

IPE SURVEY US LARGE-CAP EQUITY MANAGERS

Company	Aberdeen Standard Inv.	AJO	AllianceBernstein	Aristotle Capital Management	Artisan Partners	AXA Investment Managers
Amount invested in US large cap equity (€m)	18,586.37	17,970	81,039	10,813	1,890	4,518
As at	31/12/17	31/12/17	31/12/17	31/12/17	31/12/17	31/12/17
Total AUM worldwide (€m)	763,283.28	22,553	461,768	12,374	96,207	745,912
Minimum market value at which stocks are regarded as US large cap equity (\$bn)	4	1,667	NA	2	(4)	10
Amount of US large cap equity invested for (€m)						
Europe-based institutional clients	648.99	258	392	3,496		3,767
Pension fund clients	29.82		179			90
Insurance company clients	28.62		136			252
All other institutional clients	590.55	258	77	3,496		3,425
US large cap equity managed (€m)						
Passively or on an indexed basis	0		27,740			
On an enhanced indexed basis	0		103			2,581
Market-neutral strategies	0					
Quant-type strategies	0	17,312				4,518
Actively with 2-5% outperformance	17,744.76		51,228	3,496 (1)		1,937
Actively with 5% plus outperformance	0					
130/30 or similar strategy	0	700	1,968			
Other					1,890 (5)	
If managed on an active basis						
Information ratio	0.33	0.6	0.5	1.72 (3)	-0.17 (6)	0.50
Acceptable tracking error	10%	4%	3-5%	3.31% (3)	6.89% (6)	5%
Description of approach to running US large cap equities						
Core	X					X
Value		X		X	X	
Growth			X			
Enhanced indexing						
Quant		X				X
Top down						
Bottom up	X	X		X	X	X
Thematic						
Concentrated/focused	X					
Sector						
Absolute return						
Other				(2)		(2)
% of US large cap equities portfolio made up of						
Top 10 positions	37.5	26	45	31.55	39	22.39
Top 20 positions	62.5	40	65	57.35	64	38.9
Number of stocks normally held in portfolio	50	80+	50-70	35-45	30-40	100-150
% of US large cap research done in-house	70	100	100	90	70	100
Number of investment professionals in US large cap equities team	13	25	11	17	5	30
Number of US large cap equities portfolio managers in team	27	7	4	2	3	5

Company	Baillie Gifford & Co	Barrow, Hanley, Mewhinney & Strauss	BlackRock	BNP Paribas Asset Management	Brandes Inv. Partners	Brown Advisory
Amount invested in US large cap equity (€m)	1,258 (7)	47,992.41	843,103.7	5,816	613	15,693
As at	31/12/17	31/12/17	31/12/17	31/12/17	31/12/17	28/02/18
Total AUM worldwide (€m)	202,331	76,395.39	5,236,671	569,332	25,958	50,717
Minimum market value at which stocks are regarded as US large cap equity (\$bn)	10	1		10	1.5	2
Amount of US large cap equity invested for (€m)						
Europe-based institutional clients	0	2,332.36	20,283.8	2,715	74	698
Pension fund clients	0	1,083.78	14,614.3	134		6
Insurance company clients	0	0	466.8	719		16
All other institutional clients	0	1,248.58	5,202.7	1,862	74	688
US large cap equity managed (€m)						
Passively or on an indexed basis	0	0		2,576		
On an enhanced indexed basis	0	0				
Market-neutral strategies	0	0				
Quant-type strategies	0	0		1,234		
Actively with 2-5% outperformance	1,258	47,992.41		2,006	613	15,693
Actively with 5% plus outperformance	0	0				
130/30 or similar strategy	0	0				
Other			(10)			
If managed on an active basis						
Information ratio	0.76 (3)	0.78 (8)			0.22 (8)	NA
Acceptable tracking error	NA	3-6% (9)		3-6%	4.47% (8)	NA
Description of approach to running US large cap equities						
Core				X		X
Value		X			X	
Growth	X			X		X
Enhanced indexing						
Quant						
Top down						
Bottom up	X	X		X	X	X
Thematic						
Concentrated/focused					X	X
Sector						
Absolute return						
Other					(11)	
% of US large cap equities portfolio made up of						
Top 10 positions	51.61	31.1			28.8	41.1
Top 20 positions	73.5	57.7			49.5	67.8
Number of stocks normally held in portfolio	30-50	45			35-75	35-45
% of US large cap research done in-house	80	75		100	70	100
Number of investment professionals in US large cap equities team	8	28			40	27
Number of US large cap equities portfolio managers in team	5	6			16	6

