

June 2022: ETF Buying in the Bear Market

- *ETF investors continued buying into the bear market, bringing inflows to \$313 billion for H1 2022*
- *Within equities, new money flowed to U.S. broad index, income and value factor ETFs, while sector had outflows*
- *Investors piled into China equity ETFs as the CSI 300 index outperformed other major equity indices*
- *Government bond ETFs were popular while precious metal ETFs were out of favour*

Summary: The bear market is now official after the U.S. stock market tumbled past the 20% threshold from its peak at the start of the year. Amazingly, ETFs still received new assets in June, though at a slower pace than May. Almost all of new investor dollars went to U.S. broad/large cap equity ETFs, with comparatively miniscule inflows to the fixed income and multi-assets categories (Table 1). Commodity ETFs bled assets in June, despite their popularity earlier in the year from inflation fears. In the first half year of 2022, U.S. listed ETFs gathered \$313 billion in new assets (Chart 1). Although the tally falls short of the halfway marker of last year's inflow record (over \$900 billion in 2021), it is still an impressive amount given the backsliding market conditions.

Equity ETFs by Geography (Table 4): U.S. equity ETF inflow seemed unscathed by June's steep market declines. As has been the pattern during past selloff environments, ultra low-cost, passive equity index ETFs took the lion's share of domestic equity inflows. Outside the U.S., international developed market ETFs received a noticeable sum of \$6.2 billion in net lows, but \$5.2 billion of that came from one mutual fund-to-ETF conversion by JP Morgan: JPMorgan International Research Enhanced Equity ETF (JIRE).

Investors deployed a round of new money to China equity ETFs, encouraged by the loosening of restrictive local COVID policies, as well as government signals that regulatory crackdowns on tech giants might ease. The CSI 300 Index rebounded nearly 20% from its trough on April 26, making Chinese stocks one of the few markets in the world to start moving in an upward path. iShares MSCI China ETF (MCHI), KraneShares CSI China Internet ETF (KWEB) each had \$1 billion inflow in June.

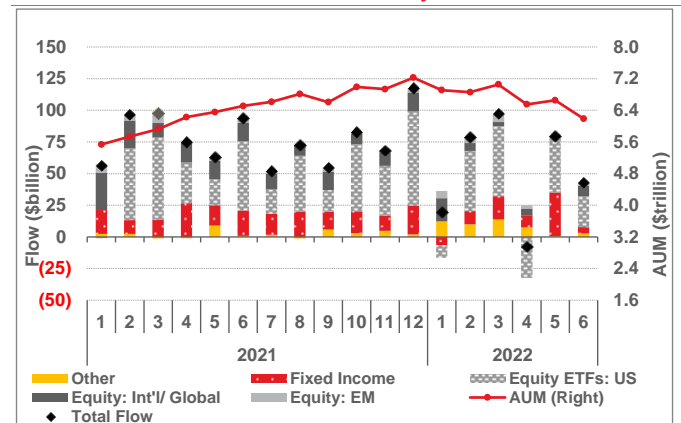
Equity Sector ETFs (Table 5): Sector and thematic ETFs had a net outflow of \$7.7 billion in June. All 12 GICS sectors had negative returns, which could partly explain the outflows from all sectors except utilities, health care, and utilities. The energy sector, one of the few bright spots in a brutal six-month market selloff, was the *worst*-performing sector

Table 1: ETF Flows by Category

| | AUM (\$B) | Mkt Shr | June 2022 Flow (\$B) | Flow/AUM | Jan-June 2022 Flow (\$B) | Flow/AUM |
|----------------------|----------------|-------------|----------------------|-------------|--------------------------|-------------|
| Equity | \$4,696 | | \$35.3 | 0.7% | \$195.2 | 3.4% |
| U.S. Broad/Large-Cap | \$1,464 | 24% | \$17.4 | 1.1% | \$34.9 | 1.9% |
| U.S. Other | \$2,135 | 35% | \$7.2 | 0.3% | \$91.9 | 3.6% |
| Int'l / Global | \$823 | 13% | \$8.3 | 0.9% | \$43.8 | 4.4% |
| Emerging Markets | \$274 | 4% | \$2.4 | 0.8% | \$24.6 | 8.1% |
| Fixed Income | \$1,213 | 20% | \$5.0 | 0.4% | \$71.1 | 5.6% |
| Commodity | \$154 | 2% | -\$2.6 | -1.6% | \$14.9 | 11.0% |
| Multi-Asset | \$59 | 1% | \$1.4 | 2.3% | \$12.6 | 23.0% |
| Levered Long | \$42 | 1% | \$1.6 | 2.8% | \$13.7 | 18.0% |
| Inverse | \$23 | 0% | \$2.1 | 11.8% | \$5.3 | 45.2% |
| Crypto-Asset | \$1 | 0% | \$0.2 | 19.8% | \$0.2 | 14.8% |
| Total | \$6,188 | 100% | \$42.9 | 0.6% | \$313.1 | 4.3% |

