

November 2022: \$4 billion inflows highest since March

- Canadian ETFs gathered \$4.2 billion in November, bringing YTD inflows to \$28 billion
- Cash Alternative ETFs continued its haul, pulling in another \$1 billion; aggregate bonds back in favour
- Equity ETFs also enjoyed inflows across all regions, though meagre compared with fixed income flows
- 15 new ETFs launched in November

Summary: Canadian ETFs had a strong month of \$4.2 billion in net flows in November, with Fixed Income ETFs once again dominating new creations. Equity ETFs saw inflows of \$1.6 billion; Canadian equities lead the inflows, accumulating \$745 million while the U.S. and International regions gathered over \$400 million each.

Fixed Income ETFs enjoyed another gangbuster month of inflows at \$2.3 billion in creations, led by Canadian aggregate bond ETFs and cash alternative ETFs. Ultra short-term ETFs lost \$1.1 billion while broad maturity products gained \$2.1 billion, reflecting investor preference for longer-duration fixed income ETFs as the yield curve goes into deep inversion in both Canada and the U.S.

Crypto-Asset ETFs had minor outflows of \$29 million in November. However, as the underlying crypto-assets plummet in value, the AUM of Crypto-Asset ETFs dropped to \$1.8 billion as of November (Chart 2). At its peak, the AUM of this category reached \$7.5 billion in November 2021. Chart 2 shows that despite this (perhaps typical) drawdown in bitcoin and Ethereum prices, users of Canadian crypto-ETFs have yet to dispose of shares *en masse*. In past drawdowns (e.g., May 2021), we saw the *pace* of inflows slow down rather than turn negative (grey area in Chart 2), but only recently flattened to a small trickle of outflows. This suggests that crypto-asset ETF users are sticking to their allocations, possibly hoping for the market to recoup these losses in the long term.

Flows by Asset Class, Category and Product: (Table 1 & Tables 5 - 12)

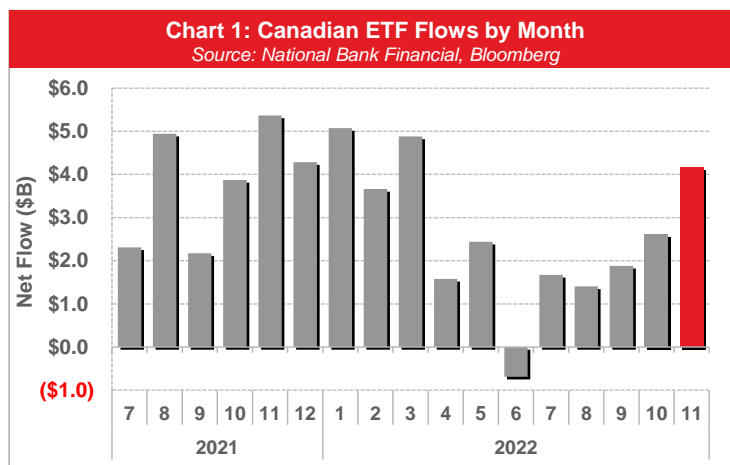
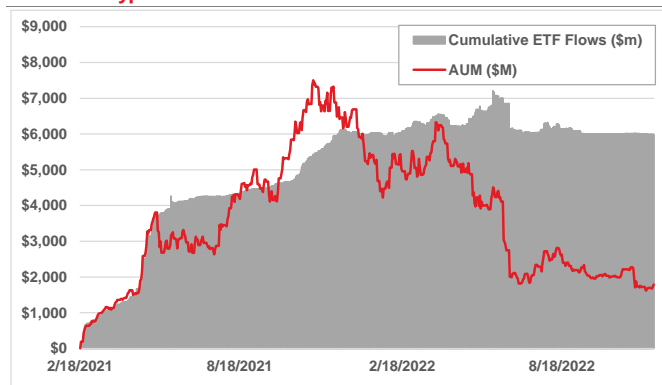


