Fund Custodians
League Tables

Global Funds and AUC

Reporting Period May 2022 - May 2023



Table of Contents – Custodians

Slide Description	Page#
About this Report Top 25 Fund Custodians League Tables – Global Funds	3
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
 - o State registered private and public funds and advisers
 - o Unregistered private funds and advisers
 - o 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
 - o Funds that use a "single" custodians
 - o Funds that use "multiple" custodians
- Additional Fund custodians League Tables for custodians Funds and AUC are available to Convergence Clients in the following cuts:
 - o Private Funds, and within private funds, in the following sub-cuts
 - Hedge, Private Equity, Real Estate, Venture Capital, Securitized Assets, Hybrid and Liquidity Funds
 - o Public Funds and within public funds, in the following sub-cuts
 - By fund strategy (30+)

Custodians League Table - Global Funds

Convergence - May 2023 L	eague Tal	oles - Cust	todians N	Iarket Segn	nent - Fun	d Relation	ships			
All	May -23	May -22	22-23	22-23	Market	Market	23-22	May -23	May -22	23-22
Custodians	#FR	#FR	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
JPMORGAN	31,745	17,513	14,232	81.3%	14.0%	8.1%	72.7%	1	1	0
BANK OF NEW YORK	16,405	15,431	974	6.3%	7.2%	7.1%	1.3%	2	2	0
STATE STREET IFS	14,595	13,956	639	4.6%	6.4%	6.5%	-0.3%	3	3	0
FIRST CITIZENS BANK AND TRUST	12,291	759	11,532	1519.4%	5.4%	0.4%	1443.1%	4	34	30
BANK OF AMERICA	11,360	10,285	1,075	10.5%	5.0%	4.8%	5.3%	5	6	1
CITIBANK	8,699	7,856	843	10.7%	3.8%	3.6%	5.5%	6	7	1
NORTHERN TRUST	6,535	6,136	399	6.5%	2.9%	2.8%	1.5%	7	8	1
MORGAN STANLEY	6,180	5,799	381	6.6%	2.7%	2.7%	1.6%	8	9	1
GOLDMAN SACHS BANK USA	5,731	5,456	275	5.0%	2.5%	2.5%	0.1%	9	10	1
US BANCORP	5,622	5,123	499	9.7%	2.5%	2.4%	4.6%	10	12	2
BNP PARIBAS	5,602	5,360	242	4.5%	2.5%	2.5%	-0.4%	11	11	0
WELLS FARGO	4,265	4,230	35	0.8%	1.9%	2.0%	-3.9%	12	13	1
CACEIS	3,846	3,591	255	7.1%	1.7%	1.7%	2.1%	13	14	1
HSBC FINANCIAL SERVICES	3,830	3,577	253	7.1%	1.7%	1.7%	2.0%	14	15	1
UNION BANK OF SWITZERLAND	2,999	3,011	-12	-0.4%	1.3%	1.4%	-5.1%	15	17	2
CREDIT SUISSE	2,585	3,153	-568	-18.0%	1.1%	1.5%	-21.9%	16	16	0
BROWN BROTHER HARRIMAN	2,505	2,479	26	1.0%	1.1%	1.1%	-3.7%	17	18	1
ROYAL BANK OF CANADA	2,408	2,207	201	9.1%	1.1%	1.0%	4.0%	18	19	1
SOCIETE GENERALE	2,295	2,144	151	7.0%	1.0%	1.0%	2.0%	19	20	1
DEUTSCHE BANK	1,968	1,978	-10	-0.5%	0.9%	0.9%	-5.2%	20	21	1
FIDELITY	1,929	1,805	124	6.9%	0.9%	0.8%	1.8%	21	22	1
CITCO FUNDS SERVICES	1,663	1,558	105	6.7%	0.7%	0.7%	1.7%	22	23	1
INTERACTIVE BROKERS	1,585	1,464	121	8.3%	0.7%	0.7%	3.2%	23	24	1
BARCLAYS	1,521	1,347	174	12.9%	0.7%	0.6%	7.6%	24	25	1
CANADIAN IMPERIAL BANK OF COMMERCE	1,471	1,306	165	12.6%	0.6%	0.6%	7.3%	25	26	1
TOP 25 CUSTODIANS FR - ALL	159,635	127,524	32,111	25.2%	70.4%	59.0%	19.3%			
ALL OTHER	67,127	88,559	-21,432	-24.2%	29.6%	41.0%	-27.8%			
TOTAL CUSTODIANS FR DISCLOSED	226,762	216,083	10,679	4.9%	71.6%	74.2%	-3.6%			
NOT REPORTED	33,988	31,689	2,299	7.3%	10.7%	10.9%	-1.5%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	56,047	43,297	12,750	29.4%	17.7%	14.9%	18.9%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	90,035	74,986	15,049	20.1%	28.4%	25.8%	10.3%			
TOTAL FUNDS	316,797	291,069	25,728	8.8%	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
 - o Funds increased 34.93%, or 7.07x the market
 - Market share increased from 40.87% to 52.55%
 - ➤ An increase of 28.58%
- Custodians ranked >25 registered the lowest growth in funds
 - o Funds decreased 24.20%, or -4.90x the market
 - Market share decreased from 40.98% to 29.60%
 - ➤ A decrease of 27.77%

