

Fund Custodians
League Tables

Global Funds and AUC

Reporting Period
Nov 2022 - Nov 2023



CONVERGENCE
OPTIMAL PERFORMANCE

Table of Contents – Custodians

<u>Slide Description</u>	<u>Page#</u>
About this Report	3
Top 25 Fund Custodians League Tables – Global Funds	4
Fund Custodians Peer Groups – Global Fund Growth and Market Share	5
Top 25 Fund Custodians League Tables – Global AUC	6
Custodians Peer Groups – Global AUC Growth & Market Share	7
Top 25 Fund Custodians League Tables – Global Single Funds	8
Fund Custodians Peer Groups – Global Single Fund Growth and Market Share	9
Top 25 Fund Custodians League Tables – Global Single AUC	10
Custodians Peer Groups – Global Single AUC Growth & Market Share	11
Top 25 Fund Custodians League Tables – Global Multi Funds	12
Fund Custodians Peer Groups – Global Multi Fund Growth and Market Share	13
Top 25 Fund Custodians League Tables – Global Multi AUC	14
Custodians Peer Groups – Global Multi AUC Growth & Market Share	15
About Convergence	16
Additional Analytics available for Fund Custodians	17
Terms used in Our League Tables	18
Additional Analytics available for the Custodians Segment	19
Disclaimer	20
Convergence Leadership Team	21

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:
 - SEC registered private and public funds and advisers
 - State registered private and public funds and advisers
 - Unregistered private funds and advisers
 - EU UCITS and private funds
 - 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 - Nov 2023 League Tables - Custodians Market Segment - Fund Relationships										
All Custodians	Nov -23 #FR	Nov -22 #FR	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
JPMORGAN	30,382	18,030	12,352	68.5%	13.0%	7.9%	65.1%	1	1	0
BANK OF NEW YORK	17,080	16,051	1,029	6.4%	7.3%	7.0%	4.3%	2	2	0
STATE STREET IFS	15,778	14,837	941	6.3%	6.8%	6.5%	4.2%	3	3	0
FIRST CITIZENS BANK AND TRUST	12,758	801	11,957	1492.8%	5.5%	0.3%	1460.8%	4	35	31
BANK OF AMERICA	11,540	10,645	895	8.4%	4.9%	4.7%	6.2%	5	6	1
CITIBANK	8,826	8,156	670	8.2%	3.8%	3.6%	6.0%	6	7	1
NORTHERN TRUST	6,669	6,384	285	4.5%	2.9%	2.8%	2.4%	7	8	1
MORGAN STANLEY	6,247	5,931	316	5.3%	2.7%	2.6%	3.2%	8	10	2
BNP PARIBAS	6,011	5,944	67	1.1%	2.6%	2.6%	-0.9%	9	9	0
GOLDMAN SACHS BANK USA	5,812	5,610	202	3.6%	2.5%	2.5%	1.5%	10	11	1
UNION BANK OF SWITZERLAND	5,810	3,499	2,311	66.0%	2.5%	1.5%	62.7%	11	17	6
US BANCORP	5,697	5,139	558	10.9%	2.4%	2.2%	8.6%	12	12	0
CACEIS	4,931	4,068	863	21.2%	2.1%	1.8%	18.8%	13	15	2
HSBC FINANCIAL SERVICES	4,452	3,843	609	15.8%	1.9%	1.7%	13.5%	14	16	2
WELLS FARGO	4,355	4,350	5	0.1%	1.9%	1.9%	-1.9%	15	14	-1
BROWN BROTHER HARRIMAN	2,770	2,754	16	0.6%	1.2%	1.2%	-1.4%	16	18	2
SOCIETE GENERALE	2,329	2,271	58	2.6%	1.0%	1.0%	0.5%	17	19	2
DEUTSCHE BANK	2,052	2,103	-51	-2.4%	0.9%	0.9%	-4.4%	18	21	3
FIDELITY	1,989	1,859	130	7.0%	0.9%	0.8%	4.8%	19	22	3
CITCO FUNDS SERVICES	1,847	1,473	374	25.4%	0.8%	0.6%	22.9%	20	24	4
INTERACTIVE BROKERS	1,627	1,555	72	4.6%	0.7%	0.7%	2.5%	21	23	2
BARCLAYS	1,604	1,401	203	14.5%	0.7%	0.6%	12.2%	22	26	4
CANADIAN IMPERIAL BANK OF COMMERCE	1,540	1,341	199	14.8%	0.7%	0.6%	12.5%	23	27	4
ROYAL BANK OF CANADA	1,416	2,226	-810	-36.4%	0.6%	1.0%	-37.7%	24	20	-4
ESHARES	1,368	1,402	-34	-2.4%	0.6%	0.6%	-4.4%	25	25	0
TOP 25 CUSTODIANS FR - ALL	164,890	131,673	33,217	25.2%	70.6%	57.5%	22.7%			
ALL OTHER	68,657	97,188	-28,531	-29.4%	29.4%	42.5%	-30.8%			
TOTAL CUSTODIANS FR DISCLOSED	233,547	228,861	4,686	2.0%	73.1%	72.9%	0.3%			
NOT REPORTED	35,900	33,593	2,307	6.9%	11.2%	10.7%	5.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,057	51,498	-1,441	-2.8%	15.7%	16.4%	-4.5%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	85,957	85,091	866	1.0%	26.9%	27.1%	-0.7%			
TOTAL FUNDS	319,504	313,952	5,552	1.8%	100.0%	100.0%	0.0%			

