

BofA Securities Equity Client Flow Trends

Early 2024 flows: large ETF outflows and muted single stock inflows

Clients sold equities in the sell-off

- **ETF outflows and small single stock inflows:** Last week (where S&P 500 was -1.5%), clients were net sellers of US equities for the first time in three weeks (-\$2.1B, biggest outflow since July). Outflows were driven by ETFs as clients were small net buyers of single stocks.
- **No “Jan effect” in retail flows yet:** All three client groups (institutions, hedge funds and private clients) were sellers, led by hedge fund clients (seventh consecutive week of outflows). Institutional clients were sellers for the second week and private clients for the third week - typically, retail clients are big net buyers in Jan.
- **Corporate buybacks decelerated:** Corporate client buybacks decelerated the past week but are tracking above seasonal levels for an eighth week in a row. Buybacks as a percentage of S&P 500 market cap (0.26%) are above '23 highs (0.24%) at this time.

Tech led outflows but Comm. Svcs. saw large inflows

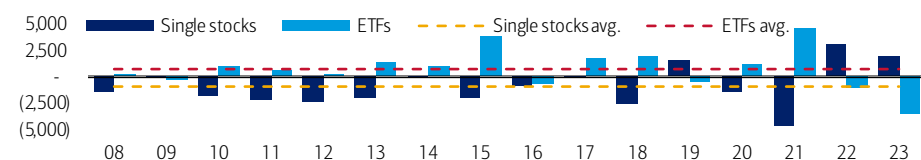
- **Clients sold 6 of the 11 GICS sectors:** led by Tech (first outflow since Nov.'23 and largest outflow since July'23).
- **However, Comm. Svcs. led inflows** (third largest inflow in our data history since '08) and has seen inflows since October.
- **Defensives saw inflows while cyclical saw outflows:** Defensives saw inflows for a second consecutive week. However, we are more positive on cyclical (see our [year-ahead outlook](#)), and our sector views have a cyclical tilt.

ETFs: largest outflow since Jan '23

- **Outflows across all styles (Growth/Value/Blend) ETFs and large caps/broad market.** SMID cap ETFs saw inflows (small caps have seen inflows since mid-Sept.).
- **Most sector ETFs saw outflows,** led by Financial ETFs; Cons. Disc. ETFs led inflows.

Exhibit 3: The past two years, retail clients have been purchasing more single stocks vs. ETFs in January despite historical trend (passive>active)

Cumulative retail client inflows/outflows of single stocks and ETFs in January



Source: BofA Securities

BofA GLOBAL RESEARCH

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 17 to 19.

12643122

Timestamp: 09 January 2024 12:01AM EST

08 January 2024

Equity and Quant Strategy
United States

BofA

Data
Analytics



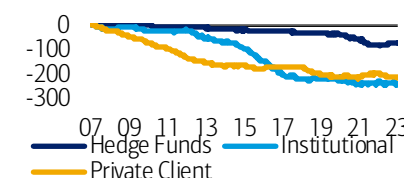
Jill Carey Hall, CFA
Equity & Quant Strategist
BofAS
+1 646 855 3327
jill.carey@bofa.com

Savita Subramanian
Equity & Quant Strategist
BofAS
savita.subramanian@bofa.com

Nicolas Woods
Equity & Quant Strategist
BofAS
nicolas.woods_barron@bofa.com

Exhibit 1: Institutional clients are the biggest net sellers post-crisis

Cumulative flows (\$ bn) by client type, January 2008-present

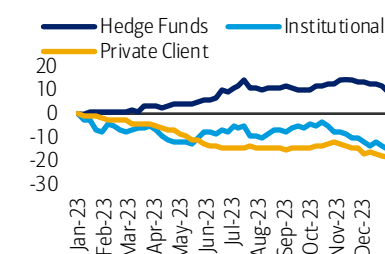


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 2: Hedge funds are the biggest net buyers in the past 12 months

L12m cumulative flows (\$ bn) by client type, January 2023-present



Source: BofA Securities

BofA GLOBAL RESEARCH

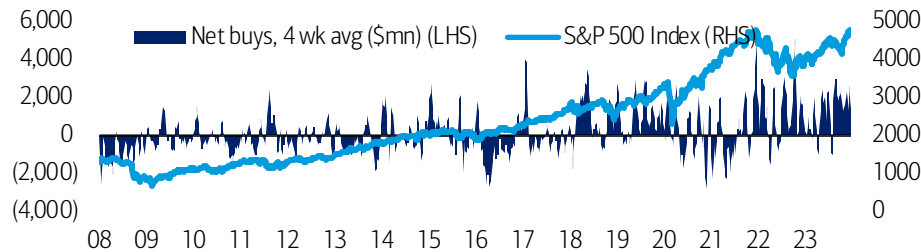
For more details on BofA Securities client flows and a complete methodology behind the data in this report, please see pg.15-16. Note that flows span Monday-Friday of the previous week.

BofA Equity Client Flow Trends

This weekly product provides an aggregated view of BofA client trading flows into US stocks executed by the firm's cash equities business. By aggregating flows across many execution platforms and trading desks, we provide an overview of what sectors and market cap size segments are being bought or sold, and what type of client is buying or selling. The client types we include are hedge funds, institutional clients and private clients. The sectors are the 11 GICS (global industry classification standard) sectors, as well as ETFs, and the market caps are large, mid and small. Our data history spans January 2008-present. This product is not meant to be predictive of the market but aims to provide a holistic view of BofA client trading flows. For more details, see the Methodology section.

Exhibit 5: Rolling four-week avg. flows positive since mid-Jan.

BofA client total net buys of US equities: four-week moving avg (\$ mn) and S&P 500, 2008-present



Source: BofA Securities, FactSet

BofA GLOBAL RESEARCH

Exhibit 6: BofA Securities equity client flows by year

Cumulative net buying (selling) in \$mn by sector, client type, size segment and overall

