

### September 2022: Cash is Still King

- U.S.-listed ETFs plugged away with inflows of \$25 billion inflows in September
- Investors bought broad-market U.S. equity ETFs while steering clear of emerging markets and U.K. equity
- Despite the muted flows to sector ETFs, 3x Leveraged long QQQ ETF was popular as speculators bet on recovery
- Inflows into cash-like ETFs broke the category's monthly record set in February 2022 as investors sought safety

**Summary (Table 1, Chart 1):** U.S.-listed ETF had a net inflow of \$24.8 billion in September with mixed results between various asset classes and regions (Table 1). Demand for U.S. broad equity market exposure rose, while emerging market equity ETFs and gold bullion ETFs continue to suffer redemptions as the greenback remains strong against global currencies. Amid the churning uncertainty, fixed income had a steady \$12.0 billion inflow, but almost all of that figure went into cash-like products.

**Equity ETFs by Geography (Table 4):** After a short-lived comeback in July, the S&P 500 Index was not able to maintain its gains throughout the completion of Q3. With a 9.2% loss in September, the index ended the third quarter of 2022 in the red and is down 23.9% year-to-date. Nevertheless, ETF investors kept buying U.S. equities; in September, they poured \$17.3 billion into U.S. broad equity ETFs, including SPY (\$6.4 billion), VOO (\$3.7 billion), and VTI (\$2.4 billion). We continue to see outflows from emerging market equity ETFs, possibly in reaction to a soaring USD. EEM lost \$2.4 billion (9.3% of its September starting AUM).

U.K.-focused equity ETFs suffered over \$300 million of outflows in September, or 8% of their starting assets. While the outflows were partly driven by the sluggish equity performance and a weaker pound in recent months, last month's fiscal stimulus proposal seems to further fuel ETF redemptions. On September 23<sup>rd</sup>, the U.K. government proposed tax cuts (including scrapping the 45% tax rate in the highest income bracket) and some investment incentives, which were poorly received by the market and caused the sterling to trade at an all-time low against the dollar. U.K.-focused equity ETFs also experienced a five-day outflow-streak that following week.

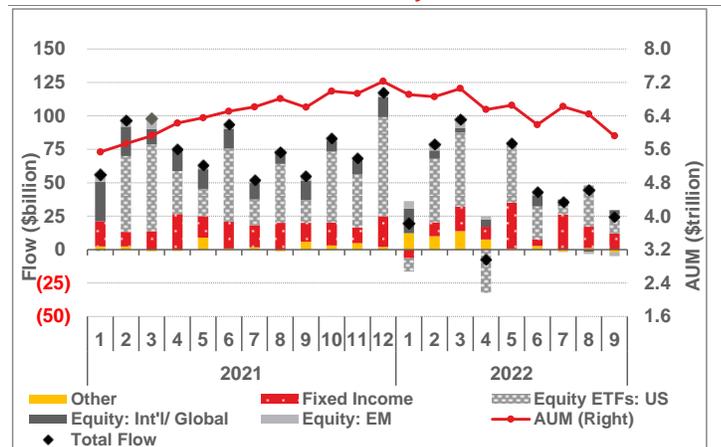
**Equity Sector ETFs (Table 5):** All S&P 500 Sector indices finished down in September. Until last month, utilities were a bright spot; the 2022 returns of the Utilities sector was still positive as of August, but its 11% loss in September makes energy now the only sector with a positive return year-to-date. Cyclical sectors (such as technology and communication services) are much worse off, each having losses of at least 20% this year so far. Despite weak performance (outside of energy), sector flows have reflected a traditional recessionary positioning—only the defensive sectors (utilities and consumer staples) gained traction (Table 12). ESG and thematic equity ETFs had a quiet month with \$36 million of net inflow.