Fund Custodians Peer Analysis – Global Funds - Growth and Market Share

Best and Worst Performing Peer Groups

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 31.08%, or 15.18x the market
 - Market share increased from 40.37% to 51.85%
 - An increase of 28.45%
- Custodians ranked >25 registered the lowest growth in funds
 - Funds decreased 29.36%, or -14.34x the market
 - Market share decreased from 42.47% to 29.40%
 - A decrease of 30.77%

Peer Group Performance by Fund Relationships						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Funds	1.77%		100%	100%		
Market Growth Custodians Disclosed	2.05%	1.16	73.10%	72.90%	0.20%	0.27%
Custodians Ranked 1-10	31.08%	15.18	51.85%	40.37%	11.48%	28.45%
Custodians Ranked 11-25	11.46%	5.60	18.75%	17.17%	1.58%	9.23%
All Other Custodians	-29.36%	-14.34	29.40%	42.47%	-13.07%	-30.77%
Market Growth Custodians Not Disclosed	1.02%	0.58	26.90%	27.10%	-0.20%	-0.74%

Fund Custodians League Table – Global AUC

Convergence - Nov 2023 League Tables - Custodians Market Segment - Assets (in BN)										
All Custodians	Nov -23 FR-AUC	Nov -22 FR-AUC	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
JPMORGAN	\$19,790.48	\$16,923.63	\$2,866.85	16.9%	14.2%	12.6%	12.8%	1	1	0
STATE STREET IFS	\$17,715.13	\$16,338.18	\$1,376.95	8.4%	12.7%	12.2%	4.5%	2	2	0
BANK OF NEW YORK	\$14,309.48	\$13,275.48	\$1,034.00	7.8%	10.3%	9.9%	3.9%	3	3	0
BANK OF AMERICA	\$7,485.63	\$7,080.32	\$405.31	5.7%	5.4%	5.3%	1.9%	4	4	0
CITIBANK	\$6,293.56	\$5,647.20	\$646.36	11.4%	4.5%	4.2%	7.5%	5	5	0
UNION BANK OF SWITZERLAND	\$4,613.07	\$3,503.89	\$1,109.18	31.7%	3.3%	2.6%	26.9%	6	11	5
MORGAN STANLEY	\$4,473.43	\$4,752.66	-\$279.22	-5.9%	3.2%	3.5%	-9.2%	7	6	-1
GOLDMAN SACHS BANK USA	\$4,456.59	\$4,429.32	\$27.28	0.6%	3.2%	3.3%	-3.0%	8	8	0
NORTHERN TRUST	\$4,318.05	\$4,450.40	-\$132.35	-3.0%	3.1%	3.3%	-6.4%	9	7	-2
BNP PARIBAS	\$4,044.21	\$3,826.64	\$217.57	5.7%	2.9%	2.9%	1.9%	10	9	-1
BARCLAYS	\$3,842.38	\$3,531.53	\$310.85	8.8%	2.8%	2.6%	4.9%	11	10	-1
HSBC FINANCIAL SERVICES	\$2,791.63	\$2,598.65	\$192.98	7.4%	2.0%	1.9%	3.6%	12	14	2
WELLS FARGO	\$2,585.63	\$2,708.29	-\$122.65	-4.5%	1.9%	2.0%	-7.9%	13	13	0
US BANCORP	\$2,309.05	\$2,096.71	\$212.34	10.1%	1.7%	1.6%	6.2%	14	18	4
BROWN BROTHER HARRIMAN	\$2,274.31	\$2,173.43	\$100.88	4.6%	1.6%	1.6%	0.9%	15	17	2
DEUTSCHE BANK	\$2,135.53	\$2,212.33	-\$76.80	-3.5%	1.5%	1.6%	-6.9%	16	16	0
FIRST CITIZENS BANK AND TRUST	\$1,944.56	\$0.12	\$1,944.44	1634746.2%	1.4%	0.0%	1576258.8%	17	1034	1,017
SOCIETE GENERALE	\$1,722.39	\$1,682.05	\$40.33	2.4%	1.2%	1.3%	-1.3%	18	19	1
STANDARD CHARTERED BANK	\$1,479.45	\$1,358.14	\$121.31	8.9%	1.1%	1.0%	5.0%	19	21	2
CACEIS	\$1,233.86	\$1,007.76	\$226.10	22.4%	0.9%	0.8%	18.1%	20	23	3
BANK OF NOVA SCOTIA	\$1,042.24	\$892.28	\$149.96	16.8%	0.7%	0.7%	12.6%	21	25	4
ROYAL BANK OF CANADA	\$980.00	\$981.85	-\$1.85	-0.2%	0.7%	0.7%	-3.8%	22	24	2
FIDELITY	\$948.92	\$1,095.67	-\$146.75	-13.4%	0.7%	0.8%	-16.5%	23	22	-1
COMPUTERSHARE	\$916.40	\$761.34	\$155.06	20.4%	0.7%	0.6%	16.1%	24	26	2
SKANDINAVISKA SECURITIES	\$855.57	\$699.57	\$155.99	22.3%	0.6%	0.5%	17.9%	25	28	3
TOP 25 CUSTODIANS FR - ALL	\$114,561.55	\$104,027.44	\$10,534.12	10.1%	82.4%	77.6%	6.2%			
ALL OTHER	\$24,529.43	\$30,087.50	-\$5,558.07	-18.5%	17.6%	22.4%	-21.4%			
TOTAL CUSTODIANS FR AUC DISCLOSED	\$139,090.98	\$134,114.94	\$4,976.04	3.7%	95.0%	95.3%	-0.3%			
NOT REPORTED	\$4,731.10	\$4,641.95	\$89.14	1.9%	3.2%	3.3%	-2.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,585.10	\$1,969.76	\$615.34	31.2%	1.8%	1.4%	26.1%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,316.20	\$6,611.72	\$704.48	10.7%	5.0%	4.7%	6.4%			
TOTAL FUND ASSETS	\$146,407.17	\$140,726.66	\$5,680.52	4.0%	100.0%	100.0%	0.0%			

