Fund Custodians League Tables

Global Funds and AUC

Reporting Period Dec 2022 - Dec 2023



OPTIMAL PERFORMANCE

Table of Contents – Custodians

Slide Description

Page#

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:
 - 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 - Dec 2023 Lea	aone Tabl	es - Cust	odians M	larket Seam	ent - Fund	Relation	shins			
All	<u> </u>	Dec -22	22-23	22-23		Market	23-22	Dec -23	Dec -22	23-22
Custodians	#FR	#FR		Change %			Change %		Rank	Change
JPMORGAN	30,512	18,038	12,474	69.2%	13.1%	7.9%	65.5%	1	1	0
BANK OF NEW YORK	17,025	16,069	956	5.9%	7.3%	7.0%	3.7%	2	2	0
STATE STREET IFS	15,754	14,797	957	6.5%	6.7%	6.5%	4.2%	3	3	0
FIRST CITIZENS BANK AND TRUST	12,811	808	12,003	1485.5%	5.5%	0.4%	1451.4%	4	35	31
BANK OF AMERICA	11,647	10,649	998	9.4%	5.0%	4.7%	7.0%	5	6	1
CITIBANK	8,842	8,138	704	8.7%	3.8%	3.6%	6.3%	6	7	1
NORTHERN TRUST	6,733	6,407	326	5.1%	2.9%	2.8%	2.8%	7	8	1
MORGAN STANLEY	6,222	5,922	300	5.1%	2.7%	2.6%	2.8%	8	9	1
BNP PARIBAS	5,983	5,904	79	1.3%	2.6%	2.6%	-0.8%	9	10	1
UNION BANK OF SWITZERLAND	5,793	3,478	2,315	66.6%	2.5%	1.5%	63.0%	10	17	7
GOLDMAN SACHS BANK USA	5,784	5,610	174	3.1%	2.5%	2.5%	0.9%	11	11	0
US BANCORP	5,701	5,159	542	10.5%	2.4%	2.3%	8.1%	12	12	0
CACEIS	4,856	3,924	932	23.8%	2.1%	1.7%	21.1%	13	15	2
HSBC FINANCIAL SERVICES	4,511	3,866	645	16.7%	1.9%	1.7%	14.2%	14	16	2
WELLS FARGO	4,356	4,332	24	0.6%	1.9%	1.9%	-1.6%	15	14	-1
BROWN BROTHER HARRIMAN	2,784	2,748	36	1.3%	1.2%	1.2%	-0.9%	16	18	2
SOCIETE GENERALE	2,334	2,268	66	2.9%	1.0%	1.0%	0.7%	17	19	2
DEUTSCHE BANK	2,055	2,096	-41	-2.0%	0.9%	0.9%	-4.1%	18	21	3
FIDELITY	1,977	1,852	125	6.7%	0.8%	0.8%	4.5%	19	22	3
CITCO FUNDS SERVICES	1,851	1,473	378	25.7%	0.8%	0.6%	23.0%	20	24	4
INTERACTIVE BROKERS	1,604	1,541	63	4.1%	0.7%	0.7%	1.8%	21	23	2
BARCLAYS	1,601	1,404	197	14.0%	0.7%	0.6%	11.6%	22	25	3
CANADIAN IMPERIAL BANK OF COMMERCE	1,546	1,345	201	14.9%	0.7%	0.6%	12.5%	23	27	4
ROYAL BANK OF CANADA	1,408	2,228	-820	-36.8%	0.6%	1.0%	-38.2%	24	20	-4
ESHARES	1,375	1,400	-25	-1.8%	0.6%	0.6%	-3.9%	25	26	1
TOP 25 CUSTODIANS FR - ALL	165,065	131,456	33,609	25.6%	70.7%	57.5%	22.9%			
ALL OTHER	68,567	97,146	-28,579	-29.4%	29.3%	42.5%	-30.9%			
TOTAL CUSTODIANS FR DISCLOSED	233,632	228,602	5,030	2.2%	73.0%	72.7%	0.4%			
NOT REPORTED	36,108	33,754	2,354	7.0%	11.3%	10.7%	5.1%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,249	52,150	-1,901	-3.6%	15.7%	16.6%	-5.3%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	86,357	85,904	453	0.5%	27.0%	27.3%	-1.2%			
TOTAL FUNDS	319,989	314,506	5,483	1.7%	100.0%	100.0%	0.0%			