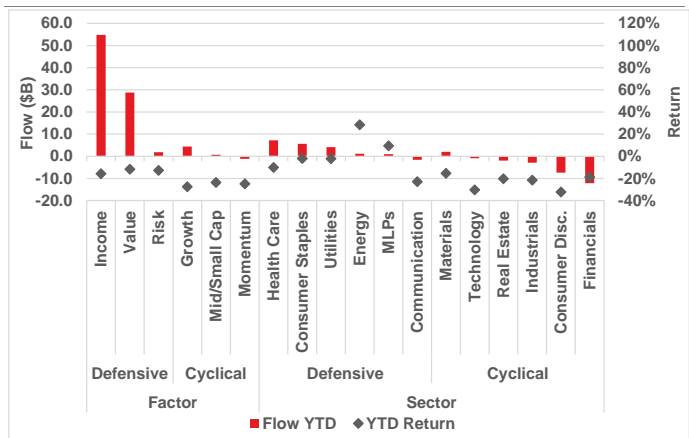
Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

Chart 1: U.S. Listed ETF Flow and AUM by month - \$313 billion YTD



Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

Chart 2: Sector and Factor ETF Flow and Performance in 2022



Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

in June and displayed the most outflows, a stark contrast to its bolstering trend in the first five months of the year.

Equity Factor ETFs (Table 8): In June, factor ETFs received \$16.6 billion, led by dividend/income (\$7.9 billion) and value (\$4.6 billion) factors. Dividend/income has been the most popular factor ETF category in the first half of the year (Chart 2), as investors increasingly seek stable sources of income (and perhaps an alternative to bonds) amid the equity market downturn. Year-to-date, dividend/income ETFs' net inflow of \$55.7 billion has surpassed 2021's full year figure (\$48.7 billion). In percentage terms, this category has collected inflows amounting to 17.5% of its AUM at the beginning of the year. Value factor ETFs claim second place with inflows of \$30.2 billion, outselling the beleaguered Growth ETF category by more than \$25 billion. Performance-wise, after years of lagging returns, the S&P 500 Value Index currently leads the S&P 500 Growth Index by 16%. "Low Volatility" has suffered 19 consecutive months of redemptions and overall \$27.1 billion of combined outflows over the years 2020 and 2021, but it has finally regained some interest this year with \$2.1 billion in creation so far.

Fixed Income ETFs (Table 6, 7): Fixed income ETFs had a slow month as the Fed raised the fed funds rate by 75 bps, a jump that hadn't been seen in 18 years. While U.S. government bond ETFs welcomed \$13.7 billion, corporate bond ETFs (investment grade and high yield combined) had an \$8.9 billion outflow in June, resulting in net \$5.0 billion for the broad fixed income category. We saw a decline in demand for the broadest-based bond ETFs such as aggregate bond ETFs (\$0.1 billions) and mixed maturity ETFs (-\$6.1 billion). Low duration government bond ETFs are now the most popular: iShares Short Treasury Bond ETF (SHV) and SPDR Bloomberg Barclays 1-3 Month T-Bill ETF (BIL) each gained \$2 billion, an increase of 11% over their month-starting AUM for both ETFs. Mid-term, long-term and target maturity ETFs received similar amounts of inflow. Year-to-date, fixed income ETFs' inflow has declined by about 30% compared with the H1 figures from 2020 (\$97.3 billion) and 2021 (\$106.2 billion).

Commodity ETFs: Outflows from commodity ETFs continued in June, primarily from precious metal ETFs (Chart 3): GLD (-\$1.0 billion), IAU (-\$0.5 billion) and SLV (-0.3 billion). Single long commodity products overall received low buying interest in June. Only United States Natural Gas Fund LP (UNG) had over \$100 million of inflow.

ESG ETFs (Table 2): After a month of redemptions, U.S. listed ESG ETFs returned to asset accumulation mode in June and pulled in \$0.6 billion in flows. The most popular category was broad ESG-score based U.S. equity ESG ETFs, such as Xtrackers MSCI USA ESG Leaders Equity ETF (USSG) and iShares ESG Aware MSCI USA ETF (ESGU). Fixed income ESG ETFs also pulled in assets through iShares' ESG Aware suite (EAGG, SUSC) despite performance

Chart 3: Commodity ETF Flow by Category – Outflows from Precious Metals ETFs in June