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

Best and Worst Performing Peer Groups

- Custodians ranked 11-25 registered the highest AUC growth
 - AUC increased 13.71%, or 3.69x the market
 - Market share increased from 17.75% to 19.46%
 - An increase of 9.64%
- Custodians ranked >25 registered the lowest AUC growth
 - AUC decreased 18.47%, or -4.98x the market
 - Market share decreased from 22.43% to 17.64%
 - A decrease of 21.39%

Peer Group Performance by Fund Assets						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Assets	4.04%		100%	100%		
Market Growth Custodians Disclosed	3.71%	0.92	95.00%	95.30%	-0.30%	-0.31%
Custodians Ranked 1-10	9.06%	2.44	62.91%	59.82%	3.09%	5.16%
Custodians Ranked 11-25	13.71%	3.69	19.46%	17.75%	1.71%	9.64%
All Other Custodians	-18.47%	-4.98	17.64%	22.43%	-4.80%	-21.39%
Market Growth Custodians Not Disclosed	10.65%	2.64	5.00%	4.70%	0.30%	6.36%

Single Fund Custodians League Table – Global Funds

Convergence - 2023 League Tables - Single Custodians Market Segment - Fund Relationships										
Single Custodians	Nov -23 #FR	Nov -22 #FR	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
STATE STREET IFS	13,798	12,835	963	7.5%	12.3%	11.9%	3.5%	1	1	0
BANK OF NEW YORK	10,808	10,245	563	5.5%	9.6%	9.5%	1.6%	2	2	0
JPMORGAN	8,658	8,920	-262	-2.9%	7.7%	8.2%	-6.6%	3	3	0
CITIBANK	4,993	4,634	359	7.7%	4.4%	4.3%	3.7%	4	4	0
CACEIS	4,887	4,038	849	21.0%	4.3%	3.7%	16.5%	5	6	1
BNP PARIBAS	4,616	4,537	79	1.7%	4.1%	4.2%	-2.1%	6	5	-1
NORTHERN TRUST	3,833	3,676	157	4.3%	3.4%	3.4%	0.4%	7	7	0
US BANCORP	3,510	3,284	226	6.9%	3.1%	3.0%	2.9%	8	8	0
HSBC FINANCIAL SERVICES	3,297	2,765	532	19.2%	2.9%	2.6%	14.8%	9	10	1
BANK OF AMERICA	2,917	2,841	76	2.7%	2.6%	2.6%	-1.2%	10	9	-1
BROWN BROTHER HARRIMAN	2,549	2,525	24	1.0%	2.3%	2.3%	-2.8%	11	11	0
SOCIETE GENERALE	1,580	1,588	-8	-0.5%	1.4%	1.5%	-4.2%	12	13	1
WELLS FARGO	1,424	1,431	-7	-0.5%	1.3%	1.3%	-4.2%	13	14	1
CITCO FUNDS SERVICES	1,044	729	315	43.2%	0.9%	0.7%	37.9%	14	22	8
DZ BANK	1,027	1,019	8	0.8%	0.9%	0.9%	-3.0%	15	16	1
UNION BANK OF SWITZERLAND	1,006	1,077	-71	-6.6%	0.9%	1.0%	-10.1%	16	15	-1
SKANDINAVISKA SECURITIES	896	875	21	2.4%	0.8%	0.8%	-1.4%	17	17	0