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Company	Candriam	Carillon Tower Advisors	Columbia Threadneedle Inv.	Davis Selected Advisers	Degroof Petercam Asset Management	Dimensional Fund Advisors	Dodge & Cox	Epoch Inv. Partners	Fidelity International	Fisher Investments	Franklin Templeton Inv.	Fred Alger Management	Goldman Sachs Asset Mngt. Int.
Amount invested in US large cap equity (€m)	6,943	6,665.4	110,659	16,895.26	2,252	105,356	84,502	3,730	12,483	3,574.76	37,375.23	15,810	51,683.06
As at	28/02/18	31/12/17	31/12/17	31/12/17	28/02/18	31/12/17	31/12/17	31/12/17	31/12/17	31/12/17	31/03/18	31/12/17	31/12/17
Total AUM worldwide (€m)	112,585	55,811.1	412,000	24,322.86	33,474	480,593	263,327	41,207	269,300	79,707.9	599,452.85	18,760	1,073,779.59
Minimum market value at which stocks are regarded as US large cap equity (\$bn)		10	25	10	10	6.52		10	10	21.5	>10	10	15
Amount of US large cap equity invested for (€m)													
Europe-based institutional clients	2,977	0		0	2,252	3,380	1,567	0	434.6	2,217.62	162.98	217	1,564.9
Pension fund clients	875	0		0	636	90.18	643	0	127.39	0	65.83	217	272.2
Insurance company clients	172	0		0		121.55		0	119.82	0	17.37	0	196.1
All other institutional clients	1,930	0		0	1,616	3,168.57	924	0	187.39	2,217.62	79.78	0	1,096.6
US large cap equity managed (€m)													
Passively or on an indexed basis	1,303	0	4,619		1,026			0		0			
On an enhanced indexed basis		0						0		0			
Market-neutral strategies		0						0		0			
Quant-type strategies		0			1,226			0		0			33,193.7
Actively with 2-5% outperformance	634	6,665.4	106,040	16,895.26				3,730	12,291	2,217.62			18,489.4
Actively with 5% plus outperformance		0						0		0			
130/30 or similar strategy		0						0	192	0			
Other	5,006						84,502						
If managed on an active basis													
Information ratio	-0.73	0.5	0.17	-0.08	-0.405		-0.03	-1.27		2.51		0.36	
Acceptable tracking error	4%	200-400bps	2-6%	4.55%	6%		5.72%	NA	3-6%	2-6%		3-5%	
Description of approach to running US large cap equities													
Core			X			X		X		X			X
Value			X	X	X	X	X	X	X				X
Growth		X	X									X	X
Enhanced indexing													X
Quant	X	X			X								X
Top down			X							X			
Bottom up		X	X	X			X	X	X			X	X
Thematic										X			
Concentrated/focused									X				X
Sector										X			
Absolute return													
Other													
% of US large cap equities portfolio made up of													
Top 10 positions	20	35.6	34	52.59	13		32	32.6	39.9	40.1		44.3	
Top 20 positions	32	51.5	53	77.25	23		53	52.9	65	64.19		60.9	
Number of stocks normally held in portfolio	160	70-90	60-80	50-110	150-160		60-100	40-60	50-60	40-70		90-120	
% of US large cap research done in-house	100	95	80	100	100	90	80	90	100	85		95	
Number of investment professionals in US large cap equities team	9	21	37	8	8	96	48	12	19	65		5	
Number of US large cap equities portfolio managers in team	6	7	23	2	3	37	9	3	4	5		4	