**Table 1: ETF Flows by Category**

	AUM (\$B)	Mkt Shr	Sept 2022		Jan-Sept 2022	
			Flow (\$B)	Flow/AUM	Flow (\$B)	Flow/AUM
Equity	\$4,447		\$15.0	0.3%	\$244.8	4.3%
U.S. Broad/Large-Cap	\$1,419	24%	\$17.3	1.1%	\$65.5	3.6%
U.S. Other	\$2,041	34%	-\$3.1	-0.1%	\$109.7	4.3%
Int'l / Global	\$751	13%	\$3.4	0.4%	\$49.5	5.0%
Emerging Markets	\$237	4%	-\$2.7	-1.0%	\$20.1	6.6%
Fixed Income	\$1,216	21%	\$12.0	1.0%	\$124.0	9.7%
Commodity	\$129	2%	-\$3.9	-2.8%	\$2.5	1.9%
Multi-Asset	\$61	1%	\$1.5	2.4%	\$17.7	32.3%
Levered Long	\$39	1%	\$3.8	8.1%	\$18.1	23.6%
Inverse	\$27	0%	-\$3.6	-14.0%	\$5.8	49.3%
Crypto-Asset	\$1	0%	\$0.0	0.3%	\$0.2	14.4%
<b>Total</b>	<b>\$5,919</b>	<b>100%</b>	<b>\$24.8</b>	<b>0.4%</b>	<b>\$413.0</b>	<b>5.7%</b>

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

**Chart 1: U.S. Listed ETF Flow and AUM by month - \$413 billion YTD**



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

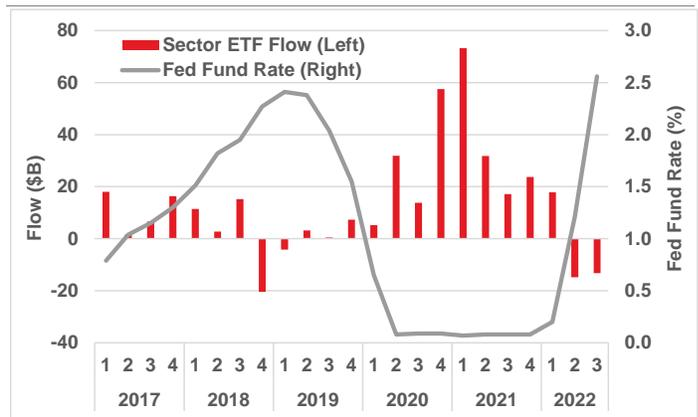
Since the Fed started to hike interest rates in March, the combined category of “sector plus thematic ETFs” suffered two consecutive quarters of outflow (\$28 billion combined), which is a rare historical occurrence. Interestingly, this category had a previous case of two consecutive quarters of net outflow in Q4 2018 and Q1 2019, also when the Fed was rising interest rates. Although the pace and scale of rate adjustments are largely different this time, we could observe a strong pro-cyclicality in sector ETF flows.

**Equity Factor ETFs (Table 8):** Dividend/income ETFs and low volatility ETFs drove the bulk of factor ETF inflows in September, taking in \$6.2 billion and \$3.9 billion respectively. Low volatility ETFs enjoyed their highest single month of inflows in their now history of over ten years, surpassing the previous record of \$3.7 billion set in December 2018. Creations mainly went to iShares MSCI USA Min Vol Factor ETF (**USMV**, \$1.7 billion) and iShares MSCI EAFE Min Vol Factor ETF (**EFAV**, \$1.6 billion). Small/mid-cap ETFs also saw inflows despite their benchmark indices (S&P MidCap 400 and S&P SmallCap 600) falling by the same magnitude as the S&P 500 in September.

**Leverage/Inverse ETFs:** After inverse equity ETFs’ outsized inflows in August, the category had a major reversal in September as traders took profits from their positions. ProShares UltraPro short **QQQ** (-3x) **SQQQ** saw outflows of more than \$2 billion, more than a third of the fund’s starting AUM. On the leveraged equity side, ProShares UltraPro **QQQ** (3x) **TQQQ** saw inflows of more than \$2 billion in September as speculators sought to catch the bottom. The strategy has surely been popular this year as investors poured \$10 billion new money in **TQQQ**, but perhaps it has not worked out for some—**TQQQ** has lost 75% of its value this year, a typical outcome for “daily leveraged” products during particularly volatile environments. As we continuously emphasize, we advise extreme caution when using these highly sophisticated leverage/inverse ETFs; they are not buy-and-hold instruments.