HAUCK & AUFHAEUSER	854	843	11	1.3%	0.8%	0.8%	-2.5%	18	18	0
INTERACTIVE BROKERS	845	833	12	1.4%	0.8%	0.8%	-2.3%	19	19	0
ROYAL BANK OF CANADA	838	1,894	-1,056	-55.8%	0.7%	1.7%	-57.4%	20	12	-8
FIRST CITIZENS BANK AND TRUST	829	5	824	16480.0%	0.7%	0.0%	15860.9%	21	180	159
ROYAL BANK OF SCOTLAND	739	744	-5	-0.7%	0.7%	0.7%	-4.4%	22	21	-1
DEUTSCHE BANK	712	701	11	1.6%	0.6%	0.6%	-2.2%	23	23	0
CANADIAN IMPERIAL BANK OF COMMERCE	667	530	137	25.8%	0.6%	0.5%	21.1%	24	29	5
GOLDMAN SACHS BANK USA	657	645	12	1.9%	0.6%	0.6%	-1.9%	25	25	0
TOP 25 SINGLE CUSTODIANS FR	76,984	73,214	3,770	5.1%	68.5%	67.6%	1.2%			
ALL OTHER	35,444	35,016	428	1.2%	31.5%	32.4%	-2.6%			
TOTAL SINGLE CUSTODIANS FR DISCLOSED	112,428	108,230	4,198	3.9%	35.2%	34.5%	2.1%			
NOT REPORTED	35,900	33,593	2,307	6.9%	11.2%	10.7%	5.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,057	51,498	-1,441	-2.8%	15.7%	16.4%	-4.5%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	85,957	85,091	866	1.0%	26.9%	27.1%	-0.7%			
TOTAL FUNDS WITH MULTI-CUSTODIANS FR	121,119	120,631	488	0.4%	37.9%	38.4%	-1.3%			
TOTAL FUNDS	319,504	313,952	5,552	1.8%	100.0%	100.0%	0.0%			

Single Fund Custodians Peer Analysis – Global Funds - Growth and Market Share

Best and Worst Performing Peer Groups

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 6.13%, or 1.58x the market
 - Market share increased from 53.38% to 54.54%
 - An increase of 2.17%
- Custodians ranked >25 registered the lowest growth in funds
 - Funds increased 1.22%, or 0.32x the market
 - Market share decreased from 32.35% to 31.53%
 - A decrease of 2.56%

Peer Group Performance by Fund Relationships						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Funds	1.77%		100%	100%		
Market Growth Single Custodians Disclosed	3.88%	2.19	35.19%	34.47%	0.71%	2.07%
Custodians Ranked 1-10	6.13%	1.58	54.54%	53.38%	1.16%	2.17%
Custodians Ranked 11-25	1.48%	0.38	13.94%	14.26%	-0.33%	-2.31%
All Other Custodians	1.22%	0.32	31.53%	32.35%	-0.83%	-2.56%
Market Growth Multi Custodians Disclosed	0.40%	0.23	37.91%	38.42%	-0.51%	-1.34%
Market Growth Custodians Not Disclosed	1.02%	0.58	26.90%	27.10%	-0.20%	-0.74%

