

# BofA Securities Equity Client Flow Trends

## 7th week of single stock inflows

### Biggest inflows since mid-December

- Stocks > equity ETFs:** Last week (where S&P 500 was +1.2%), clients were net buyers of US equities for a second consecutive week (+\$3.3B, largest in five weeks). Clients bought single stocks for the 7<sup>th</sup> straight week vs. sold equity ETFs for the 3<sup>rd</sup> week. Flows suggest increased single stock interest the last two years vs. flat-lining ETF flows for much of that period (chart below).
- Hedge Fund (HF) and Institutional clients were buyers** for the first time in ten and five weeks, respectively. Private clients were sellers in five of the last six weeks. Typically, retail flows are positive in January.
- Corporate buybacks decelerate** but are tracking above typical levels at this time for a tenth week in a row. YTD, buybacks as a percentage of S&P 500 market cap (0.28%) are above '23 highs (0.26%) at this time.

### More near-record Comm. Svcs. & Health Care inflows

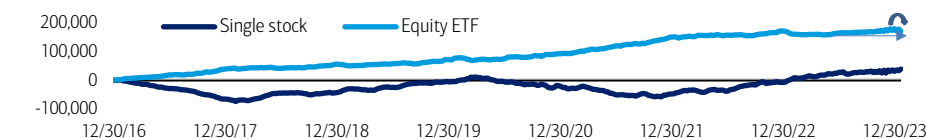
- TMT flow momentum:** Clients bought stocks 8 of the 11 GICS sectors, led by Comm. Svcs. (second-largest inflow in our data history since '08) and Health Care (third-largest inflow in our data history). Comm. Svcs. has the longest recent buying streak of any sector (last 12 weeks); Tech has similarly seen inflows in 9 of the last 12 weeks.
- Financials saw the biggest outflow**, with the largest net sale since June and the longest recent selling streak of the 11 sectors (last seven weeks).
- Defensives > cyclicals:** Defensive sectors saw inflows for a third consecutive week while clients sold cyclicals – though cyclicals ex-Financials saw inflows for the first time since Nov. We are more positive on cyclicals (see our [year-ahead outlook](#)).

### ETFs: fixed income > equity, blend > Growth/Value

- Outflows across Equity ETFs in Growth/Value ETFs and large/mid cap ETFs.** Blend and Small cap/Broad Market ETF saw inflows.
- Most sector ETFs saw outflows**, led by Health Care ETFs; Cons. Disc. ETFs led inflows.

#### Exhibit 3: Single stock flow momentum vs ETF flows flat-lining for much of last 2yrs and rolling over recently

Cumulative flows into single stocks vs equity ETFs by BofA Securities clients (\$mn), 2017-now



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.**

12649247

Timestamp: 23 January 2024 12:01AM EST

23 January 2024

Equity and Quant Strategy  
United States

BofA

Data  
Analytics



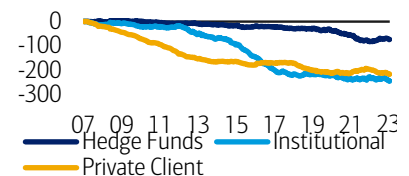
**Jill Carey Hall, CFA**  
Equity & Quant Strategist  
BofAS  
+1 646 855 3327  
[jill.carey@bofa.com](mailto:jill.carey@bofa.com)

**Savita Subramanian**  
Equity & Quant Strategist  
BofAS  
[savita.subramanian@bofa.com](mailto:savita.subramanian@bofa.com)

**Nicolas Woods**  
Equity & Quant Strategist  
BofAS  
[nicolas.woods\\_barron@bofa.com](mailto: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

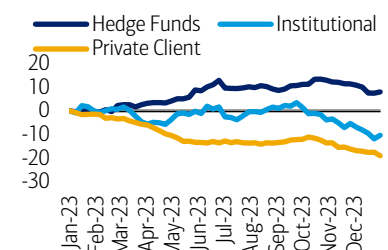


Source: BofA Securities

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

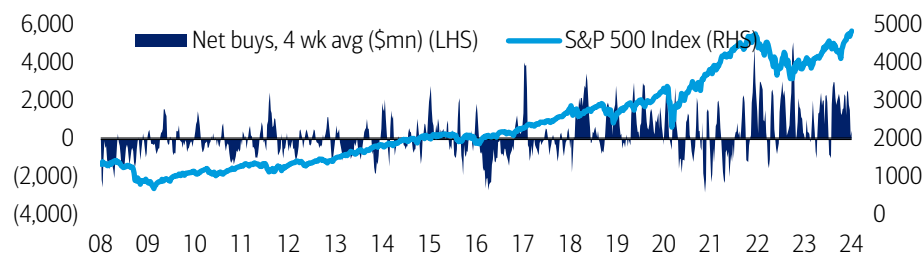
For more details on BofA Securities client flows and a complete methodology behind the data in this report, please see pg.15-16. Note that flows span Monday-Friday of the previous week

