Fund Custodians League Tables

Global Funds and AUC

Reporting Period Feb 2022 - Feb 2023



OPTIMAL PERFORMANCE

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About this League Table Report

- Our League Tables leverage the most comprehensive database of active funds and advisers in the market. Convergence is the only firm to have a complete set of advisers and funds including:
 - o SEC registered private and public funds and advisers
 - State registered private and public funds and advisers
 - o Unregistered private funds and advisers
 - EU UCITS and private funds
 - o Non-pooled investment entities
- This report includes all US and non-US funds and is divided into 3-Section
 - Funds that use one or more custodians
 - Funds that use a "single" custodians
 - Funds that use "multiple" custodians
- Additional Fund custodians League Tables for custodians Funds and AUC are available to Convergence Clients in the following cuts:
 - Private Funds, and within private funds, in the following sub-cuts
 - Hedge, Private Equity, Real Estate, Venture Capital, Securitized Assets, Hybrid and Liquidity Funds
 - Public Funds and within public funds, in the following sub-cuts
 - By fund strategy (30+)

Custodians League Table - Global Funds

Convergence - Feb 2023 League Tables - Custodians Market Segment - Fund Relationships											
All	0	Feb -22		22-23	Market		23-22	Feb -23	Feb -22	23-22	
Custodians	#FR	#FR					Change %			Change	
JPMORGAN	17,329	15,752	1,577	10.0%	7.8%	7.8%	0.3%	1	1	0	
BANK OF NEW YORK	15,787	15,165	622	4.1%	7.1%	7.5%	-5.1%	2	2	0	
STATE STREET IFS	14,496	13,555	941	6.9%	6.5%	6.7%	-2.5%	3	3	0	
FIRST REPUBLIC BANK	13,676	8,919	4,757	53.3%	6.2%	4.4%	39.8%	4	6	2	
SILICON VALLEY BANK	11,556	11,969	-413	-3.5%	5.2%	5.9%	-12.0%	5	4	-1	
BANK OF AMERICA	10,822	10,116	706	7.0%	4.9%	5.0%	-2.4%	6	5	-1	
CITIBANK	8,326	7,947	379	4.8%	3.8%	3.9%	-4.5%	7	7	0	
NORTHERN TRUST	6,445	6,084	361	5.9%	2.9%	3.0%	-3.4%	8	8	0	
MORGAN STANLEY	5,952	5,462	490	9.0%	2.7%	2.7%	-0.6%	9	9	0	
BNP PARIBAS	5,708	4,829	879	18.2%	2.6%	2.4%	7.8%	10	12	2	
GOLDMAN SACHS BANK USA	5,678	5,399	279	5.2%	2.6%	2.7%	-4.1%	11	10	-1	
US BANCORP	5,285	4,834	451	9.3%	2.4%	2.4%	-0.3%	12	11	-1	
WELLS FARGO	4,479	4,702	-223	-4.7%	2.0%	2.3%	-13.1%	13	13	0	
HSBC FINANCIAL SERVICES	3,879	3,444	435	12.6%	1.7%	1.7%	2.7%	14	15	1	
CACEIS	3,837	3,327	510	15.3%	1.7%	1.6%	5.2%	15	16	1	
CREDIT SUISSE	3,219	3,449	-230	-6.7%	1.5%	1.7%	-14.9%	16	14	-2	
UNION BANK OF SWITZERLAND	3,113	2,920	193	6.6%	1.4%	1.4%	-2.8%	17	17	0	
BROWN BROTHER HARRIMAN	2,502	2,141	361	16.9%	1.1%	1.1%	6.6%	18	19	1	
SOCIETE GENERALE	2,322	2,071	251	12.1%	1.0%	1.0%	2.2%	19	20	1	
ROYAL BANK OF CANADA	2,216	1,993	223	11.2%	1.0%	1.0%	1.4%	20	21	1	
DEUTSCHE BANK	2,085	2,245	-160	-7.1%	0.9%	1.1%	-15.3%	21	18	-3	
FIDELITY	1,839	1,741	98	5.6%	0.8%	0.9%	-3.7%	22	22	0	
CITCO FUNDS SERVICES	1,654	1,595	59	3.7%	0.7%	0.8%	-5.4%	23	23	0	
INTERACTIVE BROKERS	1,559	1,465	94	6.4%	0.7%	0.7%	-3.0%	24	24	0	
BARCLAYS	1,453	1,329	124	9.3%	0.7%	0.7%	-0.3%	25	25	0	
TOP 25 CUSTODIANS FR - ALL	155,217	142,453	12,764	9.0%	70.0%	70.5%	-0.6%				
ALL OTHER	66,466	59,702	6,764	11.3%	30.0%	29.5%	1.5%				
TOTAL CUSTODIANS FR DISCLOSED	221,683	202,155	19,528	9.7%	70.7%	72.7%	-2.7%				
NOT REPORTED	33,902	30,086	3,816	12.7%	10.8%	10.8%	0.0%				
ELIGIBLE FUNDS - NOT ATTRIBUTED	58,019	45,976	12,043	26.2%	18.5%	16.5%	12.0%				
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	91,921	76,062	15,859	20.9%	29.3%	27.3%	7.2%				
TOTAL FUNDS	313,604	278,217	35,387	12.7%	100.0%	100.0%	0.0%				