Single Fund Custodians League Table – Global AUC

Convergence - Nov 2023 League Tables - Single Custodians Market Segment - Assets (in BN)										
Single Custodians	Nov -23 FR-AUC	Nov -22 FR-AUC	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
STATE STREET IFS	\$14,650.71	\$13,179.50	\$1,471.21	11.2%	26.8%	26.4%	1.3%	1	1	0
JPMORGAN	\$11,760.15	\$10,555.73	\$1,204.42	11.4%	21.5%	21.1%	1.5%	2	2	0
BANK OF NEW YORK	\$8,584.19	\$7,992.03	\$592.17	7.4%	15.7%	16.0%	-2.1%	3	3	0
BROWN BROTHER HARRIMAN	\$2,138.40	\$2,033.84	\$104.55	5.1%	3.9%	4.1%	-4.2%	4	4	0
NORTHERN TRUST	\$1,842.87	\$1,944.84	-\$101.97	-5.2%	3.4%	3.9%	-13.6%	5	5	0
CITIBANK	\$1,669.20	\$1,311.56	\$357.64	27.3%	3.0%	2.6%	16.0%	6	8	2
BNP PARIBAS	\$1,485.91	\$1,379.68	\$106.23	7.7%	2.7%	2.8%	-1.8%	7	6	-1
US BANCORP	\$1,436.42	\$1,317.25	\$119.17	9.0%	2.6%	2.6%	-0.6%	8	7	-1
CACEIS	\$1,217.74	\$966.03	\$251.71	26.1%	2.2%	1.9%	14.9%	9	9	0
HSBC FINANCIAL SERVICES	\$1,106.97	\$931.09	\$175.88	18.9%	2.0%	1.9%	8.4%	10	10	0
BANK OF AMERICA	\$786.02	\$776.58	\$9.44	1.2%	1.4%	1.6%	-7.7%	11	11	0
DZ BANK	\$501.48	\$461.63	\$39.84	8.6%	0.9%	0.9%	-1.0%	12	12	0
UNION BANK OF SWITZERLAND	\$434.94	\$422.00	\$12.93	3.1%	0.8%	0.8%	-6.1%	13	13	0
SOCIETE GENERALE	\$361.86	\$334.53	\$27.33	8.2%	0.7%	0.7%	-1.4%	14	15	1
WELLS FARGO	\$328.04	\$323.59	\$4.45	1.4%	0.6%	0.6%	-7.6%	15	16	1
SKANDINAVISKA SECURITIES	\$258.55	\$244.99	\$13.55	5.5%	0.5%	0.5%	-3.8%	16	17	1
CITCO FUNDS SERVICES	\$242.34	\$236.73	\$5.61	2.4%	0.4%	0.5%	-6.7%	17	18	1
PICTET CIE EUROPE	\$237.85	\$221.97	\$15.88	7.2%	0.4%	0.4%	-2.3%	18	19	1
DEKABANK	\$219.54	\$195.25	\$24.29	12.4%	0.4%	0.4%	2.5%	19	20	1
ZÜRCHER KANTONALBANK	\$189.76	\$148.09	\$41.67	28.1%	0.3%	0.3%	16.8%	20	22	2
ROYAL BANK OF CANADA	\$186.42	\$356.89	-\$170.47	-47.8%	0.3%	0.7%	-52.4%	21	14	-7
CECA	\$174.71	\$149.00	\$25.71	17.3%	0.3%	0.3%	6.9%	22	21	-1
ROYAL BANK OF SCOTLAND	\$164.51	\$146.56	\$17.95	12.3%	0.3%	0.3%	2.3%	23	23	0
SWEDBANK	\$160.72	\$146.18	\$14.55	10.0%	0.3%	0.3%	0.2%	24	24	0
DEUTSCHE BANK	\$139.42	\$133.88	\$5.54	4.1%	0.3%	0.3%	-5.1%	25	25	0
TOP 25 SINGLE CUSTODIANS FR ASSETS	\$50,278.71	\$45,909.41	\$4,369.30	9.5%	91.8%	92.0%	-0.2%			
ALL OTHER	\$4,480.51	\$4,000.21	\$480.30	12.0%	8.2%	8.0%	2.1%			
TOTAL SINGLE CUSTODIANS FR ASSETS DISCLOSED	\$54,759.23	\$49,909.63	\$4,849.60	9.7%	37.4%	35.5%	5.5%			
NOT REPORTED	\$4,731.10	\$4,641.95	\$89.14	1.9%	3.2%	3.3%	-2.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,585.10	\$1,969.76	\$615.34	31.2%	1.8%	1.4%	26.1%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,316.20	\$6,611.72	\$704.48	10.7%	5.0%	4.7%	6.4%			
TOTAL ASSETS WITH MULTI-CUSTODIANS FR	\$84,331.74	\$84,205.31	\$126.43	0.2%	57.6%	59.8%	-3.7%			
TOTAL FUND ASSETS	\$146,407.16	\$140,726.66	\$5,680.50	4.0%	100.0%	100.0%	0.0%			

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

Best and Worst Performing Peer Groups

- Custodians ranked >25 registered the highest AUC growth
 - AUC increased 12.01%, or 1.24x the market
 - Market share increased from 8.01% to 8.18%
 - An increase of 2.09%
- Custodians ranked 11-25 registered the lowest AUC growth
 - AUC increased 2.05%, or 0.21x the market
 - Market share decreased from 8.61% to 8.01%
 - A decrease of 6.98%

Peer Group Performance by Fund Assets						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Assets	4.04%		100%	100%		
Market Growth Single Custodians Disclosed	9.72%	2.41	37.40%	35.47%	1.94%	5.46%
Custodians Ranked 1-10	10.29%	1.06	83.81%	83.37%	0.43%	0.52%
Custodians Ranked 11-25	2.05%	0.21	8.01%	8.61%	-0.60%	-6.98%
All Other Custodians	12.01%	1.24	8.18%	8.01%	0.17%	2.09%
Market Growth Multi Custodians Disclosed	0.15%	0.04	57.60%	59.84%	-2.24%	-3.74%
Market Growth Custodians Not Disclosed	10.65%	2.64	5.00%	4.70%	0.30%	6.36%