Company	Jacobs Levy Equity Mngt.	Janus Henderson Investors	Legg Mason	Los Angeles Capital	Macquarie Asset Mngt.	Man Numeric	MFS Investment Management	Neuberger Berman	Nuveen	Ossiam	PanAgora Asset Management	PGIM	Principal Global Investors
Amount invested in US large cap equity (€m)	5,292.24	51,237	66,286.9	13,682	23,377.63	7,059	128,899	20,057	175,438.77	1,676	7,723	100,627	49,346
As at	28/02/18	31/12/17	31/12/17	31/12/17	31/12/17	31/12/17	31/01/18	31/12/17	31/12/17	29/03/18	28/02/18	31/12/17	31/12/17
Total AUM worldwide (€m)	7,002.07	308,776	638,757	24,881	306,830.19	25,959	424,908	245,811	808,379.01	2,838	43,917	962,122	377,691
Minimum market value at which stocks are regarded as US large cap equity (\$bn)	3.8	30	5-10	1	10	10	10	10		4	8	10	10
Amount of US large cap equity invested for (€m)													
Europe-based institutional clients	328.6	314	570.6	0	616.19	3,421	1,409		65.7	1,521	596	599	51
Pension fund clients	216.27	238		0		3,135	371			43	473	599	
Insurance company clients	0	3		0			661			124		0	
All other institutional clients	112.33	73	570.6	0	616.19	286	377		1,354	123		0	51
US large cap equity managed (€m)													
Passively or on an indexed basis	0		224.2			0				1,676		17,898	28,188
On an enhanced indexed basis		18,560				0				1,676		0	1,146
Market-neutral strategies	264.92					1,106						0	
Quant-type strategies	5,292.24		773.4	13,682		7,059		46	1,676	7,723	18,449		20,012
Actively with 2-5% outperformance	5,292.24	12,689			23,377.63	5,530		20,011			18,449		
Actively with 5% plus outperformance	0					0							
130/30 or similar strategy	1,540.28		3.2			139						650	
Other		19,988	65,286.1			285	128,899					64,179	
If managed on an active basis													
Information ratio	(15)	(15)	NA	0.38	0.36	-0.36	NA				0.75-1.00	0.63	0.32
Acceptable tracking error	2-6%	(15)	NA	3-5%	3-6%	4%	2-5%				1.0-4.0%	2.00%	<6%
Description of approach to running US large cap equities													
Core	X	X	X			X	X	X			X	X	
Value	X	X	X		X		X			X			
Growth	X	X	X	X			X					X	X
Enhanced indexing										X			
Quant	X	X	X	X		X				X	X	X	
Top down													
Bottom up	X	X	X	X	X	X	X	X			X	X	X
Thematic													
Concentrated/focused		X					X						X
Sector										X			
Absolute return													
Other		(14)	(2)										
% of US large cap equities portfolio made up of													
Top 10 positions	25.45	(15)	20-35	32	32.55	27.6	28.3	30-50		27.9	25	19.21%	53.8
Top 20 positions	37.6	(15)	35-60	43	62.8	46.5	48.3	50-75		41.7	35	32.36%	
Number of stocks normally held in portfolio	125+	(15)	45-175	150-300	30-35	50-150	70-100	30-40	251	100-200	150-275	85-70	35-60
% of US large cap research done in-house	100	(15)	80-100	100	75	95	100	100	100	100	100	100	100
Number of investment professionals in US large cap equities team	30	63	68	33	5	29	69	31	5	22	32	29	10
Number of US large cap equities portfolio managers in team	2	14	30	7	4	4	19	23	5	22	22	1	

Key:
NA= Not available

Footnotes:
(1) Relates to Europe-based institutional clients
(2) Fundamental
(3) 3-year
(4) The Artisan Partners U.S. Value Team does not have a specific definition for large cap. The team will not initiate a position in a US company unless it has a market capitalisation of at least \$2bn at the time of initiation of a position in the portfolio

(5) Active with no outperformance target
(6) Since inception
(7) Relates to the firm's US Equity strategy which primarily invests in mid to large cap companies
(8) 5-year
(9) 3-5 years
(10) Active, €61,147.5m; passive, €781,956.2m
(11) Long-term, Graham & Dodd
(12) Core plus
(13) Investment process and valuation model are based on behavioural finance science