Sector	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Consumer Discretionary	(236)	2,760	4,221	(8,511)	(8,129)	(757)	336	(14,600)	(6,584)	(3,137)	(4,427)	(6,271)	(3,520)	2,180	(1,470)	(660)	(5,297)
Consumer Staples	(78)	(655)	293	(5,175)	(3,054)	(856)	(943)	(4,932)	(1,613)	660	(5,308)	(3,163)	(6,579)	(4,426)	(3,412)	(3,260)	(7,334)
ETFs	(2,228)	23,780	35,490	77,724	35,266	26,845	25,695	57,448	23,081	28,923	33,491	11,604	18,435	6,597	8,432	5,702	7,935
Energy	49	(1,572)	1,928	3,441	3,843	4,259	(2,120)	(5,660)	(4,947)	(1,369)	(3,894)	(3,388)	(5,259)	(933)	(4,290)	(1,970)	(8,694)
Financials	(146)	3,972	(37)	10,746	2,483	20,500	14,262	(40)	(4,440)	(919)	(5,288)	(5,086)	(1,916)	(1,730)	(4,734)	4,784	(2,257)
Health Care	593	3,535	2,614	(9,357)	(2,284)	2,309	6,266	(12,922)	(12,283)	(5,558)	(5,284)	(4,089)	(856)	2,243	(3,991)	(1,888)	(6,115)
Industrials	(207)	(10,557)	(3,444)	(7,548)	(8,377)	(1,074)	439	(10,606)	(10,268)	(3,182)	673	(2,285)	(1,408)	(653)	(1,576)	(91)	(6,736)
Information Technology	(1,635)	30,342	21,971	(3,702)	(1,678)	15,335	8,061	(7,252)	(8,545)	1,235	(2,827)	(3,228)	(945)	2,730	1,475	(4,355)	(6,177)
Materials	(20)	1,451	4,363	149	(885)	3,456	113	(2,551)	(2,400)	(3,517)	(1,406)	(3,364)	(3,070)	(1,783)	(1,270)	(413)	(1,068)
Real Estate	158	1,367	3,459	2,695	2,983	(3,331)	(1,635)	(3,967)	(518)								
Communication Services	1,569	16,776	6,684	(11,989)	(929)	1,592	(2,156)	(826)	1,107	513	3,234	1,715	(157)	690	(517)	365	(273)
Utilities	133	(894)	(637)	(382)	2,349	(2,702)	(1,198)	(2,920)	(873)	40	(482)	374	(799)	732	(893)	(461)	(1,622)
Client																	
Hedge Funds	(2,461)	11,260	(26,593)	(17,880)	(9,392)	1,772	(7,901)	(1,720)	(2,417)	(3,134)	(5,044)	(2,472)	(2,309)	(5,695)	(4,456)	6,418	(1,223)
ex. ETFs	431	2,257	(26,253)	(39,041)	(12,620)	(4,168)	(3,352)	(3,569)	(4,472)	(6,798)	(8,519)	(408)	(3,032)	(3,590)	(3,607)	7,568	(1,556)
Institutional	(1,452)	(13,579)	4,753	(18,968)	2,500	1,322	(18,095)	(52,566)	(48,650)	(25,967)	(18,620)	(33,332)	2,807	1,493	(13,755)	6,088	(15,150)
ex. ETFs	(7,359)	(6,425)	4,516	(26,985)	(7,094)	(8,504)	(13,029)	(60,974)	(50,369)	(19,538)	(26,155)	(29,737)	(4,393)	1,725	(15,002)	7,823	(16,713)
Retail	(494)	(18,314)	15,962	(1,479)	(10,505)	(27,482)	(1,691)	7,694	(14,364)	1,949	(13,137)	(20,188)	(38,448)	(23,049)	(25,999)	(23,361)	(21,266)
ex. ETFs	581	(40,246)	(19,632)	(50,025)	(32,948)	(38,562)	(37,000)	(39,497)	(34,551)	(29,739)	(35,619)	(36,297)	(48,959)	(31,983)	(34,033)	(31,949)	(27,305)
Corporates	2,361	91,487	81,967	87,093	38,976	90,315	74,432	38,144	37,056	40,774	45,393	39,116	31,931	32,897	31,964	8,609	N/A
Size																	
Large cap	(1,324)	75,058	44,195	44,274	28,194	62,443	44,718	(4,598)	(19,556)	808	4,325	(17,980)	(9,167)	4,480	(9,505)	(3,755)	(33,155)
ex. ETFs	54,953	54,296	30,115	(14,014)	3,113	47,537	31,911	(45,588)	(34,450)	(10,255)	(13,658)	(16,835)	(16,758)	5,284	(10,483)	(3,820)	(34,028)
Mid cap	(670)	(7,933)	24,139	4,894	(5,839)	2,247	3,411	(1,453)	(6,523)	9,069	4,045	2,139	2,974	237	(2,845)	301	(3,074)
ex. ETFs	(8,455)	(8,137)	11,006	(7,446)	(10,050)	(4,944)	(4,742)	(12,212)	(11,194)	(2,061)	(5,332)	(5,062)	(3,775)	(3,819)	(6,363)	(1,159)	(7,356)
Small cap	(53)	1,606	2,398	(402)	(774)	1,235	(1,384)	(2,396)	(2,296)	3,744	221	(1,036)	174	928	103	1,207	(1,410)
ex. ETFs	(905)	(747)	(2,606)	(7,498)	(6,748)	(3,512)	(6,118)	(8,096)	(5,812)	(2,986)	(5,910)	(5,428)	(3,920)	(2,416)	(3,830)	(2,970)	(4,187)
Untagged flow	0	(3,672)	(8,998)	(40,607)	(14,252)	(12,417)	(2,930)	12,350	(4,342)	(3,217)	(2,357)	(5,447)	(883)	(1,154)	586	(511)	(13,179)
Total	(2,047)	66,635	67,906	7,485	7,336	53,160	44,190	3,522	(32,626)	10,471	6,126	(22,629)	(6,957)	4,492	(11,659)	(2,758)	(50,817)
Single stocks only (ex-ETFs)	180	46,527	41,414	(29,632)	(13,678)	38,731	21,425	(66,276)	(51,364)	(15,234)	(25,007)	(28,786)	(24,509)	(951)	(20,677)	(7,949)	(45,573)
Total ex. corporate buybacks	(4,408)	(24,852)	(14,061)	(79,608)	(31,640)	(37,155)	(30,241)	(34,622)	(69,682)	(30,302)	(39,266)	(61,744)	(38,888)	(28,405)	(43,624)	(11,366)	N/A

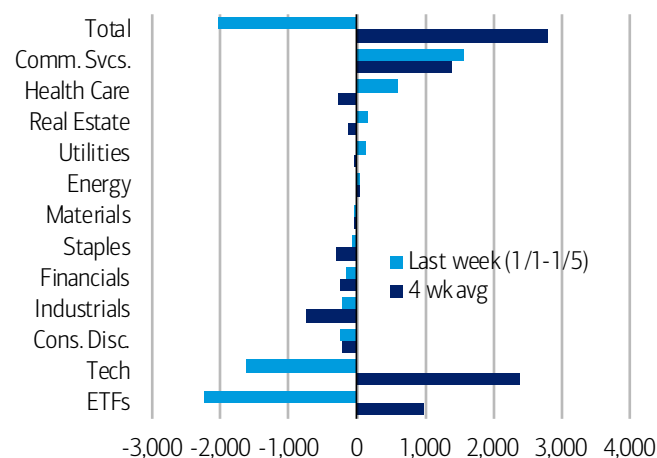
Source: BofA Securities. Note: Data on Real Estate since 8/31/16. Fins. includes Real Estate prior to 8/31/16. Comm. Svcs. based on new sector from 10/1/18-present & previous Telecom. Svcs. prior to 10/1/18

BofA GLOBAL RESEARCH

Weekly flows by client, sector, & size

Exhibit 7: By sector, Comm. Svcs. saw biggest inflows & ETFs saw biggest outflows

BofA client net buys by sector (\$ mn)

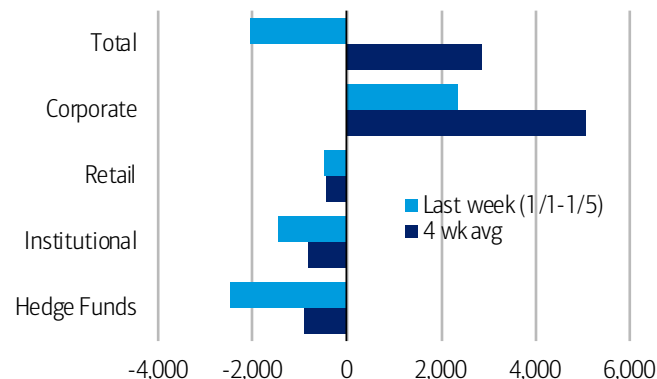


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 8: By clients, Corporate clients led inflows and Hedge Fund clients led outflows

BofA client net buys by client group (\$ mn)

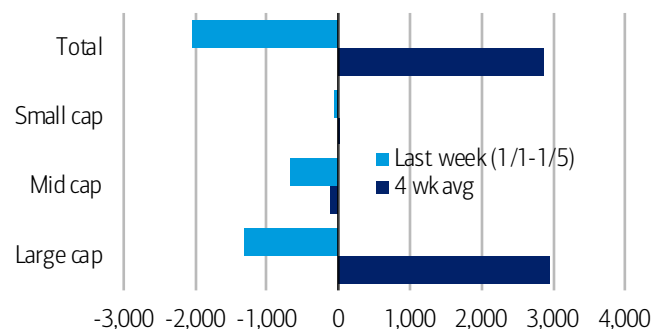


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 11: All sizes saw outflows led by Large caps

BofA client net buys by size segment (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 8: Weekly net buying (selling) by the 11 GICS sectors (single stocks) and ETFs overall

Last four weeks and rolling average trends, \$mn

Sector	Last wk (1/1/24)	12/2 5/23	12/18 /23	12/11 /23	4 wk. avg.	12 wk avg	52 wk avg
Cons. Disc.	-236	-575	-814	710	-229	-102	47
Cons. Staples	-78	-109	-566	-457	-302	-186	-15
Energy	49	342	98	-337	38	-71	-33
Financials	-146	-490	-102	-310	-262	-177	70
Health Care	593	534	-1316	-906	-274	-199	80
Industrials	-207	-960	-1355	-458	-745	-451	-206
Tech	-1635	1784	7259	2188	2399	1,083	552
Materials	-20	-138	304	-354	-52	-38	26
Real Estate	158	-510	-152	40	-116	25	33
Comm. Svcs.	1569	1267	1346	1357	1385	691	357
Utilities	133	-64	-104	10	-6	17	-14
ETFs	-2228	1822	2957	1364	979	1,182	402
Total	-2047	2903	7556	2847	2815	1,774	1,300
Total ex. ETFs	180	1082	4599	1483	1836	591	898
Total incl. untagged flows	-2109	2182	6391	-1008	1364	1,619	1,243

Source: BofA Securities; Note: ETFs classified as a 12th "sector" and broken out further on the subsequent page. Real Estate GICS sector was broken out from Fins. beginning 8/31/16. Comm. Svcs. flows based on new sector from 10/1/18 onward & Telecom prior to 10/1/18.