- Custodians ranked >25 registered the highest growth in funds
 - Funds increased 11.33%, or 1.17x the market
 - Market share increased from 29.53% to 29.98%
 - \blacktriangleright An increase of 1.52%
- Custodians ranked 11-25 registered the lowest growth in funds
 - Funds increased 5.78%, or 0.60x the market
 - Market share decreased from 21.10% to 20.35%
 - \blacktriangleright A decrease of 3.54%

Peer (Froup Per	formance by F	und Relationships			
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Funds	12.72%		100%	100%		
Market Growth Custodians Disclosed	9.66%	0.76	70.69%	72.66%	-1.97%	-2.71%
Custodians Ranked 1-10	10.32%	1.07	49.66%	49.37%	0.30%	0.60%
Custodians Ranked 11-25	5.78%	0.60	20.35%	21.10%	-0.75%	-3.54%
All Other Custodians	11.33%	1.17	29.98%	29.53%	0.45%	1.52%
Market Growth Custodians Not Disclosed	20.85%	1.64	29.31%	27.34%	1.97%	7.21%

Fund Custodians League Table – Global AUC

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Convergence - Feb 2	0			0	,	,				
All	Feb -23	Feb -22	22-23	22-23		Market	23-22	Feb -23		23-22
Custodians	FR-AUC	FR-AUC	Change	6			Change %		Rank	Change
JPMORGAN	\$17,835.83	\$18,057.34	-\$221.51	-1.2%	12.7%	13.8%	-7.9%	1	1	0
STATE STREET IFS	\$17,029.29	\$17,322.68	-\$293.38	-1.7%	12.1%	13.2%	-8.4%	2	2	0
BANK OF NEW YORK	\$14,116.54	\$14,078.65	\$37.88	0.3%	10.0%	10.7%	-6.5%	3	3	0
BANK OF AMERICA	\$7,499.49	\$6,964.05	\$535.44	7.7%	5.3%	5.3%	0.4%	4	4	0
CITIBANK	\$6,045.65	\$5,281.29	\$764.36	14.5%	4.3%	4.0%	6.7%	5	5	0
MORGAN STANLEY	\$4,952.65	\$4,231.33	\$721.32	17.0%	3.5%	3.2%	9.1%	6	7	1
NORTHERN TRUST	\$4,669.63	\$4,753.70	-\$84.07	-1.8%	3.3%	3.6%	-8.4%	7	6	-1
GOLDMAN SACHS BANK USA	\$4,531.77	\$4,165.83	\$365.94	8.8%	3.2%	3.2%	1.4%	8	8	0
BNP PARIBAS	\$4,128.22	\$3,392.91	\$735.31	21.7%	2.9%	2.6%	13.4%	9	11	2
BARCLAYS	\$3,734.41	\$3,804.24	-\$69.84	-1.8%	2.7%	2.9%	-8.5%	10	9	-1
UNION BANK OF SWITZERLAND	\$3,649.08	\$3,287.95	\$361.14	11.0%	2.6%	2.5%	3.5%	11	12	1
CREDIT SUISSE	\$3,517.98	\$3,480.74	\$37.23	1.1%	2.5%	2.7%	-5.8%	12	10	-2
WELLS FARGO	\$2,767.96	\$2,604.82	\$163.14	6.3%	2.0%	2.0%	-0.9%	13	13	0
HSBC FINANCIAL SERVICES	\$2,634.18	\$2,446.28	\$187.90	7.7%	1.9%	1.9%	0.4%	14	15	1
SILICON VALLEY BANK	\$2,368.12	\$1,780.37	\$587.76	33.0%	1.7%	1.4%	24.0%	15	18	3
DEUTSCHE BANK	\$2,346.43	\$2,367.35	-\$20.92	-0.9%	1.7%	1.8%	-7.6%	16	16	0
BROWN BROTHER HARRIMAN	\$2,268.79	\$2,450.15	-\$181.37	-7.4%	1.6%	1.9%	-13.7%	17	14	-3
US BANCORP	\$2,266.39	\$2,176.22	\$90.17	4.1%	1.6%	1.7%	-2.9%	18	17	-1
SOCIETE GENERALE	\$1,865.72	\$1,540.67	\$325.05	21.1%	1.3%	1.2%	12.9%	19	19	0
FIRST REPUBLIC BANK	\$1,859.69	\$1,266.06	\$593.64	46.9%	1.3%	1.0%	36.9%	20	21	1
STANDARD CHARTERED BANK	\$1,454.26	\$1,372.50	\$81.77	6.0%	1.0%	1.0%	-1.2%	21	20	-1
FIDELITY	\$1,136.38	\$1,008.45	\$127.93	12.7%	0.8%	0.8%	5.0%	22	23	1
CACEIS	\$1,113.99	\$1,102.77	\$11.22	1.0%	0.8%	0.8%	-5.8%	23	22	-1
ROYAL BANK OF CANADA	\$1,024.83	\$899.27	\$125.56	14.0%	0.7%	0.7%	6.2%	24	24	0
BANK OF NOVA SCOTIA	\$895.72	\$817.43	\$78.29	9.6%	0.6%	0.6%	2.2%	25	25	0
TOP 25 CUSTODIANS FR - ALL	\$115,713.01	\$110,653.05	\$5,059.96	4.6%	82.2%	84.3%	-2.5%			
ALL OTHER	\$25,026.65	\$20,549.03	\$4,477.62	21.8%	17.8%	15.7%	13.5%			
TOTAL CUSTODIANS FR AUC DISCLOSED	\$140,739.66	\$131,202.08	\$9,537.58	7.3%	94.7%	92.9%	1.9%			
NOT REPORTED	\$4,648.45	\$4,541.88	\$106.56	2.3%	3.1%	3.2%	-2.8%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$3,233.85	\$5,450.79	-\$2,216.94	-40.7%	2.2%	3.9%	-43.6%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,882.30	\$9,992.68	-\$2,110.38	-21.1%	5.3%	7.1%	-25.1%			
TOTAL FUND ASSETS	\$148,621.96	\$141,194.75	\$7,427.20	5.3%	100.0%	100.0%	0.0%			