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	8.84%		100%	100%		
Market Growth Custodians Disclosed	4.94%	0.56	71.58%	74.24%	-2.66%	-3.58%
Custodians Ranked 1-10	34.93%	7.07	52.55%	40.87%	11.68%	28.58%
Custodians Ranked 11-25	3.22%	0.65	17.85%	18.15%	-0.30%	-1.64%
All Other Custodians	-24.20%	-4.90	29.60%	40.98%	-11.38%	-27.77%
Market Growth Custodians Not Disclosed	20.07%	2.27	28.42%	25.76%	2.66%	10.32%

Fund Custodians League Table – Global AUC

Convergence - Ma										
All	May -23	May -22	22-23	22-23		Market	23-22	May -23	May -22	
Custodians	FR-AUC	FR-AUC	Change	Change %		Share-22	Change %	Rank	Rank	Change
JPMORGAN	\$19,682.70	\$17,388.64		13.2%	14.2%	12.9%	9.9%	1	1	0
STATE STREET IFS	\$16,806.93	\$16,879.82	-\$72.89	-0.4%	12.1%	12.5%	-3.3%	2	2	0
BANK OF NEW YORK	\$14,284.76	\$13,462.90	\$821.86	6.1%	10.3%	10.0%	3.0%	3	3	0
BANK OF AMERICA	\$7,245.28	\$6,800.79	\$444.48	6.5%	5.2%	5.0%	3.4%	4	4	0
CITIBANK	\$6,131.16	\$5,496.02	\$635.14	11.6%	4.4%	4.1%	8.3%	5	5	0
NORTHERN TRUST	\$4,548.90	\$4,677.51	-\$128.61	-2.7%	3.3%	3.5%	-5.6%	6	6	0
MORGAN STANLEY	\$4,489.94	\$4,671.09	-\$181.15	-3.9%	3.2%	3.5%	-6.7%	7	7	0
GOLDMAN SACHS BANK USA	\$4,463.80	\$4,383.86	\$79.95	1.8%	3.2%	3.3%	-1.1%	8	8	0
BNP PARIBAS	\$4,100.33	\$3,750.31	\$350.02	9.3%	3.0%	2.8%	6.2%	9	9	0
BARCLAYS	\$3,711.70	\$3,438.96	\$272.74	7.9%	2.7%	2.6%	4.8%	10	11	1
UNION BANK OF SWITZERLAND	\$3,592.85	\$3,523.48	\$69.38	2.0%	2.6%	2.6%	-1.0%	11	10	-1
WELLS FARGO	\$2,570.07	\$2,638.11	-\$68.05	-2.6%	1.9%	2.0%	-5.4%	12	13	1
HSBC FINANCIAL SERVICES	\$2,564.61	\$2,529.24	\$35.37	1.4%	1.8%	1.9%	-1.5%	13	14	1
CREDIT SUISSE	\$2,524.76	\$3,268.27	-\$743.51	-22.7%	1.8%	2.4%	-25.0%	14	12	-2
US BANCORP	\$2,420.90	\$2,271.89	\$149.00	6.6%	1.7%	1.7%	3.5%	15	16	1
BROWN BROTHER HARRIMAN	\$2,203.56	\$2,449.01	-\$245.45	-10.0%	1.6%	1.8%	-12.6%	16	15	-1
FIRST CITIZENS BANK AND TRUST	\$2,096.46	\$0.12	\$2,096.34	1787244.6%	1.5%	0.0%	1735332.3%	17	1044	1,027
DEUTSCHE BANK	\$2,092.38	\$2,110.42	-\$18.04	-0.9%	1.5%	1.6%	-3.7%	18	18	0
SOCIETE GENERALE	\$1,728.43	\$1,642.31	\$86.12	5.2%	1.2%	1.2%	2.2%	19	20	1
STANDARD CHARTERED BANK	\$1,473.45	\$1,352.51	\$120.94	8.9%	1.1%	1.0%	5.8%	20	21	1
CACEIS	\$1,138.07	\$1,104.72	\$33.35	3.0%	0.8%	0.8%	0.0%	21	22	1
ROYAL BANK OF CANADA	\$1,120.37	\$1,012.38	\$107.99	10.7%	0.8%	0.8%	7.5%	22	24	2
BANK OF NOVA SCOTIA	\$1,030.57	\$882.97	\$147.60	16.7%	0.7%	0.7%	13.3%	23	25	2
FIDELITY	\$952.79	\$1,090.29	-\$137.51	-12.6%	0.7%	0.8%	-15.2%	24	23	-1
COMPUTERSHARE	\$912.45	\$743.45	\$169.00	22.7%	0.7%	0.6%	19.2%	25	27	2
TOP 25 CUSTODIANS FR - ALL	\$113,887.22	\$107,569.06	\$6,318.16	5.9%	82.0%	79.8%	2.8%			
ALL OTHER	\$24,990.40	\$27,274.95	-\$2,284.55	-8.4%	18.0%	20.2%	-11.0%			
TOTAL CUSTODIANS FR AUC DISCLOSED	\$138,877.62	\$134,844.01	\$4,033.61	3.0%	94.0%	94.3%	-0.3%			
NOT REPORTED	\$4,783.48	\$4,589.40	\$194.08	4.2%	3.2%	3.2%	0.9%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$4,112.47	\$3,612.98	\$499.49	13.8%	2.8%	2.5%	10.2%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$8,895.95	\$8,202.38	\$693.57	8.5%	6.0%	5.7%	5.0%			
TOTAL FUND ASSETS	\$147,773.57	\$143,046.39	\$4,727.18	3.3%	100.0%	100.0%	0.0%			