(14) The firm consider all equities (generally those with a market cap greater than \$5bn) to be in their investable universe
(15) Varies by product
(16) Mathematical
(17) Strategies seek to deliver strong absolute risk-adjusted returns over time
(18) Low volatility strategies and MN strategies with a small beta exposure
(19) US large cap strategies managed with varying outperformance targets between 1% and 3%
(20) Minimum market cap size: \$15bn, 81.34%; \$10bn, 7.64%;

\$5bn, 1.39%; \$4bn, 9.63%
(21) Ossiam Shiller Barclays CAPE US Sector Value TR
(22) OMA
(23) Jennison
(24) GARP bias
(25) Active unbenchmarked (5-year outperformance between 4.1% and 5% depending on the fund)
(26) Multi asset class solutions
(27) The firm uses a team approach in managing the equity portfolios: Global Equity Beta Solutions team for indexed strategies; Active Quantitative Equity team for quant and en-

hanced strategies; Fundamental Value Equity Team, Ireland for fundamental equity investing. The firm has 150 equity portfolio manager globally as at 31/12/17
(28) 1-year
(29) Relates to actively managed equity strategies only. Convertible bond strategies have been excluded
(30) High Quality Growth at Sensible Prices
(31) Majority

IN SUMMARY

Survey overview

Total number of managers in survey	50
Total assets invested in US large cap equity (€m)	3,202,845
Total invested for European institutional clients (€m)*	80,291
Total invested for European pension fund clients (€m)*	31,619
Total invested for European insurance company clients (€m)*	4,790
Total invested for all other European institutional clients (€m)*	40,176

*Where disclosed

Top managers: US large cap equity assets

Company	€m	As at
1 BlackRock	843,104	31/12/17
2 State Street Global Advisors	624,031	31/12/17
3 T. Rowe Price	351,142	31/12/17
4 Nuveen	175,439	31/12/17
5 MFS Investment Management	128,899	31/01/18
6 Columbia Threadneedle Investments	110,659	31/12/17
7 Dimensional Fund Advisors	105,356	31/12/17
8 PGIM	100,627	31/12/17
9 Dodge & Cox	84,502	31/12/17
10 AllianceBernstein	81,039	31/12/17
11 Legg Mason	66,287	31/12/17
12 Goldman Sachs Asset Management Int.	51,683	31/12/17
13 Janus Henderson Investors	51,237	31/12/17
14 Principal Global Investors	49,346	31/12/17
15 Barrow, Hanley, Mewhinney & Strauss	47,992	31/12/17
16 Franklin Templeton Investments	37,375	31/03/18
17 Wells Capital Management	24,171	31/12/17
18 Macquarie Asset Management	23,378	31/12/17
19 Neuberger Berman	20,057	31/12/17
20 Aberdeen Standard Investments	18,586	31/12/17
21 AJO	17,970	31/12/17
22 Davis Selected Advisers	16,895	31/12/17
23 Winslow Capital Management	16,716	31/03/18
24 Fred Alger Management	15,810	31/12/17
25 Brown Advisory	15,693	28/02/18
26 UBS Asset Management	13,993	31/12/17
27 Los Angeles Capital	13,682	31/12/17
28 Fidelity International	12,483	31/12/17
29 Aristotle Capital Management	10,813	31/12/17
30 PanAgora Asset Management	7,723	28/02/18

Top managers: Assets invested for European institutional clients

Company	€m	As at
1 BlackRock	20,284	31/12/17
2 T. Rowe Price	5,514	31/12/17
3 State Street Global Advisors	5	