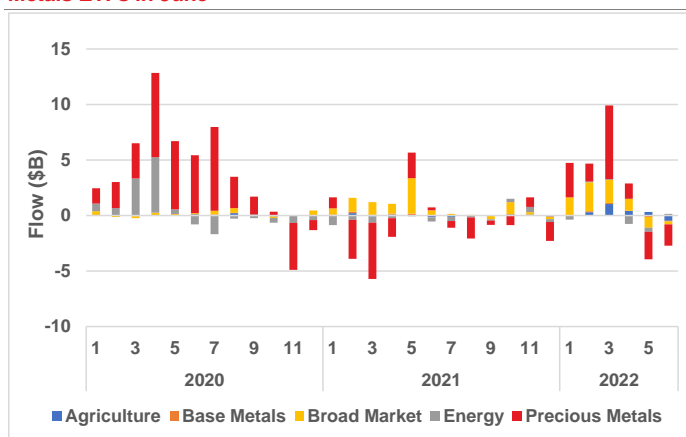


Table 2: U.S. Listed ESG ETFs – June 2022

| Category | AUM (\$M) | AUM (%) | June 2022 | | Jan - June 2022 | |
|------------------------|-----------------|-------------|--------------|-------------|-----------------|-------------|
| | | | Flow (\$M) | Flow/AUM | Flow (\$M) | Flow/AUM |
| Equity | \$84,064 | 91% | \$521 | 0.6% | \$3,171 | 3.1% |
| Broad - U.S. | \$46,704 | 51% | \$311 | 0.6% | \$2,012 | 3.5% |
| Broad - DM | \$7,454 | 8% | \$100 | 1.2% | \$840 | 9.8% |
| Broad - EM | \$4,769 | 5% | -\$177 | -3.3% | -\$427 | -6.5% |
| Broad - Global | \$3,501 | 4% | \$64 | 1.7% | \$375 | 9.3% |
| Environment | \$6,437 | 7% | \$54 | 0.8% | \$481 | 6.2% |
| Clean Energy | \$12,327 | 13% | \$96 | 0.7% | -\$826 | -5.2% |
| Social | \$2,083 | 2% | \$29 | 1.3% | \$344 | 15.0% |
| Other | \$584 | 1% | \$23 | 3.6% | \$238 | 49.5% |
| Commodities | \$1,553 | 2% | -\$29 | -1.8% | -\$250 | -13.3% |
| Multi-Asset | \$165 | 0% | -\$6 | -3.2% | -\$1 | -0.4% |
| Fixed Income | \$6,555 | 7% | \$121 | 1.8% | \$1,212 | 19.8% |
| Total Displayed | \$92,338 | 100% | \$607 | 0.6% | \$4,133 | 3.7% |

Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

Table 3: Best Performing ETFs* – June 2022

| Ticker | Name | Total Return (%) | AUM (\$M) | Flow (\$M) |
|--------|---|------------------|-----------|------------|
| 1 | CNXT VanEck ChiNext ETF | 17.2 | 25 | -2 |
| 2 | PGJ Invesco Golden Dragon China ETF | 15.7 | 314 | 21 |
| 3 | KGRN KraneShares MSCI China Clean Technology Index | 15.1 | 159 | 0 |
| 4 | CHIQ Global X MSCI China Consumer Discretionary ETF | 14.5 | 361 | 13 |
| 5 | CHB Global X China Biotech Innovation ETF | 14.3 | 3 | 0 |
| 6 | CHIH Global X MSCI China Health Care ETF | 13.0 | 12 | 0 |
| 7 | KURE KraneShares MSCI All China Health Care Index | 12.8 | 124 | -2 |
| 8 | KGRO KraneShares China Innovation ETF | 12.6 | 2 | -1 |
| 9 | BBC Virtus LifeSci Biotech Clinical Trials ETF | 12.3 | 15 | -1 |
| 10 | KBUY KraneShares CICC China Consumer Leaders Index | 12.2 | 9 | 0 |

*Excluding leveraged/inverse ETFs. Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

headwinds from rising interest rates. On the outflow side, the Emerging market ESG ETF category saw the most redemptions, led by iShares Inc iShares ESG Aware MSCI EM ETF (ESGE). In the first six months of the year, U.S.-listed ETFs in the ESG category took in \$4 billion in total, a significant fall-off to the level of ESG inflows from the roaring bull market of 2021. However, the pace of new ESG ETF launches is still going strong. In the first half of 2022, 26 new ESG ETFs have entered the market. The tally was 22 and 11 during the same period in 2021 and 2020, respectively, signalling an acceleration to the number of ESG products in the market despite diminished inflows.

Top Performing ETFs (Table 3): June's top performing table is dominated by China-related ETFs. As discussed above in the 'Equity ETF by Geography' section, China's government loosening restrictive COVID policies, announcing economic stimulus plans, and potentially easing the free-market-threatening tech crackdown that prompted some volatility in early 2021.

June 2022 ETF Flows: Tables 4 - 10

Table 4 - Equity ETF Flows by Geography - June 2022

| Geography | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|--------------------------------|----------------|-------------|---------------|-------------|
| U.S. | \$3,599 | | \$24.6 | 0.6% |
| Broad/Large Cap | \$1,464 | 31% | \$17.4 | 1.1% |
| U.S. Other | \$2,135 | 45% | \$7.2 | 0.3% |
| International Developed | \$493 | | \$6.2 | 1.1% |
| Broad Int'l Dev | \$377 | 8% | \$8.5 | 2.1% |
| Broad Europe | \$37 | 1% | -\$3.6 | -7.8% |
| Japan | \$20 | 0% | \$0.1 | 0.4% |
| Canada | \$10 | 0% | \$0.0 | -0.1% |
| Other Developed | \$48 | 1% | \$1.2 | 2.2% |
| Emerging Markets | \$274 | | \$2.4 | 0.8% |
| Broad Cap Weighted | \$182 | 4% | \$0.3 | 0.2% |
| China (A+H) | \$32 | 1% | \$3.9 | 15.0% |
| Other EM | \$60 | 1% | -\$1.8 | -2.7% |
| Global/Regional | \$330 | 7% | \$2.1 | 0.6% |
| Total Displayed | \$4,696 | 100% | \$35.3 | 0.7% |