Fund Custodians Peer Analysis – Global AUC - Growth & Market Share

- Custodians ranked >25 registered the highest AUC growth
 - AUC increased 21.79%, or 3.00x the market
 - Market share increased from 15.66% to 17.78%
 - \blacktriangleright An increase of 13.54%
- Custodians ranked 1-10 registered the lowest AUC growth
 - AUC increased 3.04%, or 0.42x the market
 - Market share decreased from 62.54% to 60.07%
 - \blacktriangleright A decrease of 3.95%

Peer (Group Perform	ance by Fund	Assets			
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Assets	5.26%		100%	100%		
Market Growth Custodians Disclosed	7.27%	1.38	94.70%	92.92%	1.77%	1.91%
Custodians Ranked 1-10	3.04%	0.42	60.07%	62.54%	-2.47%	-3.95%
Custodians Ranked 11-25	8.98%	1.24	22.15%	21.80%	0.35%	1.60%
All Other Custodians	21.79%	3.00	17.78%	15.66%	2.12%	13.54%
Market Growth Custodians Not Disclosed	-21.12%	-4.01	5.30%	7.08%	-1.77%	-25.06%

Single Fund Custodians League Table – Global Funds

Convergence - 2023 League	Tables - S	Single Cu	stodians 1	Market Seg	ment - <u>F</u> ur	nd Relatio	nships			
Single	Feb -23	Feb -22	22-23	22-23	Market	Market	23-22	Feb -23	Feb -22	23-22
Custodians	#FR	#FR	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
STATE STREET IFS	12,452	11,502	950	8.3%	10.2%	10.1%	1.6%	1	1	0
BANK OF NEW YORK	10,335	9,886	449	4.5%	8.5%	8.6%	-1.9%	2	2	0
JPMORGAN	9,812	8,768	1,044	11.9%	8.1%	7.7%	5.1%	3	3	0
SILICON VALLEY BANK	6,380	7,832	-1,452	-18.5%	5.2%	6.8%	-23.5%	4	4	0
FIRST REPUBLIC BANK	5,910	5,470	440	8.0%	4.8%	4.8%	1.4%	5	5	0
CITIBANK	4,755	4,560	195	4.3%	3.9%	4.0%	-2.1%	6	6	0
BNP PARIBAS	4,307	3,582	725	20.2%	3.5%	3.1%	12.9%	7	8	1
CACEIS	3,809	3,303	506	15.3%	3.1%	2.9%	8.3%	8	9	1
NORTHERN TRUST	3,719	3,589	130	3.6%	3.1%	3.1%	-2.7%	9	7	-2
US BANCORP	3,367	3,067	300	9.8%	2.8%	2.7%	3.1%	10	10	0
BANK OF AMERICA	2,898	2,814	84	3.0%	2.4%	2.5%	-3.3%	11	11	0
HSBC FINANCIAL SERVICES	2,729	2,386	343	14.4%	2.2%	2.1%	7.4%	12	12	0
BROWN BROTHER HARRIMAN	2,276	1,956	320	16.4%	1.9%	1.7%	9.2%	13	13	0
ROYAL BANK OF CANADA	1,859	1,689	170	10.1%	1.5%	1.5%	3.3%	14	14	0
CREDIT SUISSE	1,738	1,656	82	5.0%	1.4%	1.4%	-1.5%	15	16	1
SOCIETE GENERALE	1,571	1,407	164	11.7%	1.3%	1.2%	4.8%	16	17	1
WELLS FARGO	1,457	1,669	-212	-12.7%	1.2%	1.5%	-18.0%	17	15	-2
UNION BANK OF SWITZERLAND	1,102	918	184	20.0%	0.9%	0.8%	12.7%	18	18	0
DZ BANK	1,026	901	125	13.9%	0.8%	0.8%	6.9%	19	19	0
CITCO FUNDS SERVICES	868	714	154	21.6%	0.7%	0.6%	14.1%	20	24	4
SKANDINAVISKA SECURITIES	861	774	87	11.2%	0.7%	0.7%	4.4%	21	21	0
INTERACTIVE BROKERS	832	737	95	12.9%	0.7%	0.6%	6.0%	22	22	0
ROYAL BANK OF SCOTLAND	748	815	-67	-8.2%	0.6%	0.7%	-13.8%	23	20	-3
HAUCK & AUFHAEUSER	699	605	94	15.5%	0.6%	0.5%	8.5%	24	29	5
FIDELITY	680	620	60	9.7%	0.6%	0.5%	3.0%	25	27	2
TOP 25 SINGLE CUSTODIANS FR	86,190	81,220	4,970	6.1%	70.7%	71.0%	-0.4%			
ALL OTHER	35,681	33,188	2,493	7.5%	29.3%	29.0%	0.9%			
TOTAL SINGLE CUSTODIANS FR DISCLOSED	121,871	114,408	7,463	6.5%	38.9%	41.1%	-5.5%			
NOT REPORTED	33,902	30,086	3,816	12.7%	10.8%	10.8%	0.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	58,019	45,976	12,043	26.2%	18.5%	16.5%	12.0%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	91,921	76,062	15,859	20.9%	29.3%	27.3%	7.2%			
TOTAL FUNDS WITH MULTI-CUSTODIANS FR	99,812	87,747	12,065	13.7%	31.8%	31.5%	0.9%			
TOTAL FUNDS	313,604	278,217	35,387	12.7%	100.0%	100.0%	0.0%			