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

- Custodians ranked 11-25 registered the highest AUC growth
 - o AUC increased 6.77%, or 2.26x the market
 - o Market share increased from 19.74% to 20.47%
 - ➤ An increase of 3.67%
- Custodians ranked >25 registered the lowest AUC growth
 - o AUC decreased 8.38%, or -2.80x the market
 - O Market share decreased from 20.23% to 17.99%
 - A decrease of 11.04%

Peer G	roup 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	3.30%		100%	100%		
Market Growth Custodians Disclosed	2.99%	0.91	93.98%	94.27%	-0.29%	-0.30%
Custodians Ranked 1-10	5.58%	1.87	61.54%	60.03%	1.51%	2.51%
Custodians Ranked 11-25	6.77%	2.26	20.47%	19.74%	0.72%	3.67%
All Other Custodians	-8.38%	-2.80	17.99%	20.23%	-2.23%	-11.04%
Market Growth Custodians Not Disclosed	8.46%	2.56	6.02%	5.73%	0.29%	4.99%

Single Fund Custodians League Table – Global Funds

Convergence - 2023 League	Convergence - 2023 League Tables - Single Custodians Market Segment - Fund Relationships											
Single		May -22		22-23	Market	Market	23-22	May -23	May -22	23-22		
Custodians	#FR	#FR		Change %	Share-23	Share-22			Rank	Change		
STATE STREET IFS	12,636	12,145	491	4.0%	11.4%	11.6%	-1.2%	1	1	0		
BANK OF NEW YORK	10,642	10,167	475	4.7%	9.6%	9.7%	-0.6%	2	2	0		
JPMORGAN	9,388	8,796	592	6.7%	8.5%	8.4%	1.3%	3	3	0		
CITIBANK	4,986	4,502	484	10.8%	4.5%	4.3%	5.1%	4	4	0		
BNP PARIBAS	4,251	4,019	232	5.8%	3.8%	3.8%	0.4%	5	5	0		
CACEIS	3,823	3,566	257	7.2%	3.5%	3.4%	1.8%	6	6	0		
NORTHERN TRUST	3,741	3,542	199	5.6%	3.4%	3.4%	0.3%	7	7	0		
US BANCORP	3,481	3,254	227	7.0%	3.1%	3.1%	1.6%	8	8	0		
BANK OF AMERICA	2,838	2,889	-51	-1.8%	2.6%	2.8%	-6.7%	9	9	0		
HSBC FINANCIAL SERVICES	2,685	2,532	153	6.0%	2.4%	2.4%	0.7%	10	10	0		
BROWN BROTHER HARRIMAN	2,281	2,276	5	0.2%	2.1%	2.2%	-4.9%	11	11	0		
ROYAL BANK OF CANADA	1,829	1,889	-60	-3.2%	1.7%	1.8%	-8.1%	12	12	0		
CREDIT SUISSE	1,657	1,659	-2	-0.1%	1.5%	1.6%	-5.2%	13	13	0		
SOCIETE GENERALE	1,583	1,501	82	5.5%	1.4%	1.4%	0.1%	14	14	0		
WELLS FARGO	1,390	1,404	-14	-1.0%	1.3%	1.3%	-6.0%	15	15	0		
UNION BANK OF SWITZERLAND	1,088	1,042	46	4.4%	1.0%	1.0%	-0.9%	16	16	0		