Source: National Bank of Canada, Bloomberg

Table 5 - Equity ETF Flows by Sector and Themes* - June 2022

| Sector | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|--------------|-------------|---------------|--------------|
| Communication Services | \$29 | 4% | \$0.8 | 2.7% |
| Health Care | \$96 | 12% | \$0.5 | 0.5% |
| Utilities | \$25 | 3% | \$0.4 | 1.4% |
| Consumer Staples | \$28 | 4% | -\$0.3 | -0.9% |
| Industrials | \$30 | 4% | -\$0.5 | -1.4% |
| Materials | \$42 | 6% | -\$0.9 | -1.8% |
| Consumer Discretionary | \$26 | 3% | -\$0.9 | -2.9% |
| Real Estate | \$79 | 10% | -\$1.3 | -1.5% |
| Technology | \$141 | 18% | -\$1.4 | -0.9% |
| Financials | \$56 | 7% | -\$2.1 | -3.3% |
| Energy | \$74 | 10% | -\$2.7 | -2.9% |
| ESG | \$83 | 11% | \$0.5 | 0.5% |
| Thematic | \$57 | 7% | \$0.2 | 0.3% |
| Total Displayed | \$766 | 100% | -\$7.7 | -0.9% |

*Includes all geographic focus; Source: National Bank of Canada, Bloomberg
QQQ is classified as a broad market ETF and does not belong to technology sector

Table 6 - Fixed Income ETF Flows by Type - June 2022

| Type | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|-----------------------------|----------------|-------------|--------------|-------------|
| U.S. Aggregate | \$284 | 23% | \$0.1 | 0.0% |
| U.S. Government | \$357 | 29% | \$13.7 | 3.9% |
| U.S. Municipals | \$86 | 7% | \$1.3 | 1.5% |
| U.S. I.G. Corporate | \$204 | 17% | -\$2.9 | -1.4% |
| Developed Markets&Global | \$133 | 11% | \$0.3 | 0.2% |
| Emerging Markets | \$26 | 2% | -\$1.1 | -3.9% |
| Sub-investment Grade | \$79 | 7% | -\$6.0 | -6.6% |
| Convertibles and Preferreds | \$42 | 3% | -\$0.5 | -1.1% |
| Total Displayed | \$1,213 | 100% | \$5.0 | 0.4% |

Source: National Bank of Canada, Bloomberg

Table 7 - Fixed Income ETF Flows by Maturity - June 2022

| Maturity | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|----------------|-------------|--------------|-------------|
| Broad/Mixed | \$607 | 50% | -\$6.1 | -1.0% |
| Ultra Short Term | \$145 | 12% | \$6.0 | 4.3% |
| Short Term | \$253 | 21% | \$1.0 | 0.4% |
| Mid Term | \$133 | 11% | \$1.9 | 1.4% |
| Long Term | \$46 | 4% | \$1.4 | 3.0% |
| Target Maturity | \$26 | 2% | \$1.1 | 4.2% |
| Rate Hedged | \$3 | 0% | -\$0.4 | -12.3% |
| Total Displayed | \$1,213 | 100% | \$5.0 | 0.4% |

Source: National Bank of Canada, Bloomberg

Table 8 - Equity ETF Flows by Factor* - June 2022

| Factor | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|----------------|-------------|---------------|-------------|
| Income | \$332 | 20% | \$7.9 | 2.2% |
| Value | \$375 | 23% | \$4.6 | 1.1% |
| Small/Mid Cap | \$387 | 24% | \$3.2 | 0.8% |
| Growth | \$293 | 18% | \$2.0 | 0.6% |
| Momentum | \$21 | 1% | \$0.6 | 2.6% |
| Quality | \$32 | 2% | -\$0.2 | -0.7% |
| Low Vol | \$59 | 4% | -\$0.5 | -0.9% |
| Multi-Factor and Other | \$129 | 8% | -\$0.8 | -0.6% |
| Total Displayed | \$1,627 | 100% | \$16.6 | 0.9% |