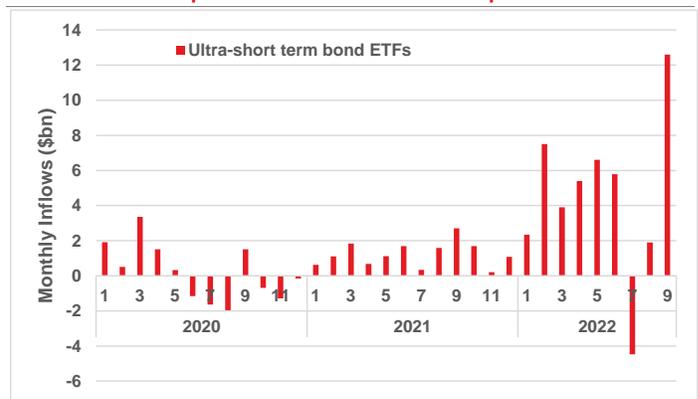
**Fixed Income ETFs (Table 6, 7):** Fixed Income ETFs saw inflows of \$12 billion in September, nearly all of which went to short duration treasury bill ETFs such as SPDR Bloomberg Barclays 1-3 Month T-Bill ETF (**BIL**), iShares Short Treasury Bond ETF (**SHV**), and WisdomTree Floating Rate Treasury ETF (**USFR**). ETF investors may have been trying to de-risk in September as recession fears loom and rates climb (Chart 3). The Fed delivered another 75 bps hike in September, and though the hike was as expected, the accompanying FOMC statement citing elevated inflation spurred further sell-offs in bonds. The ten-year treasury yield rose 60 bps

**Chart 2: Sector ETFs’ demand declines as interest rate rises**



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

**Chart 3: Investors piled into cash-like ETFs in September**



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

**Table 2: U.S. Listed ESG ETFs – September 2022**

Category	AUM (\$M)	AUM (%)	September 2022		Jan - Sept 2022	
			Flow (\$M)	Flow/AUM	Flow (\$M)	Flow/AUM
Equity	\$80,729	91%	\$60	0.1%	\$4,803	4.6%
Broad - U.S.	\$44,328	50%	-\$125	-0.3%	\$2,316	4.0%
Broad - DM	\$6,769	8%	\$53	0.7%	\$929	10.9%
Broad - EM	\$4,097	5%	\$10	0.2%	-\$428	-6.5%
Broad - Global	\$3,181	4%	\$36	1.0%	\$425	10.6%
Environment	\$6,570	7%	\$65	0.9%	\$1,221	16.2%
Clean Energy	\$12,941	15%	-\$26	-0.2%	-\$477	-3.0%
Social	\$2,065	2%	\$10	0.4%	\$405	17.7%
Other	\$563	1%	\$14	2.3%	\$246	51.1%
Commodities	\$1,082	1%	-\$76	-5.8%	-\$381	-20.3%
Multi-Asset	\$160	0%	\$0	0.0%	\$52	1.2%
Fixed Income	\$6,482	7%	\$10	0.2%	\$1,452	23.8%
<b>Total Displayed</b>	<b>\$88,454</b>	<b>100%</b>	<b>-\$6</b>	<b>0.0%</b>	<b>\$5,877</b>	<b>5.3%</b>

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

over the month to 3.8% at the end of September, their highest yield level in more than a decade.