# 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
<b>Consumer Discretionary</b>	(302)	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)
<b>Consumer Staples</b>	(591)	(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)
<b>ETFs</b>	(3,241)	23,383	36,406	77,404	36,169	24,435	26,836	57,133	23,551	28,158	34,363	12,139	18,684	6,597	8,432	5,702	7,935
<b>Energy</b>	243	(1,641)	1,955	3,831	3,591	3,987	(1,615)	(5,712)	(5,054)	(1,230)	(4,074)	(3,288)	(5,323)	(933)	(4,290)	(1,970)	(8,694)
<b>Financials</b>	(1,109)	3,742	(442)	11,845	1,929	20,159	14,650	155	(4,726)	(858)	(5,408)	(4,983)	(2,248)	(1,730)	(4,734)	4,784	(2,257)
<b>Health Care</b>	3,470	3,077	2,289	(8,559)	(2,705)	1,909	6,755	(12,796)	(12,525)	(5,490)	(5,517)	(4,101)	(829)	2,243	(3,991)	(1,888)	(6,115)
<b>Industrials</b>	(928)	(10,631)	(2,979)	(8,188)	(8,475)	(971)	519	(10,502)	(10,507)	(3,036)	786	(2,110)	(1,699)	(653)	(1,576)	(91)	(6,736)
<b>Information Technology</b>	(1,327)	30,778	21,852	(2,796)	(2,421)	15,441	7,271	(6,603)	(8,518)	1,193	(3,128)	(2,703)	(1,217)	2,730	1,475	(4,355)	(6,177)
<b>Materials</b>	(34)	1,318	4,502	251	(1,084)	3,319	387	(2,678)	(2,418)	(3,479)	(1,229)	(3,664)	(3,045)	(1,783)	(1,270)	(413)	(1,068)
<b>Real Estate</b>	538	1,793	3,156	2,750	2,939	(3,216)	(1,624)	(4,155)	(366)								
<b>Communication Services</b>	5,065	17,938	5,867	(11,418)	(904)	1,974	(2,509)	(806)	1,028	596	3,223	1,743	(204)	690	(517)	365	(273)
<b>Utilities</b>	481	(1,009)	(642)	(312)	2,066	(2,569)	(1,036)	(2,968)	(942)	156	(636)	425	(808)	732	(893)	(461)	(1,622)
<b>Client</b>																	
<b>Hedge Funds</b>	(2,029)	10,953	(26,688)	(18,609)	(7,646)	363	(7,297)	(2,164)	(2,957)	(2,434)	(4,683)	(3,417)	(2,085)	(5,695)	(4,456)	6,418	(1,223)
ex. ETFs	(668)	1,515	(26,293)	(39,181)	(12,160)	(4,722)	(2,989)	(3,852)	(4,894)	(5,944)	(8,933)	(822)	(2,723)	(3,590)	(3,607)	7,568	(1,556)
<b>Institutional</b>	(2,267)	(15,002)	6,655	(18,133)	(286)	758	(17,246)	(52,717)	(49,137)	(26,153)	(18,235)	(32,792)	2,668	1,493	(13,755)	6,088	(15,150)
ex. ETFs	(8,700)	(7,169)	5,460	(26,187)	(9,025)	(9,852)	(11,255)	(60,771)	(52,225)	(19,309)	(25,640)	(29,542)	(4,693)	1,725	(15,002)	7,823	(16,713)
<b>Retail</b>	(1,884)	(18,384)	16,086	(1,287)	(10,737)	(28,106)	(1,462)	7,787	(13,983)	1,764	(13,205)	(18,800)	(39,973)	(23,049)	(25,999)	(23,361)	(21,266)
ex. ETFs	774	(40,162)	(19,521)	(50,065)	(33,652)	(36,846)	(38,596)	(39,604)	(34,366)	(29,728)	(35,914)	(34,997)	(50,657)	(31,983)	(34,033)	(31,949)	(27,305)
<b>Corporates</b>	8,458	92,617	80,823	89,112	38,544	89,721	75,091	38,587	37,019	40,767	44,850	39,401	32,449	32,897	31,964	8,609	N/A
<b>Size</b>																	
<b>Large cap</b>	3,473	74,613	45,249	45,701	27,060	59,743	46,487	(4,151)	(20,314)	665	4,815	(16,887)	(10,081)	4,480	(9,505)	(3,755)	(33,155)
ex. ETFs	60,370	54,279	30,321	(12,266)	1,056	46,762	33,004	(45,223)	(35,414)	(9,903)	(13,568)	(15,814)	(17,812)	5,284	(10,483)	(3,820)	(34,028)
<b>Mid cap</b>	(1,042)	(7,964)	23,919	5,571	(6,377)	1,842	4,098	(2,004)	(6,543)	9,329	3,991	2,151	3,050	237	(2,845)	301	(3,074)
ex. ETFs	(8,746)	(8,178)	10,635	(6,663)	(10,557)	(4,856)	(4,542)	(12,476)	(11,340)	(1,441)	(6,010)	(4,742)	(3,851)	(3,819)	(6,363)	(1,159)	(7,356)
<b>Small cap</b>	(153)	1,596	2,349	(188)	(806)	1,152	(1,498)	(2,351)	(2,202)	3,950	(80)	(872)	90	928	103	1,207	(1,410)
ex. ETFs	(749)	(748)	(2,598)	(7,391)	(6,793)	(3,605)	(6,211)	(7,941)	(5,856)	(2,870)	(6,060)	(5,402)	(3,961)	(2,416)	(3,830)	(2,970)	(4,187)
Untagged flow	0	(4,515)	(7,882)	(41,558)	(14,415)	(13,345)	(1,924)	11,379	(4,599)	(1,919)	(3,266)	(5,159)	(1,131)	(1,154)	586	(511)	(13,179)
<b>Total</b>	<b>2,266</b>	<b>66,338</b>	<b>68,597</b>	<b>9,563</b>	<b>5,508</b>	<b>49,510</b>	<b>47,103</b>	<b>2,916</b>	<b>(33,274)</b>	<b>11,613</b>	<b>5,380</b>	<b>(21,136)</b>	<b>(7,919)</b>	<b>4,492</b>	<b>(11,659)</b>	<b>(2,758)</b>	<b>(50,817)</b>
<b>Single stocks only (ex-ETFs)</b>	<b>5,507</b>	<b>47,470</b>	<b>40,072</b>	<b>(26,282)</b>	<b>(16,246)</b>	<b>38,420</b>	<b>22,191</b>	<b>(65,596)</b>	<b>(52,226)</b>	<b>(14,626)</b>	<b>(25,717)</b>	<b>(28,117)</b>	<b>(25,472)</b>	<b>(951)</b>	<b>(20,677)</b>	<b>(7,949)</b>	<b>(45,573)</b>
<b>Total ex. corporate buybacks</b>	<b>(6,192)</b>	<b>(26,279)</b>	<b>(12,227)</b>	<b>(79,549)</b>	<b>(33,036)</b>	<b>(40,211)</b>	<b>(27,988)</b>	<b>(35,672)</b>	<b>(70,293)</b>	<b>(29,154)</b>	<b>(39,469)</b>	<b>(60,537)</b>	<b>(40,368)</b>	<b>(28,405)</b>	<b>(43,624)</b>	<b>(11,366)</b>	<b>N/A</b>

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

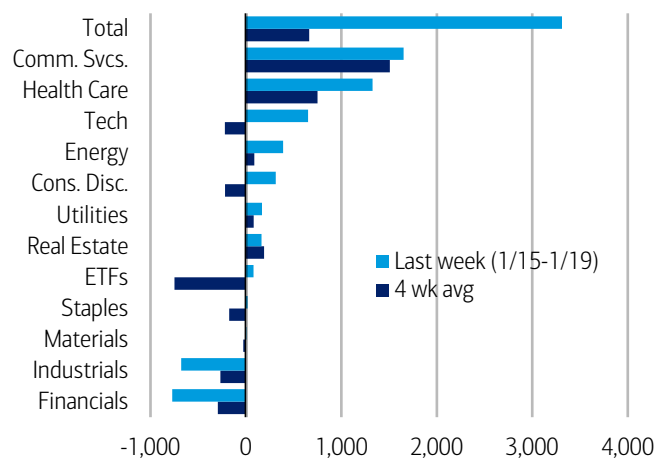
BofA GLOBAL RESEARCH



## Weekly flows by client, sector, & size

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

BofA client net buys by sector (\$ mn)

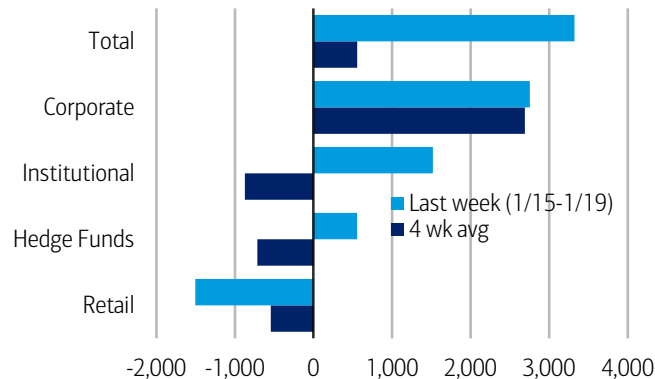


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 8: By clients, Corporate clients led inflows and Retail clients led outflows

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

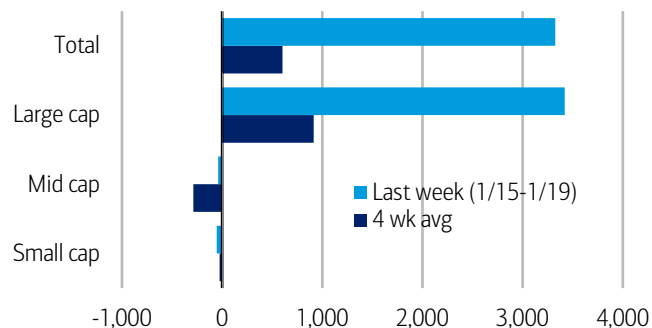


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 11: By size, Large caps led inflows and SMID caps led outflows