- Custodians ranked 11-25 registered the highest growth in funds
 - Funds increased 8.56%, or 1.31x the market
 - Market share increased from 17.18% to 17.51%
 - ➤ An increase of 1.91%
- Custodians ranked 1-10 registered the lowest growth in funds
 - Funds increased 5.34%, or 0.82x the market
 - Market share decreased from 53.81% to 53.21%
 - \blacktriangleright A decrease of 1.11%

Peer G	roup Per	formance by F	und Relationships			
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Funds	12.72%		100%	100%		
Market Growth Single Custodians Disclosed	6.52%	0.51	38.86%	41.12%	-2.26%	-5.50%
Custodians Ranked 1-10	5.34%	0.82	53.21%	53.81%	-0.60%	-1.11%
Custodians Ranked 11-25	8.56%	1.31	17.51%	17.18%	0.33%	1.91%
All Other Custodians	7.51%	1.15	29.28%	29.01%	0.27%	0.93%
Market Growth Multi Custodians Disclosed	13.75%	1.08	31.83%	31.54%	0.29%	0.91%
Market Growth Custodians Not Disclosed	20.85%	1.64	29.31%	27.34%	1.97%	7.21%

Single Fund Custodians League Table – Global AUC

Convergence - Feb 2023	League T <u>abl</u>	les - Singl <u>e C</u>	ustodian <u>s N</u>	Iarket Segm	ent - As <u>se</u> t	ts (in B <u>N)</u>				
Single	Feb -23	Feb -22	22-23	22-23	Market		23-22	Feb -23	Feb -22	23-22
Custodians	FR-AUC	FR-AUC	Change		Share-23				Rank	Change
STATE STREET IFS	\$13,816.73	\$14,423.68	-\$606.95	-4.2%	25.3%	26.2%	-3.2%	1	1	0
JPMORGAN	\$11,291.29	\$11,863.85	-\$572.56	-4.8%	20.7%	21.5%	-3.9%	2	2	0
BANK OF NEW YORK	\$8,445.20	\$8,173.72	\$271.47	3.3%	15.5%	14.8%	4.4%	3	3	0
BROWN BROTHER HARRIMAN	\$2,109.80	\$2,293.79	-\$183.99	-8.0%	3.9%	4.2%	-7.1%	4	4	0
NORTHERN TRUST	\$2,097.47	\$2,254.69	-\$157.23	-7.0%	3.8%	4.1%	-6.0%	5	5	0
CITIBANK	\$1,476.18	\$1,367.72	\$108.47	7.9%	2.7%	2.5%	9.0%	6	8	2
BNP PARIBAS	\$1,473.01	\$1,368.81	\$104.20	7.6%	2.7%	2.5%	8.7%	7	7	0
US BANCORP	\$1,359.67	\$1,402.74	-\$43.08	-3.1%	2.5%	2.5%	-2.1%	8	6	-2
CACEIS	\$1,072.26	\$1,096.88	-\$24.61	-2.2%	2.0%	2.0%	-1.2%	9	9	0
HSBC FINANCIAL SERVICES	\$916.24	\$924.03	-\$7.78	-0.8%	1.7%	1.7%	0.2%	10	10	0
BANK OF AMERICA	\$807.76	\$764.84	\$42.92	5.6%	1.5%	1.4%	6.7%	11	11	0
SILICON VALLEY BANK	\$762.06	\$547.15	\$214.91	39.3%	1.4%	1.0%	40.7%	12	13	1
CREDIT SUISSE	\$611.48	\$603.12	\$8.36	1.4%	1.1%	1.1%	2.4%	13	12	-1
DZ BANK	\$498.71	\$511.62	-\$12.92	-2.5%	0.9%	0.9%	-1.5%	14	14	0
FIRST REPUBLIC BANK	\$492.80	\$329.21	\$163.59	49.7%	0.9%	0.6%	51.2%	15	19	4
UNION BANK OF SWITZERLAND	\$445.81	\$404.80	\$41.00	10.1%	0.8%	0.7%	11.3%	16	15	-1
ROYAL BANK OF CANADA	\$370.74	\$343.07	\$27.68	8.1%	0.7%	0.6%	9.2%	17	17	0
SOCIETE GENERALE	\$366.75	\$385.44	-\$18.69	-4.8%	0.7%	0.7%	-3.9%	18	16	-2
WELLS FARGO	\$331.73	\$333.21	-\$1.48	-0.4%	0.6%	0.6%	0.6%	19	18	-1
SKANDINAVISKA SECURITIES	\$263.90	\$292.19	-\$28.29	-9.7%	0.5%	0.5%	-8.8%	20	20	0
CITCO FUNDS SERVICES	\$253.58	\$194.35	\$59.23	30.5%	0.5%	0.4%	31.8%	21	22	1
PICTET CIE EUROPE	\$250.62	\$165.50	\$85.12	51.4%	0.5%	0.3%	53.0%	22	26	4
DEKABANK	\$217.61	\$216.27	\$1.35	0.6%	0.4%	0.4%	1.7%	23	21	-2
ZÜRCHER KANTONALBANK	\$172.08	\$164.27	\$7.80	4.8%	0.3%	0.3%	5.8%	24	27	3
CECA	\$169.88	\$165.61	\$4.27	2.6%	0.3%	0.3%	3.6%	25	25	0
TOP 25 SINGLE CUSTODIANS FR ASSETS	\$50,073.35	\$50,590.57	-\$517.22	-1.0%	91.8%	91.8%	0.0%			
ALL OTHER	\$4,488.19	\$4,530.34	-\$42.15	-0.9%	8.2%	8.2%	0.1%			
TOTAL SINGLE CUSTODIANS FR ASSETS DISCLOSED	\$54,561.54	\$55,120.91	-\$559.36	-1.0%	36.7%	39.0%	-6.0%			
NOT REPORTED	\$4,648.45	\$4,541.88	\$106.56	2.3%	3.1%	3.2%	-2.8%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$3,233.85	\$5,450.79	-\$2,216.94	-40.7%	2.2%	3.9%	-43.6%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,882.30	\$9,992.68	-\$2,110.38	-21.1%	5.3%	7.1%	-25.1%			
TOTAL ASSETS WITH MULTI-CUSTODIANS FR	\$86,178.12	\$76,081.17	\$10,096.95	13.3%	58.0%	53.9%	7.6%			
TOTAL FUND ASSETS	\$148,621.96	\$141,194.75	\$7,427.20	5.3%	100.0%	100.0%	0.0%			