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

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 34.49%, or 15.67x the market
 - Market share increased from 39.46% to 51.93%
 - \blacktriangleright An increase of 31.59%
- Custodians ranked >25 registered the lowest growth in funds
 - \circ Funds decreased 29.42%, or -13.37x the market
 - Market share decreased from 42.50% to 29.35%
 - \blacktriangleright A decrease of 30.94%

Peer	Group 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	1.74%		100%	100%		
Market Growth Custodians Disclosed	2.20%	1.26	73.01%	72.69%	0.33%	0.45%
Custodians Ranked 1-10	34.49%	15.67	51.93%	39.46%	12.47%	31.59%
Custodians Ranked 11-25	6.05%	2.75	18.72%	18.04%	0.68%	3.77%
All Other Custodians	-29.42%	-13.37	29.35%	42.50%	-13.15%	-30.94%
Market Growth Custodians Not Disclosed	0.53%	0.30	26.99%	27.31%	-0.33%	-1.20%

Fund Custodians League Table – Global AUC

	2023 Loogua	Tables-Creet	odione Mer	Lot Sogmont	A coata-(n RN			Convergence - Dec 2023 League Tables - Custodians Market Segment - Assets (in BN)											
All	Dec -23	Tables - Cust Dec -22	22-23	22-23		n BN) Market	23-22	Dec -23	Dec -22	23-22										
Custodians	FR-AUC	FR-AUC	Change	Change %			Change %		Rank	Change										
JPMORGAN	\$20,409.28	\$17,449.51	\$2,959.77	17.0%	14.4%	12.8%	12.5%	1	1	0										
STATE STREET IFS	\$18,360.22		\$1,480.93	8.8%	13.0%	12.4%	4.7%	2	2	0										
BANK OF NEW YORK	\$14,666.88	\$13,513.81	\$1,153.07	8.5%	10.4%	9.9%	4.4%	3	3	0										
BANK OF AMERICA	\$7,573.14	\$7,098.94	\$474.21	6.7%	5.4%	5.2%	2.6%	4	4	0										
CITIBANK	\$6,221.97	\$5,741.66	\$480.31	8.4%	4.4%	4.2%	4.3%	5	5	0										
UNION BANK OF SWITZERLAND	\$4,633.88	\$3,505.30	\$1,128.58	32.2%	3.3%	2.6%	27.2%	6	11	5										
NORTHERN TRUST	\$4,601.29	\$4,605.31	-\$4.02	-0.1%	3.3%	3.4%	-3.9%	7	7	0										
MORGAN STANLEY	\$4,469.32	\$4,751.11	-\$281.79	-5.9%	3.2%	3.5%	-9.5%	8	6	-2										
GOLDMAN SACHS BANK USA	\$4,454.61	\$4,433.01	\$21.60	0.5%	3.1%	3.3%	-3.3%	9	8	-1										
BNP PARIBAS	\$4,124.36	\$3,875.80	\$248.57	6.4%	2.9%	2.8%	2.4%	10	9	-1										
BARCLAYS	\$3,842.54	\$3,531.70	\$310.84	8.8%	2.7%	2.6%	4.7%	11	10	-1										
HSBC FINANCIAL SERVICES	\$2,838.95	\$2,636.89	\$202.06	7.7%	2.0%	1.9%	3.6%	12	14	2										
WELLS FARGO	\$2,582.85	\$2,662.14	-\$79.29	-3.0%	1.8%	2.0%	-6.6%	13	13	0										
BROWN BROTHER HARRIMAN	\$2,408.48	\$2,275.28	\$133.20	5.9%	1.7%	1.7%	1.9%	14	15	1										
US BANCORP	\$2,334.92	\$2,121.50	\$213.42	10.1%	1.7%	1.6%	5.9%	15	18	3										
DEUTSCHE BANK	\$2,138.40	\$2,212.97	-\$74.57	-3.4%	1.5%	1.6%	-7.0%	16	17	1										
FIRST CITIZENS BANK AND TRUST	\$1,955.64	\$0.89	\$1,954.75	220314.7%	1.4%	0.0%	211986.5%	17	622	605										
SOCIETE GENERALE	\$1,739.77	\$1,703.86	\$35.91	2.1%	1.2%	1.3%	-1.8%	18	19	1										
STANDARD CHARTERED BANK	\$1,479.44	\$1,358.18	\$121.26	8.9%	1.0%	1.0%	4.8%	19	21	2										
CACEIS	\$1,283.03	\$1,051.18	\$231.84	22.1%	0.9%	0.8%	17.4%	20	23	3										
BANK OF NOVA SCOTIA	\$1,042.30	\$892.29	\$150.00	16.8%	0.7%	0.7%	12.4%	21	25	4										
ROYAL BANK OF CANADA	\$987.67	\$989.73	-\$2.05	-0.2%	0.7%	0.7%	-4.0%	22	24	2										
FIDELITY	\$948.88	\$1,092.82	-\$143.94	-13.2%	0.7%	0.8%	-16.5%	23	22	-1										
COMPUTERSHARE	\$916.09	\$761.62	\$154.47	20.3%	0.6%	0.6%	15.7%	24	26	2										
SKANDINAVISKA SECURITIES	\$881.64	\$715.19	\$166.45	23.3%	0.6%	0.5%	18.6%	25	28	3										
TOP 25 CUSTODIANS FR - ALL	\$116,895.54	\$105,859.97	\$11,035.57	10.4%	82.6%	77.7%	6.3%													
ALL OTHER	\$24,607.57	\$30,296.52	-\$5,688.95	-18.8%	17.4%	22.3%	-21.8%													
TOTAL CUSTODIANS FR AUC DISCLOSED	\$141,503.11	\$136,156.49	\$5,346.62	3.9%	95.1%	95.3%	-0.3%													
NOT REPORTED	\$4,739.51	\$4,652.37	\$87.14	1.9%	3.2%	3.3%	-2.3%													
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,590.60	\$2,000.02	\$590.58	29.5%	1.7%	1.4%	24.3%													
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,330.10	\$6,652.39	\$677.72	10.2%	4.9%	4.7%	5.7%													
TOTAL FUND ASSETS	\$148,833.21	\$142,808.87	\$6,024.34	4.2%	100.0%	100.0%	0.0%													