**ESG ETFs (Table 2):** Overall ESG ETF inflows paused in September; nevertheless, several ETFs had noticeable inflows. On the top of the ESG ETF inflow league table: iShares Paris Aligned Climate MSCI USA ETF (**PABU**), which welcomed a \$68 million institutional subscription, or roughly one-tenth of the ETF's AUM. On the outflow side, KraneShares Global Carbon ETF (**KRBN**) had \$93 million redemptions (about one-tenth of its size), signalling a somewhat diminished appetite for the global carbon markets. European Union Carbon Allowances futures price slid more than 30% from their price peak of €98 in mid-August to €67 at the end of September. This price action may have been stirred-up by some recent proposals to sell a large chunk of reserved carbon allowance in order to help finance Europe's exit from Russian gas. Our ESG analyst distilled the story in the research flash titled [European Carbon Market; Carbon at the Hand of the Government](#), dated September 9.

**Top Performing ETFs (Table 3):** Interest "rate-hedge" ETFs such as **PFIX**, **IRHG** and **RRH** remained in the highest-returning ETF league table in September. For investors who seek to hedge the duration risk of their bond portfolios, these ETFs provide methods outside of the daily-reset treasury inverse ETFs such as ProShares UltraShort 20+ Year Treasury (**TBT**). **PFIX** and **IRHG** use OTC interest rate swaptions, while **RRH** invests in a basket of treasury futures/swaps, equity indices, and commodity futures. Year-to-date, **TLT** had a 30% drawdown but both **PFIX** and (2x bear) **TBT** delivered gains of 82% and 88%, respectively.

**Table 3: Best Performing ETFs\* – September 2022**

	Ticker	Name	Return (%)	AUM (\$M)	Flow (\$M)
1	<b>CYA</b>	Simplify Tail Risk Strategy ETF	29.8	90	-8
2	<b>PFIX</b>	Simplify Interest Rate Hedge ETF	18.5	358	0
3	<b>IRHG</b>	Global X Interest Rate Hedge ETF	18.1	4	0
4	<b>BDRY</b>	Breakwave Dry Bulk Shipping ETF	17.9	36	-0
5	<b>VXX</b>	iPath Series B S&P 500 VIX Short-Term Futures	17.5	590	23
6	<b>SPKX</b>	Convexityshares 1x Spikes Futures ETF	17.3	3	0
7	<b>VIXY</b>	ProShares VIX Short-Term Futures ETF	17.3	444	-113
8	<b>RRH</b>	Advocate Rising Rate Hedge ETF	15.5	39	3
9	<b>WEAT</b>	Teucrium Wheat Fund	11.1	378	-10
10	<b>DBS</b>	Invesco DB Silver Fund	7.5	18	3

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

**September 2022 ETF Flows: Tables 4 - 10**

**Table 4 - Equity ETF Flows by Geography - Sept 2022**

Geography	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
U.S.	\$3,459		\$14.2	0.4%
Broad/Large Cap	\$1,419	32%	\$17.3	1.1%
U.S. Other	\$2,041	46%	-\$3.1	-0.1%
International Developed	\$449		\$4.3	0.9%
Broad Int'l Dev	\$348	8%	\$4.5	1.2%
Broad Europe	\$30	1%	\$0.4	1.2%
Japan	\$18	0%	-\$0.6	-3.1%
Canada	\$9	0%	-\$0.1	-1.4%
Other Developed	\$44	1%	\$0.1	0.3%
Emerging Markets	\$237		-\$2.7	-1.0%
Broad Cap Weighted	\$158	4%	-\$3.1	-1.7%
China (A+H)	\$23	1%	-\$0.5	-2.0%
Other EM	\$56	1%	\$0.9	1.6%
Global/Regional	\$301	7%	-\$0.9	-0.3%
<b>Total Displayed</b>	<b>\$4,447</b>	<b>100%</b>	<b>\$15.0</b>	<b>0.3%</b>

