	6.85	1.55	531	2.95	390	1.41	1.08	1.16	1.41	1.08	1.16
1998	54	7.84	1.90	595	3.31	453	1.49	1.10	1.18	1.48	1.09	1.17
1999	51	15.20	2.92	1,228	5.40	980	1.91	1.13	1.24	1.91	1.12	1.24
2000	75	15.04	5.73	931	8.23	681	1.83	1.26	1.36	1.81	1.24	1.35
2001	32	22.20	7.11	1,510	9.12	1,308	2.22	1.33	1.39	2.20	1.32	1.38
2002	31	18.89	6.95	1,194	8.45	1,044	1.97	1.35	1.39	1.94	1.31	1.36
2003	33	15.79	5.50	1,029	5.81	998	1.92	1.29	1.28	1.89	1.26	1.26
2004	65	10.28	5.77	450	4.67	561	1.69	1.37	1.28	1.64	1.31	1.23
2005	91	8.59	6.98	161	4.57	402	1.63	1.52	1.30	1.56	1.42	1.24
2006	81	8.44	8.17	26	5.17	327	1.60	1.60	1.34	1.44	1.41	1.20
2007	94	11.81	12.14	-34	8.23	358	1.69	1.73	1.44	1.35	1.36	1.16
2008	76	10.71	13.72	-300	9.57	114	1.54	1.76	1.48	1.26	1.39	1.19
2009	35	20.17	13.68	649	9.33	1,084	2.26	1.69	1.43	1.46	1.18	1.03
2010	32	15.31	13.69	162	9.45	586	1.74	1.62	1.40	1.25	1.19	1.04
2011	68	15.22	12.55	268	8.74	648	1.70	1.54	1.35	0.88	0.81	0.73
2012	55	14.51	11.91	261	8.37	615	1.54	1.42	1.28	0.58	0.54	0.50
2013	72	12.03	11.55	48	8.17	386	1.42	1.40	1.27	0.40	0.40	0.37
2014	78	18.85	12.07	678	8.76	1,009	1.46	1.28	1.20	0.35	0.31	0.30
2015	79	15.32	12.23	309	8.78	654	1.29	1.22	1.16	0.16	0.15	0.15
2016	67	15.46	11.63	383	7.82	764	1.24	1.18	1.12	0.10	0.09	0.09
2017	58	4.68	11.32	-664	6.86	-217	1.04	1.09	1.05	0.03	0.03	0.03

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Benchmarks with "—" have an insufficient number of funds in the vintage year sample to produce a meaningful return.
mPME Note: Refer to Methodology page for further details on Cambridge Associates Modified PME (mPME).
Sources: Cambridge Associates LLC, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream.
MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

US PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

TOTAL VALUE TO PAID IN CAPITAL MULTIPLE (TVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1994	2.41	1.69	1.41	1.93	1.04	21
1995	1.96	1.88	1.57	2.30	1.03	33
1996	1.60	1.45	1.35	1.73	1.14	36
1997	1.41	1.39	1.42	1.75	0.95	49
1998	1.49	1.77	1.62	2.11	1.31	54
1999	1.91	1.78	1.54	2.19	1.27	51
2000	1.83	1.83	1.78	2.22	1.35	75
2001	2.22	2.02	1.86	2.21	1.56	32
2002	1.97	1.97	2.05	2.43	1.47	31
2003	1.92	1.71	1.68	1.97	1.21	33
2004	1.69	1.69	1.63	1.90	1.40	65
2005	1.63	1.69	1.60	2.08	1.27	91
2006	1.60	1.72	1.62	2.08	1.32	81
2007	1.69	1.69	1.67	2.10	1.29	94
2008	1.54	1.77	1.71	2.08	1.30	76
2009	2.26	2.11	2.05	2.50	1.55	35
2010	1.74	2.16	2.07	2.46	1.47	32
2011	1.70	1.76	1.69	1.95	1.39	68
2012	1.54	1.52	1.48	1.80	1.29	55
2013	1.42	1.51	1.45	1.69	1.25	72
2014	1.46	1.50	1.36	1.55	1.20	78
2015	1.29	1.33	1.23	1.44	1.10	79
2016	1.24	1.20	1.15	1.30	1.07	67
2017	1.04	1.03	1.02	1.10	0.95	58

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. 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 PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