Table 1 - ETF Flows by Category - YTD Nov 2022

	AUM (\$M)	Mkt Shr (%)	Nov 2022		YTD Nov 2022	
			Flow \$M	Flow/AUM	Flow \$M	Flow/AUM
Equity	\$204,033		\$1,594	0.8%	\$11,807	5.2%
Canada	\$77,156	24%	\$745	1.0%	\$3,940	4.9%
United States	\$70,636	22%	\$414	0.6%	\$3,902	4.8%
International	\$56,241	18%	\$435	0.9%	\$3,966	6.1%
Fixed Income	\$92,001	29%	\$2,321	2.6%	\$13,131	13.6%
Commodities	\$1,578	0%	\$85	6.1%	-\$286	-15.0%
Multi-Asset	\$16,273	5%	\$24	0.2%	\$1,899	12.1%
Inverse / Levered	\$3,002	1%	\$176	6.4%	\$1,460	79.7%
Crypto-Asset	\$1,790	1%	-\$29	-1.3%	-\$66	-1.1%
Total	\$318,677	100%	\$4,172	1.4%	\$27,946	8.1%

*Equity Flows include option strategies;
Source: National Bank of Canada, Bloomberg

Chart 2: Crypto-Asset ETF Flow and AUM in Canada



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

Equity ETFs took in \$1.6 billion in November. In addition to broad market ETFs, particularly for the Canada region (XIC, XIU, HXT, VCN) and the U.S. (XSP, VSP), low volatility ETFs (ZLU) also started to finally pull in assets in November, perhaps based off their defensive profile and outperformance year-to-date.

Financial sector ETFs (e.g., ZEB, BMO Equal Weight Canadian Bank) suffered withdrawals of \$166 million, but all other sectors led by Real Estate and Materials registered inflows.

Fixed Income ETFs continue to rake in dollars. November was the Canadian universe bond index's second-best month in returns (after July) in what was a punishing calendar year for the asset class. Cash alternative ETFs welcomed another \$1.2 billion, bringing the category's AUM to more than \$13 billion, more than double the level of where its assets stood at the end of last year. Three "high interest savings" ETFs from different providers (CSAV, PSA, CASH) appear on the top inflow leaderboard for November. Contrary to the previous month when ultra short-term ETFs were in favour, in November, the category lost \$1.1 billion from ETFs such as ZST and ZMMK. On the other end of the maturity spectrum, ETFs with longer duration experienced a renewal in demand. Aggregate bond ETFs (VAB, HBB, ZAG, XBB) and long-term bond ETFs (ZTL/F) attracted new money as longer-term rates fell in tandem with slowing inflation, coupled with a growing expectation that there would be smaller rate hikes ahead by the Fed.