Source: National Bank of Canada, Bloomberg

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

Sector	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
Utilities	\$26	4%	\$0.9	3.1%
Consumer Staples	\$27	4%	\$0.1	0.3%
Real Estate	\$68	10%	-\$0.5	-0.7%
Consumer Discretionary	\$25	4%	-\$0.6	-2.1%
Energy	\$72	10%	-\$0.6	-0.8%
Industrials	\$27	4%	-\$0.9	-3.0%
Health Care	\$92	13%	-\$1.1	-1.1%
Materials	\$36	5%	-\$1.1	-2.8%
Communication Services	\$23	3%	-\$1.2	-4.4%
Technology	\$130	18%	-\$2.3	-1.5%
Financials	\$53	7%	-\$3.6	-6.0%
ESG	\$80	11%	\$0.0	0.0%
Thematic	\$52	7%	\$0.0	0.1%
<b>Total Displayed</b>	<b>\$710</b>	<b>100%</b>	<b>-\$11.0</b>	<b>-1.4%</b>

\*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 - Sept 2022**

Type	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
U.S. Aggregate	\$281	23%	\$0.9	0.3%
U.S. Government	\$377	31%	\$18.0	4.8%
U.S. Municipals	\$83	7%	\$0.2	0.2%
U.S. I.G. Corporate	\$203	17%	-\$2.2	-1.0%
Developed Markets&Global	\$132	11%	\$1.2	0.9%
Emerging Markets	\$25	2%	-\$1.2	-4.2%
Sub-investment Grade	\$75	6%	-\$4.1	-5.0%
Convertibles and Preferreds	\$41	3%	-\$0.8	-1.8%
<b>Total Displayed</b>	<b>\$1,216</b>	<b>100%</b>	<b>\$12.0</b>	<b>1.0%</b>

Source: National Bank of Canada, Bloomberg

**Table 7 - Fixed Income ETF Flows by Maturity - Sept 2022**

Maturity	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
Broad/Mixed	\$587	48%	-\$6.4	-1.0%
Ultra Short Term	\$158	13%	\$12.6	8.7%
Short Term	\$253	21%	\$3.2	1.2%
Mid Term	\$135	11%	-\$0.5	-0.3%
Long Term	\$51	4%	\$1.7	3.1%
Target Maturity	\$29	2%	\$1.6	5.7%
Rate Hedged	\$2	0%	-\$0.1	-6.7%
<b>Total Displayed</b>	<b>\$1,216</b>	<b>100%</b>	<b>\$12.0</b>	<b>1.0%</b>

Source: National Bank of Canada, Bloomberg

**Table 8 - Equity ETF Flows by Factor\* - Sept 2022**

Factor	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
Income	\$322	21%	\$6.2	1.8%
Low Vol	\$61	4%	\$3.9	6.3%
Small/Mid Cap	\$372	24%	\$1.7	0.4%
Value	\$350	22%	\$0.8	0.2%
Momentum	\$20	1%	\$0.0	0.0%
Quality	\$32	2%	-\$0.5	-1.5%
Growth	\$290	19%	-\$1.1	-0.3%
Multi-Factor and Other	\$119	8%	\$0.0	0.0%
<b>Total Displayed</b>	<b>\$1,566</b>	<b>100%</b>	<b>\$10.9</b>	<b>0.6%</b>