DZ BANK	1,025	1,032	-7	-0.7%	0.9%	1.0%	-5.7%	17	17	0		
CITCO FUNDS SERVICES	896	832	64	7.7%	0.8%	0.8%	2.2%	18	19	1		
SKANDINAVISKA SECURITIES	864	841	23	2.7%	0.8%	0.8%	-2.5%	19	18	-1		
INTERACTIVE BROKERS	813	769	44	5.7%	0.7%	0.7%	0.4%	20	20	0		
FIRST CITIZENS BANK AND TRUST	767	4	763	19075.0%	0.7%	0.0%	18103.7%	21	170	149		
ROYAL BANK OF SCOTLAND	735	760	-25	-3.3%	0.7%	0.7%	-8.2%	22	21	-1		
HAUCK & AUFHAEUSER	699	651	48	7.4%	0.6%	0.6%	1.9%	23	24	1		
CECA	699	595	104	17.5%	0.6%	0.6%	11.5%	23	28	5		
DEUTSCHE BANK	664	624	40	6.4%	0.6%	0.6%	1.0%	24	25	1		
TOP 25 SINGLE CUSTODIANS FR	75,461	71,291	4,170	5.8%	68.3%	68.0%	0.5%					
ALL OTHER	35,051	33,623	1,428	4.2%	31.7%	32.0%	-1.0%					
TOTAL SINGLE CUSTODIANS FR DISCLOSED	110,512	104,914	5,598	5.3%	34.9%	36.0%	-3.2%					
NOT REPORTED	33,988	31,689	2,299	7.3%	10.7%	10.9%	-1.5%					
ELIGIBLE FUNDS - NOT ATTRIBUTED	56,047	43,297	12,750	29.4%	17.7%	14.9%	18.9%					
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	90,035	74,986	15,049	20.1%	28.4%	25.8%	10.3%					
TOTAL FUNDS WITH MULTI-CUSTODIANS FR	116,250	111,169	5,081	4.6%	36.7%	38.2%	-3.9%					
TOTAL FUNDS	316,797	291,069	25,728	8.8%	100.0%	100.0%	0.0%					

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

- Custodians ranked 11-25 registered the highest growth in funds
 - o Funds increased 7.00%, or 1.31x the market
 - o Market share increased from 15.14% to 15.37%
 - ➤ An increase of 1.58%
- Custodians ranked >25 registered the lowest growth in funds
 - o Funds increased 4.25%, or 0.80x the market
 - o Market share decreased from 32.05% to 31.72%
 - ➤ A decrease of 1.03%

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	8.84%		100%	100%		
Market Growth Single Custodians Disclosed	5.34%	0.60	34.88%	36.04%	-1.16%	-3.22%
Custodians Ranked 1-10	5.52%	1.03	52.91%	52.82%	0.09%	0.18%
Custodians Ranked 11-25	7.00%	1.31	15.37%	15.14%	0.24%	1.58%
All Other Custodians	4.25%	0.80	31.72%	32.05%	-0.33%	-1.03%
Market Growth Multi Custodians Disclosed	4.57%	0.52	36.70%	38.19%	-1.50%	-3.92%
Market Growth Custodians Not Disclosed	20.07%	2.27	28.42%	25.76%	2.66%	10.32%