BofA GLOBAL RESEARCH

Exhibit 10: Weekly net buying (selling) by client type

Last four weeks and rolling average trends, \$mn

Client	Last wk (1/1/24)	12/25 /23	12/18 /23	12/11 /23	4 wk. avg.	12 wk avg	52 wk avg
Hedge Funds	-2461	-546	-86	-612	-926	-183	179
ex. ETFs	-1827	-1375	-54	-502	-939	-300	15
Institutional	-1452	-1529	1782	-2084	-821	-860	-293
ex. ETFs	-934	-1354	219	-1936	-1001	-1067	-145
Private Client	-494	-671	-804	159	-452	-410	-357
ex. ETFs	581	-1741	-2187	-1452	-1200	-1261	-741
Corporates	2361	5313	8146	4440	5065	3,279	1,782
Total	-2047	2568	9039	1903	2866	1,826	1,311
Total ex. ETFs	180	843	6123	550	1924	591	898
Total incl. untagged flows	-2109	2182	6391	-1008	1364	1619	1243

Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 12: Weekly net buying (selling) by size segment

Last four weeks and rolling average trends, \$mn

Market Cap	Last wk (1/1/24)	12/25 /23	12/18 8/23	12/11 /23	4 wk. avg.	12 wk avg	52 wk avg
Large cap	-1324	2425	8997	1697	2949	1,778	1,406
ex. ETFs	656	1053	6575	1058	2336	835	1056
Mid cap	-670	257	-320	306	-107	20	-164
ex. ETFs	-318	-45	-780	-312	-363	-146	-162
Small cap	-53	-116	225	18	19	38	29
ex. ETFs	-158	-258	148	-88	-89	-34	-16
Total	-2047	2568	8902	2021	2860	1,836	1,271
Total ex. ETFs	180	750	5944	658	1883	591	898
Total incl. untagged flows	-2109	2182	6391	-1008	1364	1619	1243

Source: BofA Securities

BofA GLOBAL RESEARCH

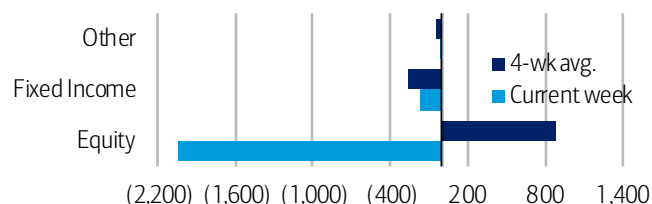


ETF flow color

We provide additional color on ETF net buys¹, with a breakout of this flow available since the start of 2017. We use Bloomberg Fund Classifications to manually tag/group ETFs by asset class focus, sector, strategy, and market cap; see Appendix for details. The majority of ETF flows in a given week are equity ETF flows (about 95% on avg. since '17) and ETFs are included as a category of equity flows in the standard charts beginning on pg 2. See pg. 5 for four-week avg. and cumulative ETF flows by sector.

Exhibit 12: Clients sold Fixed Income/Equity/Other ETFs

ETF net buys by asset class (\$ mn)

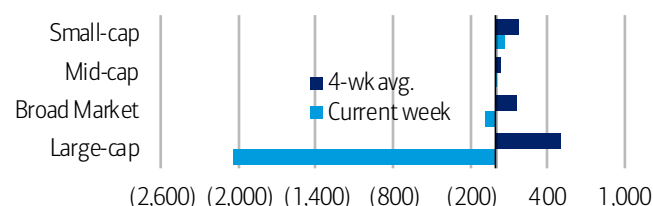


Source: BofA Securities. Note: Other includes Commodity, Specialty, Alternative, Mixed Allocation

BofA GLOBAL RESEARCH

Exhibit 14: By size, Small Cap ETFs led inflows and Large Cap ETFs led outflows

Equity ETF net buys by market capitalization (\$ mn)

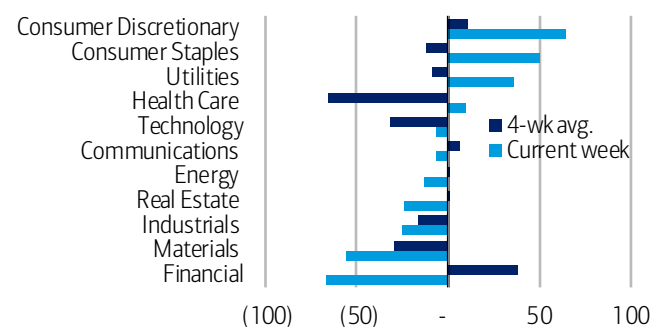


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 14: ETFs most positive in Cons. Disc. and negative in Financial

Equity ETF net buys by sector (\$ mn)

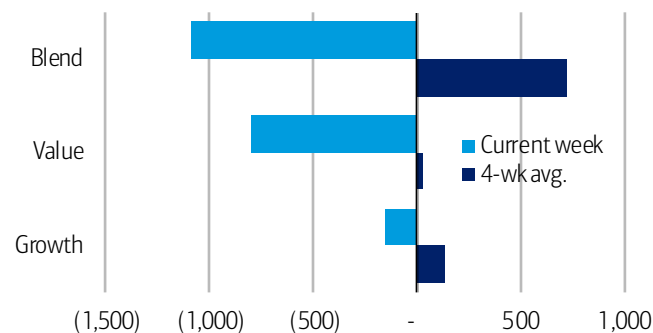


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 16: All styles saw outflows led by Blend ETFs

Equity ETF net buys by style (\$ mn)



Source: BofA Securities

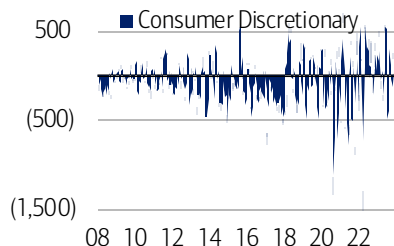
BofA GLOBAL RESEARCH

¹ Note that net buys (sales) of ETFs by our clients presented throughout this report do not include creation of new ETF shares by BofA—these flows would show up as single stock net buys (sales) in the underlying sectors of the stocks that comprise the ETF.

Rolling four-week average trends by sector (single stock)

Exhibit 17: Cons Disc.: recent outflows

4 week avg. flows (\$ mn)

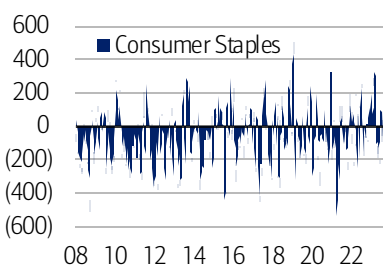


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 18: Staples: recent outflows

4 week avg. flows (\$ mn)

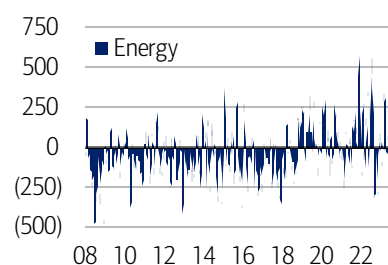


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 19: Energy: flows flip positive

4 week avg. flows (\$ mn)

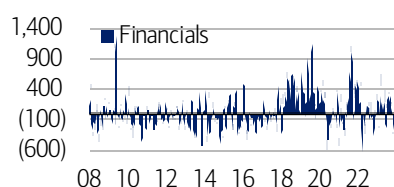


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 20: Financials: recent outflows

4 week avg. flows (\$ mn)

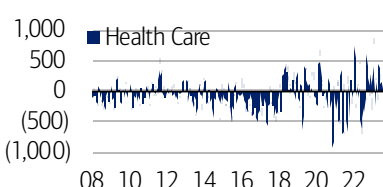


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 21: Health Care: recent outflows

4 week avg. flows (\$ mn)

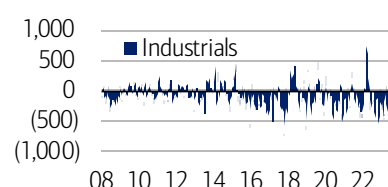


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 22: Industrials: recent outflows

4 week avg. flows (\$ mn)

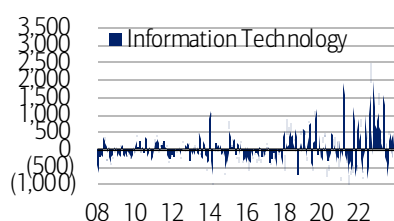


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 23: Tech: recent inflows

4 week avg. flows (\$ mn)

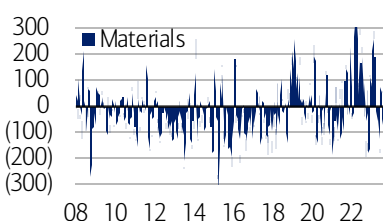


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 24: Materials: recent outflows

4 week avg. flows (\$ mn)

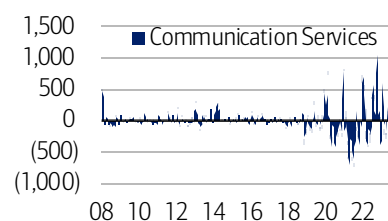


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 24: Comm. Svcs.: recent inflows