Multi-Fund Custodians League Table – Global Funds

Convergence - 2023 League Tables - Multi Custodians Market Segment - Fund Relationships										
Multi Custodians	Nov -23 #FR	Nov -22 #FR	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
JPMORGAN	21,724	9,110	12,614	138.5%	17.9%	7.6%	137.5%	1	3	2
FIRST CITIZENS BANK AND TRUST	11,929	796	11,133	1398.6%	9.8%	0.7%	1392.6%	2	24	22
BANK OF AMERICA	8,623	7,804	819	10.5%	7.1%	6.5%	10.0%	3	4	1
BANK OF NEW YORK	6,272	5,806	466	8.0%	5.2%	4.8%	7.6%	4	5	1
MORGAN STANLEY	5,602	5,322	280	5.3%	4.6%	4.4%	4.8%	5	6	1
GOLDMAN SACHS BANK USA	5,155	4,965	190	3.8%	4.3%	4.1%	3.4%	6	7	1
UNION BANK OF SWITZERLAND	4,804	2,422	2,382	98.3%	4.0%	2.0%	97.5%	7	12	5
CITIBANK	3,833	3,522	311	8.8%	3.2%	2.9%	8.4%	8	9	1
WELLS FARGO	2,931	2,919	12	0.4%	2.4%	2.4%	0.0%	9	10	1
NORTHERN TRUST	2,836	2,708	128	4.7%	2.3%	2.2%	4.3%	10	11	1
US BANCORP	2,187	1,855	332	17.9%	1.8%	1.5%	17.4%	11	14	3
STATE STREET IFS	1,980	2,002	-22	-1.1%	1.6%	1.7%	-1.5%	12	13	1
BARCLAYS	1,416	1,270	146	11.5%	1.2%	1.1%	11.0%	13	17	4
BNP PARIBAS	1,395	1,407	-12	-0.9%	1.2%	1.2%	-1.3%	14	15	1
FIDELITY	1,342	1,197	145	12.1%	1.1%	1.0%	11.7%	15	19	4
DEUTSCHE BANK	1,340	1,402	-62	-4.4%	1.1%	1.2%	-4.8%	16	16	0
RAYMOND JAMES ASSOCIATES	1,268	1,201	67	5.6%	1.0%	1.0%	5.2%	17	18	1
HSBC FINANCIAL SERVICES	1,155	1,078	77	7.1%	1.0%	0.9%	6.7%	18	21	3
ESHARES	1,148	1,088	60	5.5%	0.9%	0.9%	5.1%	19	20	1
NEW YORK COMMUNITY BANK	1,067	181	886	489.5%	0.9%	0.2%	487.1%	20	68	48
CANADIAN IMPERIAL BANK OF COMMERCE	873	811	62	7.6%	0.7%	0.7%	7.2%	21	23	2
COMPUTERSHARE	818	501	317	63.3%	0.7%	0.4%	62.6%	22	31	9
CITCO FUNDS SERVICES	803	744	59	7.9%	0.7%	0.6%	7.5%	23	25	2
INTERACTIVE BROKERS	782	722	60	8.3%	0.6%	0.6%	7.9%	24	26	2
SOCIETE GENERALE	749	683	66	9.7%	0.6%	0.6%	9.2%	25	27	2
TOP 25 MULTI CUSTODIANS FR	92,032	61,516	30,516	49.6%	76.0%	51.0%	49.0%			
ALL OTHER	29,087	59,115	-30,028	-50.8%	24.0%	49.0%	-51.0%			
TOTAL MULTI CUSTODIANS FR	121,119	120,631	488	0.4%	37.9%	38.4%	-1.3%			
NOT REPORTED	35,900	33,593	2,307	6.9%	11.2%	10.7%	5.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,057	51,498	-1,441	-2.8%	15.7%	16.4%	-4.5%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	85,957	85,091	866	1.0%	26.9%	27.1%	-0.7%			
TOTAL FUNDS WITH SINGLE CUSTODIANS FR	112,428	108,230	4,198	3.9%	35.2%	34.5%	2.1%			
TOTAL FUNDS	319,504	313,952	5,552	1.8%	100.0%	100.0%	0.0%			

Best and Worst Performing Peer Groups

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 62.45%, or 154.37x the market
 - Market share increased from 37.61% to 60.86%
 - An increase of 61.79%
- Custodians ranked >25 registered the smallest growth in funds
 - Funds decreased 50.80%, or -125.56x the market
 - Market share decreased from 49.00% to 24.02%
 - A decrease of 50.99%