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 (1/15/24)	1/8/2 4	1/1/2 4	12/25 /23	4 wk. avg.	12 wk avg	52 wk avg
Cons. Disc.	313	-379	-236	-575	-219	-31	30
Cons. Staples	17	-530	-78	-109	-175	-191	-32
Energy	389	-195	49	108	88	-38	-18
Financials	-773	-190	-146	-71	-295	-251	36
Health Care	1326	1551	593	-472	749	-40	113
Industrials	-678	-42	-207	-140	-267	-476	-219
Tech	650	-342	-1635	440	-222	1,143	484
Materials	5	-20	-20	-78	-28	-23	20
Real Estate	163	217	158	223	190	-15	38
Comm. Svcs.	1652	1845	1569	965	1508	1,092	428
Utilities	167	180	133	-154	82	25	-15
ETFs	79	-1092	-2228	248	-748	1,011	538
<b>Total</b>	<b>3310</b>	<b>1003</b>	<b>-2047</b>	<b>386</b>	<b>663</b>	<b>2,207</b>	<b>1,401</b>
<b>Total ex. ETFs</b>	<b>3231</b>	<b>2095</b>	<b>180</b>	<b>138</b>	<b>1411</b>	<b>1,195</b>	<b>864</b>
<b>Total incl. untagged flows</b>	<b>3274</b>	<b>944</b>	<b>-2109</b>	<b>-421</b>	<b>422</b>	<b>1,743</b>	<b>1,315</b>

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 (1/15/24)	1/8/2 4	1/1/2 4	12/25 /23	4 wk. avg.	12 wk avg	52 wk avg
Hedge Funds	554	-121	-2461	-833	-715	-273	155
ex. ETFs	295	-663	-1827	-896	-773	-534	-15
Institutional	1520	-2335	-1452	-1225	-873	-764	-198
ex. ETFs	1007	-1604	-934	-545	-519	-897	-111
Private Client	-1506	116	-494	-296	-545	-659	-365
ex. ETFs	-825	1018	581	-1031	-64	-1258	-817
Corporates	2754	3343	2361	2299	2689	3,827	1,794
<b>Total</b>	<b>3321</b>	<b>1003</b>	<b>-2047</b>	<b>-55</b>	<b>556</b>	<b>2,131</b>	<b>1,385</b>
<b>Total ex. ETFs</b>	<b>3231</b>	<b>2095</b>	<b>180</b>	<b>-174</b>	<b>1333</b>	<b>1,195</b>	<b>864</b>
<b>Total incl. untagged flows</b>	<b>3274</b>	<b>944</b>	<b>-2109</b>	<b>-421</b>	<b>422</b>	<b>1743</b>	<b>1315</b>

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 (1/15/24)	1/8/2 4	1/1/ 24	12/25 /23	4 wk. avg.	12 wk avg	52 wk avg
Large cap	3420	1376	-1324	185	914	2,245	1,442
ex. ETFs	3091	2345	656	7	1525	1411	983
Mid cap	-41	-331	-670	-107	-287	-108	-124
ex. ETFs	67	-317	-318	-71	-160	-217	-152
Small cap	-54	-45	-53	51	-25	21	32
ex. ETFs	89	68	-158	-54	-14	-44	-11
<b>Total</b>	<b>3325</b>	<b>1000</b>	<b>-2047</b>	<b>128</b>	<b>602</b>	<b>2,159</b>	<b>1,350</b>
<b>Total ex. ETFs</b>	<b>3246</b>	<b>2095</b>	<b>180</b>	<b>-118</b>	<b>1351</b>	<b>1,195</b>	<b>864</b>
<b>Total incl. untagged flows</b>	<b>3274</b>	<b>944</b>	<b>-2109</b>	<b>-421</b>	<b>422</b>	<b>1743</b>	<b>1315</b>

Source: BofA Securities

BofA GLOBAL RESEARCH

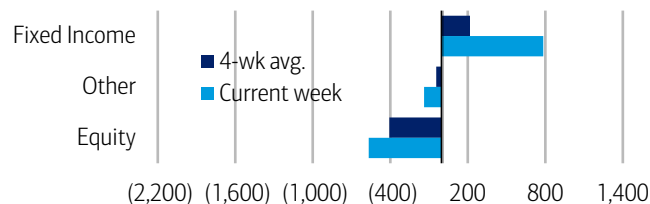


## ETF flow color

We provide additional color on ETF net buys<sup>1</sup>, 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 bought Fixed Income ETFs and sold Other/Equity ETFs

ETF net buys by asset class (\$ mn)

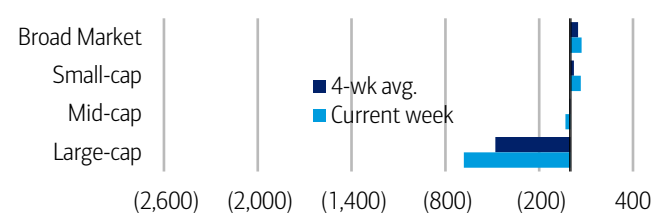


Source: BofA Securities. Note: Other includes Commodity, Specialty, Alternative, Mixed Allocation

BofA GLOBAL RESEARCH

### Exhibit 14: By size, Broad Market/Small-cap ETFs led inflows while Large/Mid-cap ETFs led outflows

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

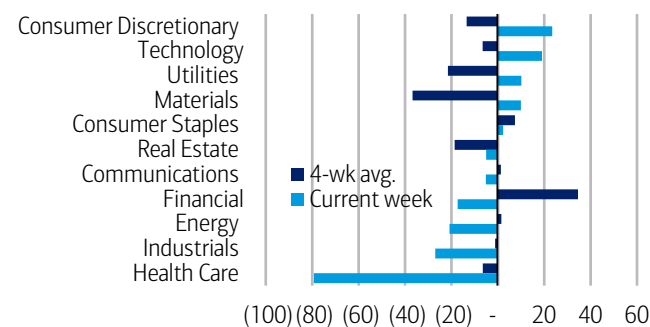


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 14: ETFs most positive in Cons. Disc. and negative in Health Care

Equity ETF net buys by sector (\$ mn)

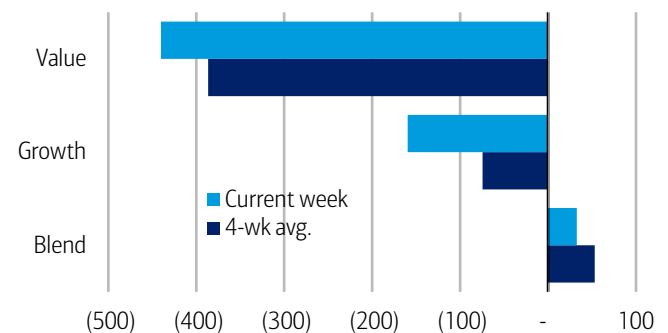


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 16: By style, Value/Growth ETFs led outflows and Blend ETFs led inflows

Equity ETF net buys by style (\$ mn)



Source: BofA Securities

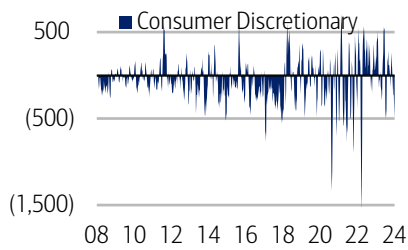
BofA GLOBAL RESEARCH

<sup>1</sup> 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)

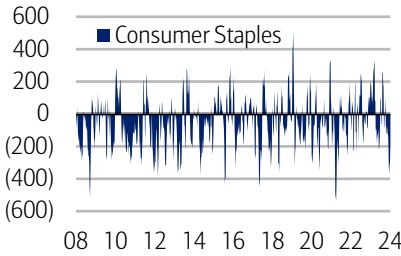


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 18: Staples: recent outflows

4 week avg. flows (\$ mn)

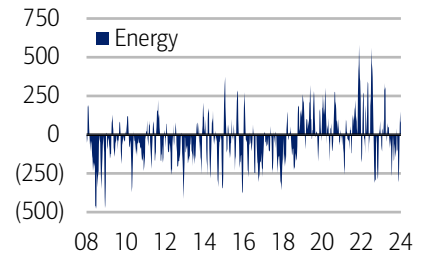


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 19: Energy: recent inflows

4 week avg. flows (\$ mn)

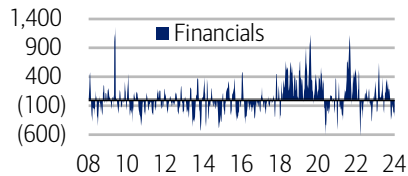


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 20: Financials: recent outflows