4 week avg. flows (\$ mn)

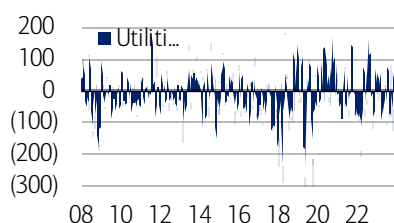


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 26: Utilities: recent outflows

4 week avg. flows (\$ mn)

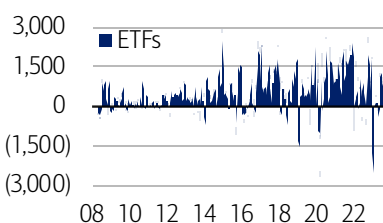


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 27: ETFs: recent inflows

4 week avg. flows (\$ mn)

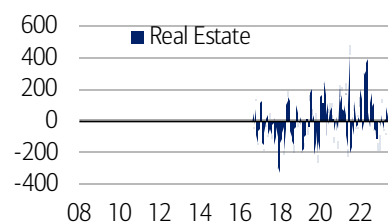


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 27: Real Estate: recent outflows

4 week avg. flows (\$ mn)



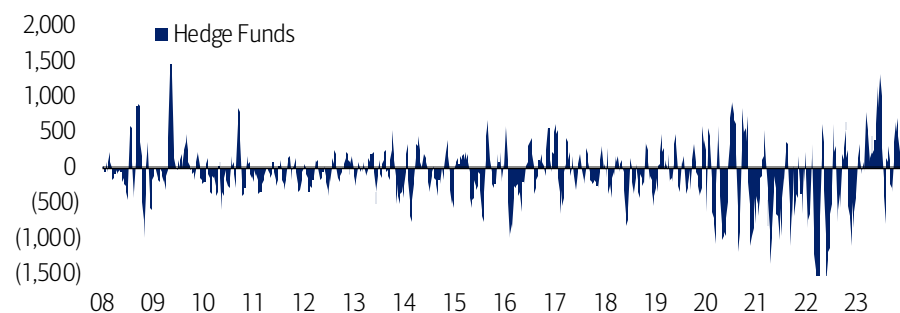
Source: BofA Securities

BofA GLOBAL RESEARCH

Rolling four-week average trends by client type

Exhibit 29: Hedge Funds: recent outflows

Net buys (4 week avg, \$ mn)

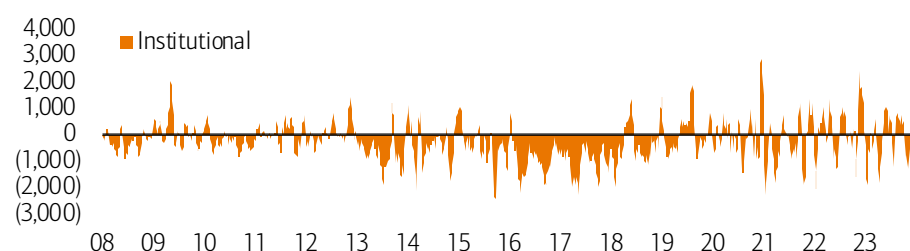


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 30: Institutional clients: recent outflows

Net buys (4 week avg, \$ mn)

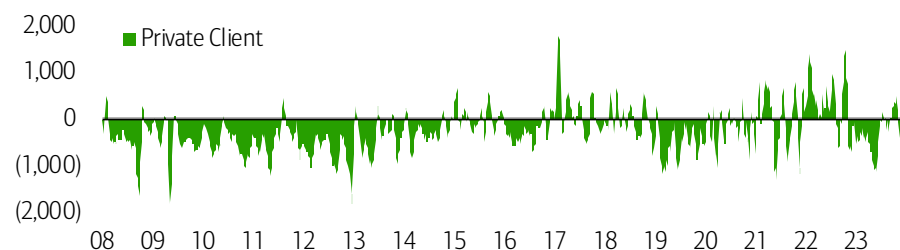


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 31: Private clients: recent outflows

Net buys (4 week avg, \$ mn)

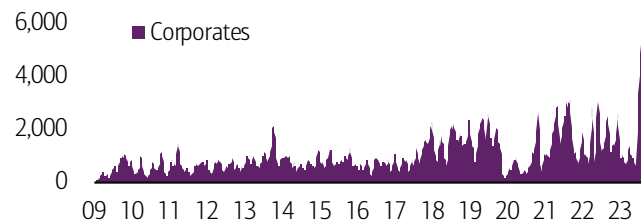


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 32: Buybacks by corp. clients at historical high levels

Corporate clients (4 week avg, \$ mn)

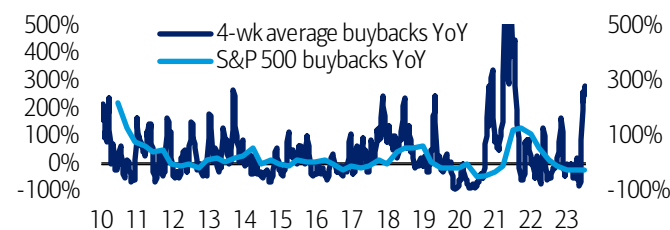


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 33: Corp. client buybacks below S&P 500 buybacks trend

BofA corporate clients' 4 week avg. buybacks (YoY % chg) vs. S&P 500 total quarterly buybacks (YoY % chg), since 2010



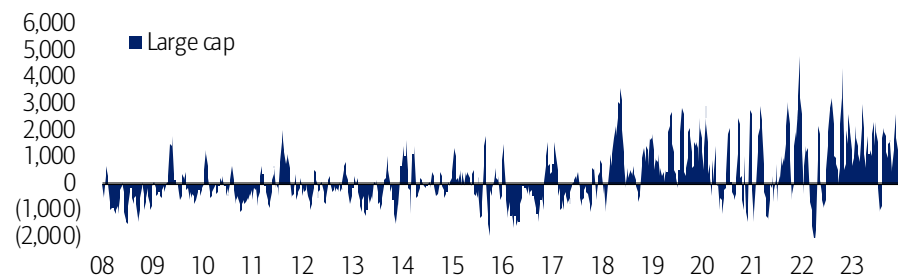
Source: S&P, BofA Securities

BofA GLOBAL RESEARCH

Rolling four-week average trends by market cap

Exhibit 34: Large caps: recent inflows

Large cap net buys (4 week avg, \$ mn)

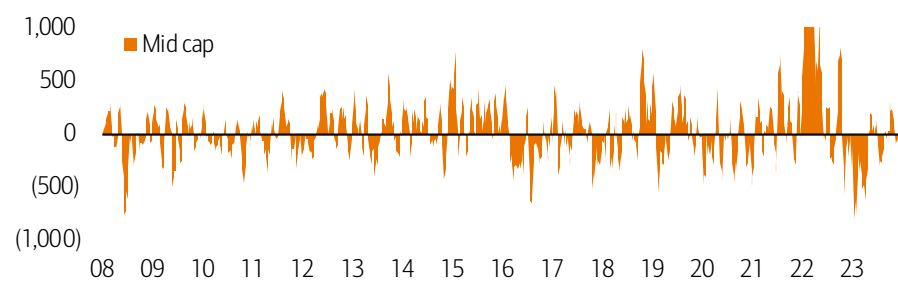


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 35: Mid caps: flows flip negative

Mid caps net buys (4 week avg, \$ mn)

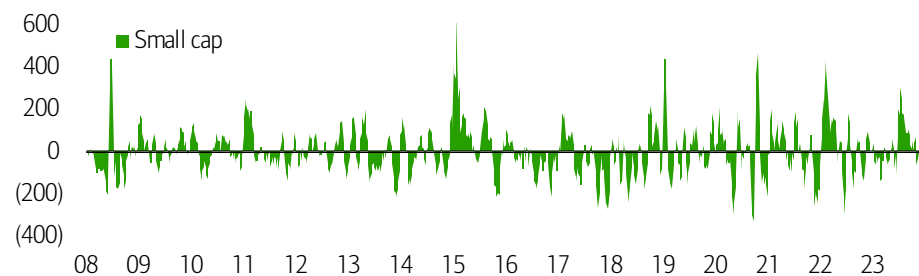


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 36: Small caps: recent inflows

Small caps net buys (4 week avg, \$ mn)



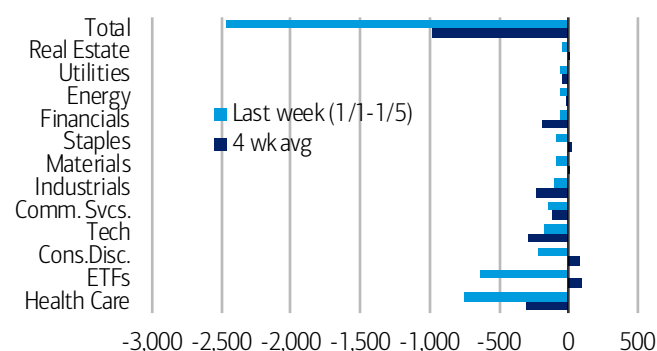
Source: BofA Securities

BofA GLOBAL RESEARCH

Sector & size flows by client type last week

Exhibit 37: Hedge Funds sold most sectors, led by Health Care

Hedge funds clients net buys by sector (\$ mn)