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

**Table 9 - Top Single Long ETF Inflows - Sept 2022**

Ticker	Name	Flow (\$B)	Flow/AUM
1 <b>SPY</b>	SPDR S&P 500 ETF Trust	\$6.4	1.8%
2 <b>BIL</b>	SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	\$5.9	31.5%
3 <b>VOO</b>	Vanguard S&P 500 ETF	\$3.7	1.4%
4 <b>SHY</b>	iShares 1-3 Year Treasury Bond ETF	\$3.4	13.5%
5 <b>SHV</b>	iShares Short Treasury Bond ETF	\$2.6	12.6%
6 <b>VTI</b>	Vanguard Total Stock Market ETF	\$2.4	0.9%
7 <b>USMV</b>	iShares MSCI USA Min Vol Factor ETF	\$1.7	6.1%
8 <b>USFR</b>	WisdomTree Floating Rate Treasury Fund	\$1.7	20.9%
9 <b>EFAV</b>	iShares MSCI EAFE Min Vol Factor ETF	\$1.6	28.9%
10 <b>SGOV</b>	iShares 0-3 Month Treasury Bond ETF	\$1.5	45.9%
11 <b>SCHD</b>	Schwab US Dividend Equity ETF	\$1.3	3.4%
12 <b>TFLO</b>	iShares Treasury Floating Rate Bond ETF	\$1.2	53.7%
13 <b>VONG</b>	Vanguard Russell 1000 Growth ETF	\$1.1	15.3%
14 <b>JEPI</b>	JPMorgan Equity Premium Income ETF	\$1.1	8.5%
15 <b>IVV</b>	iShares Core S&P 500 ETF	\$1.1	0.4%
16 <b>IGV</b>	iShares Expanded Tech-Software Sector ETF	\$1.0	25.1%
17 <b>QQQ</b>	Invesco QQQ Trust Series 1	\$1.0	0.6%
18 <b>TLT</b>	iShares 20+ Year Treasury Bond ETF	\$1.0	3.8%
19 <b>GOVT</b>	iShares US Treasury Bond ETF	\$0.9	4.0%
20 <b>VTV</b>	Vanguard Value ETF	\$0.9	0.9%

Source: National Bank of Canada, Bloomberg

**Table 10 - Top Single Long ETF Outflows - Sept 2022**

Ticker	Name	Flow (\$B)	Flow/AUM
1 <b>XLF</b>	Financial Select Sector SPDR Fund	-\$3.8	-11.3%
2 <b>EEM</b>	iShares MSCI Emerging Markets ETF	-\$2.4	-9.3%
3 <b>VGT</b>	Vanguard Information Technology ETF	-\$2.3	-5.1%
4 <b>GLD</b>	SPDR Gold Shares	-\$1.8	-3.3%
5 <b>VCIT</b>	Vanguard Intermediate-Term Corporate Bond ETF	-\$1.5	-3.7%
6 <b>JNK</b>	SPDR Bloomberg Barclays High Yield Bond ETF	-\$1.5	-21.5%
7 <b>VCSH</b>	Vanguard Short-Term Corporate Bond ETF	-\$1.4	-3.2%
8 <b>ACWI</b>	iShares MSCI ACWI ETF	-\$1.4	-8.1%
9 <b>IEMG</b>	iShares Core MSCI Emerging Markets ETF	-\$1.2	-1.8%
10 <b>SPYG</b>	SPDR Portfolio S&P 500 Growth ETF	-\$1.1	-7.8%
11 <b>VTIP</b>	Vanguard Short-Term Inflation-Protected Securities	-\$1.0	-5.0%
12 <b>EMB</b>	iShares JP Morgan USD EM Bond ETF	-\$1.0	-6.6%
13 <b>TIP</b>	iShares TIPS Bond ETF	-\$1.0	-3.4%
14 <b>XLC</b>	Communication Services Select Sector SPDR	-\$1.0	-9.9%
15 <b>IAU</b>	iShares Gold Trust	-\$0.9	-3.3%
16 <b>BKLN</b>	Invesco Senior Loan ETF	-\$0.9	-21.7%
17 <b>AGG</b>	iShares Core U.S. Aggregate Bond ETF	-\$0.9	-1.1%
18 <b>SRLN</b>	SPDR Blackstone Senior Loan ETF	-\$0.9	-10.9%
19 <b>XLV</b>	Health Care Select Sector SPDR Fund	-\$0.8	-2.2%
20 <b>LQD</b>	iShares iBoxx \$ Investment Grade Corporate Bond	-\$0.8	-2.2%