4 week avg. flows (\$ mn)

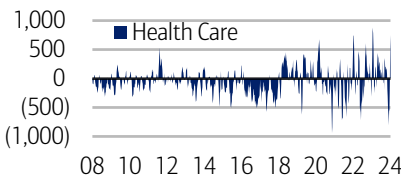


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 21: Health Care: recent inflows

4 week avg. flows (\$ mn)

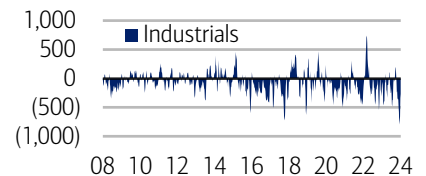


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 22: Industrials: recent outflows

4 week avg. flows (\$ mn)

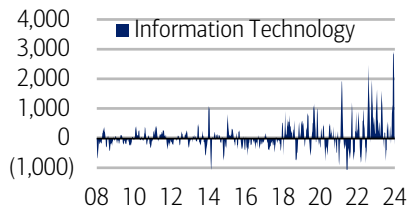


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 23: Tech: flows flip negative

4 week avg. flows (\$ mn)

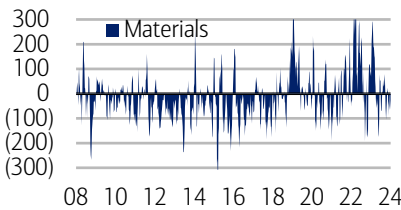


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 24: Materials: recent outflows

4 week avg. flows (\$ mn)

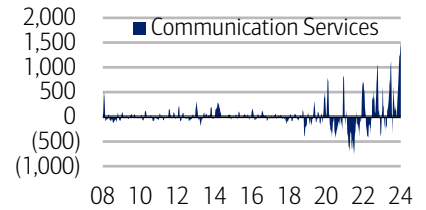


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 24: Comm. Svcs.: recent inflows

4 week avg. flows (\$ mn)

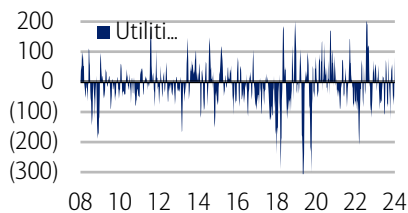


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 26: Utilities: recent inflows

4 week avg. flows (\$ mn)

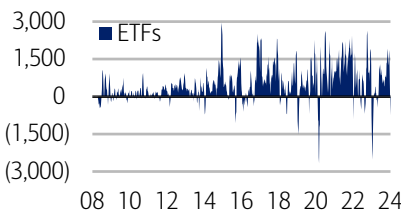


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 27: ETFs: recent outflows

4 week avg. flows (\$ mn)

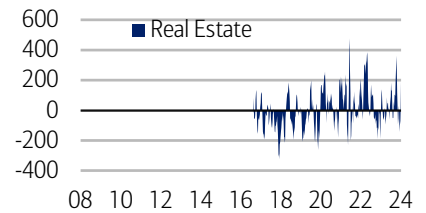


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 27: Real Estate: recent inflows

4 week avg. flows (\$ mn)



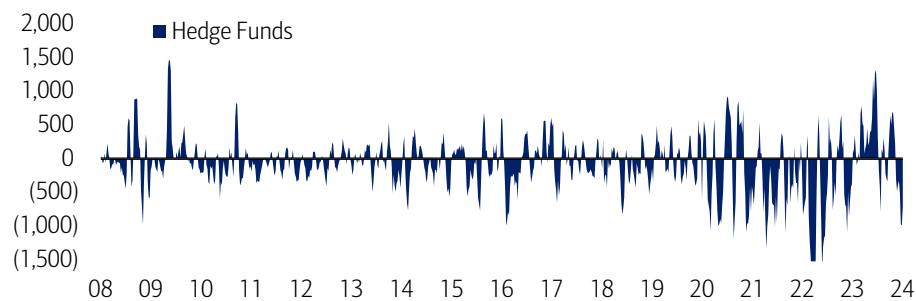
Source: BofA Securities

BofA GLOBAL RESEARCH

## Rolling four-week average trends by client type

### Exhibit 29: Hedge Funds: recent outflows

Net buys (4 week avg, \$ mn)

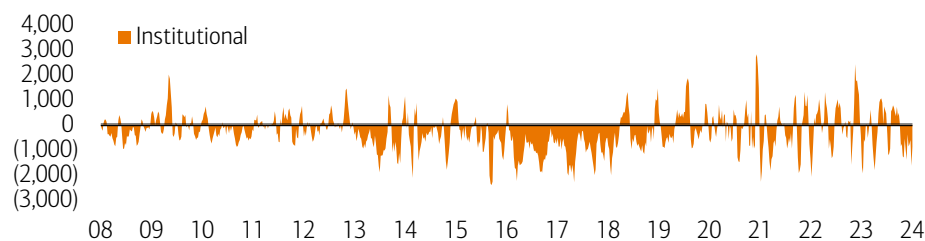


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 30: Institutional clients: recent outflows

Net buys (4 week avg, \$ mn)

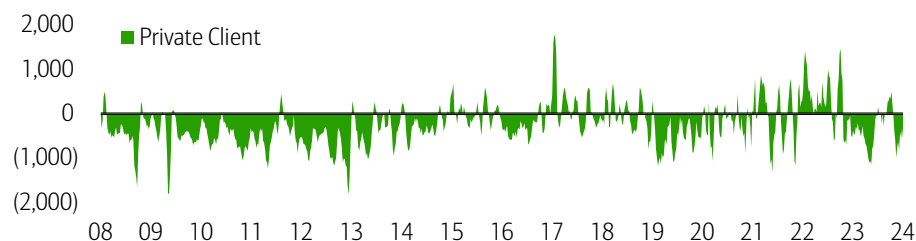


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 31: Private clients: recent outflows

Net buys (4 week avg, \$ mn)

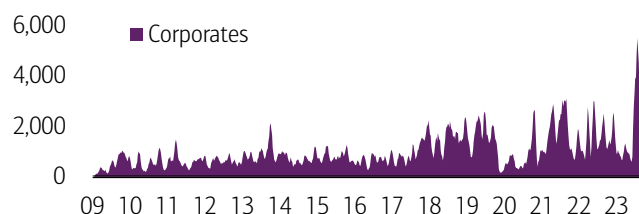


Source: BofA Securities

BofA GLOBAL RESEARCH

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

Corporate clients (4 week avg, \$ mn)

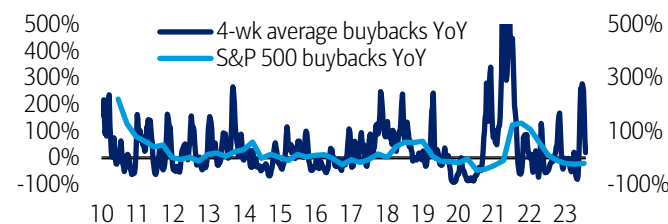


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 33: Corp. client buybacks above 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



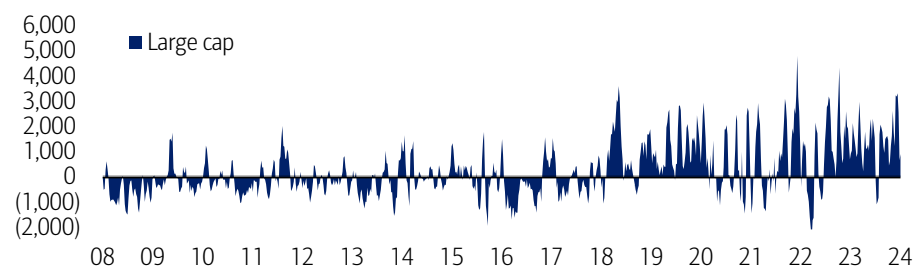
Source: S&P, BofA Securities

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)