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

- Custodians ranked 11-25 registered the highest AUC growth
 - AUC increased 14.06%, or 3.58x the market
 - Market share increased from 17.63% to 19.35%
 - \blacktriangleright An increase of 9.75%
- Custodians ranked >25 registered the lowest AUC growth
 - AUC decreased 18.78%, or -4.78x the market
 - Market share decreased from 22.25% to 17.39%
 - \blacktriangleright A decrease of 21.85%

Peer C	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	4.22%		100%	100%		
Market Growth Custodians Disclosed	3.93%	0.93	95.07%	95.34%	-0.27%	-0.28%
Custodians Ranked 1-10	9.36%	2.38	63.26%	60.12%	3.14%	5.23%
Custodians Ranked 11-25	14.06%	3.58	19.35%	17.63%	1.72%	9.75%
All Other Custodians	-18.78%	-4.78	17.39%	22.25%	-4.86%	-21.85%
Market Growth Custodians Not Disclosed	10.19%	2.42	4.93%	4.66%	0.27%	5.73%

Single Fund Custodians League Table – Global Funds

Convergence - 2023 League Tables - Single Custodians Market Segment - Fund Relationships											
Single		Dec -22		22-23	Market	Market	23-22	Dec -23	Dec -22	23-22	
Custodians	#FR	#FR			Share-23			Rank	Rank	Change	
STATE STREET IFS	13,774	12,778	996	7.8%	12.3%	11.8%	3.7%	1	1	0	
BANK OF NEW YORK	10,766	10,251	515	5.0%	9.6%	9.5%	1.0%	2	2	0	
JPMORGAN	8,667	8,915	-248	-2.8%	7.7%	8.3%	-6.5%	3	3	0	
CITIBANK	4,985	4,622	363	7.9%	4.4%	4.3%	3.8%	4	4	0	
CACEIS	4,812	3,894	918	23.6%	4.3%	3.6%	18.9%	5	6	1	
BNP PARIBAS	4,601	4,498	103	2.3%	4.1%	4.2%	-1.6%	6	5	-1	
NORTHERN TRUST	3,897	3,687	210	5.7%	3.5%	3.4%	1.7%	7	7	0	
US BANCORP	3,506	3,296	210	6.4%	3.1%	3.1%	2.3%	8	8	0	
HSBC FINANCIAL SERVICES	3,331	2,785	546	19.6%	3.0%	2.6%	15.1%	9	10	1	
BANK OF AMERICA	2,913	2,845	68	2.4%	2.6%	2.6%	-1.5%	10	9	-1	
BROWN BROTHER HARRIMAN	2,561	2,518	43	1.7%	2.3%	2.3%	-2.2%	11	11	0	
SOCIETE GENERALE	1,583	1,585	-2	-0.1%	1.4%	1.5%	-3.9%	12	13	1	
WELLS FARGO	1,421	1,426	-5	-0.4%	1.3%	1.3%	-4.1%	13	14	1	
CITCO FUNDS SERVICES	1,044	732	312	42.6%	0.9%	0.7%	37.2%	14	21	7	
DZ BANK	1,027	1,023	4	0.4%	0.9%	0.9%	-3.4%	15	16	1	
UNION BANK OF SWITZERLAND	998	1,060	-62	-5.8%	0.9%	1.0%	-9.4%	16	15	-1	