Single Fund Custodians League Table – Global AUC

Convergence - May 2	023 League T	ables - Single	Custodian	s Market Seg	ment - Ass	ets (in BN	Convergence - May 2023 League Tables - Single Custodians Market Segment - Assets (in BN)											
Single	May -23	May -22	22-23	22-23	Market	Market	23-22	May -23	May -22	23-22								
Custodians	FR-AUC	FR-AUC	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change								
STATE STREET IFS	\$13,746.82	\$13,873.42	-\$126.60	-0.9%	25.5%	25.9%	-1.4%	1	1	0								
JPMORGAN	\$11,501.36	\$11,570.29	-\$68.93	-0.6%	21.3%	21.6%	-1.1%	2	2	0								
BANK OF NEW YORK	\$8,653.59	\$8,267.46	\$386.13	4.7%	16.1%	15.4%	4.2%	3	3	0								
BROWN BROTHER HARRIMAN	\$2,069.62	\$2,311.77	-\$242.15	-10.5%	3.8%	4.3%	-10.9%	4	4	0								
NORTHERN TRUST	\$2,067.91	\$2,146.27	-\$78.36	-3.7%	3.8%	4.0%	-4.1%	5	5	0								
CITIBANK	\$1,532.70	\$1,283.67	\$249.03	19.4%	2.8%	2.4%	18.8%	6	8	2								
BNP PARIBAS	\$1,527.14	\$1,427.11	\$100.03	7.0%	2.8%	2.7%	6.5%	7	6	-1								
US BANCORP	\$1,434.91	\$1,398.94	\$35.97	2.6%	2.7%	2.6%	2.1%	8	7	-1								
CACEIS	\$1,096.49	\$1,098.79	-\$2.30	-0.2%	2.0%	2.0%	-0.7%	9	9	0								
HSBC FINANCIAL SERVICES	\$897.01	\$908.95	-\$11.93	-1.3%	1.7%	1.7%	-1.8%	10	10	0								
BANK OF AMERICA	\$758.21	\$871.20	-\$112.99	-13.0%	1.4%	1.6%	-13.4%	11	11	0								
CREDIT SUISSE	\$618.00	\$613.64	\$4.36	0.7%	1.1%	1.1%	0.2%	12	12	0								
DZ BANK	\$513.78	\$526.58	-\$12.80	-2.4%	1.0%	1.0%	-2.9%	13	13	0								
UNION BANK OF SWITZERLAND	\$469.02	\$455.02	\$14.00	3.1%	0.9%	0.8%	2.6%	14	14	0								
SOCIETE GENERALE	\$374.47	\$383.63	-\$9.16	-2.4%	0.7%	0.7%	-2.9%	15	16	1								
ROYAL BANK OF CANADA	\$357.68	\$394.41	-\$36.74	-9.3%	0.7%	0.7%	-9.8%	16	15	-1								
WELLS FARGO	\$325.01	\$320.58	\$4.42	1.4%	0.6%	0.6%	0.9%	17	17	0								
SKANDINAVISKA SECURITIES	\$270.68	\$292.05	-\$21.37	-7.3%	0.5%	0.5%	-7.8%	18	18	0								
PICTET CIE EUROPE	\$250.75	\$236.88	\$13.86	5.9%	0.5%	0.4%	5.3%	19	20	1								
CITCO FUNDS SERVICES	\$234.42	\$245.74	-\$11.32	-4.6%	0.4%	0.5%	-5.1%	20	19	-1								
DEKABANK	\$227.10	\$220.50	\$6.59	3.0%	0.4%	0.4%	2.5%	21	21	0								
ZÜRCHER KANTONALBANK	\$184.68	\$158.40	\$26.28	16.6%	0.3%	0.3%	16.0%	22	23	1								
CECA	\$180.02	\$152.94	\$27.09	17.7%	0.3%	0.3%	17.1%	23	24	1								
SWEDBANK	\$180.00	\$169.92	\$10.08	5.9%	0.3%	0.3%	5.4%	24	22	-2								
ROYAL BANK OF SCOTLAND	\$141.11	\$150.16	-\$9.05	-6.0%	0.3%	0.3%	-6.5%	25	25	0								
TOP 25 SINGLE CUSTODIANS FR ASSETS	\$49,612.47	\$49,478.32	\$134.15	0.3%	92.0%	92.2%	-0.2%											
ALL OTHER	\$4,299.86	\$4,169.64	\$130.22	3.1%	8.0%	7.8%	2.6%											
TOTAL SINGLE CUSTODIANS FR ASSETS DISCLOSED	\$53,912.33	\$53,647.96	\$264.37	0.5%	36.5%	37.5%	-2.7%											
NOT REPORTED	\$4,783.48	\$4,589.40	\$194.08	4.2%	3.2%	3.2%	0.9%											
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$4,112.47	\$3,612.98	\$499.49	13.8%	2.8%	2.5%	10.2%											
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$8,895.95	\$8,202.38	\$693.57	8.5%	6.0%	5.7%	5.0%											
TOTAL ASSETS WITH MULTI-CUSTODIANS FR	\$84,965.29	\$81,196.05	\$3,769.24	4.6%	57.5%	56.8%	1.3%											
TOTAL FUND ASSETS	\$147,773.57	\$143,046.39	\$4,727.18	3.3%	100.0%	100.0%	0.0%											