Source: National Bank of Canada, Bloomberg

January - September 2022 ETF Flows: Tables 11 - 17

Geography	AUM (\$B)	Mkt Shr	Flow (\$B)	Flow/AUM
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Broad/Large Cap	\$1,419	32%	\$65.5	3.6%
U.S. Other	\$2,041	46%	\$109.7	4.3%
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Other Developed	\$44	1%	\$6.3	11.6%
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Health Care	\$92	13%	\$8.0	7.6%
Utilities	\$26	4%	\$6.9	32.0%
Consumer Staples	\$27	4%	\$6.6	27.6%
Materials	\$36	5%	-\$0.7	-1.5%
Energy	\$72	10%	-\$1.3	-2.2%
Technology	\$130	18%	-\$3.0	-1.5%
Real Estate	\$68	10%	-\$3.3	-3.3%
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Long Term	\$51	4%	\$20.8	42.9%
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Value	\$350	22%	\$29.4	7.3%
Growth	\$290	19%	\$12.9	3.2%
Low Vol	\$61	4%	\$8.7	13.4%
Small/Mid Cap	\$372	24%	\$4.6	0.9%
Quality	\$32	2%	-\$0.4	-0.9%
Momentum	\$20	1%	-\$2.0	-7.1%
Multi-Factor and Other	\$119	8%	\$10.0	6.9%
<b>Total Displayed</b>	<b>\$1,566</b>	<b>100%</b>	<b>\$134.6</b>	<b>7.1%</b>

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

Ticker	Name	Flow (\$B)	Flow/AUM
1 <b>VOO</b>	Vanguard S&P 500 ETF	\$35.8	12.8%
2 <b>VTI</b>	Vanguard Total Stock Market ETF	\$19.3	6.5%
3 <b>IVV</b>	iShares Core S&P 500 ETF	\$17.4	5.2%
4 <b>VTV</b>	Vanguard Value ETF	\$14.7	15.9%
5 <b>TLT</b>	iShares 20+ Year Treasury Bond ETF	\$11.9	60.5%
6 <b>BIL</b>	SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	\$11.1	81.4%
7 <b>SCHD</b>	Schwab US Dividend Equity ETF	\$10.9	34.7%
8 <b>SHV</b>	iShares Short Treasury Bond ETF	\$10.1	76.9%
9 <b>BND</b>	Vanguard Total Bond Market ETF	\$10.0	11.8%
10 <b>SHY</b>	iShares 1-3 Year Treasury Bond ETF	\$9.4	45.7%
11 <b>GOVT</b>	iShares US Treasury Bond ETF	\$9.3	57.4%
12 <b>JEPI</b>	JPMorgan Equity Premium Income ETF	\$8.8	149.8%
13 <b>DFUV</b>	Dimensional US Marketwide Value ETF	\$7.9	NA
14 <b>USFR</b>	WisdomTree Floating Rate Treasury Fund	\$7.9	426.9%
15 <b>VEA</b>	Vanguard FTSE Developed Markets ETF	\$7.4	6.8%
16 <b>IEF</b>	iShares 7-10 Year Treasury Bond ETF	\$7.2	40.8%
17 <b>VYM</b>	Vanguard High Dividend Yield ETF	\$7.1	16.6%
18 <b>VUG</b>	Vanguard Growth ETF	\$6.9	7.6%
19 <b>COWZ</b>	Pacer US Cash Cows 100 ETF	\$6.7	523.9%
20 <b>XLV</b>	Health Care Select Sector SPDR Fund	\$5.9	16.6%