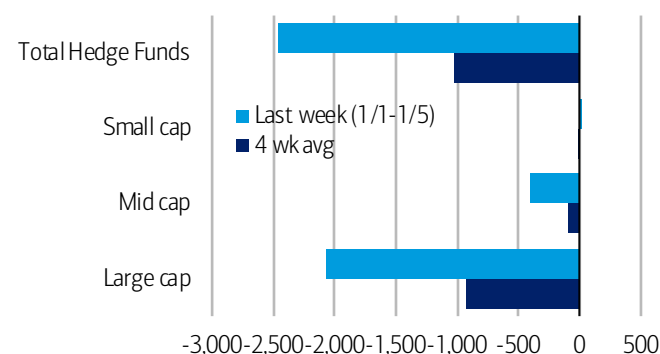


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 38: Hedge Funds were sellers of Large caps and buyers of Small caps

Hedge fund net buys by market cap (\$ mn)

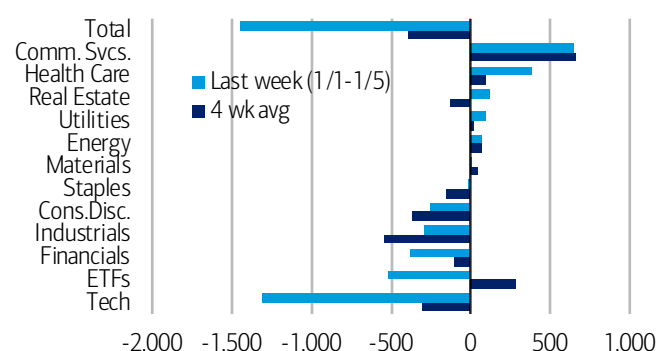


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 39: Institutional bought Comm. Svcs. and sold Tech

Institutional clients net buys by sector (\$ mn)

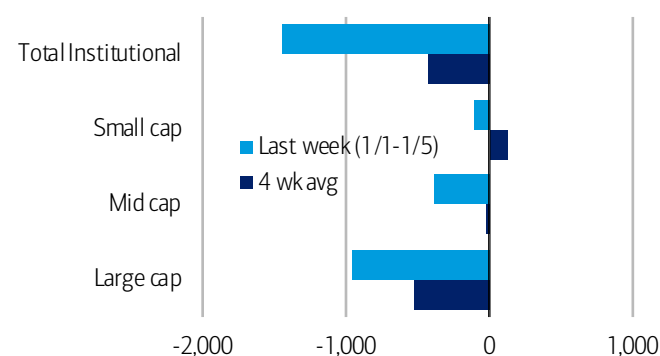


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 40: Institutional clients sold all size segments led by Large caps

Institutional clients net buys by market cap (\$ mn)

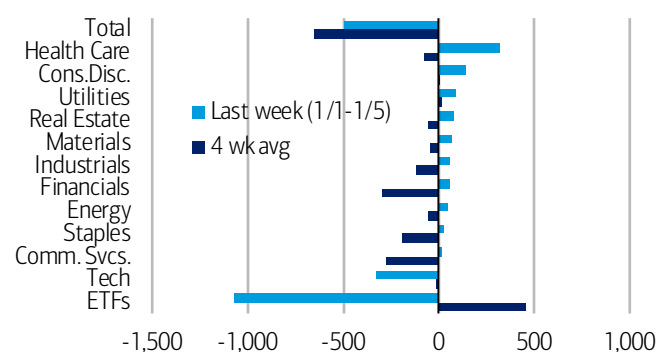


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 41: Private clients bought Health Care and sold ETFs

Private clients net buys by sector (\$ mn)

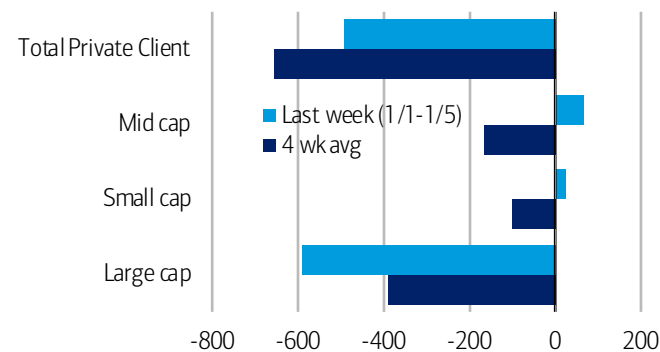


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 42: Private clients bought SMID caps and sold Large caps

Private client net buys by market cap (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

ETF flows: z-scores (3m and 1yr)

Exhibit 43: Weekly Client ETF Flows: z-scores as of latest week

Based on 1) current week's z-score vs. the past 3 months (3m column), and 2) current 4-week moving average z-score vs. the past year (52 weeks) of 4-week moving averages (1yr column)

	Total		Hedge Fund Clients		Institutional Clients		Private Clients	
	3m	1y	3m	1y	3m	1y	3m	1y
Total	-2.09	0.30	-1.22	-0.21	-0.72	0.67	-2.81	0.18
Asset Class								
Equity	-2.08	0.38	-1.14	0.14	-1.02	0.57	-2.85	0.22
Fixed Income	-0.22	-0.39	-0.97	-0.96	0.24	-0.09	-0.72	-0.10
Style								
Blend	-1.57	0.76	-1.26	-0.01	-0.77	0.87	-2.11	0.70
Growth	-1.41	0.15	0.34	0.47	-1.10	-0.98	-1.81	0.39
Value	-2.79	-1.64	2.17	1.29	-2.21	-1.53	-2.84	-1.57
Sector								
Consumer Discretionary	1.24	0.64	1.98	3.15	0.65	-1.53	-1.27	-0.09
Consumer Staples	2.21	0.33	2.36	-0.04	0.16	0.41	0.95	0.23
Energy	-0.13	0.37	-0.11	0.21	-0.61	1.28	-0.71	-0.26
Financial	-0.87	1.06	-1.23	-1.64	0.05	1.84	-0.44	0.20
Health Care	0.32	-0.97	-0.05	-1.31	0.54	-0.36	0.32	0.22
Industrials	0.07	-0.47	0.21	-1.01	0.00	0.50	-0.07	-0.15
Technology	-0.39	0.15	0.25	-0.48	-0.26	0.58	-0.87	0.27
Materials	-1.58	-1.11	-1.14	-0.87	-0.54	-0.73	-1.35	-0.80
Real Estate	-0.51	1.10	-0.90	0.94	0.50	1.65	-2.25	0.41
Communications	-0.85	-0.06	-0.11	0.21	-0.61	1.28	-0.71	-0.26
Utilities	0.80	0.17	0.47	0.26	0.15	-1.28	0.69	0.72
Size								
Large-cap	-2.13	0.17	-1.15	0.13	-1.05	0.20	-2.72	0.11
Mid-cap	-0.27	1.26	-0.30	0.76	0.13	0.78	-0.86	0.65
Small-cap	-0.44	1.14	0.70	-1.25	-0.04	2.32	-1.63	0.42
Broad Market	-1.17	0.81	-0.16	1.57	-1.17	-0.03	-1.00	0.34

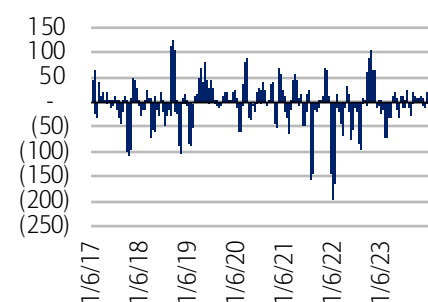
Source: BofA Securities

BofA GLOBAL RESEARCH

Equity ETF flows: 4-week average flows by sector

Exhibit 43: Disc. ETFs: flows flip positive

4 week avg, \$ mn

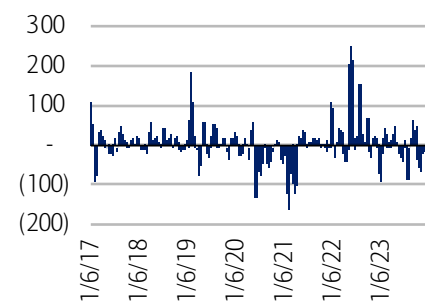


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 44: Staples ETFs: recent outflows