Single Custodians Peer Analysis – Global AUC - Growth & Market Share

- Custodians ranked 11-25 registered the highest AUC growth
 - AUC increased 10.97%, or 1.00x the market
 - Market share increased from 9.83% to 11.03%
 - \blacktriangleright An increase of 12.11%
- Custodians ranked 1-10 registered the lowest AUC growth
 - AUC decreased 2.46%, or -0.22x the market
 - Market share decreased from 81.95% to 80.75%
 - \blacktriangleright A decrease of 1.46%

Peer G	Froup Perform	ance by Fund	Assets			
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Assets	5.26%		100%	100%		
Market Growth Single Custodians Disclosed	-1.01%	-0.19	36.71%	39.04%	-2.33%	-5.96%
Custodians Ranked 1-10	-2.46%	-0.22	80.75%	81.95%	-1.20%	-1.46%
Custodians Ranked 11-25	10.97%	1.00	11.03%	9.83%	1.19%	12.11%
All Other Custodians	-0.93%	-0.08	8.23%	8.22%	0.01%	0.09%
Market Growth Multi Custodians Disclosed	13.27%	2.52	57.98%	53.88%	4.10%	7.61%
Market Growth Custodians Not Disclosed	-21.12%	-4.01	5.30%	7.08%	-1.77%	-25.06%

Multi-Fund Custodians League Table – Global Funds

Convergence - 2023 League	Tables <u>-</u> I	Multi Cus	stodians 1	Market <u>Seg</u> i	nent - F <u>un</u>	d Relation	nships			
Multi		Feb -22		22-23	Market		23-22	Feb -23	Feb -22	23-22
Custodians	#FR	#FR	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
BANK OF AMERICA	7,924	7,302	622	8.5%	7.9%	8.3%	-4.6%	1	1	0
FIRST REPUBLIC BANK	7,766	3,449	4,317	125.2%	7.8%	3.9%	97.9%	2	7	5
JPMORGAN	7,517	6,984	533	7.6%	7.5%	8.0%	-5.4%	3	2	-1
BANK OF NEW YORK	5,452	5,279	173	3.3%	5.5%	6.0%	-9.2%	4	3	-1
MORGAN STANLEY	5,342	4,888	454	9.3%	5.4%	5.6%	-3.9%	5	4	-1
SILICON VALLEY BANK	5,176	4,137	1,039	25.1%	5.2%	4.7%	10.0%	6	6	0
GOLDMAN SACHS BANK USA	5,006	4,760	246	5.2%	5.0%	5.4%	-7.5%	7	5	-2
CITIBANK	3,571	3,387	184	5.4%	3.6%	3.9%	-7.3%	8	8	0
WELLS FARGO	3,022	3,033	-11	-0.4%	3.0%	3.5%	-12.4%	9	9	0
NORTHERN TRUST	2,726	2,495	231	9.3%	2.7%	2.8%	-3.9%	10	10	0
STATE STREET IFS	2,044	2,053	-9	-0.4%	2.0%	2.3%	-12.5%	11	11	0
UNION BANK OF SWITZERLAND	2,011	2,002	9	0.4%	2.0%	2.3%	-11.7%	12	12	0
US BANCORP	1,918	1,767	151	8.5%	1.9%	2.0%	-4.6%	13	14	1
CREDIT SUISSE	1,481	1,793	-312	-17.4%	1.5%	2.0%	-27.4%	14	13	-1
DEUTSCHE BANK	1,427	1,591	-164	-10.3%	1.4%	1.8%	-21.1%	15	15	0
BNP PARIBAS	1,401	1,247	154	12.3%	1.4%	1.4%	-1.2%	16	16	0
BARCLAYS	1,311	1,213	98	8.1%	1.3%	1.4%	-5.0%	17	17	0
ESHARES	1,175	913	262	28.7%	1.2%	1.0%	13.1%	18	20	2
FIDELITY	1,159	1,121	38	3.4%	1.2%	1.3%	-9.1%	19	18	-1
HSBC FINANCIAL SERVICES	1,150	1,058	92	8.7%	1.2%	1.2%	-4.4%	20	19	-1
RAYMOND JAMES ASSOCIATES	939	684	255	37.3%	0.9%	0.8%	20.7%	21	23	2
CANADIAN IMPERIAL BANK OF COMMERCE	818	500	318	63.6%	0.8%	0.6%	43.8%	22	27	5
CITCO FUNDS SERVICES	786	881	-95	-10.8%	0.8%	1.0%	-21.6%	23	21	-2
SOCIETE GENERALE	751	664	87	13.1%	0.8%	0.8%	-0.6%	24	24	0
INTERACTIVE BROKERS	727	728	-1	-0.1%	0.7%	0.8%	-12.2%	25	22	-3
TOP 25 MULTI CUSTODIANS FR	72,600	63,929	8,671	13.6%	72.7%	72.9%	-0.2%			
ALL OTHER	27,212	23,818	3,394	14.2%	27.3%	27.1%	0.4%			
TOTAL MULTI CUSTODIANS FR	99,812	87,747	12,065	13.7%	31.8%	31.5%	0.9%			
NOT REPORTED	33,902	30,086	3,816	12.7%	10.8%	10.8%	0.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	58,019	45,976	12,043	26.2%	18.5%	16.5%	12.0%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	91,921	76,062	15,859	20.9%	29.3%	27.3%	7.2%			
TOTAL FUNDS WITH SINGLE CUSTODIANS FR	121,871	114,408	7,463	6.5%	38.9%	41.1%	-5.5%			
TOTAL FUNDS	313,604	278,217	35,387	12.7%	100.0%	100.0%	0.0%			