*Includes all geographic focus, excluding sector ETFs; Source: NBC, Bloomberg

Table 9 - Top Single Long ETF Inflows - June 2022

| Ticker | Name | Flow (\$B) | Flow/AUM |
|--------|---|------------|----------|
| 1 | VOO Vanguard S&P 500 ETF | \$7.1 | 2.7% |
| 2 | JIRE JPMorgan International Research Enhanced Equity | \$5.2 | NA |
| 3 | ITOT iShares Core S&P Total US Stock Market ETF | \$3.3 | 8.0% |
| 4 | IVV iShares Core S&P 500 ETF | \$3.1 | 1.0% |
| 5 | SHV iShares Short Treasury Bond ETF | \$2.2 | 10.9% |
| 6 | BIL SPDR Bloomberg Barclays 1-3 Month T-Bill ETF | \$2.1 | 11.1% |
| 7 | VTI Vanguard Total Stock Market ETF | \$2.1 | 0.8% |
| 8 | QQQ Invesco QQQ Trust Series 1 | \$1.9 | 1.1% |
| 9 | VYM Vanguard High Dividend Yield ETF | \$1.9 | 4.0% |
| 10 | MCHI iShares MSCI China ETF | \$1.4 | 22.0% |
| 11 | IWM iShares Russell 2000 ETF | \$1.4 | 2.6% |
| 12 | IEF iShares 7-10 Year Treasury Bond ETF | \$1.3 | 7.2% |
| 13 | VTV Vanguard Value ETF | \$1.3 | 1.3% |
| 14 | SHY iShares 1-3 Year Treasury Bond ETF | \$1.3 | 5.1% |
| 15 | IEI iShares 3-7 Year Treasury Bond ETF | \$1.3 | 12.2% |
| 16 | VTEB Vanguard Tax-Exempt Bond Index ETF | \$1.2 | 7.2% |
| 17 | USFR WisdomTree Floating Rate Treasury Fund | \$1.2 | 20.1% |
| 18 | KWEB KraneShares CSI China Internet ETF | \$1.1 | 17.2% |
| 19 | JPST JPMorgan Ultra-Short Income ETF | \$1.1 | 5.8% |
| 20 | IJR iShares Core S&P Small-Cap ETF | \$1.0 | 1.6% |

Source: National Bank of Canada, Bloomberg

Table 10 - Top Single Long ETF Outflows - June 2022

| Ticker | Name | Flow (\$B) | Flow/AUM |
|--------|---|------------|----------|
| 1 | BBEU JPMorgan BetaBuilders Europe ETF | -\$2.6 | -31.2% |
| 2 | LQD iShares iBoxx \$ Investment Grade Corporate Bond | -\$2.4 | -7.0% |
| 3 | SPY SPDR S&P 500 ETF Trust | -\$1.6 | -0.4% |
| 4 | XLE Energy Select Sector SPDR Fund | -\$1.3 | -3.1% |
| 5 | VCIT Vanguard Intermediate-Term Corporate Bond ETF | -\$1.3 | -3.0% |
| 6 | HYG iShares iBoxx High Yield Corporate Bond ETF | -\$1.2 | -8.0% |
| 7 | XLF Financial Select Sector SPDR Fund | -\$1.2 | -3.5% |
| 8 | BSV Vanguard Short-Term Bond ETF | -\$1.2 | -3.0% |
| 9 | JNK SPDR Bloomberg Barclays High Yield Bond ETF | -\$1.1 | -13.5% |
| 10 | GLD SPDR Gold Shares | -\$1.0 | -1.6% |
| 11 | VNQ Vanguard Real Estate ETF | -\$1.0 | -2.4% |
| 12 | BKLN Invesco Senior Loan ETF | -\$1.0 | -19.2% |
| 13 | SMH VanEck Semiconductor ETF | -\$0.9 | -10.8% |
| 14 | FNDX Schwab Fundamental U.S. Large Company Index | -\$0.9 | -8.3% |
| 15 | SRNL SPDR Blackstone Senior Loan ETF | -\$0.8 | -8.7% |
| 16 | VONV Vanguard Russell 1000 Value | -\$0.8 | -10.7% |
| 17 | TFI SPDR Nuveen Bloomberg Barclays Muni Bond | -\$0.7 | -16.4% |
| 18 | VGK Vanguard FTSE Europe ETF | -\$0.7 | -3.8% |
| 19 | XLV Health Care Select Sector SPDR Fund | -\$0.7 | -1.7% |
| 20 | INDA iShares MSCI India ETF | -\$0.6 | -12.5% |

Source: National Bank of Canada, Bloomberg

January - June 2022 ETF Flows: Tables 11 - 17

Table 11 - Equity ETF Flows by Geography - Jan-June 2022

| Geography | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|-------------------------|----------------|-------------|----------------|-------------|
| U.S. | \$3,599 | | \$126.7 | 2.9% |
| Broad/Large Cap | \$1,464 | 31% | \$34.9 | 1.9% |
| U.S. Other | \$2,135 | 45% | \$91.9 | 3.6% |
| International Developed | \$493 | | \$25.1 | 4.2% |
| Broad Int'l Dev | \$377 | 8% | \$24.2 | 5.4% |
| Broad Europe | \$37 | 1% | -\$7.0 | -12.2% |
| Japan | \$20 | 0% | \$0.3 | 1.2% |
| Canada | \$10 | 0% | \$1.5 | 14.4% |
| Other Developed | \$48 | 1% | \$6.2 | 11.4% |
| Emerging Markets | \$274 | | \$24.6 | 8.1% |
| Broad Cap Weighted | \$182 | 4% | \$13.1 | 6.3% |
| China (A+H) | \$32 | 1% | \$8.2 | 29.8% |
| Other EM | \$60 | 1% | \$3.4 | 4.8% |
| Global/Regional | \$330 | 7% | \$18.7 | 4.6% |
| Total Displayed | \$4,696 | 100% | \$195.2 | 3.4% |