Table 2 - ETF Flows by Provider - Nov 2022

New Methodology (adjusted for ETF-of-ETFs)							Unadjusted	
Provider	AUM (\$M)	Mkt Shr (%)	Nov 2022		Nov 2022			
			Flow (\$M)	Flow/AUM	AUM (\$M)	Flow (\$M)		
1 RBC iShares	\$94,348	29.6%	\$1,133	1%	\$99,964	\$1,098		
2 BMO	\$79,017	24.8%	-\$409	-1%	\$87,550	-\$201		
3 Vanguard	\$41,951	13.2%	\$912	2%	\$51,450	\$982		
4 Horizons	\$22,365	7.0%	\$917	4%	\$22,964	\$928		
5 CI First Asset	\$14,999	4.7%	\$612	4%	\$15,181	\$624		
6 Mackenzie*	\$12,220	3.8%	\$128	1%	\$12,445	\$133		
7 TDAM	\$8,170	2.6%	\$41	1%	\$8,254	\$44		
8 NBI	\$6,733	2.1%	\$272	4%	\$6,733	\$272		
9 Purpose	\$6,299	2.0%	\$353	6%	\$6,566	\$357		
10 Invesco	\$4,766	1.5%	\$101	2%	\$4,786	\$100		
11 Fidelity	\$3,042	1.0%	\$86	3%	\$3,309	\$119		
12 CIBC	\$2,519	0.8%	-\$18	-1%	\$2,526	-\$18		
13 Harvest	\$2,514	0.8%	\$62	3%	\$2,912	\$99		
14 Manulife	\$2,480	0.8%	-\$62	-3%	\$2,480	-\$62		
15 Dynamic	\$2,162	0.7%	-\$53	-2%	\$2,162	-\$53		
16 PIMCO	\$2,078	0.7%	\$52	3%	\$2,078	\$52		
17 Evolve Funds	\$2,074	0.7%	\$52	3%	\$2,125	\$50		
18 Desjardins	\$1,680	0.5%	-\$99	-6%	\$1,680	-\$99		
19 Hamilton	\$1,520	0.5%	\$76	5%	\$1,927	\$76		
20 Franklin Templeton	\$1,334	0.4%	-\$5	0%	\$1,334	-\$5		
21 AGF	\$1,234	0.4%	\$61	5%	\$1,234	\$61		
22 Scotia Bank	\$1,187	0.4%	\$15	1%	\$1,187	\$15		
23 Ninepoint Partners	\$686	0.2%	-\$23	-3%	\$686	-\$23		
24 Picton Mahoney	\$598	0.2%	-\$17	-3%	\$598	-\$17		
25 Brompton Funds	\$451	0.1%	\$8	2%	\$520	\$14		
26 Middlefield	\$420	0.1%	-\$2	-1%	\$420	-\$2		
27 First Trust	\$409	0.1%	-\$15	-4%	\$409	-\$15		
28 Bristol Gate	\$312	0.1%	-\$5	-2%	\$312	-\$5		
29 3iQ	\$286	0.1%	-\$5	-1%	\$286	-\$5		
30 Guardian Capital	\$233	0.1%	\$3	1%	\$233	\$3		
31 Emerge	\$122	0.0%	-\$1	-1%	\$122	-\$1		
32 IA Clarington	\$104	0.0%	-\$6	-5%	\$104	-\$6		
33 Lysander	\$85	0.0%	\$0	0%	\$85	\$0		
34 Accelerate	\$61	0.0%	-\$1	-1%	\$67	-\$1		
35 Mulvihill	\$58	0.0%	\$7	15%	\$58	\$7		
36 Russell Investments	\$48	0.0%	\$2	5%	\$48	\$2		
37 Arrow Capital	\$38	0.0%	\$0	1%	\$38	\$0		
38 Starlight	\$27	0.0%	-\$1	-3%	\$27	-\$1		
39 SmartBe	\$24	0.0%	\$0	0%	\$24	\$0		
40 Evermore Capital	\$14	0.0%	\$0	0%	\$14	\$0		
41 NCM Investments	\$6	0.0%	\$0	0%	\$6	\$0		
42 Caldwell	\$5	0.0%	\$0	0%	\$5	\$0		
Total	\$318,677	100.0%	\$4,172	1.4%	\$344,910	\$4,524		

*Includes Wealthsimple asset and flows. Source: NBF, Bloomberg

Table 3: Newly launched ETFs - November 2022

Name	Ticker	Mgmt Fee (%)	Focus
1 Arrow Canadian Advantage Alternative Class	ACAA	0.65	Alternative
2 BMO ARK Genomic Revolution Fund ETF Series	ARKG	0.75	Innovation
3 BMO ARK Innovation Fund ETF Series	ARKK	0.75	
4 BMO ARK Next Generation Internet Fund ETF Series	ARKW	0.75	
5 CI Global Bond Currency Neutral Fund	CGBN	0.81	Fixed Income
6 CI Global Investment Grade Etf	CGIN/U	0.50	
7 CI Global Investment Grade Etf	CGIN	0.50	
8 Dynamic Active Discount Bond ETF	DXDB	0.35	Discount Bond
9 Manulife Smart International Defensive Equity ETF	IDEF/B	0.35	Factor-based Equity
10 Manulife Smart International Dividend ETF	IDIV/B	0.35	
11 Manulife Smart US Defensive Equity ETF	UDEF/U	0.28	
12 Manulife Smart US Dividend ETF	UDIV/U	0.28	
13 Mulvihill Premium Yield Fund/ETF	MPY	1.00	Option Strategy
14 Picton Mahoney Fortified Core Bond Fund	PFCB	0.65	Fixed Income
15 Scotia Emerging Markets Equity Index Tracker ETF	SITE	0.16	EM