SKANDINAVISKA SECURITIES	894	875	19	2.2%	0.8%	0.8%	-1.7%	17	17	0	
HAUCK & AUFHAEUSER	855	836	19	2.3%	0.8%	0.8%	-1.6%	18	18	0	
FIRST CITIZENS BANK AND TRUST	836	5	831	16620.0%	0.7%	0.0%	15984.0%	19	189	170	
ROYAL BANK OF CANADA	827	1,899	-1,072	-56.5%	0.7%	1.8%	-58.1%	20	12	-8	
INTERACTIVE BROKERS	818	819	-1	-0.1%	0.7%	0.8%	-3.9%	21	19	-2	
ROYAL BANK OF SCOTLAND	737	745	-8	-1.1%	0.7%	0.7%	-4.8%	22	20	-2	
DEUTSCHE BANK	709	700	9	1.3%	0.6%	0.6%	-2.6%	23	23	0	
CANADIAN IMPERIAL BANK OF COMMERCE	670	533	137	25.7%	0.6%	0.5%	20.9%	24	29	5	
GOLDMAN SACHS BANK USA	647	642	5	0.8%	0.6%	0.6%	-3.1%	25	25	0	
TOP 25 SINGLE CUSTODIANS FR	76,879	72,969	3,910	5.4%	68.5%	67.6%	1.4%				
ALL OTHER	35,384	35,024	360	1.0%	31.5%	32.4%	-2.8%				
TOTAL SINGLE CUSTODIANS FR DISCLOSED	112,263	107,993	4,270	4.0%	35.1%	34.3%	2.2%				
NOT REPORTED	36,108	33,754	2,354	7.0%	11.3%	10.7%	5.1%				
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,249	52,150	-1,901	-3.6%	15.7%	16.6%	-5.3%				
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	86,357	85,904	453	0.5%	27.0%	27.3%	-1.2%				
TOTAL FUNDS WITH MULTI-CUSTODIANS FR	121,369	120,609	760	0.6%	37.9%	38.3%	-1.1%				
TOTAL FUNDS	319,989	314,506	5,483	1.7%	100.0%	100.0%	0.0%				

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 6.39%, or 1.62x the market
 - Market share increased from 53.31% to 54.56%
 - ➤ An increase of 2.35%
- Custodians ranked >25 registered the lowest growth in funds
 - \circ Funds increased 1.03%, or 0.26x the market
 - \circ Market share decreased from 32.43% to 31.52%
 - \blacktriangleright A decrease of 2.81%

Peer	Group 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	1.74%		100%	100%		
Market Growth Single Custodians Disclosed	3.95%	2.27	35.08%	34.34%	0.75%	2.17%
Custodians Ranked 1-10	6.39%	1.62	54.56%	53.31%	1.25%	2.35%
Custodians Ranked 11-25	1.49%	0.38	13.92%	14.26%	-0.34%	-2.37%
All Other Custodians	1.03%	0.26	31.52%	32.43%	-0.91%	-2.81%
Market Growth Multi Custodians Disclosed	0.63%	0.36	37.93%	38.35%	-0.42%	-1.09%
Market Growth Custodians Not Disclosed	0.53%	0.30	26.99%	27.31%	-0.33%	-1.20%