Source: National Bank of Canada, Bloomberg

Table 12 - Equity ETF Flows by Sector and Themes* - Jan-June 2022

| Sector | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|--------------|-------------|--------------|-------------|
| Health Care | \$96 | 12% | \$7.8 | 7.3% |
| Consumer Staples | \$28 | 4% | \$5.6 | 23.3% |
| Utilities | \$25 | 3% | \$4.6 | 21.3% |
| Materials | \$42 | 6% | \$1.8 | 3.6% |
| Energy | \$74 | 10% | \$1.4 | 2.3% |
| Technology | \$141 | 18% | -\$0.9 | -0.5% |
| Communication Services | \$29 | 4% | -\$1.5 | -3.6% |
| Real Estate | \$79 | 10% | -\$1.9 | -1.9% |
| Industrials | \$30 | 4% | -\$3.1 | -7.6% |
| Consumer Discretionary | \$26 | 3% | -\$7.6 | -15.5% |
| Financials | \$56 | 7% | -\$2.6 | -14.9% |
| ESG | \$83 | 11% | \$3.1 | 3.0% |
| Thematic | \$57 | 7% | \$4.8 | 6.3% |
| Total Displayed | \$766 | 100% | \$1.2 | 0.1% |

*Includes all geographic focus; Source: National Bank of Canada, Bloomberg
QQQ is classified as a broad market ETF and does not belong to technology sector

Table 13 - Fixed Income ETF Flows by Type - Jan-June 2022

| Type | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|-----------------------------|----------------|-------------|---------------|-------------|
| U.S. Aggregate | \$284 | 23% | \$9.2 | 3.0% |
| U.S. Government | \$357 | 29% | \$58.1 | 17.7% |
| U.S. Municipals | \$86 | 7% | \$13.6 | 17.3% |
| U.S. I.G. Corporate | \$204 | 17% | \$2.7 | 1.2% |
| Developed Markets&Global | \$133 | 11% | \$8.9 | 6.5% |
| Emerging Markets | \$26 | 2% | -\$1.1 | -3.1% |
| Sub-investment Grade | \$79 | 7% | -\$16.1 | -14.8% |
| Convertibles and Preferreds | \$42 | 3% | -\$4.2 | -7.6% |
| Total Displayed | \$1,213 | 100% | \$71.1 | 5.6% |

Source: National Bank of Canada, Bloomberg

Table 14 - Fixed Income ETF Flows by Maturity - Jan-June 2022

| Maturity | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|----------------|-------------|---------------|-------------|
| Broad/Mixed | \$607 | 50% | -\$3.5 | -0.5% |
| Ultra Short Term | \$145 | 12% | \$31.8 | 27.4% |
| Short Term | \$253 | 21% | \$15.7 | 6.3% |
| Mid Term | \$133 | 11% | \$13.2 | 9.7% |
| Long Term | \$46 | 4% | \$9.9 | 20.4% |
| Target Maturity | \$26 | 2% | \$4.9 | 21.4% |
| Rate Hedged | \$3 | 0% | -\$0.8 | -22.8% |
| Total Displayed | \$1,213 | 100% | \$71.1 | 5.6% |

Source: National Bank of Canada, Bloomberg

Table 15 - Equity ETF Flows by Factor* - Jan-June 2022

| Factor | AUM (\$B) | Mkt Shr | Flow (\$B) | Flow/AUM |
|------------------------|----------------|-------------|----------------|-------------|
| Income | \$332 | 20% | \$55.7 | 17.5% |
| Value | \$375 | 23% | \$30.2 | 7.5% |
| Growth | \$293 | 18% | \$4.8 | 1.2% |
| Small/Mid Cap | \$387 | 24% | \$2.6 | 0.5% |
| Low Vol | \$59 | 4% | \$2.1 | 3.2% |
| Quality | \$32 | 2% | \$0.1 | 0.3% |
| Momentum | \$21 | 1% | -\$1.2 | -4.3% |
| Multi-Factor and Other | \$129 | 8% | \$8.1 | 5.5% |
| Total Displayed | \$1,627 | 100% | \$102.4 | 5.4% |