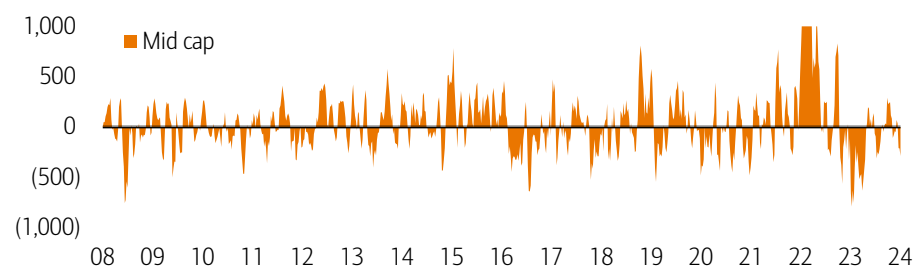


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 35: Mid caps: recent outflows

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

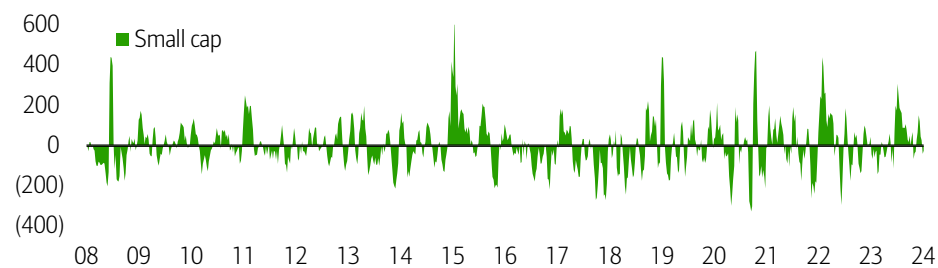


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 36: Small caps: recent outflows

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



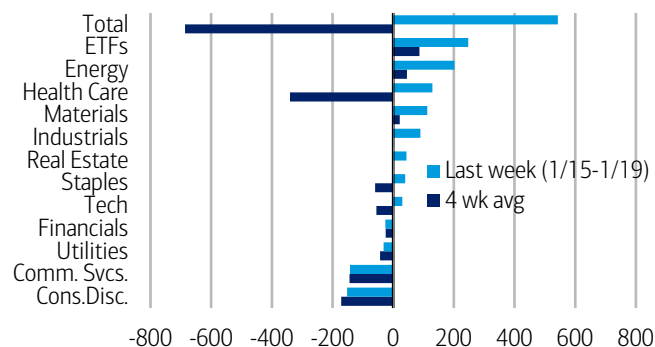
Source: BofA Securities

BofA GLOBAL RESEARCH

## Sector & size flows by client type last week

### Exhibit 37: Hedge Funds bought most sectors, led by ETFs

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

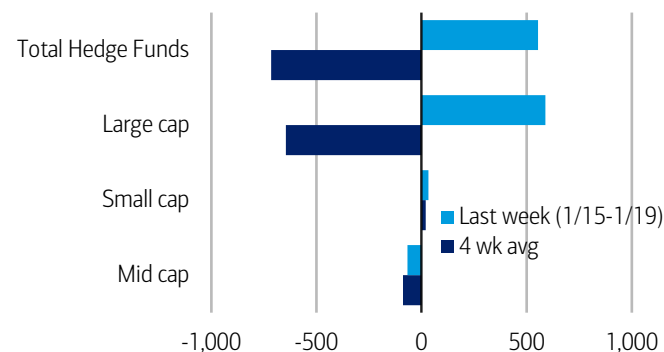


Source: BofA Securities

BofA GLOBAL RESEARCH

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

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

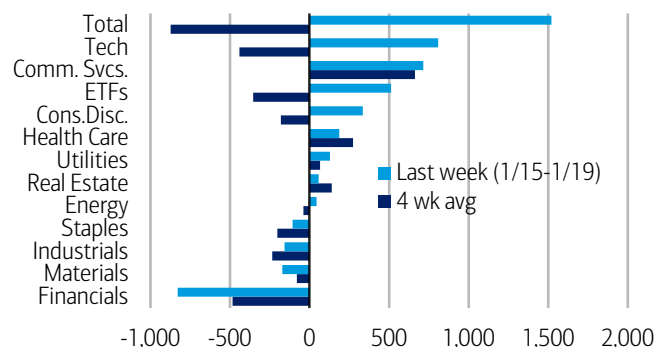


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 39: Institutional clients bought Tech and sold Financials

Institutional clients net buys by sector (\$ mn)

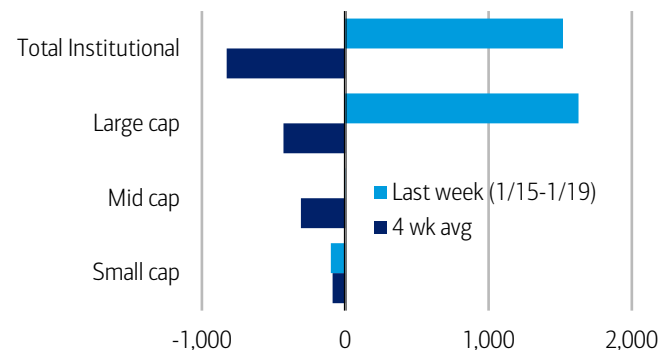


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 40: Institutional clients bought Large caps and sold SMID caps

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

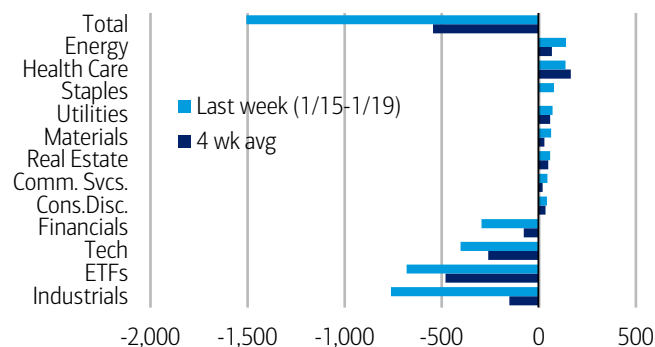


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 41: Private clients bought Energy and sold Industrials

Private clients net buys by sector (\$ mn)