Single Fund Custodians League Table – Global AUC

Convergence - Dec 202	3 League <u>Tab</u>	oles - Sing <u>le C</u>	Custodian <u>s N</u>	/Iarket Se <u>gm</u>	ent - Asse	ts (in B <u>N)</u>				
Single	Dec -23	Dec -22	22-23	22-23	Market	Market	23-22	Dec -23	Dec -22	23-22
Custodians	FR-AUC	FR-AUC	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
STATE STREET IFS	\$15,296.71	\$13,718.47	\$1,578.24	11.5%	26.8%	26.4%	1.5%	1	1	0
JPMORGAN	\$12,341.98	\$11,060.37	\$1,281.61	11.6%	21.6%	21.3%	1.6%	2	2	0
BANK OF NEW YORK	\$8,944.31	\$8,230.32	\$714.00	8.7%	15.7%	15.8%	-1.1%	3	3	0
BROWN BROTHER HARRIMAN	\$2,272.57	\$2,135.96	\$136.61	6.4%	4.0%	4.1%	-3.2%	4	4	0
NORTHERN TRUST	\$2,122.90	\$2,097.67	\$25.22	1.2%	3.7%	4.0%	-7.9%	5	5	0
CITIBANK	\$1,597.54	\$1,403.69	\$193.85	13.8%	2.8%	2.7%	3.6%	6	7	1
BNP PARIBAS	\$1,567.89	\$1,433.51	\$134.38	9.4%	2.7%	2.8%	-0.5%	7	6	-1
US BANCORP	\$1,468.54	\$1,336.31	\$132.23	9.9%	2.6%	2.6%	0.0%	8	8	0
CACEIS	\$1,265.57	\$1,009.45	\$256.12	25.4%	2.2%	1.9%	14.1%	9	9	0
HSBC FINANCIAL SERVICES	\$1,141.60	\$971.18	\$170.42	17.5%	2.0%	1.9%	7.0%	10	10	0
BANK OF AMERICA	\$785.40	\$777.00	\$8.40	1.1%	1.4%	1.5%	-8.0%	11	11	0
DZ BANK	\$523.49	\$480.81	\$42.68	8.9%	0.9%	0.9%	-0.9%	12	12	0
UNION BANK OF SWITZERLAND	\$441.32	\$426.40	\$14.91	3.5%	0.8%	0.8%	-5.8%	13	13	0
SOCIETE GENERALE	\$375.35	\$350.28	\$25.07	7.2%	0.7%	0.7%	-2.5%	14	15	1
WELLS FARGO	\$329.76	\$324.89	\$4.87	1.5%	0.6%	0.6%	-7.6%	15	16	1
SKANDINAVISKA SECURITIES	\$284.62	\$260.60	\$24.01	9.2%	0.5%	0.5%	-0.6%	16	17	1
PICTET CIE EUROPE	\$251.18	\$237.81	\$13.37	5.6%	0.4%	0.5%	-3.9%	17	19	2
CITCO FUNDS SERVICES	\$242.66	\$238.05	\$4.62	1.9%	0.4%	0.5%	-7.2%	18	18	0
DEKABANK	\$232.20	\$205.35	\$26.85	13.1%	0.4%	0.4%	2.9%	19	20	1
ZÜRCHER KANTONALBANK	\$204.15	\$161.71	\$42.44	26.2%	0.4%	0.3%	14.9%	20	21	1
ROYAL BANK OF CANADA	\$194.02	\$374.25	-\$180.23	-48.2%	0.3%	0.7%	-52.8%	21	14	-7
CECA	\$184.61	\$156.40	\$28.21	18.0%	0.3%	0.3%	7.4%	22	23	1
SWEDBANK	\$178.60	\$157.21	\$21.39	13.6%	0.3%	0.3%	3.4%	23	22	-1
ROYAL BANK OF SCOTLAND	\$150.48	\$146.83	\$3.65	2.5%	0.3%	0.3%	-6.7%	24	24	0
DEUTSCHE BANK	\$142.24	\$134.59	\$7.66	5.7%	0.2%	0.3%	-3.8%	25	25	0
TOP 25 SINGLE CUSTODIANS FR ASSETS	\$52,539.70	\$47,829.10	\$4,710.61	9.8%	92.0%	92.1%	0.0%			
ALL OTHER	\$4,545.73	\$4,125.76	\$419.97	10.2%	8.0%	7.9%	0.3%			
TOTAL SINGLE CUSTODIANS FR ASSETS DISCLOSED	\$57,085.43	\$51,954.85	\$5,130.58	9.9%	38.4%	36.4%	5.4%			
NOT REPORTED	\$4,739.51	\$4,652.37	\$87.14	1.9%	3.2%	3.3%	-2.3%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,590.60	\$2,000.02	\$590.58	29.5%	1.7%	1.4%	24.3%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,330.10	\$6,652.39	\$677.72	10.2%	4.9%	4.7%	5.7%			
TOTAL ASSETS WITH MULTI-CUSTODIANS FR	\$84,417.66	\$84,201.63	\$216.03	0.3%	56.7%	59.0%	-3.8%			
TOTAL FUND ASSETS	\$148,833.20	\$142,808.87	\$6,024.33	4.2%	100.0%	100.0%	0.0%			