DISTRIBUTION TO PAID IN CAPITAL MULTIPLE (DPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1994	2.41	1.69	1.41	1.93	1.04	21
1995	1.96	1.88	1.57	2.30	1.03	33
1996	1.60	1.45	1.35	1.73	1.14	36
1997	1.41	1.39	1.42	1.75	0.93	49
1998	1.48	1.76	1.61	2.11	1.30	54
1999	1.91	1.77	1.54	2.13	1.27	51
2000	1.81	1.73	1.73	2.20	1.35	75
2001	2.20	2.01	1.86	2.19	1.54	32
2002	1.94	1.92	2.01	2.41	1.43	31
2003	1.89	1.67	1.68	1.97	1.18	33
2004	1.64	1.63	1.56	1.86	1.28	65
2005	1.56	1.59	1.43	1.99	1.11	91
2006	1.44	1.54	1.50	1.86	1.16	81
2007	1.35	1.41	1.39	1.82	1.04	94
2008	1.26	1.47	1.38	1.83	1.02	76
2009	1.46	1.58	1.38	2.01	0.91	35
2010	1.25	1.58	1.44	1.88	0.99	32
2011	0.88	0.89	0.89	1.12	0.47	68
2012	0.58	0.75	0.60	0.97	0.34	55
2013	0.40	0.49	0.38	0.72	0.13	72
2014	0.35	0.39	0.29	0.53	0.11	78
2015	0.16	0.24	0.12	0.31	0.01	79
2016	0.10	0.11	0.03	0.22	0.00	67
2017	0.03	0.04	0.00	0.05	0.00	58

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. 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 PRIVATE EQUITY (LEGACY DEFINITION)

AS OF SEPTEMBER 30, 2019

RESIDUAL VALUE TO PAID IN CAPITAL MULTIPLE (RVPI)

Net to Limited Partners

VINTAGE YEAR	POOLED RETURN	ARITHMETIC MEAN	MEDIAN	UPPER QUARTILE	LOWER QUARTILE	NUMBER OF FUNDS
1994	0.00	0.00	0.00	0.00	0.00	21
1995	0.00	0.00	0.00	0.00	0.00	33
1996	0.00	0.00	0.00	0.00	0.00	36
1997	0.00	0.00	0.00	0.00	0.00	49
1998	0.02	0.01	0.00	0.00	0.00	54
1999	0.01	0.01	0.00	0.00	0.00	51
2000	0.02	0.10	0.00	0.01	0.00	75
2001	0.02	0.01	0.00	0.01	0.00	32
2002	0.03	0.05	0.00	0.06	0.00	31
2003	0.02	0.04	0.00	0.03	0.00	33
2004	0.05	0.07	0.02	0.08	0.00	65
2005	0.07	0.10	0.03	0.12	0.00	91
2006	0.16	0.18	0.09	0.21	0.01	81
2007	0.34	0.27	0.18	0.44	0.06	94
2008	0.28	0.31	0.24	0.39	0.10	76
2009	0.80	0.53	0.41	0.76	0.18	35
2010	0.50	0.58	0.45	0.81	0.27	32
2011	0.82	0.87	0.79	1.11	0.47	68
2012	0.95	0.78	0.83	1.03	0.50	55
2013	1.02	1.02	1.04	1.25	0.81	72
2014	1.11	1.10	1.10	1.29	0.86	78
2015	1.13	1.09	1.09	1.20	0.94	79
2016	1.14	1.09	1.06	1.20	0.93	67
2017	1.01	0.99	0.99	1.07	0.94	58

Notes: Based on data compiled from 1,366 funds, including fully liquidated partnerships, formed between 1994 and 2017. 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.

DESCRIPTION OF PERFORMANCE MEASUREMENT METHODOLOGY

AS OF SEPTEMBER 30, 2019

Cambridge Associates LLC (CA) has established a database to monitor investments made by venture capital and other alternative asset partnerships. On September 30, 2019, 1,532 US private equity plus subordinated capital and private equity energy funds from the years 1986 through 2019 were included in the sample. Users of the analysis may find the following description of the data sources and calculation techniques helpful to their interpretation of information presented in the report:

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

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

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

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

> The since inception internal rate of return (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.

> 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

AS OF SEPTEMBER 30, 2019

Additional Calculation Definitions:

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

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

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

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

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

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

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

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

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

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

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