4 week avg, \$ mn

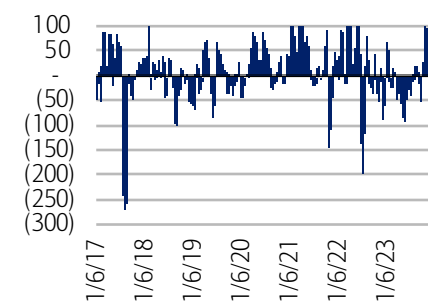


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 45: Energy ETFs: recent inflows

4 week avg, \$ mn

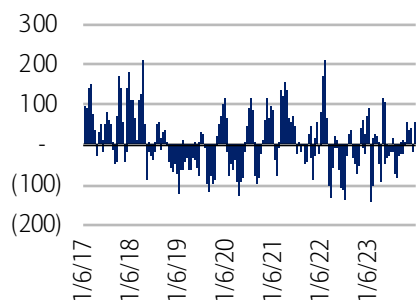


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 46: Financial ETFs: recent inflows

4 week avg, \$ mn

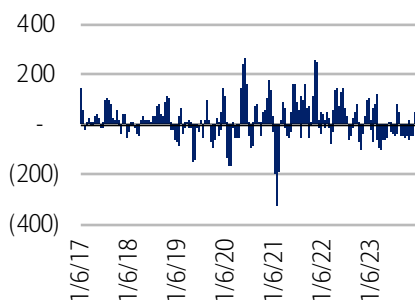


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 47: Health Care ETFs: recent outflows

4 week avg, \$ mn

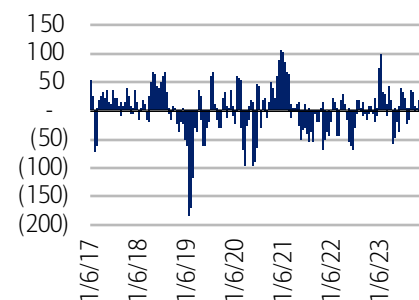


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 48: Industrials ETFs: recent outflows

4 week avg, \$ mn

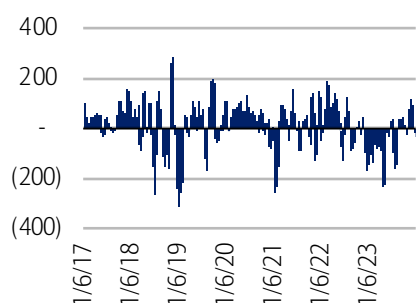


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 49: Tech ETFs: recent outflows

4 week avg, \$ mn

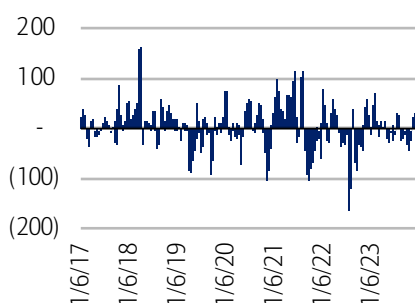


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 50: Materials ETFs: recent outflows

4 week avg, \$ mn

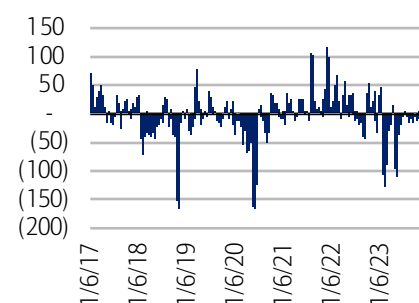


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 51: Real Estate ETFs: recent inflows

4 week avg, \$ mn

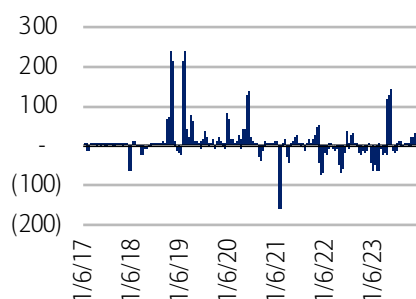


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 52: Comm. Svcs. ETFs: recent inflows

4 week avg, \$ mn

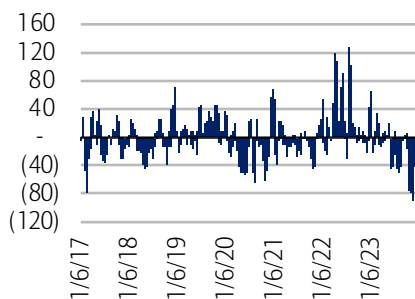


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 53: Utilities ETFs: recent outflows

4 week avg, \$ mn



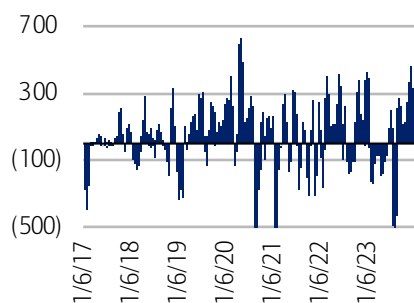
Source: BofA Securities

BofA GLOBAL RESEARCH

Equity ETFs: 4-week average flows by strategy

Exhibit 54: Growth ETFs: recent inflows

4 week avg, \$ mn

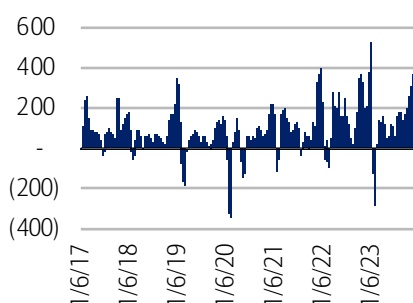


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 55: Value ETFs: recent inflows

4 week avg, \$ mn

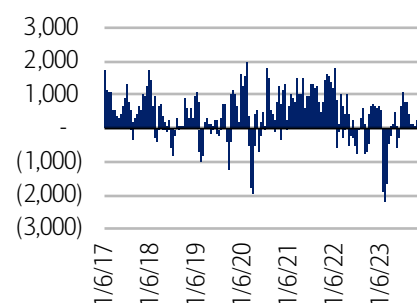


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 56: Blend ETFs: recent inflows

4 week avg, \$ mn



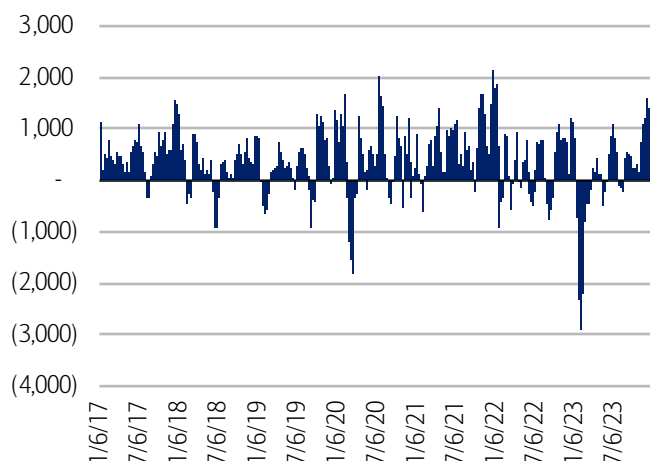
Source: BofA Securities

BofA GLOBAL RESEARCH

Equity ETFs: 4-week average flows by market cap

Exhibit 57: Large cap ETFs: recent inflows

4 week avg, \$ mn

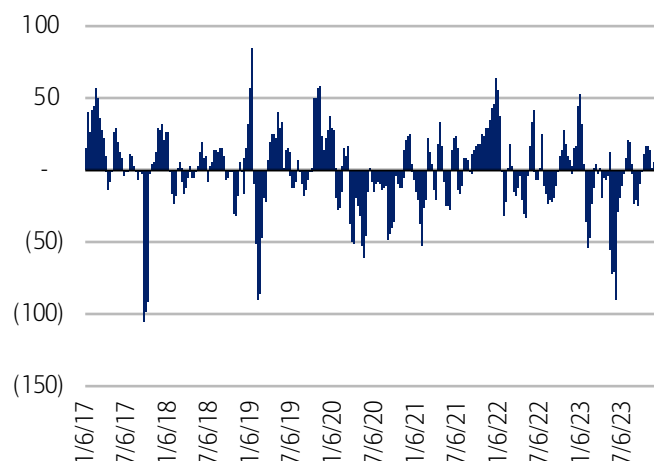


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 58: Mid cap ETFs: recent inflows