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

- Custodians ranked 1-10 registered the highest AUC growth
 - AUC increased 10.65%, or 1.08x the market
 - Market share increased from 83.53% to 84.12%
 - \blacktriangleright An increase of 0.71%
- Custodians ranked 11-25 registered the lowest AUC growth
 - AUC increased 1.98%, or 0.20x the market
 - \circ Market share decreased from 8.53% to 7.92%
 - \blacktriangleright A decrease of 7.18%

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	4.22%		100%	100%		
Market Growth Single Custodians Disclosed	9.88%	2.34	38.36%	36.38%	1.97%	5.43%
Custodians Ranked 1-10	10.65%	1.08	84.12%	83.53%	0.59%	0.71%
Custodians Ranked 11-25	1.98%	0.20	7.92%	8.53%	-0.61%	-7.18%
All Other Custodians	10.18%	1.03	7.96%	7.94%	0.02%	0.28%
Market Growth Multi Custodians Disclosed	0.26%	0.06	56.72%	58.96%	-2.24%	-3.80%
Market Growth Custodians Not Disclosed	10.19%	2.42	4.93%	4.66%	0.27%	5.73%

Multi-Fund Custodians League Table – Global Funds

Convergence - 2023 League Tables - Multi Custodians Market Segment - Fund Relationships										
Multi		Dec -22		22-23	Market	Market	23-22	Dec -23	Dec -22	23-22
Custodians	#FR	#FR	Change	Change %	Share-23	Share-22		Rank	Rank	Change
JPMORGAN	21,845	9,123	12,722	139.4%	18.0%	7.6%	138.0%	1	3	2
FIRST CITIZENS BANK AND TRUST	11,975	803	11,172	1391.3%	9.9%	0.7%	1381.9%	2	24	22
BANK OF AMERICA	8,734	7,804	930	11.9%	7.2%	6.5%	11.2%	3	4	1
BANK OF NEW YORK	6,259	5,818	441	7.6%	5.2%	4.8%	6.9%	4	5	1
MORGAN STANLEY	5,576	5,314	262	4.9%	4.6%	4.4%	4.3%	5	6	1
GOLDMAN SACHS BANK USA	5,137	4,968	169	3.4%	4.2%	4.1%	2.8%	6	7	1
UNION BANK OF SWITZERLAND	4,795	2,418	2,377	98.3%	4.0%	2.0%	97.1%	7	12	5
CITIBANK	3,857	3,516	341	9.7%	3.2%	2.9%	9.0%	8	9	1
WELLS FARGO	2,935	2,906	29	1.0%	2.4%	2.4%	0.4%	9	10	1
NORTHERN TRUST	2,836	2,720	116	4.3%	2.3%	2.3%	3.6%	10	11	1
US BANCORP	2,195	1,863	332	17.8%	1.8%	1.5%	17.1%	11	14	3
STATE STREET IFS	1,980	2,019	-39	-1.9%	1.6%	1.7%	-2.5%	12	13	1
BARCLAYS	1,413	1,272	141	11.1%	1.2%	1.1%	10.4%	13	17	4
BNP PARIBAS	1,382	1,406	-24	-1.7%	1.1%	1.2%	-2.3%	14	15	1
DEUTSCHE BANK	1,346	1,396	-50	-3.6%	1.1%	1.2%	-4.2%	15	16	1
FIDELITY	1,343	1,189	154	13.0%	1.1%	1.0%	12.2%	16	19	3
RAYMOND JAMES ASSOCIATES	1,273	1,207	66	5.5%	1.0%	1.0%	4.8%	17	18	1
HSBC FINANCIAL SERVICES	1,180	1,081	99	9.2%	1.0%	0.9%	8.5%	18	21	3
ESHARES	1,153	1,088	65	6.0%	0.9%	0.9%	5.3%	19	20	1
NEW YORK COMMUNITY BANK	1,065	183	882	482.0%	0.9%	0.2%	478.3%	20	63	43
CANADIAN IMPERIAL BANK OF COMMERCE	876	812	64	7.9%	0.7%	0.7%	7.2%	21	23	2
COMPUTERSHARE	816	501	315	62.9%	0.7%	0.4%	61.9%	22	31	9
CITCO FUNDS SERVICES	807	741	66	8.9%	0.7%	0.6%	8.2%	23	25	2
INTERACTIVE BROKERS	786	722	64	8.9%	0.6%	0.6%	8.2%	24	26	2
SOCIETE GENERALE	751	683	68	10.0%	0.6%	0.6%	9.3%	25	27	2
TOP 25 MULTI CUSTODIANS FR	92,315	61,553	30,762	50.0%	76.1%	51.0%	49.0%			
ALL OTHER	29,054	59,056	-30,002	-50.8%	23.9%	49.0%	-51.1%			
TOTAL MULTI CUSTODIANS FR	121,369	120,609	760	0.6%	37.9%	38.3%	-1.1%			
NOT REPORTED	36,108	33,754	2,354	7.0%	11.3%	10.7%	5.1%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	50,249	52,150	-1,901	-3.6%	15.7%	16.6%	-5.3%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	86,357	85,904	453	0.5%	27.0%	27.3%	-1.2%			
TOTAL FUNDS WITH SINGLE CUSTODIANS FR	112,263	107,993	4,270	4.0%	35.1%	34.3%	2.2%			
TOTAL FUNDS	319,989	314,506	5,483	1.7%	100.0%	100.0%	0.0%			