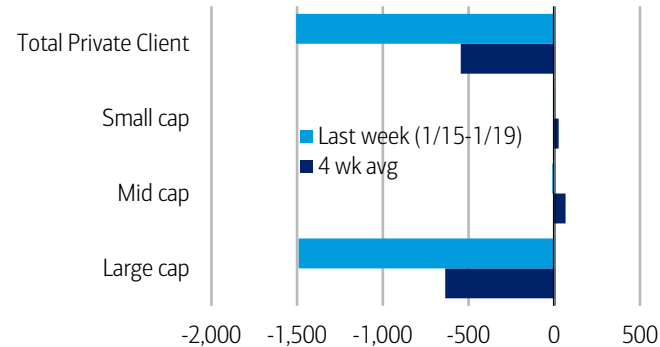


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 42: Private clients sold all size segments led by 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
<b>Total</b>	-0.45	-1.39	0.07	-0.43	0.62	-0.69	-1.41	-1.60
<b>Asset Class</b>								
Equity	-0.89	-1.25	-0.27	-0.49	-0.32	-0.92	-1.31	-1.30
Fixed Income	1.49	0.14	1.75	0.20	1.42	0.84	-1.15	-0.88
<b>Style</b>								
Blend	-0.50	-0.62	-0.01	-0.46	-0.20	-0.74	-1.52	-0.28
Growth	-1.27	-0.41	-1.28	0.06	-0.67	-1.01	-0.97	-0.20
Value	-1.08	-3.64	-0.10	-2.95	-0.18	-2.06	-1.13	-3.58
<b>Sector</b>								
Consumer Discretionary	0.50	0.56	-0.02	1.65	0.72	-0.69	0.34	0.06
Consumer Staples	0.52	0.59	0.32	0.38	0.42	0.31	0.44	0.33
Energy	0.03	0.33	-1.64	0.46	-0.38	-0.01	0.03	-0.30
Financial	-0.37	-0.60	0.18	-1.31	-0.38	-0.10	-0.02	0.10
Health Care	-0.74	0.27	-0.75	-0.67	-0.33	0.71	-0.16	0.34
Industrials	0.00	-0.26	-0.10	-0.21	0.20	-0.01	-0.61	-0.18
Technology	-0.20	0.37	0.39	0.17	-0.50	0.20	-0.55	0.43
Materials	0.39	-1.25	-0.23	-1.77	0.60	-0.32	1.21	-0.30
Real Estate	0.18	0.01	-0.06	-0.31	0.34	-1.16	-0.59	0.48
Communications	-1.27	-0.24	-1.64	0.46	-0.38	-0.01	0.03	-0.30
Utilities	0.41	0.59	0.36	0.49	0.35	-0.53	-0.35	0.56
<b>Size</b>								
Large-cap	-0.96	-1.14	-0.29	-0.27	-0.39	-0.96	-1.29	-1.14
Mid-cap	-0.96	-0.59	1.49	1.47	0.12	0.13	-1.63	-1.58
Small-cap	-0.29	-0.70	1.36	-0.56	-0.53	0.00	-1.15	-0.81
Broad Market	-0.17	-0.99	-0.96	-0.82	0.71	-0.93	-0.22	-0.30

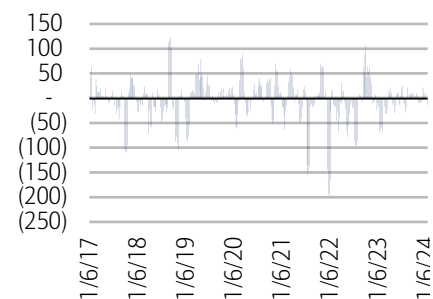
Source: BofA Securities

BofA GLOBAL RESEARCH

## Equity ETF flows: 4-week average flows by sector

### Exhibit 43: Disc. ETFs: recent outflows

4 week avg, \$ mn

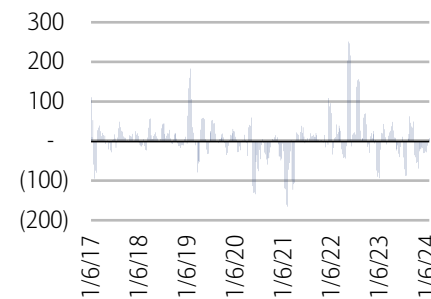


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 44: Staples ETFs: recent inflows

4 week avg, \$ mn

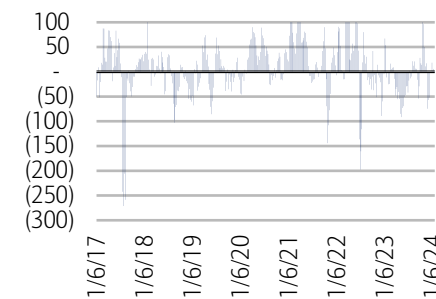


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 45: Energy ETFs: recent inflows

4 week avg, \$ mn

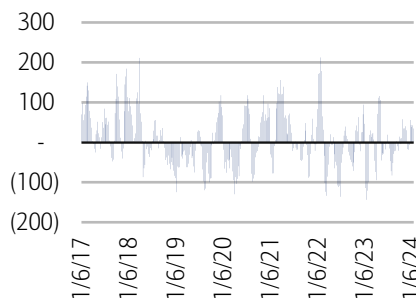


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 46: Financial ETFs: recent inflows**

4 week avg, \$ mn

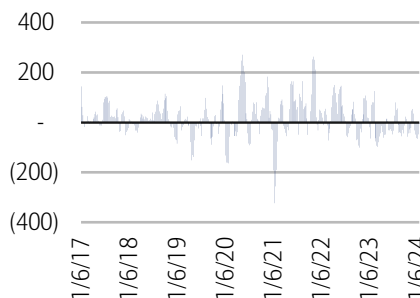


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 47: Health Care ETFs: recent outflows**

4 week avg, \$ mn

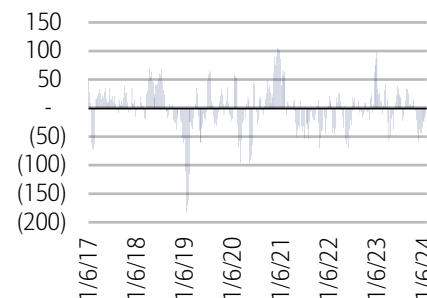


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 48: Industrials ETFs: recent outflows**

4 week avg, \$ mn

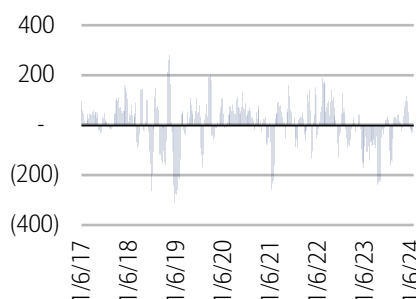


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 49: Tech ETFs: recent outflows**

4 week avg, \$ mn

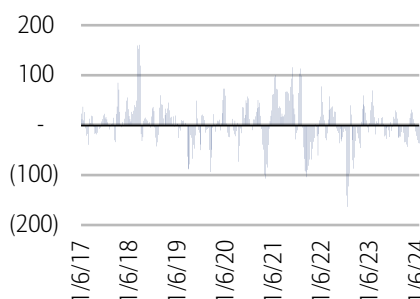


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 50: Materials ETFs: recent outflows**

4 week avg, \$ mn

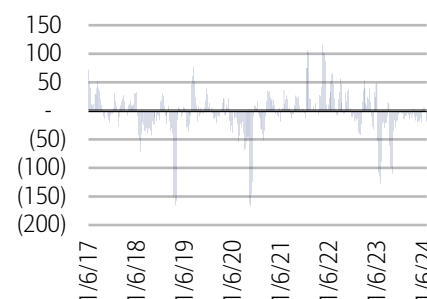


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 51: Real Estate ETFs: recent outflows**

4 week avg, \$ mn

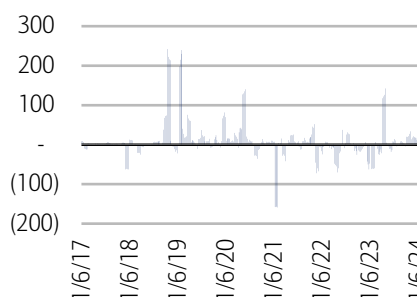


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 52: Comm. Svcs. ETFs: recent inflows**

4 week avg, \$ mn

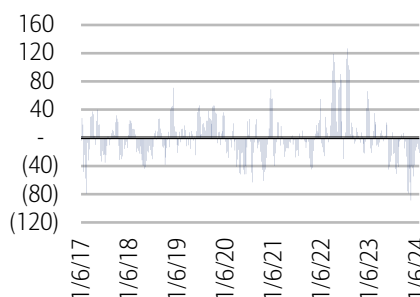


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 53: Utilities ETFs: recent outflows**