Peer Group Performance by Fund Relationships						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Funds	1.77%		100%	100%		
Market Growth Multi Custodians Disclosed	0.40%	0.23	37.91%	38.42%	-0.51%	-1.34%
Custodians Ranked 1-10	62.45%	154.37	60.86%	37.61%	23.24%	61.79%
Custodians Ranked 11-25	13.51%	33.40	15.13%	13.38%	1.75%	13.05%
All Other Custodians	-50.80%	-125.56	24.02%	49.00%	-24.99%	-50.99%
Market Growth Single Custodians Disclosed	3.88%	2.19	35.19%	34.47%	0.71%	2.07%
Market Growth Custodians Not Disclosed	1.02%	0.58	26.90%	27.10%	-0.20%	-0.74%

Multi-Fund Custodians League Table – Global AUC

Convergence - Nov 2023 League Tables - Multi Custodians Market Segment - Assets (in BN)										
Multi Custodians	Nov -23 FR-AUC	Nov -22 FR-AUC	22-23 Change	22-23 Change %	Market Share-23	Market Share-22	23-22 Change %	Nov -23 Rank	Nov -22 Rank	23-22 Change
JPMORGAN	\$8,030.33	\$6,367.90	\$1,662.43	26.1%	9.5%	7.6%	25.9%	1	3	2
BANK OF AMERICA	\$6,699.60	\$6,303.74	\$395.87	6.3%	7.9%	7.5%	6.1%	2	24	22
BANK OF NEW YORK	\$5,725.29	\$5,283.45	\$441.84	8.4%	6.8%	6.3%	8.2%	3	4	1
CITIBANK	\$4,624.36	\$4,335.64	\$288.72	6.7%	5.5%	5.1%	6.5%	4	5	1
MORGAN STANLEY	\$4,412.87	\$4,670.35	-\$257.48	-5.5%	5.2%	5.5%	-5.7%	5	6	1
GOLDMAN SACHS BANK USA	\$4,380.99	\$4,363.04	\$17.94	0.4%	5.2%	5.2%	0.3%	6	7	1
UNION BANK OF SWITZERLAND	\$4,178.14	\$3,081.89	\$1,096.25	35.6%	5.0%	3.7%	35.4%	7	12	5
BARCLAYS	\$3,799.68	\$3,508.68	\$291.00	8.3%	4.5%	4.2%	8.1%	8	9	1
STATE STREET IFS	\$3,064.42	\$3,158.68	-\$94.26	-3.0%	3.6%	3.8%	-3.1%	9	10	1
BNP PARIBAS	\$2,558.30	\$2,446.96	\$111.34	4.6%	3.0%	2.9%	4.4%	10	11	1
NORTHERN TRUST	\$2,475.19	\$2,505.57	-\$30.38	-1.2%	2.9%	3.0%	-1.4%	11	14	3
WELLS FARGO	\$2,257.60	\$2,384.70	-\$127.11	-5.3%	2.7%	2.8%	-5.5%	12	13	1
DEUTSCHE BANK	\$1,996.11	\$2,078.44	-\$82.33	-4.0%	2.4%	2.5%	-4.1%	13	17	4
FIRST CITIZENS BANK AND TRUST	\$1,825.99	\$0.11	\$1,825.88	1639818.0%	2.2%	0.0%	1637359.5%	14	15	1
HSBC FINANCIAL SERVICES	\$1,684.66	\$1,667.56	\$17.10	1.0%	2.0%	2.0%	0.9%	15	19	4
STANDARD CHARTERED BANK	\$1,464.15	\$1,343.91	\$120.24	8.9%	1.7%	1.6%	8.8%	16	16	0
SOCIETE GENERALE	\$1,360.52	\$1,347.53	\$13.00	1.0%	1.6%	1.6%	0.8%	17	18	1
BANK OF NOVA SCOTIA	\$1,035.91	\$887.86	\$148.05	16.7%	1.2%	1.1%	16.5%	18	21	3
FIDELITY	\$924.41	\$1,053.68	-\$129.27	-12.3%	1.1%	1.3%	-12.4%	19	20	1
US BANCORP	\$872.62	\$779.45	\$93.17	12.0%	1.0%	0.9%	11.8%	20	68	48
COMPUTERSHARE	\$853.80	\$719.59	\$134.21	18.7%	1.0%	0.9%	18.5%	21	23	2
NOMURA BANK LUXEMBOURG SA	\$833.70	\$724.78	\$108.92	15.0%	1.0%	0.9%	14.9%	22	31	9
ROYAL BANK OF CANADA	\$793.59	\$624.96	\$168.62	27.0%	0.9%	0.7%	26.8%	23	25	2
CANADIAN IMPERIAL BANK OF COMMERCE	\$604.01	\$435.01	\$169.01	38.9%	0.7%	0.5%	38.6%	24	26	2
SKANDINAVISKA SECURITIES	\$597.02	\$454.58	\$142.44	31.3%	0.7%	0.5%	31.1%	25	27	2
TOP 25 MULTI CUSTODIANS FR ASSETS	\$67,053.25	\$60,528.06	\$6,525.19	10.8%	79.5%	71.9%	10.6%			
ALL OTHER	\$17,278.49	\$23,677.25	-\$6,398.76	-27.0%	20.5%	28.1%	-27.1%			
TOTAL MULTI CUSTODIANS FR ASSETS	\$84,331.74	\$84,205.31	\$126.43	0.2%	57.6%	59.8%	-3.7%			
NOT REPORTED	\$4,731.10	\$4,641.95	\$89.14	1.9%	3.2%	3.3%	-2.0%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,585.10	\$1,969.76	\$615.34	31.2%	1.8%	1.4%	26.1%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,316.20	\$6,611.72	\$704.48	10.7%	5.0%	4.7%	6.4%			
TOTAL ASSETS WITH SINGLE CUSTODIANS FR	\$54,759.23	\$49,909.63	\$4,849.60	9.7%	37.4%	35.5%	5.5%			
TOTAL FUND ASSETS	\$146,407.16	\$140,726.66	\$5,680.50	4.0%	100.0%	100.0%	0.0%			