IPE SURVEY US LARGE-CAP EQUITY MANAGERS

Company	Robeco	Schroder Inv. Management	Seilern Investment Management	State Street Global Advisors	Swiss Life Asset Managers	T. Rowe Price
Amount invested in US large cap equity (€m)	4,480	1,768	395	624,031	2,979	351,142
As at	31/12/17	29/12/17	26/03/18	31/12/17	31/12/17	31/12/17
Total AUM worldwide (€m)	161,060	490,897	650	2,316,533	191,088	825,368
Minimum market value at which stocks are regarded as US large cap equity (\$bn)	2	3	10	10	5	24.4
Amount of US large cap equity invested for (€m)						
Europe-based institutional clients	1,249	582	395	5,278	737	5,514
Pension fund clients	787	120	200	4,441		525
Insurance company clients	22	330	10	688		559
All other institutional clients	440	132	185	149		4,430
US large cap equity managed (€m)						
Passively or on an indexed basis			0	612,493		
On an enhanced indexed basis			0			1,446
Market-neutral strategies			0			
Quant-type strategies			0	8,653		
Actively with 2-5% outperformance	4,480		0			283,293
Actively with 5% plus outperformance			0			
130/30 or similar strategy			0			
Other			395 ⁽²⁵⁾	2,885 ⁽²⁶⁾		
If managed on an active basis						
Information ratio	0.19 ⁽⁸⁾	0.50	1.1 ⁽³⁾	-8.38		0.47
Acceptable tracking error	NA	2-7%	NA	+/- 5bps		400-700bps
Description of approach to running US large cap equities						
Core		X		X		
Value	X					
Growth			X			X
Enhanced indexing						
Quant						
Top down						
Bottom up	X	X	X			X
Thematic						
Concentrated/focused			X			
Sector						
Absolute return						
Other						
% of US large cap equities portfolio made up of						
Top 10 positions	33.67	30-35	59	19.65		49.9
Top 20 positions	50.73	50-60	100	29.88		67.8
Number of stocks normally held in portfolio	70-100	50-70	17-25	500		60-75
% of US large cap research done in-house	90	80	100	100		100
Number of investment professionals in US large cap equities team	30	10	5			166 ⁽²⁷⁾
Number of US large cap equities portfolio managers in team	2	2	1			4

Company	UBS Asset Management	Unigestion	Vontobel Asset Mngt.	Wells Capital Management	William Blair	Winslow Capital Mngt.
Amount invested in US large cap equity (€m)	13,993 ⁽²⁹⁾	533	1,805	24,170.7	2,909	16,716.2
As at	31/12/17	28/02/18	31/12/17	31/12/17	31/12/17	31/03/18
Total AUM worldwide (€m)	663,562	21,623	105,346	324,688.7	61,254	16,886
Minimum market value at which stocks are regarded as US large cap equity (\$bn)	10	12	10	10	5	4
Amount of US large cap equity invested for (€m)						
Europe-based institutional clients	3,093	533	1,627	2,131.3	161	60.3
Pension fund clients		95	74	1,238.7	0	0
Insurance company clients		49	34	64.4	0	0
All other institutional clients		389	1,697	828.2	161	60.3
US large cap equity managed (€m)						
Passively or on an indexed basis						0
On an enhanced indexed basis						0
Market-neutral strategies						0
Quant-type strategies						0
Actively with 2-5% outperformance	13,636	533	1,805	24,170.7	2,909	16,716.2
Actively with 5% plus outperformance						0
130/30 or similar strategy	357					0
Other						
If managed on an active basis						
Information ratio	0.30 ⁽²⁸⁾	-0.82 ⁽³⁾			0.25 ⁽⁸⁾	0.56
Acceptable tracking error	3-5%	4.37% ⁽³⁾			3-4%	3-7%
Description of approach to running US large cap equities						
Core	X	X				
Value				X		
Growth			X	X	X	X
Enhanced indexing						
Quant						
Top down						
Bottom up	X	X	X	X	X	X
Thematic						
Concentrated/focused			X		X	
Sector						
Absolute return						
Other						
% of US large cap equities portfolio made up of						
Top 10 positions	29.8	20.06			45.76	37.64
Top 20 positions	48.6	35.04			74.73	55.52
Number of stocks normally held in portfolio	60-90	120	30-50		30-40	55-65
% of US large cap research done in-house	90	100	90			80 ⁽³¹⁾
Number of investment professionals in US large cap equities team	16	26	27		11	10
Number of US large cap equities portfolio managers in team	3	11	2		2	3