4 week avg, \$ mn



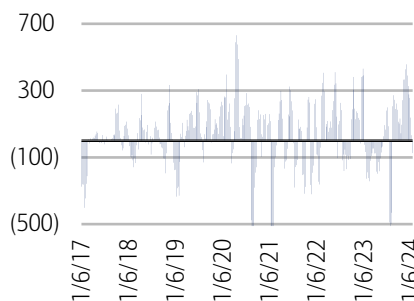
Source: BofA Securities

BofA GLOBAL RESEARCH

## Equity ETFs: 4-week average flows by strategy

**Exhibit 54: Growth ETFs: flows flip negative**

4 week avg, \$ mn

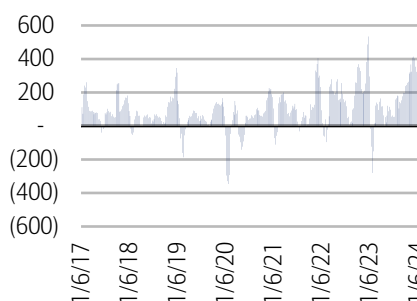


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 55: Value ETFs: recent outflows**

4 week avg, \$ mn

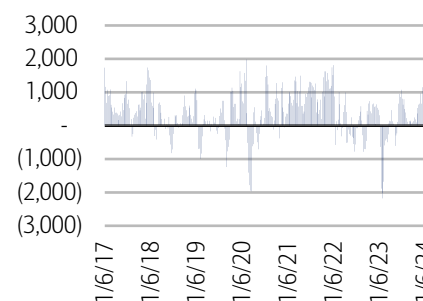


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 56: Blend ETFs: recent inflows**

4 week avg, \$ mn



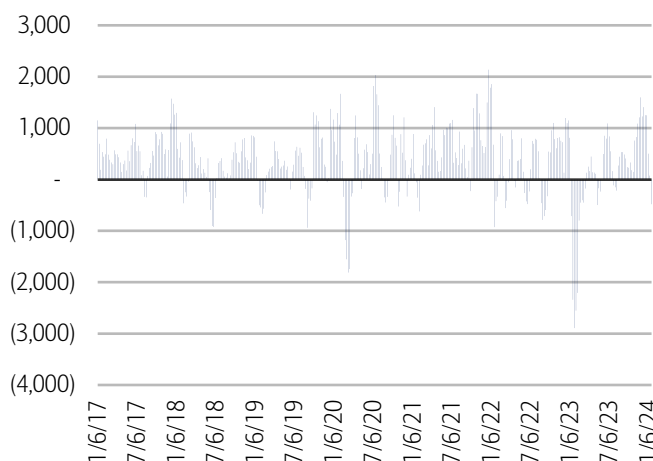
Source: BofA Securities

BofA GLOBAL RESEARCH

## Equity ETFs: 4-week average flows by market cap

**Exhibit 57: Large cap ETFs: flows flip negative**

4 week avg, \$ mn

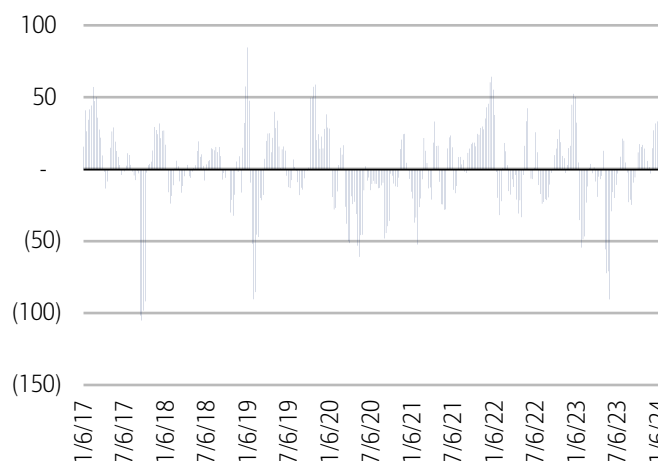


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 58: Mid cap ETFs: flows flip negative**

4 week avg, \$ mn

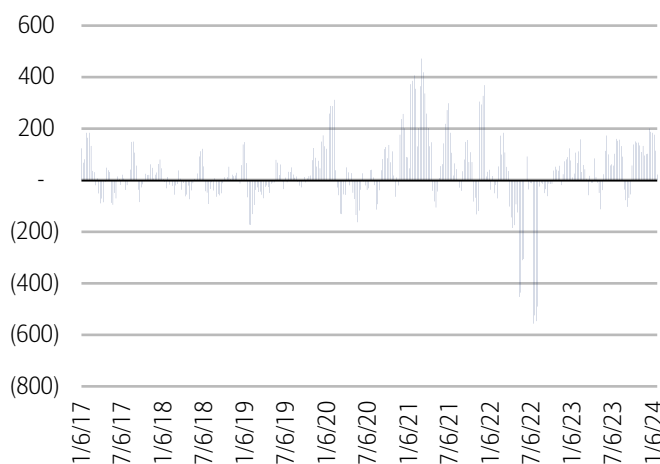


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 59: Small cap ETFs: recent inflows**

4 week avg, \$ mn

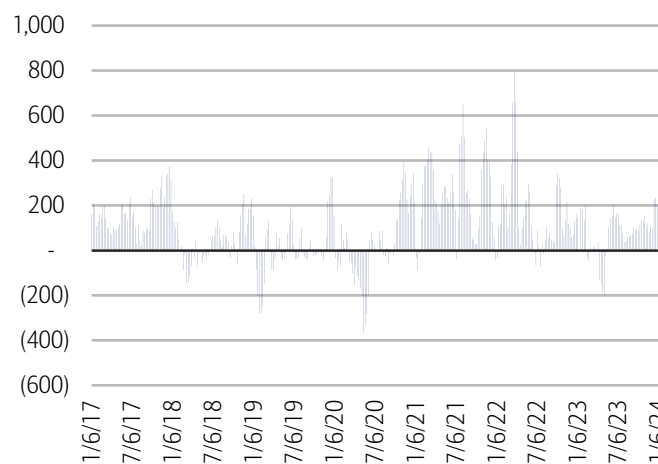


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 60: Broad Market ETFs: recent inflows**

4 week avg, \$ mn



Source: BofA Securities

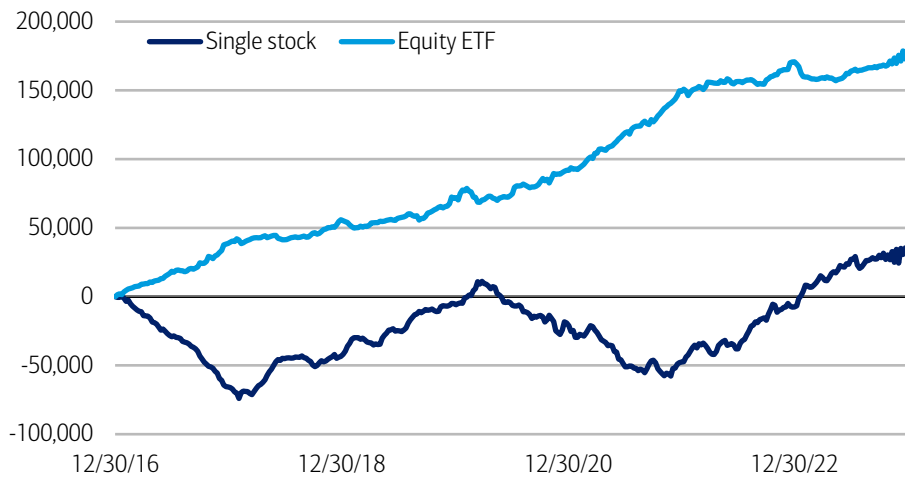
BofA GLOBAL RESEARCH



## 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

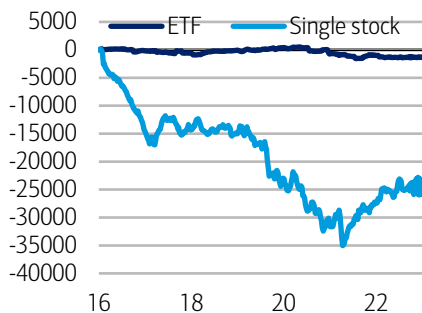


Source: BofA Securities

BofA GLOBAL RESEARCH

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

Cumulative flows 2017-now, \$mn

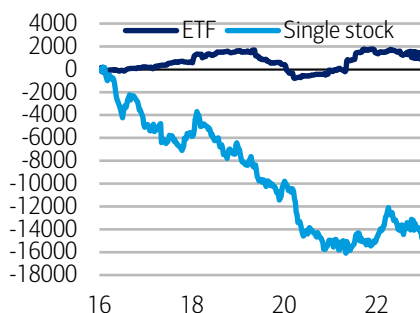


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 64: Staples: Single stock and ETFs flows flip positive