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

- Custodians ranked >25 registered the highest AUC growth
 - o AUC increased 3.12%, or 6.37x the market
 - o Market share increased from 7.77% to 7.98%
 - ➤ An increase of 2.62%
- Custodians ranked 11-25 registered the lowest AUC growth
 - o AUC decreased 2.06%, or -4.20x the market
 - Market share decreased from 9.68% to 9.43%
 - A decrease of 2.54%

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	3.30%		100%	100%		
Market Growth Single Custodians Disclosed	0.49%	0.15	36.48%	37.50%	-1.02%	-2.72%
Custodians Ranked 1-10	0.54%	1.11	82.59%	82.55%	0.04%	0.05%
Custodians Ranked 11-25	-2.06%	-4.20	9.43%	9.68%	-0.25%	-2.54%
All Other Custodians	3.12%	6.37	7.98%	7.77%	0.20%	2.62%
Market Growth Multi Custodians Disclosed	4.64%	1.41	57.50%	56.76%	0.73%	1.29%
Market Growth Custodians Not Disclosed	8.46%	2.56	6.02%	5.73%	0.29%	4.99%

Multi-Fund Custodians League Table – Global Funds

Convergence - 2023 League	e Tables -	Multi C <u>u</u>	stodi <u>ans</u> I	Market Seg	ment - F <u>ur</u>	nd Relatio	nships			
Multi		May -22		22-23		Market	23-22	May -23	May -22	23-22
Custodians	#FR	#FR	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
JPMORGAN	22,357	8,717	13,640	156.5%	19.2%	7.8%	145.3%	1	3	2
FIRST CITIZENS BANK AND TRUST	11,524	755	10,769	1426.4%	9.9%	0.7%	1359.6%	2	23	21
BANK OF AMERICA	8,522	7,396	1,126	15.2%	7.3%	6.7%	10.2%	3	4	1
BANK OF NEW YORK	5,763	5,264	499	9.5%	5.0%	4.7%	4.7%	4	5	1
MORGAN STANLEY	5,566	5,203	363	7.0%	4.8%	4.7%	2.3%	5	6	1
GOLDMAN SACHS BANK USA	5,100	4,839	261	5.4%	4.4%	4.4%	0.8%	6	7	1
CITIBANK	3,713	3,354	359	10.7%	3.2%	3.0%	5.9%	7	8	1
WELLS FARGO	2,875	2,826	49	1.7%	2.5%	2.5%	-2.7%	8	9	1
NORTHERN TRUST	2,794	2,594	200	7.7%	2.4%	2.3%	3.0%	9	10	1
US BANCORP	2,141	1,869	272	14.6%	1.8%	1.7%	9.5%	10	12	2
STATE STREET IFS	1,959	1,811	148	8.2%	1.7%	1.6%	3.4%	11	13	2
UNION BANK OF SWITZERLAND	1,911	1,969	-58	-2.9%	1.6%	1.8%	-7.2%	12	11	-1
BARCLAYS	1,371	1,219	152	12.5%	1.2%	1.1%	7.6%	13	17	4
BNP PARIBAS	1,351	1,341	10	0.7%	1.2%	1.2%	-3.7%	14	16	2
DEUTSCHE BANK	1,304	1,354	-50	-3.7%	1.1%	1.2%	-7.9%	15	15	0
FIDELITY	1,287	1,145	142	12.4%	1.1%	1.0%	7.5%	16	18	2
HSBC FINANCIAL SERVICES	1,145	1,045	100	9.6%	1.0%	0.9%	4.8%	17	20	3
ESHARES	1,128	1,088	40	3.7%	1.0%	1.0%	-0.9%	18	19	1
RAYMOND JAMES ASSOCIATES	1,081	897	184	20.5%	0.9%	0.8%	15.2%	19	21	2
CREDIT SUISSE	928	1,494	-566	-37.9%	0.8%	1.3%	-40.6%	20	14	-6
CANADIAN IMPERIAL BANK OF COMMERCE	856	796	60	7.5%	0.7%	0.7%	2.8%	21	22	1
COMPUTERSHARE	808	468	340	72.6%	0.7%	0.4%	65.1%	22	31	9
INTERACTIVE BROKERS	772	695	77	11.1%	0.7%	0.6%	6.2%	23	25	2
CITCO FUNDS SERVICES	767	726	41	5.6%	0.7%	0.7%	1.0%	24	24	0
SOCIETE GENERALE	712	643	69	10.7%	0.6%	0.6%	5.9%	25	26	1
TOP 25 MULTI CUSTODIANS FR	87,735	59,508	28,227	47.4%	75.5%	53.5%	41.0%			
ALL OTHER	28,515	51,661	-23,146	-44.8%	24.5%	46.5%	-47.2%			
TOTAL MULTI CUSTODIANS FR	116,250	111,169	5,081	4.6%	36.7%	38.2%	-3.9%			
NOT REPORTED	33,988	31,689	2,299	7.3%	10.7%	10.9%	-1.5%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	56,047	43,297	12,750	29.4%	17.7%	14.9%	18.9%			
TOTAL FUNDS NOT DISCLOSING A CUSTODIANS FR	90,035	74,986	15,049	20.1%	28.4%	25.8%	10.3%			
TOTAL FUNDS WITH SINGLE CUSTODIANS FR	110,512	104,914	5,598	5.3%	34.9%	36.0%	-3.2%			
TOTAL FUNDS	316,797	291,069	25.728	8.8%	100.0%	100.0%	0.0%			