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 17.04%, or 1.24x the market
 - Market share increased from 52.10% to 53.60%
 - ➤ An increase of 2.89%
- Custodians ranked 11-25 registered the smallest growth in funds
 - Funds increased 4.85%, or 0.35x the market
 - Market share decreased from 20.76% to 19.13%
 - \blacktriangleright A decrease of 7.83%

Peer G	roup Per	formance by F	und Relationships			
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Funds	12.72%		100%	100%		
Market Growth Multi Custodians Disclosed	13.75%	1.08	31.83%	31.54%	0.29%	0.91%
Custodians Ranked 1-10	17.04%	1.24	53.60%	52.10%	1.51%	2.89%
Custodians Ranked 11-25	4.85%	0.35	19.13%	20.76%	-1.62%	-7.83%
All Other Custodians	14.25%	1.04	27.26%	27.14%	0.12%	0.44%
Market Growth Single Custodians Disclosed	6.52%	0.51	38.86%	41.12%	-2.26%	-5.50%
Market Growth Custodians Not Disclosed	20.85%	1.64	29.31%	27.34%	1.97%	7.21%

Multi-Fund Custodians League Table – Global AUC

Convergence - Feb 2023 League Tables - Multi Custodians Market Segment - Assets (in BN)											
	9			0			22.22	E.L. 22	E.L. OC	22.22	
Multi Create diagonal	Feb -23	Feb -22	22-23	22-23	Market		23-22		Feb -22	23-22	
Custodians	FR-AUC	FR-AUC	Change	Change %			0		Rank	Change	
BANK OF AMERICA	\$6,691.73	\$6,199.21	\$492.52	7.9%	7.8%	8.1%	-4.7%	1	1	0	
JPMORGAN	\$6,544.54	\$6,193.49	\$351.05	5.7%	7.6%	8.1%	-6.7%	2	7	5	
BANK OF NEW YORK	\$5,671.34	\$5,904.93	-\$233.59	-4.0%	6.6%	7.8%	-15.2%	3	2	-1	
MORGAN STANLEY	\$4,871.43	\$4,164.61	\$706.82	17.0%	5.7%	5.5%	3.3%	4	3	-1	
CITIBANK	\$4,569.47	\$3,913.58	\$655.89	16.8%	5.3%	5.1%	3.1%	5	4	-1	
GOLDMAN SACHS BANK USA	\$4,460.02	\$4,108.33	\$351.70	8.6%	5.2%	5.4%	-4.2%	6	6	0	
BARCLAYS	\$3,710.41	\$3,782.46	-\$72.05	-1.9%	4.3%	5.0%	-13.4%	7	5	-2	
STATE STREET IFS	\$3,212.56	\$2,898.99	\$313.57	10.8%	3.7%	3.8%	-2.2%	8	8	0	
UNION BANK OF SWITZERLAND	\$3,203.28	\$2,883.14	\$320.13	11.1%	3.7%	3.8%	-1.9%	9	9	0	
CREDIT SUISSE	\$2,906.49	\$2,877.63	\$28.87	1.0%	3.4%	3.8%	-10.8%	10	10	0	
BNP PARIBAS	\$2,655.21	\$2,024.09	\$631.12	31.2%	3.1%	2.7%	15.8%	11	11	0	
NORTHERN TRUST	\$2,572.17	\$2,499.01	\$73.16	2.9%	3.0%	3.3%	-9.1%	12	12	0	
WELLS FARGO	\$2,436.23	\$2,271.61	\$164.62	7.2%	2.8%	3.0%	-5.3%	13	14	1	
DEUTSCHE BANK	\$2,213.61	\$2,232.88	-\$19.27	-0.9%	2.6%	2.9%	-12.5%	14	13	-1	
HSBC FINANCIAL SERVICES	\$1,717.93	\$1,522.25	\$195.68	12.9%	2.0%	2.0%	-0.4%	15	15	0	
SILICON VALLEY BANK	\$1,606.07	\$1,233.22	\$372.85	30.2%	1.9%	1.6%	15.0%	16	16	0	
SOCIETE GENERALE	\$1,498.97	\$1,155.23	\$343.74	29.8%	1.7%	1.5%	14.6%	17	17	0	
STANDARD CHARTERED BANK	\$1,439.93	\$1,358.64	\$81.29	6.0%	1.7%	1.8%	-6.4%	18	20	2	
FIRST REPUBLIC BANK	\$1,366.90	\$936.85	\$430.05	45.9%	1.6%	1.2%	28.8%	19	18	-1	
FIDELITY	\$1,093.24	\$979.45	\$113.78	11.6%	1.3%	1.3%	-1.5%	20	19	-1	
US BANCORP	\$906.72	\$773.47	\$133.25	17.2%	1.1%	1.0%	3.5%	21	23	2	
BANK OF NOVA SCOTIA	\$887.67	\$811.10	\$76.57	9.4%	1.0%	1.1%	-3.4%	22	27	5	