*Includes all geographic focus, excluding sector ETFs; Source: NBC, Bloomberg

Table 16 - Top Single Long ETF Inflows - Jan-June 2022

| Ticker | Name | Flow (\$B) | Flow/AUM |
|--------|--|------------|----------|
| 1 | VOO Vanguard S&P 500 ETF | \$25.4 | 9.1% |
| 2 | VTV Vanguard Value ETF | \$12.9 | 13.9% |
| 3 | VTI Vanguard Total Stock Market ETF | \$12.6 | 4.2% |
| 4 | IVV iShares Core S&P 500 ETF | \$11.1 | 3.3% |
| 5 | SHV iShares Short Treasury Bond ETF | \$8.9 | 67.7% |
| 6 | DFUV Dimensional US Marketwide Value ETF | \$7.8 | NA |
| 7 | BIL SPDR Bloomberg Barclays 1-3 Month T-Bill ETF | \$7.5 | 54.9% |
| 8 | SCHD Schwab US Dividend Equity ETF | \$7.4 | 23.5% |
| 9 | SHY iShares 1-3 Year Treasury Bond ETF | \$6.6 | 31.8% |
| 10 | BND Vanguard Total Bond Market ETF | \$6.3 | 7.4% |
| 11 | VYM Vanguard High Dividend Yield ETF | \$5.8 | 13.7% |
| 12 | MUB iShares National Muni Bond ETF | \$5.8 | 23.1% |
| 13 | HDV iShares Core High Dividend ETF | \$5.6 | 74.2% |
| 14 | XLV Health Care Select Sector SPDR Fund | \$5.5 | 15.5% |
| 15 | JEPI JPMorgan Equity Premium Income ETF | \$5.4 | 91.6% |
| 16 | COWZ Pacer US Cash Cows 100 ETF | \$5.3 | 418.8% |
| 17 | TLT iShares 20+ Year Treasury Bond ETF | \$5.3 | 26.8% |
| 18 | JIRE JPMorgan International Research Enhanced Equity | \$5.2 | NA |
| 19 | USFR WisdomTree Floating Rate Treasury Fund | \$5.1 | 277.2% |
| 20 | VUG Vanguard Growth ETF | \$4.9 | 5.4% |

Source: National Bank of Canada, Bloomberg

Table 17 - Top Single Long ETF Outflows - Jan-June 2022

| Ticker | Name | Flow (\$B) | Flow/AUM |
|--------|--|------------|----------|
| 1 | SPY SPDR S&P 500 ETF Trust | -\$25.6 | -5.6% |
| 2 | XLF Financial Select Sector SPDR Fund | -\$6.7 | -15.2% |
| 3 | HYG iShares iBoxx High Yield Corporate Bond ETF | -\$6.2 | -28.6% |
| 4 | VLUE iShares MSCI USA Value Factor ETF | -\$4.9 | -30.3% |
| 5 | TIP iShares TIPS Bond ETF | -\$4.0 | -10.3% |
| 6 | SCHP Schwab US TIPS ETF | -\$3.3 | -15.7% |
| 7 | BBEU JPMorgan BetaBuilders Europe ETF | -\$2.6 | -27.3% |
| 8 | HLYB Xtrackers USD High Yield Corporate Bond ETF | -\$2.3 | -34.9% |
| 9 | XLY Consumer Discretionary Select Sector SPDR | -\$2.2 | -9.5% |
| 10 | VGK Vanguard FTSE Europe ETF | -\$2.2 | -10.0% |
| 11 | PFF iShares Preferred & Income Securities ETF | -\$2.2 | -10.6% |
| 12 | EFG iShares MSCI EAFE Growth ETF | -\$2.2 | -16.0% |
| 13 | IWM iShares Russell 2000 ETF | -\$2.2 | -3.1% |
| 14 | FDN First Trust Dow Jones Internet Index Fund | -\$2.2 | -21.7% |
| 15 | JNK SPDR Bloomberg Barclays High Yield Bond ETF | -\$2.2 | -22.4% |
| 16 | BKLN Invesco Senior Loan ETF | -\$2.1 | -32.8% |
| 17 | XLI Industrial Select Sector SPDR Fund | -\$2.0 | -11.6% |
| 18 | IWN iShares Russell 2000 Value ETF | -\$2.0 | -12.5% |
| 19 | MBB iShares MBS ETF | -\$2.0 | -7.6% |
| 20 | EMB iShares JP Morgan USD Emerging Markets Bond | -\$1.9 | -9.4% |