Cumulative flows 2017-now, \$mn

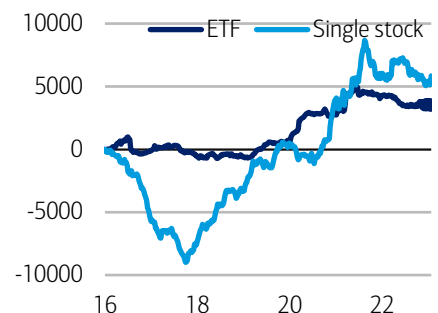


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 65: Energy: Single stock flows flip positive and ETFs flows flip negative

Cumulative flows 2017-now, \$mn

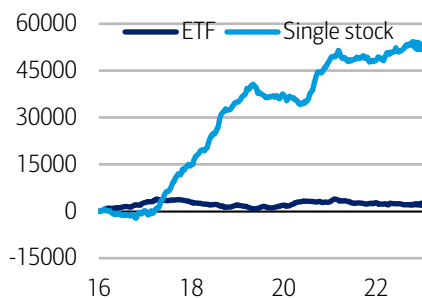


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 66: Financials: Single stock and ETFs recent outflows

Cumulative flows 2017-now, \$mn

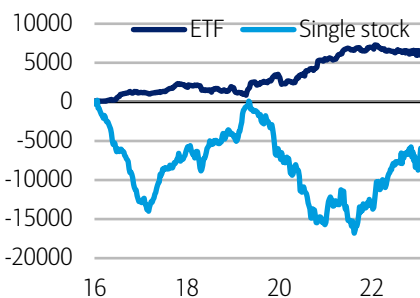


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 67: Health Care: Single stock recent inflows and ETFs flows flip negative

Cumulative flows 2017-now, \$mn

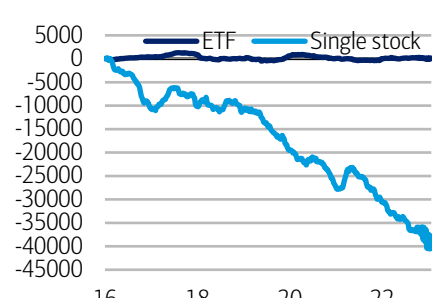


Source: BofA Securities

BofA GLOBAL RESEARCH

### Exhibit 68: Industrials: Single stock recent outflows and ETFs flows flip negative

Cumulative flows 2017-now, \$mn

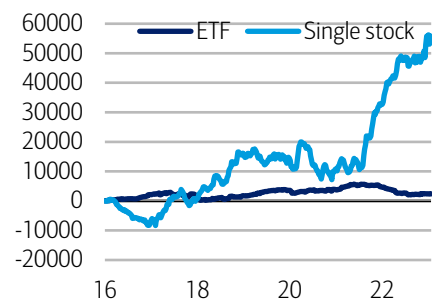


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 69: Tech: Single stock and ETFs flows flip positive**

Cumulative flows 2017-now, \$mn

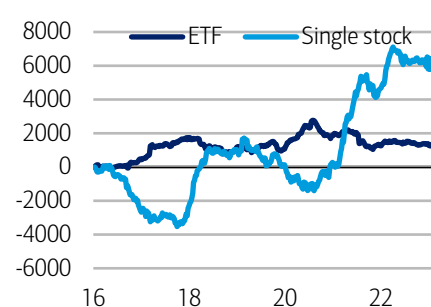


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 70: Materials: Single stock and ETFs flows flip positive**

Cumulative flows 2017-now, \$mn

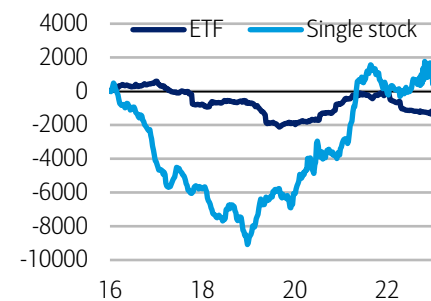


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 71: Real Estate: Single stock recent inflows and ETFs recent outflows**

Cumulative flows 2017-now, \$mn

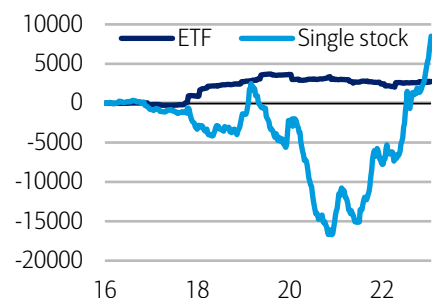


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 72: Comm. Svcs.: Single stock recent inflows and ETFs flows flip negative**

Cumulative flows 2017-now, \$mn

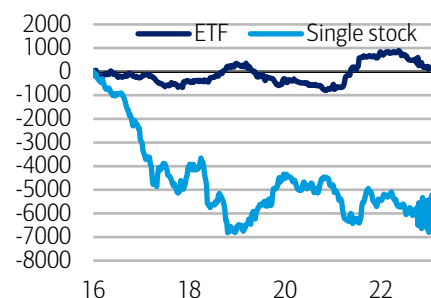


Source: BofA Securities

BofA GLOBAL RESEARCH

**Exhibit 73: Utilities: Single stock recent inflows and ETFs flows flip positive**

Cumulative flows 2017-now, \$mn



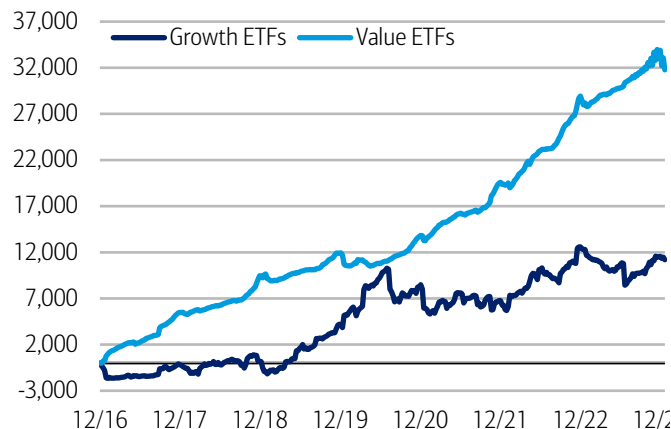
Source: BofA Securities

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)

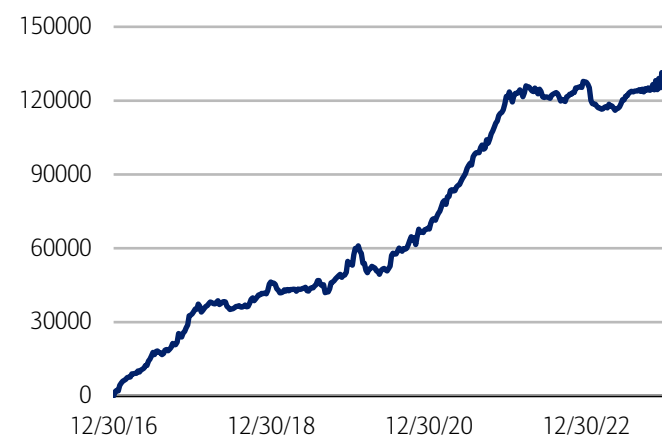


Source: BofA Securities

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 11<sup>th</sup> 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 <sup>R1</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R1</sup> 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 BofAS 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](http://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 (HKSF); 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 CBL. 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.