COMPUTERSHARE	\$756.36	\$534.06	\$222.31	41.6%	0.9%	0.7%	25.0%	23	21	-2	
NOMURA BANK LUXEMBOURG SA	\$725.83	\$688.47	\$37.37	5.4%	0.8%	0.9%	-6.9%	24	24	0	
ROYAL BANK OF CANADA	\$654.09	\$556.21	\$97.88	17.6%	0.8%	0.7%	3.8%	25	22	-3	
TOP 25 MULTI CUSTODIANS FR ASSETS	\$68,372.19	\$62,502.89	\$5,869.31	9.4%	79.3%	82.2%	-3.4%				
ALL OTHER	\$17,805.93	\$13,578.28	\$4,227.64	31.1%	20.7%	17.8%	15.8%				
TOTAL MULTI CUSTODIANS FR ASSETS	\$86,178.12	\$76,081.17	\$10,096.95	13.3%	58.0%	53.9%	7.6%				
NOT REPORTED	\$4,648.45	\$4,541.88	\$106.56	2.3%	3.1%	3.2%	-2.8%				
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$3,233.85	\$5,450.79	-\$2,216.94	-40.7%	2.2%	3.9%	-43.6%				
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,882.30	\$9,992.68	-\$2,110.38	-21.1%	5.3%	7.1%	-25.1%				
TOTAL ASSETS WITH SINGLE CUSTODIANS FR	\$54,561.54	\$55,120.91	-\$559.36	-1.0%	36.7%	39.0%	-6.0%				
TOTAL FUND ASSETS	\$148,621.96	\$141,194.75	\$7,427.20	5.3%	100.0%	100.0%	0.0%				

Custodians Peer Groups – Global Multi AUC Growth & Market Share

- Custodians ranked 11-25 registered the highest AUC growth
 - AUC increased 31.14%, or 2.35x the market
 - Market share increased from 17.85% to 20.66%
 - \blacktriangleright An increase of 15.77%
- Custodians ranked 1-10 registered the lowest AUC growth
 - AUC increased 6.79%, or 0.51x the market
 - Market share decreased from 56.42% to 53.19%
 - \blacktriangleright A decrease of 5.72%

Peer Group Performance by Fund Assets						
Custodians	Y-Y	Growth	SOM	SOM	SOM	SOM
Peer Group Analysis	Growth	vs-MKT	2023	2022	Change	Change %
Market Growth Assets	5.26%		100%	100%		
Market Growth Multi Custodians Disclosed	13.27%	2.52	57.98%	53.88%	4.10%	7.61%
Custodians Ranked 1-10	6.79%	0.51	53.19%	56.42%	-3.23%	-5.72%
Custodians Ranked 11-25	15.09%	1.14	26.14%	25.73%	0.41%	1.61%
All Other Custodians	31.14%	2.35	20.66%	17.85%	2.81%	15.77%
Market Growth Single Custodians Disclosed	-1.01%	-0.19	36.71%	39.04%	-2.33%	-5.96%
Market Growth Custodians Not Disclosed	-21.12%	-4.01	5.30%	7.08%	-1.77%	-25.06%

About Convergence

- Founded in 2013, Convergence provides independent <u>insights</u> into important trends and challenges facing our clients in the fast-growing and dynamic asset management industry by using alternative data and data science analytics.
- Our <u>insights</u> help clients grow revenue, <u>improve efficiency</u> and <u>identify and manage risks</u>.
- Our <u>clients</u> include Asset Managers, Institutional Investors and Service Providers.
- Our <u>founders</u>, are former C-Suite executives in hedge funds, private equity funds, broker-dealers and securities exchanges.
- We are headquartered in South Norwalk, CT and operate in New Jersey and Hyderabad, India.
- For additional information please contact John Phinney @ 203-956-4824 or George Gainer @ 203-956-4824 or to learn more about how Convergence can help you.