- Custodians ranked 1-10 registered the highest growth in funds
 - Funds increased 62.92%, or 99.85x the market
 - Market share increased from 37.63% to 60.93%
 - \blacktriangleright An increase of 61.90%
- Custodians ranked >25 registered the smallest growth in funds
 - Funds decreased 50.80%, or -80.62x the market
 - Market share decreased from 48.96% to 23.94%
 - \blacktriangleright A decrease of 51.11%

Peer (Group 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	1.74%		100%	100%		
Market Growth Multi Custodians Disclosed	0.63%	0.36	37.93%	38.35%	-0.42%	-1.09%
Custodians Ranked 1-10	62.92%	99.85	60.93%	37.63%	23.30%	61.90%
Custodians Ranked 11-25	13.63%	21.63	15.13%	13.40%	1.73%	12.92%
All Other Custodians	-50.80%	-80.62	23.94%	48.96%	-25.03%	-51.11%
Market Growth Single Custodians Disclosed	3.95%	2.27	35.08%	34.34%	0.75%	2.17%
Market Growth Custodians Not Disclosed	0.53%	0.30	26.99%	27.31%	-0.33%	-1.20%

Multi-Fund Custodians League Table – Global AUC

Convergence - Dec 202	3 League Tab	oles - Multi C	ustodians N	/Jarket Segm	ent - Asse	ts (in BN)				
Multi	Dec -23	Dec -22	22-23	22-23	Market	Market	23-22	Dec -23	Dec -22	23-22
Custodians	FR-AUC	FR-AUC	Change	Change %			Change %	Rank	Rank	Change
JPMORGAN	\$8,067.30	\$6,389.14	\$1,678.16	26.3%	9.6%	7.6%	25.9%	1	3	2
BANK OF AMERICA	\$6,787.74	\$6,321.94	\$465.80	7.4%	8.0%	7.5%	7.1%	2	24	22
BANK OF NEW YORK	\$5,722.56	\$5,283.50	\$439.07	8.3%	6.8%	6.3%	8.0%	3	4	1
CITIBANK	\$4,624.44	\$4,337.98	\$286.46	6.6%	5.5%	5.2%	6.3%	4	5	1
MORGAN STANLEY	\$4,408.65	\$4,668.79	-\$260.14	-5.6%	5.2%	5.5%	-5.8%	5	6	1
GOLDMAN SACHS BANK USA	\$4,381.53	\$4,366.67	\$14.86	0.3%	5.2%	5.2%	0.1%	6	7	1
UNION BANK OF SWITZERLAND	\$4,192.57	\$3,078.90	\$1,113.66	36.2%	5.0%	3.7%	35.8%	7	12	5
BARCLAYS	\$3,799.76	\$3,508.88	\$290.89	8.3%	4.5%	4.2%	8.0%	8	9	1
STATE STREET IFS	\$3,063.50	\$3,160.82	-\$97.32	-3.1%	3.6%	3.8%	-3.3%	9	10	1
BNP PARIBAS	\$2,556.47	\$2,442.28	\$114.19	4.7%	3.0%	2.9%	4.4%	10	11	1
NORTHERN TRUST	\$2,478.39	\$2,507.64	-\$29.25	-1.2%	2.9%	3.0%	-1.4%	11	14	3
WELLS FARGO	\$2,253.09	\$2,337.25	-\$84.16	-3.6%	2.7%	2.8%	-3.8%	12	13	1
DEUTSCHE BANK	\$1,996.15	\$2,078.39	-\$82.23	-4.0%	2.4%	2.5%	-4.2%	13	17	4
FIRST CITIZENS BANK AND TRUST	\$1,837.07	\$0.88	\$1,836.19	208739.5%	2.2%	0.0%	208205.1%	14	15	1
HSBC FINANCIAL SERVICES	\$1,697.35	\$1,665.71	\$31.64	1.9%	2.0%	2.0%	1.6%	15	16	1
STANDARD CHARTERED BANK	\$1,464.06	\$1,343.93	\$120.13	8.9%	1.7%	1.6%	8.7%	16	19	3
SOCIETE GENERALE	\$1,364.41	\$1,353.58	\$10.83	0.8%	1.6%	1.6%	0.5%	17	18	1