Source: National Bank of Canada, Bloomberg

Table 18: ETF Provider Table

| Provider | AUM (\$B) | Mkt Shr | June 2022 | | Jan-June 2022 | | |
|---------------------|----------------------|---------|-------------|---------------|---------------|----------------|-------|
| | | | Flow (\$B) | Flow/AUM | Flow (\$B) | Flow/AUM | |
| 1 | BlackRock iShares | \$2,104 | 34% | \$16.7 | 0.7% | \$72.6 | 2.9% |
| 2 | Vanguard | \$1,790 | 29% | \$16.9 | 0.9% | \$103.9 | 5.0% |
| 3 | State Street SSGA | \$935 | 15% | \$5.9 | -0.6% | \$1.7 | 0.1% |
| 4 | Invesco | \$331 | 5% | \$0.2 | 0.1% | \$15.3 | 3.8% |
| 5 | Charles Schwab | \$238 | 4% | \$1.1 | 0.4% | \$15.7 | 5.8% |
| 6 | First Trust | \$128 | 2% | \$0.5 | -0.4% | \$5.5 | 3.7% |
| 7 | JPMorgan | \$79 | 1% | \$3.8 | 4.8% | \$16.1 | 22.3% |
| 8 | ProShares | \$57 | 1% | \$2.5 | 4.1% | \$11.0 | 15.3% |
| 9 | Dimensional Holdings | \$54 | 1% | \$2.1 | 3.6% | \$18.8 | 41.5% |
| 10 | VanEck | \$51 | 1% | \$1.4 | -2.4% | \$2.5 | 4.1% |
| 11 | WisdomTree | \$47 | 1% | \$1.3 | 2.6% | \$6.5 | 13.6% |
| 12 | Global X | \$37 | 1% | \$0.2 | -0.4% | \$3.1 | 7% |
| 13 | Fidelity | \$29 | 0% | \$0.1 | -0.3% | \$1.4 | 4% |
| 14 | Goldman Sachs | \$25 | 0% | \$0.3 | 1.3% | \$3.2 | 11.6% |
| 15 | PIMCO | \$23 | 0% | \$0.2 | -0.9% | -\$1.8 | -6.6% |
| 16 | Northern Trust | \$21 | 0% | \$0.1 | 0.6% | \$2.7 | 13.5% |
| 17 | Direxion | \$20 | 0% | \$1.1 | 4.6% | \$8.0 | 26.7% |
| 18 | DWS Xtrackers | \$19 | 0% | \$1.0 | 5.0% | -\$1.3 | -5.3% |
| 19 | Pacer Financial | \$14 | 0% | \$0.7 | 4.9% | \$6.3 | 61.5% |
| 20 | ARK | \$14 | 0% | \$0.2 | -1.1% | \$0.2 | 0.6% |
| Top 20 Total | | | 97% | \$39.4 | | \$291.4 | |
| Total ETF | | | 100% | \$42.9 | | \$313.1 | |

Source: NBF ETF Research, Bloomberg. Data as of June 30, 2022

Appendix 1 - Glossary

Exchange Traded Funds (ETFs) are open-ended mutual funds in continuous distribution. This report also includes other Exchange Traded Products such as notes, grantor trusts, limited partnerships and unit investment trusts.

AUM (Assets Under Management): AUM is expressed in local currency, which is the U.S. dollar for the purpose of this report.

Market Share / AUM (%): AUM as % of category total AUM on the last line of the table.

Flow: The net dollar amount of fund creations and redemptions for the period based on daily NAV and the change in Shares Outstanding. Flows are expressed in local currency, which is the U.S. dollar for the purpose of this report.

Maturity: We categorize fixed income ETFs into the following maturity brackets:

- **Broad/Mixed:** ETF that holds issues from across more than one maturity bucket (short, mid and/or long-term).
- **Floating Rate:** ETF that mainly invests in floating rate issues with periodic interest rate resets.
- **Long-Term:** ETF that mainly invests in long-term issues and has a weighted average maturity greater than 10 years.
- **Mid-Term:** ETF that mainly invests in intermediate-term fixed issues and has a weighted average maturity between three and 10 years.
- **Short-Term:** ETF that mainly invests in short-term issues with weighted average maturity less than three years.
- **Target Maturity:** ETF that has a target maturity, such as a fixed date or year.
- **Rate Hedged:** ETF that uses derivatives to mitigate interest rate risk and to maintain a zero or negative portfolio duration.

NAV (Net Asset Value per share): ETF price is used when NAV is not available.

Flow/AUM (Flow as % AUM): Flow as a percentage of assets under management from the beginning of the period.

Defensive Sectors: We classify Consumer non-cyclicals, Energy, Health Care, Utilities as defensive sectors.

Cyclical Sectors: We classify Consumer Cyclical, Financials, Real Estate, Industrials, Information Technology, Materials, Communication Services as cyclical sectors.

All numbers are as of last month's final business day.

Appendix 2 - Equity ETF by Factor Categories

We group Factor Equity ETFs (exclude cap-weighted ETFs, sector ETFs, and thematic ETFs) into the categories below. These groupings follow NBF's discretion and can differ from the ETF Provider's definition and classification from other sources.

Small/Mid Cap: A fund with small/mid cap focus.

Income: A fund with the primary goal of providing income. We classify a fund as belonging to the Income category when its strategy focuses on providing income, or the fund self-identifies as using an income strategy even though it may incorporate other factors in addition to income.

Value: A fund that invests primarily in the stocks that are considered undervalued using metrics such as price-to-earnings, price-to-book, EV/EBITA, etc.

Growth: A fund that invests primarily in fast-growing stocks using metrics such as earnings growth, sales growth, momentum, etc.

Momentum: A fund that invests primarily in high momentum stocks using metrics such as period returns.

Quality: A fund that invests primarily in high quality stocks using metrics like ROE, debt/equity, and earnings growth.

Low Vol or Risk: A fund that aims to achieve reduced portfolio volatility, either by screening for low volatility stocks, low beta stocks and/or minimizing the portfolio volatility.

Other: Any non-cap weighted factor strategy that is not covered by otherwise defined categories. This includes equal-weight, multi-factor, AlphaDEX, and other fundamental-based ETFs.

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