Global Funds and Assets

- Measures public and private funds and assets domiciled in US and non-US locations that Convergence can attribute to one or more Fund Custodians.
- US Funds and Assets
 - Measures public and private funds and assets domiciled in the US that Convergence can attribute to one or more Fund Custodians.
- Non-US Funds and Assets
 - Measures public and private funds and assets domiciled outside the United States that Convergence can attribute to one or more Fund Custodians.
- Not Reported Global US Non-US Funds and Assets
 - Measures public and private funds and assets domiciled in US and non-US locations that are being serviced by the investment adviser or a controlled affiliate.
- Not Applicable Global US Non-US Funds and Assets
 - Measures public and private funds and assets domiciled in US and non-US locations that are being serviced by the investment adviser or a controlled affiliate.
- Unattributed Funds and Assets Global US Non-US Funds and Assets
 - Measures public and private funds and assets domiciled in US and non-US locations that Convergence cannot attribute to one or more Fund Custodians.
- All Other Custodians
 - Is a measure of funds and assets attributed to Fund Custodians ranked outside the Top 25.

• Single/Multiple Relationship

• A **"Single"** Custodians relationship exists at the fund level when the adviser discloses one Custodians to their fund and a **"Multiple"** Custodians exists when more than one Custodians is named.

Total Fund/Asset Custodians Relationships

• Total Funds refer to an overall number of funds available in the market and Total Assets refer to the overall assets available in the market.

Total Fund/Asset Custodians Single Relationships

• Total Funds in single relationships means, total funds in the market for those who have only single-Custodians relationship and Total Assets in single relationship means total assets in the market for those who have only single-Custodians relationship.

Total Fund/Asset Custodians Multiple Relationships

• Total Funds in multiple relationships means, total assets in the market for those who have multi-Custodians relationship and Total Assets in multiple relationship means total assets in the market for those who have multi-Custodians relationship.

Unique Fund/Asset Custodians Single Relationships

• Measures unique Funds in single relationships means, unique funds in the market for those who have only single Custodians relationship .

Unique Fund/Asset Custodians Multiple Relationships

• Measures unique Funds in multiple relationships means, unique funds in the market for those who have multi-Custodians relationship.

Total Fund/Asset Market

• Total Fund includes all the funds in the market plus all the unique funds. Similarly, Total Asset Market means all the assets in the market plus all the unique assets.

Additional Analytics available for the Custodians Segment

Convergence offers several additional datasets and analytical tools that can be used to support business development and client and risk management efforts...

• Competitive Analysis (Business Development)

- Compare your growth and market share to a defined peer group in multiple fund type segments
- Growth is broken down in up to 9 growth factors, each which reveals a story

Client New Fund Flow Analytics (Business Development)

- Identify new flows into client funds
- Allows you to determine if you are getting your fair share of the change

Clients at Risk (Client Management)

• Convergence predictive analytics can identify clients likely to move their business to a competitor in full, or partially through diversification

• Client Operational Risk Profiles (Risk Management)

• Convergence proprietary risk factors can identify high-risk business conditions in your prospective or existing clients

• ESG Business Profiles

• Convergence measures the ESG sensitivity of investment advisers. This differs from ESG investing measurement and complements your work on ESG investing.

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The Convergence Leadership Team





Career History

Apollo Global Management-Fund Group: CFO/COO, Rohatyn Group: CFO/COO, JPMorgan [Various Divisions]: CFO, Fidelity Alternative Investments: Director of Operations jphinney@convergenceinc.com



Eileen Cleary, President, Convergence Talent Management

Career History

Executive Management Consultant, Atlas Data: Chief Executive Officer and Co-founder, J. & W. Seligman & Co. Incorporated: V.P. Human Resources, UJB-Financial: V.P. Employee Benefits ecleary@convergenceinc.com





George Evans, Co-President and Chief Revenue Officer

Career History

Gladstone Associates: Managing Director, GlobeOp Financial, Outsource Partners International, BISYS Financial Services: Global Head of Business Development, JPMorgan Investor Services: Senior Vice President, The Prudential: Assistant Treasurer gevans@convergenceinc.com

George Gainer, CPA Global Head - Client Management

Career History

Gravitas: Finance & Business Performance Analyst, Apollo [through Gravitas]: Business Analysis & Reporting, Iron Mountain: Acquisition Accounting Manager, KPMG: Transaction Services Manager, Deloitte: Audit Senior Staff

ggainer@convergenceinc.com

David Etzbach, Managing Director, Custodians and Allocators

Career History

Nod Hill Investment Partners, Founder, Steinberg Asset Management, Managing Director, Fidelity Investments / Pyramis Global Advisors, Senior Vice President, Credit Suisse Asset Management, Director, Citigroup Asset Management / Legg Mason, Director / Vice President, JP Morgan - Global Investor Services, Vice President, Bankers Trust detzbach@convergenceinc.com



Vidya Minukuri, Global Head of Data Science & Research

Career History

 Tata Consultancy Services: Assistant Business Consultant & Project Manager, British Telecom [through TCS]: Lead Business Analyst & Solution Architect, Ericsson [through TCS] : IT Systems Engineer and IT development team leader

vminukuri@convergenceinc.com



Carl Versella, Managing Director – Capital Markets

Career History

Goldman Sachs - Prime Brokerage, Morgan Stanley, Prime Brokerage, Director Client Service & Control. Tiger Management, Director of Middle Office Operations, Credit Suisse: Director of Hedge Fund Services, Rothstein Kass- Advisory Principal HC Associates, LLC - President and Chief Operating Officer

cversella@convergenceinc.com