BANK OF NOVA SCOTIA	\$1,035.97	\$887.87	\$148.10	16.7%	1.2%	1.1%	16.4%	18	21	3
FIDELITY	\$924.53	\$1,050.86	-\$126.33	-12.0%	1.1%	1.2%	-12.2%	19	20	1
US BANCORP	\$866.38	\$785.19	\$81.19	10.3%	1.0%	0.9%	10.1%	20	63	43
COMPUTERSHARE	\$853.31	\$719.72	\$133.59	18.6%	1.0%	0.9%	18.3%	21	23	2
NOMURA BANK LUXEMBOURG SA	\$833.70	\$724.72	\$108.98	15.0%	1.0%	0.9%	14.7%	22	31	9
ROYAL BANK OF CANADA	\$793.65	\$615.47	\$178.17	28.9%	0.9%	0.7%	28.6%	23	25	2
CANADIAN IMPERIAL BANK OF COMMERCE	\$604.33	\$436.51	\$167.83	38.4%	0.7%	0.5%	38.1%	24	26	2
SKANDINAVISKA SECURITIES	\$597.02	\$454.59	\$142.43	31.3%	0.7%	0.5%	31.0%	25	27	2
TOP 25 MULTI CUSTODIANS FR ASSETS	\$67,203.94	\$60,521.19	\$6,682.75	11.0%	79.6%	71.9%	10.8%			
ALL OTHER	\$17,213.72	\$23,680.45	-\$6,466.72	-27.3%	20.4%	28.1%	-27.5%			
TOTAL MULTI CUSTODIANS FR ASSETS	\$84,417.66	\$84,201.63	\$216.03	0.3%	56.7%	59.0%	-3.8%			
NOT REPORTED	\$4,739.51	\$4,652.37	\$87.14	1.9%	3.2%	3.3%	-2.3%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$2,590.60	\$2,000.02	\$590.58	29.5%	1.7%	1.4%	24.3%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$7,330.10	\$6,652.39	\$677.72	10.2%	4.9%	4.7 %	5.7%			
TOTAL ASSETS WITH SINGLE CUSTODIANS FR	\$57,085.43	\$51,954.85	\$5,130.58	9.9%	38.4%	36.4%	5.4%			
TOTAL FUND ASSETS	\$148,833.20	\$142,808.87	\$6,024.33	4.2%	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 15.55%, or 60.60x the market
 - Market share increased from 20.14% to 23.22%
 - \blacktriangleright An increase of 15.25%
- Custodians ranked >25 registered the lowest AUC growth
 - AUC decreased 27.31%, or -106.44x the market
 - Market share decreased from 28.12% to 20.39%
 - \blacktriangleright A decrease of 27.49%

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	4.22%		100%	100%		
Market Growth Multi Custodians Disclosed	0.26%	0.06	56.72%	58.96%	-2.24%	-3.80%
Custodians Ranked 1-10	9.29%	36.20	56.39%	51.73%	4.66%	9.01%
Custodians Ranked 11-25	15.55%	60.60	23.22%	20.14%	3.07%	15.25%
All Other Custodians	-27.31%	-106.44	20.39%	28.12%	-7.73%	-27.49%
Market Growth Single Custodians Disclosed	9.88%	2.34	38.36%	36.38%	1.97%	5.43%
Market Growth Custodians Not Disclosed	10.19%	2.42	4.93%	4.66%	0.27%	5.73%

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.

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



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



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



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