Custodians Peer Groups – Global Multi AUC Growth & Market Share

Best and Worst Performing Peer Groups

- Custodians ranked 11-25 registered the highest AUC growth
 - AUC increased 15.12%, or 100.70x the market
 - Market share increased from 20.20% to 23.22%
 - An increase of 14.95%
- Custodians ranked >25 registered the lowest AUC growth
 - AUC decreased 27.02%, or -180.00x the market
 - Market share decreased from 28.12% to 20.49%
 - A decrease of 27.13%

Peer Group Performance by Fund Assets						
Custodians Peer Group Analysis	Y-Y Growth	Growth vs-MKT	SOM 2023	SOM 2022	SOM Change	SOM Change %
Market Growth Assets	4.04%		100%	100%		
Market Growth Multi Custodians Disclosed	0.15%	0.04	57.60%	59.84%	-2.24%	-3.74%
Custodians Ranked 1-10	9.08%	60.51	56.29%	51.68%	4.61%	8.92%
Custodians Ranked 11-25	15.12%	100.70	23.22%	20.20%	3.02%	14.95%
All Other Custodians	-27.02%	-180.00	20.49%	28.12%	-7.63%	-27.13%
Market Growth Single Custodians Disclosed	9.72%	2.41	37.40%	35.47%	1.94%	5.46%
Market Growth Custodians Not Disclosed	10.65%	2.64	5.00%	4.70%	0.30%	6.36%

About Convergence

- Founded in 2013, Convergence provides independent insights 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 insights help clients grow revenue, improve efficiency and identify and manage risks.
- Our clients include Asset Managers, Institutional Investors and Service Providers.
- Our founders, 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.

Terms Used in Our Fund Custodians League Tables

- **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.

Terms Used in Our Fund Custodians League Tables

- **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.

Disclaimer

The contents of this report are for informational and educational purposes only. This report is made available for the public good and the insights and comments contained herein (the “information”) are based on data obtained on the relevant subject from regulatory filings and other third-party sources, unless otherwise specified. While Convergence takes steps to verify the accuracy and completeness of the information used, it makes no representation or warranty as to the accuracy of the underlying data we source.

This report does not constitute, nor should it be used to form, an opinion on the subject party’s control environment. In addition, recipients are not to construe this report as legal, financial or tax advice.

This report is not part of, nor should it be construed as, any offer for sale or subscription of, or any invitation to offer to buy or subscribe for, any securities, nor should it, nor any part of it, form the basis of, or be relied on in any connection with, any contract or commitment whatsoever. Convergence expressly disclaims any and all responsibility for any direct or consequential loss or damage of any kind whatsoever arising directly or indirectly from: (i) the use of this report, (ii) reliance on any information contained herein, (iii) any error, omission or inaccuracy in any information contained herein or (iv) any action resulting from the information contained herein.

This report, and the insights, terms, marks and methods described herein, represents the intellectual property of Convergence and its recipient may not use or re-use any of its contents for commercial purposes and may not reproduce it, nor send it to any affiliate or third-party, without the written permission of Convergence.

Convergence, in its sole discretion, reserves the right to update and/or modify this Report, and the data contained therein, at any time when we receive, discover or add new information about the subject Manager and SEC action without future obligations.

CONVERGENCE WARRANTS THAT THIS REPORT IS BASED ON CONVERGENCE’S REASONABLE EFFORTS TO COMPILE AND ANALYZE THE BEST SOURCES REASONABLY AVAILABLE TO CONVERGENCE AT ANY GIVEN TIME AND, THAT ANY OPINIONS REFLECT CONVERGENCE’S JUDGMENT AT THE TIME AND ARE SUBJECT TO CHANGE. THE FOREGOING WARRANTY IS IN LIEU OF ALL WARRANTIES, EXPRESS, OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND WARRANTIES AS TO ACCURACY, COMPLETENESS, OR ADEQUACY OF INFORMATION.

The Convergence Leadership Team



John Phinney, Chairman and CEO

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



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



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