4 week avg, \$ mn

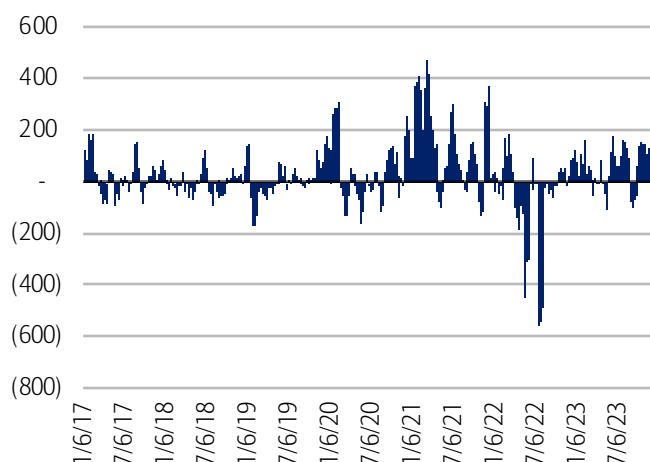


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 59: Small cap ETFs: recent inflows

4 week avg, \$ mn

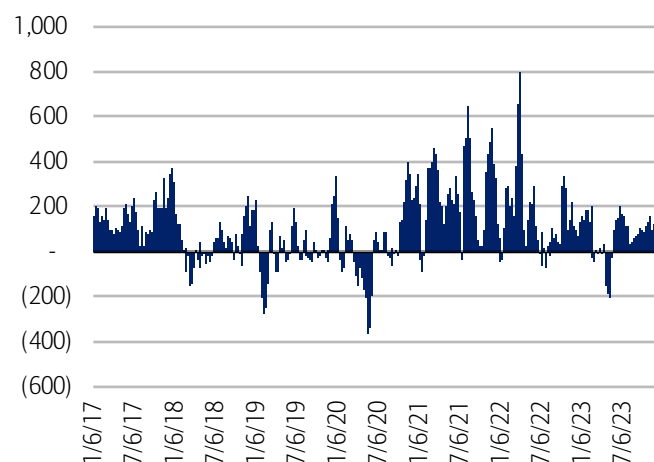


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 60: Broad Market ETFs: recent inflows

4 week avg, \$ mn



Source: BofA Securities

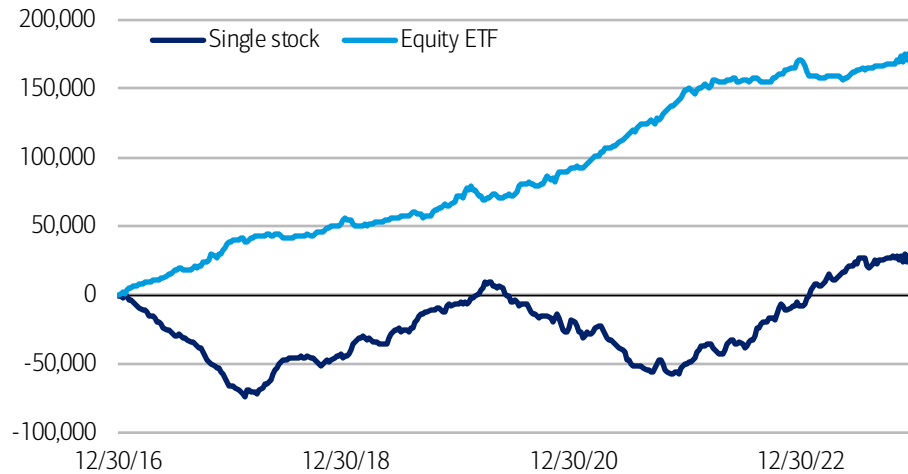
BofA GLOBAL RESEARCH



Cumulative equity sector flows: single stock vs. ETF

Exhibit 62: ETFs inflows have slowed, single stock outflows have flipped to inflows in 2023

Overall BofA client net buys (sales) of single stocks vs. equity ETFs, \$ mn

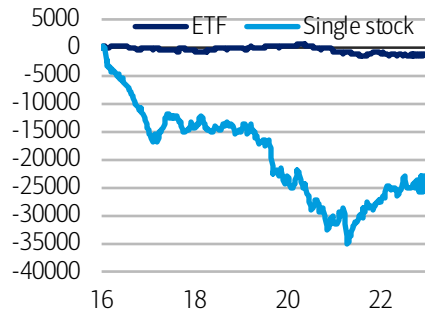


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 63: Cons Disc. Single stock recent outflows and ETFs flows flip positive

Cumulative flows 2017-now, \$mn

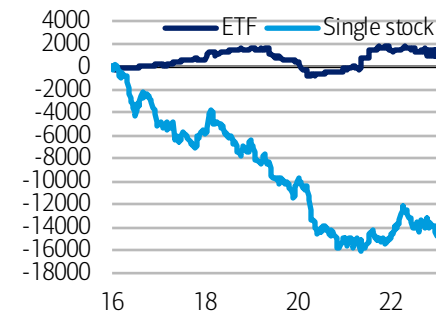


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 64: Staples: Single stock recent outflows and ETFs recent inflows

Cumulative flows 2017-now, \$mn

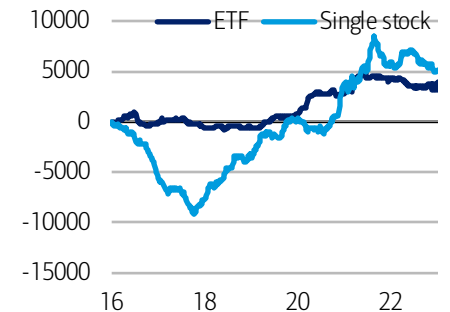


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 65: Energy: Single stock recent inflows and ETFs flows flip negative

Cumulative flows 2017-now, \$mn

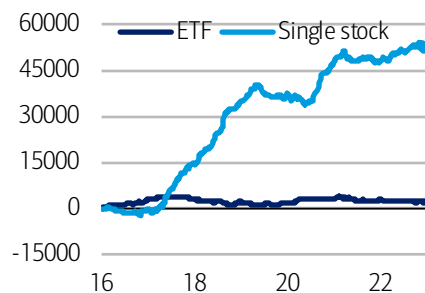


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 66: Financials: Single stock and ETFs recent outflows

Cumulative flows 2017-now, \$mn

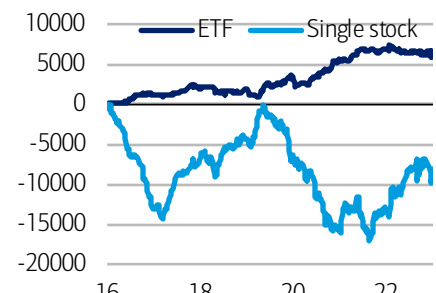


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 67: Health Care: Single stock and ETFs recent inflows

Cumulative flows 2017-now, \$mn

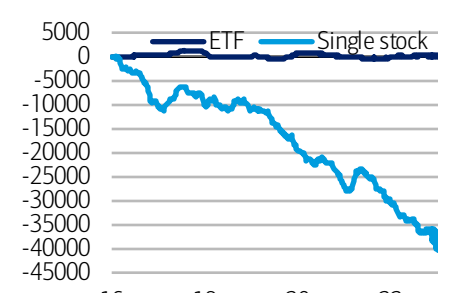


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 68: Industrials: Single stock and ETFs recent outflows

Cumulative flows 2017-now, \$mn

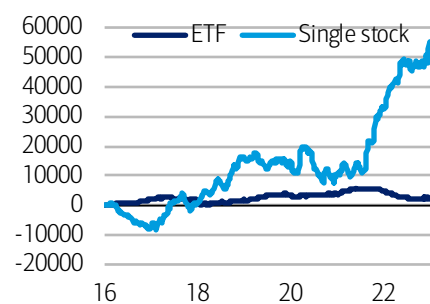


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 69: Tech: Single stock flows flip negative and ETFs recent outflows

Cumulative flows 2017-now, \$mn

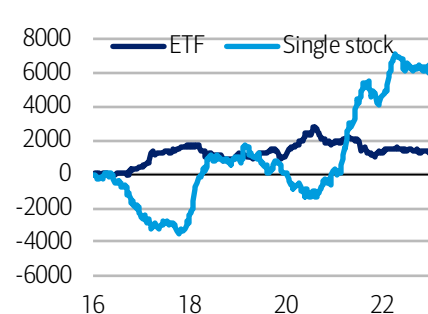


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 70: Materials: Single stock and ETFs recent outflows

Cumulative flows 2017-now, \$mn

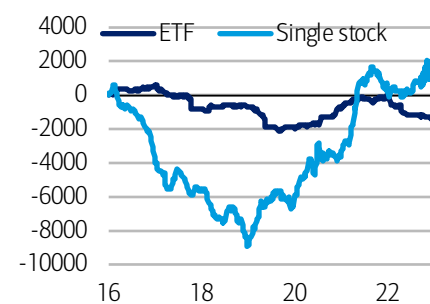


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 71: Real Estate: Single stock flows flip positive and ETFs flows flip negative