Source: National Bank of Canada, Bloomberg

Ticker	Name	Flow (\$B)	Flow/AUM
1 <b>SPY</b>	SPDR S&P 500 ETF Trust	-\$25.1	-5.5%
2 <b>XLF</b>	Financial Select Sector SPDR Fund	-\$7.7	-17.4%
3 <b>HYG</b>	iShares iBoxx High Yield Corporate Bond ETF	-\$6.2	-28.7%
4 <b>VLUE</b>	iShares MSCI USA Value Factor ETF	-\$6.0	-37.5%
5 <b>TIP</b>	iShares TIPS Bond ETF	-\$6.0	-15.6%
6 <b>BBEU</b>	JPMorgan BetaBuilders Europe ETF	-\$4.4	-45.4%
7 <b>IWM</b>	iShares Russell 2000 ETF	-\$3.9	-5.7%
8 <b>SCHP</b>	Schwab US TIPS ETF	-\$3.8	-17.7%
9 <b>JNK</b>	SPDR Bloomberg Barclays High Yield Bond ETF	-\$3.2	-32.9%
10 <b>VGK</b>	Vanguard FTSE Europe ETF	-\$3.2	-14.1%
11 <b>XLI</b>	Industrial Select Sector SPDR Fund	-\$2.9	-16.3%
12 <b>BKLN</b>	Invesco Senior Loan ETF	-\$2.8	-43.6%
13 <b>PFF</b>	iShares Preferred & Income Securities ETF	-\$2.6	-12.4%
14 <b>FDN</b>	First Trust Dow Jones Internet Index Fund	-\$2.5	-24.8%
15 <b>XLY</b>	Consumer Discretionary Select Sector SPDR	-\$2.3	-10.0%
16 <b>MINT</b>	PIMCO Enhanced Short Maturity Active ETF	-\$2.3	-16.8%
17 <b>HYLB</b>	Xtrackers USD High Yield Corporate Bond ETF	-\$2.3	-34.2%
18 <b>EWT</b>	iShares MSCI Taiwan ETF	-\$2.2	-30.3%
19 <b>MBB</b>	iShares MBS ETF	-\$2.2	-8.4%
20 <b>IYR</b>	iShares U.S. Real Estate ETF	-\$2.0	-27.2%

Source: National Bank of Canada, Bloomberg

**Table 18: ETF Provider Table**

Provider	AUM (\$B)	Mkt Shr	Sept 2022		Jan-Sept 2022	
			Flow (\$B)	Flow/ AUM	Flow (\$B)	Flow/ AUM
1 BlackRock iShares	\$1,995	34%	\$7.4	0.3%	\$96.1	3.9%
2 Vanguard	\$1,723	29%	\$8.4	0.4%	\$148.2	7.1%
3 State Street SSGA	\$884	15%	-\$0.9	-0.1%	-\$3.2	-0.3%
4 Invesco	\$316	5%	-\$1.4	-0.4%	\$18.2	4.5%
5 Charles Schwab	\$232	4%	\$3.3	1.3%	\$25.3	9.3%
6 First Trust	\$124	2%	\$0.1	0.0%	\$7.0	4.7%
7 JPMorgan	\$79	1%	\$2.4	3.0%	\$20.2	28.0%
8 ProShares	\$57	1%	-\$1.2	-1.9%	\$13.6	19.0%
9 Dimensional Holdings	\$56	1%	\$1.8	3.0%	\$24.4	53.8%
10 WisdomTree	\$48	1%	\$1.9	3.8%	\$10.3	21.7%
11 VanEck	\$45	1%	-\$1.0	-2.0%	\$0.2	0.4%
12 Global X	\$35	1%	-\$0.2	-0.4%	\$3.7	9%
13 Fidelity	\$28	0%	-\$0.1	-0.4%	\$1.8	5%
14 Goldman Sachs	\$25	0%	\$0.4	1.5%	\$4.2	15.2%
15 PIMCO	\$22	0%	-\$0.1	-0.6%	-\$2.1	-7.8%
16 Direxion	\$20	0%	\$1.3	5.7%	\$9.9	33.2%
17 Northern Trust	\$19	0%	-\$0.2	-1.2%	\$2.2	11.0%
18 DWS Xtrackers	\$17	0%	\$0.0	-0.1%	-\$1.8	-7.3%
19 Pacer Financial	\$15	0%	\$0.3	1.8%	\$8.0	78.2%
20 ARK	\$13	0%	\$0.3	2.3%	\$0.2	0.5%
<b>Top 20 Total</b>	<b>\$5,755</b>	<b>97%</b>	<b>\$22.5</b>		<b>\$386.4</b>	
<b>Total ETF</b>	<b>\$5,919</b>	<b>100%</b>	<b>\$24.8</b>		<b>\$413.0</b>	

Source: NBF ETF Research, Bloomberg. Data as of September, 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 Cyclicals, 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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