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

- Custodians ranked 1-10 registered the highest growth in funds
 - o Funds increased 64.32%, or 14.07x the market
 - o Market share increased from 38.52% to 60.52%
 - An increase of 57.13%
- Custodians ranked >25 registered the smallest growth in funds
 - o Funds decreased 44.80%, or -9.80x the market
 - Market share decreased from 46.47% to 24.53%
 - A decrease of 47.22%

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	8.84%		100%	100%		
Market Growth Multi Custodians Disclosed	4.57%	0.52	36.70%	38.19%	-1.50%	-3.92%
Custodians Ranked 1-10	64.32%	14.07	60.52%	38.52%	22.01%	57.13%
Custodians Ranked 11-25	4.13%	0.90	14.95%	15.01%	-0.06%	-0.42%
All Other Custodians	-44.80%	-9.80	24.53%	46.47%	-21.94%	-47.22%
Market Growth Single Custodians Disclosed	5.34%	0.60	34.88%	36.04%	-1.16%	-3.22%
Market Growth Custodians Not Disclosed	20.07%	2.27	28.42%	25.76%	2.66%	10.32%

Multi-Fund Custodians League Table – Global AUC

Convergence - May 2	023 League T	Tables - Multi	i Cust <u>odian</u>	s Market Segi	nent - Ass	ets (in BN)			
Multi	May -23	May -22	22-23	22-23	Market		23-22	May -23	May -22	23-22
Custodians	FR-AUC	FR-AUC	Change	Change %	Share-23	Share-22	Change %	Rank	Rank	Change
JPMORGAN	\$8,181.35	\$5,818.35	\$2,363.00	40.6%	9.6%	7.2%	34.4%	1	3	2
BANK OF AMERICA	\$6,487.07	\$5,929.60	\$557.47	9.4%	7.6%	7.3%	4.5%	2	23	21
BANK OF NEW YORK	\$5,631.17	\$5,195.44	\$435.73	8.4%	6.6%	6.4%	3.6%	3	4	1
CITIBANK	\$4,598.46	\$4,212.34	\$386.11	9.2%	5.4%	5.2%	4.3%	4	5	1
MORGAN STANLEY	\$4,434.19	\$4,588.97	-\$154.77	-3.4%	5.2%	5.7%	-7.7%	5	6	1
GOLDMAN SACHS BANK USA	\$4,388.62	\$4,316.78	\$71.85	1.7%	5.2%	5.3%	-2.8%	6	7	1
BARCLAYS	\$3,686.30	\$3,414.95	\$271.35	7.9%	4.3%	4.2%	3.2%	7	8	1
UNION BANK OF SWITZERLAND	\$3,123.83	\$3,068.46	\$55.37	1.8%	3.7%	3.8%	-2.7%	8	9	1
STATE STREET IFS	\$3,060.11	\$3,006.39	\$53.72	1.8%	3.6%	3.7%	-2.7%	9	10	1
BNP PARIBAS	\$2,573.19	\$2,323.20	\$249.99	10.8%	3.0%	2.9%	5.8%	10	12	2
NORTHERN TRUST	\$2,481.00	\$2,531.24	-\$50.25	-2.0%	2.9%	3.1%	-6.3%	11	13	2
WELLS FARGO	\$2,245.06	\$2,317.53	-\$72.47	-3.1%	2.6%	2.9%	-7.4%	12	11	-1
FIRST CITIZENS BANK AND TRUST	\$1,989.69	\$0.11	\$1,989.58	1786832.2%	2.3%	0.0%	1707560.1%	13	17	4
DEUTSCHE BANK	\$1,975.19	\$1,988.57	-\$13.39	-0.7%	2.3%	2.4%	-5.1%	14	16	2
CREDIT SUISSE	\$1,906.76	\$2,654.63	-\$747.87	-28.2%	2.2%	3.3%	-31.4%	15	15	0
HSBC FINANCIAL SERVICES	\$1,667.60	\$1,620.29	\$47.31	2.9%	2.0%	2.0%	-1.6%	16	18	2
STANDARD CHARTERED BANK	\$1,459.03	\$1,338.91	\$120.11	9.0%	1.7%	1.6%	4.1%	17	20	3
SOCIETE GENERALE	\$1,353.96	\$1,258.68	\$95.27	7.6%	1.6%	1.6%	2.8%	18	19	1
BANK OF NOVA SCOTIA	\$1,024.17	\$878.55	\$145.61	16.6%	1.2%	1.1%	11.4%	19	21	2
US BANCORP	\$985.99	\$872.96	\$113.04	12.9%	1.2%	1.1%	7.9%	20	14	-6
FIDELITY	\$927.44	\$1,047.63	-\$120.19	-11.5%	1.1%	1.3%	-15.4%	21	22	1