Cumulative flows 2017-now, \$mn

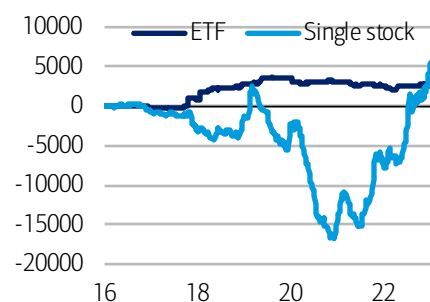


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 72: Comm. Svcs.: Single stocks recent inflows and ETFs recent outflows

Cumulative flows 2017-now, \$mn

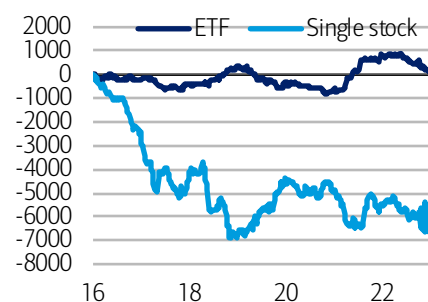


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 73: Utilities: Single stock and ETFs flows flip positive

Cumulative flows 2017-now, \$mn



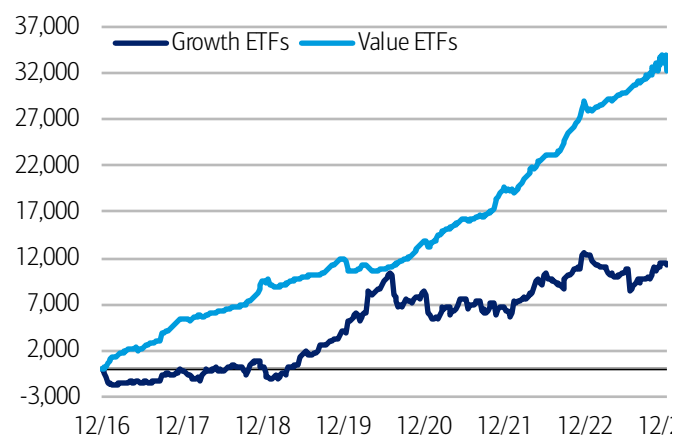
Source: BofA Securities

BofA GLOBAL RESEARCH

Cumulative Equity ETF flows by Size and Style

Exhibit 74: Value ETF flows outpacing Growth ETF flows

Growth ETF vs. Value ETF cumulative net buys, 2017-now (\$ mn)

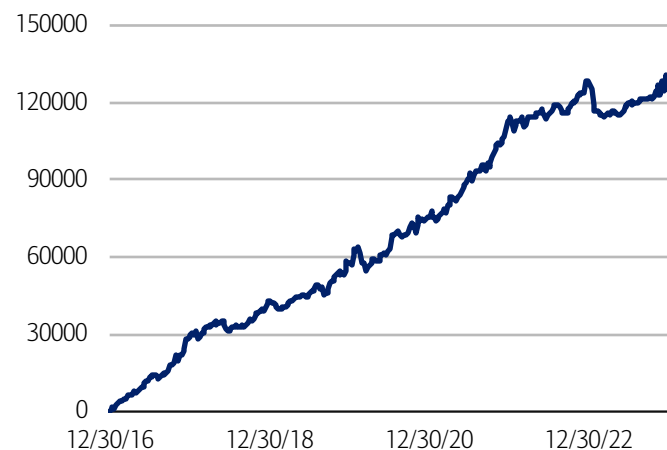


Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 76: Trend of persistent inflows into Large Cap ETFs has faltered/seen mixed trends recently

Large Cap ETF cumulative net buys, 2017-now (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 75: Blend ETFs generally seeing inflows recently

Blend ETF cumulative net buys, 2017-now (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 77: Mid Cap ETFs: recent buying after selling spate

Mid Cap ETF cumulative net buys, 2017-now (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 78: Recent inflows into small cap ETFs

Small Cap ETF cumulative net buys, 2017-now (\$ mn)



Source: BofA Securities

BofA GLOBAL RESEARCH

Exhibit 79: Broad Market ETFs seeing continued inflows

Broad Market ETF cumulative net buys, \$ mn



Source: BofA Securities

BofA GLOBAL RESEARCH

BofA Equity Client Flow Trends Methodology

This product seeks to answer the questions of:

- 1) What sectors are being bought or sold by BofA clients?
- 2) What market cap size segments are being bought or sold?
- 3) What type of client is buying or selling?

This product, which we plan to publish weekly, provides an aggregated view of BofA client trading flows into US stocks executed by the cash equities business of the firm. By aggregating flows across many execution platforms and trading desks, the goal of this product is to provide an overview of what sectors and market caps are being bought or sold, and what type of client is buying or selling. This product is not meant to be predictive of the market, but aims to provide a holistic view of BofA client trading flows by client type, sector and market cap.

The trading flow is for US stocks only and is shown here as “net buys,” defined as the dollar amount of buy orders less sell orders. Since this product is meant to provide client action context of recent market and sector performance based on client trading flows, we capture the data as “net buys” rather than trading volume. The order flow shown here represents all US single stock and ETF trades executed by the firm within the cash equity business, excluding OTC and Pink Sheets. Order flow on derivatives such as options, futures and swaps is not included. We show the data on both a weekly basis and as a four-week moving average basis to capture trends. The weekly data, while being timelier, can be influenced by block trades and is therefore more volatile. We believe the four-week moving average is better reflective of trends. Our interpretation of the data is based purely on aggregated trading flows and does not reflect any portfolio positions.

The four client types we include are: (1) hedge funds; (2) institutional clients; (3) private clients; and (4) corporates. All clients that are not hedge funds, corporates or private clients are categorized as institutional clients, and include mutual funds, pension funds, insurance companies, investment counselors, banks, broker dealers, etc.

Market cap size segments are small (<\$2bn), mid (\$2-10bn) and large (>\$10bn). The sectors included are the 11 GICS sectors, as well as ETFs. Beginning 8/31/16, Real Estate is broken out from Financials as the 11th GICS sector. Data from 10/1/18 onward



reflect the new Communication Services sector, while data prior to 10/1/18 reflect the former Telecom sector. We treat all historical net buy ETF flows as if they reflect net buys of US equities. The ETF data primarily consists of US equity ETFs, but may include flows into asset classes such as gold, other commodities and international stocks/bonds traded via US-based ETFs. In addition, net buys of ETFs may include a small amount of purchases of short fund or "bearish" ETFs. However, we believe our aggregate measures for overall US equity flows, as well as size segments and client types, still represent client actions. We began including more granularity on ETF flows as discussed in more detail below in September 2017, with data based on January 2017-present.

The first section of this report shows overall flows into US equities, with weekly charts and tables displaying the breakdown of flows by client type, sector, and market cap. The second section provides more detail on flows by client type, showing the breakdown of each client category's flows by sector and size. The weekly data we publish encompasses flows for the Monday through Friday of the prior week.

We have decided to no longer produce exhibits showing a breakout of pension fund flows (a subset of the Institutional client grouping) or sector-/size-segment level granularity on the corporate client buyback flow contained in prior issues of this product.

Color on ETF flows: We began publishing exhibits on ETF flow granularity in the September 5, 2017 edition of this report. In order to provide more color on ETF flows, based on data available back to January 2017, we began classifying ETF net buys manually by ticker based on Bloomberg Fund Classifications to aggregate each week's ETF net buys by asset class focus (Equity, Fixed Income, Commodity, Alternative, Mixed Allocation, Specialty), by sector (based on the 11 equity sectors), by strategy (Growth, Value, Blend), and by market capitalization (Large, Mid, Small, Broad Market). Note that net buys of ETFs by our clients presented throughout this report do not include creation of new ETF shares by BofA—these flows would show up as single stock net buys (sales) in the underlying sectors of the stocks that comprise the ETF. Market capitalization categorizations of ETFs by Bloomberg are based on the benchmark tracked/replicated; the prospectus may also be considered. Bloomberg may also overrule the classification of the benchmark (for example, by tagging an ETF tracking the S&P 500 as large cap even though the benchmark is multi-cap). Broad market ETFs invest in large, mid or small cap companies. Market cap classifications of ETFs by Bloomberg used in page 4 of this report may differ from the overall market cap categorizations of single stocks/ETFs by Unity in the remainder of this report.

A note on the BofA equity client flow data: Total net buys of US equities (Exhibit 5 on page 2) encompass the total trading flows we have described above. This includes a small portion of "unknown" trades, which result when the client, sector, or market cap is unable to be categorized. These "unknowns" are excluded from Sector, Client and Market Cap breakouts on pages 3-7. Hence, the overall net buys from Exhibit 5 will not exactly match the totals on these pages. **Sector, client and market cap unknowns each represent less than 4% of trading volumes on average over our data history.**

Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

Due to the nature of quantitative analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments. Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofA or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSCF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.



This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSCF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing

such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