COMPUTERSHARE	\$850.69	\$706.97	\$143.72	20.3%	1.0%	0.9%	15.0%	22	31	9
NOMURA BANK LUXEMBOURG SA	\$841.35	\$728.75	\$112.60	15.5%	1.0%	0.9%	10.3%	23	25	2
ROYAL BANK OF CANADA	\$762.69	\$617.97	\$144.73	23.4%	0.9%	0.8%	17.9%	24	24	0
SKANDINAVISKA SECURITIES	\$596.79	\$453.14	\$143.65	31.7%	0.7%	0.6%	25.9%	25	26	1
TOP 25 MULTI CUSTODIANS FR ASSETS	\$67,231.70	\$60,890.42	\$6,341.28	10.4%	79.1%	75.0%	5.5%			
ALL OTHER	\$17,733.59	\$20,305.63	-\$2,572.04	-12.7%	20.9%	25.0%	-16.5%			
TOTAL MULTI CUSTODIANS FR ASSETS	\$84,965.29	\$81,196.05	\$3,769.24	4.6%	57.5%	56.8%	1.3%			
NOT REPORTED	\$4,783.48	\$4,589.40	\$194.08	4.2%	3.2%	3.2%	0.9%			
ELIGIBLE FUNDS - NOT ATTRIBUTED	\$4,112.47	\$3,612.98	\$499.49	13.8%	2.8%	2.5%	10.2%			
TOTAL ASSETS NOT DISCLOSING A CUSTODIANS FR	\$8,895.95	\$8,202.38	\$693.57	8.5%	6.0%	5.7%	5.0%			
TOTAL ASSETS WITH SINGLE CUSTODIANS FR	\$53,912.33	\$53,647.96	\$264.37	0.5%	36.5%	37.5%	-2.7%			
TOTAL FUND ASSETS	\$147,773.57	\$143,046.39	\$4,727.18	3.3%	100.0%	100.0%	0.0%			

Custodians Peer Groups – Global Multi AUC Growth & Market Share

- Custodians ranked 11-25 registered the highest AUC growth
 - o AUC increased 10.79%, or 2.32x the market
 - o Market share increased from 23.42% to 24.80%
 - ➤ An increase of 5.87%
- Custodians ranked >25 registered the lowest AUC growth
 - o AUC decreased 12.67%, or -2.73x the market
 - Market share decreased from 25.01% to 20.87%
 - A decrease of 16.54%

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	3.30%		100%	100%		
Market Growth Multi Custodians Disclosed	4.64%	1.41	57.50%	56.76%	0.73%	1.29%
Custodians Ranked 1-10	10.24%	2.21	54.33%	51.57%	2.76%	5.35%
Custodians Ranked 11-25	10.79%	2.32	24.80%	23.42%	1.38%	5.87%
All Other Custodians	-12.67%	-2.73	20.87%	25.01%	-4.14%	-16.54%
Market Growth Single Custodians Disclosed	0.49%	0.15	36.48%	37.50%	-1.02%	-2.72%
Market Growth Custodians Not Disclosed	8.46%	2.56	6.02%	5.73%	0.29%	4.99%

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.

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

o 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

o 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

o 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

O 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)

- o Compare your growth and market share to a defined peer group in multiple fund type segments
- o 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
- o Allows you to determine if you are getting your fair share of the change

• Clients at Risk (Client Management)

O 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



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

Eileen Cleary, President, Convergence Talent Management

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

 ${\bf ggainer@convergenceinc.com}$



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