Source: NBF ETF Research, SEDAR, ETF Providers. Data as of November 30, 2022

In terms of flows, not a lot of activity is happening in the crypto-asset or commodity ETF space. Commodities ETFs held steady with more than \$1 billion in AUM while Crypto-Asset ETFs fell to \$1.8 billion in AUM as discussed above. The \$85 million inflows into Commodity ETFs mostly went into the newly launched CI Broad Commodity Index ETF (CCOM) and gold ETFs.

Flows by Provider and New Launches (Tables 2 - 3):

The majority of ETF issuers enjoyed inflows while BMO, Manulife, Dynamic and Desjardins were the few that suffered some outflows.

15 new ETFs launched in November, a busy month; new ETFs fall in the categories of thematic equity, factor-based equity, fixed income and option strategies.

Canadian ESG ETF Flows (Table 4): Inflows to ESG ETFs continued in November. ESG ETFs had net inflows of \$105 million, mostly contributed by institutional-sized creations in NBI Sustainable Canadian Equity ETF (NSCE). This product is now the second largest ESG ETF in Canada (behind BMO's ESGY) having pulled in over \$995 million this year and reaching \$1.4 billion in AUM at the end of November (our October ETF flow report described its methodology.) Absent inflows into NSCE, ESG Equity ETFs as a group would have suffered outflows in November.

Note: the tables below all use the "new" flows calculation methodology.

Table 4: Canada Listed ESG ETFs – November 2022

Category	AUM (\$M)	AUM (%)	November 2022		Jan - Nov 2022	
			Flow (\$M)	Flow/AUM	Flow (\$M)	Flow/AUM
Equity	\$9,282	84%	\$83	1.0%	\$1,752	21.4%
Broad - Canada	\$2,500	23%	\$135	6.0%	\$899	58.7%
Broad - U.S.	\$2,322	21%	\$3	0.1%	\$351	15.4%
Broad - DM	\$1,285	12%	-\$14	-1.1%	\$176	13.3%
Broad - EM	\$311	3%	-\$2	-0.7%	-\$2	-0.5%
Broad - Global	\$1,241	11%	-\$37	-3.1%	\$203	17.4%
Environment	\$1,048	9%	\$2	0.2%	-\$30	-2.5%
Clean Energy	\$343	3%	-\$3	-1.0%	\$176	102.9%
Social	\$161	1%	\$0	-0.2%	-\$12	-6.1%
Infrastructure	\$72	1%	\$0	-0.6%	-\$10	-93.1%
Commodities	\$13	0%	\$0	-2.1%	\$13	NA
Multi-Asset	\$153	1%	\$0	0.0%	\$28	19.7%
Fixed Income	\$1,610	15%	\$22	1.4%	\$709	65.4%
Total Displayed	\$11,059	100%	\$105	1.0%	\$2,502	26.5%

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

Table 5 - Top Single Long ETF Inflows - Nov 2022

Ticker	Name	Flow (\$M)	Flow/AUM
1	CSAV CI High Interest Savings ETF	\$468	11%
2	VAB Vanguard Canadian Aggregate Bond Index ETF	\$420	20%
3	HBB Horizons Cdn Select Universe Bond ETF	\$404	17%
4	ZAG BMO Aggregate Bond Index ETF	\$350	6%
5	CASH Horizons High Interest Savings ETF	\$322	44%
6	PSA Purpose High Interest Savings ETF	\$303	10%
7	XIC iShares Core S&P/TSX Capped Composite Index ETF	\$283	4%
8	XIU iShares S&P/TSX 60 Index ETF	\$230	2%
9	ZTLF BMO Long-Term US Treasury Bond Index ETF	\$179	637%
10	HXT Horizon S&P/TSX 60 Index ETF	\$147	4%
11	QEBL Mackenzie Emerging Markets Local Currency Bond	\$136	23%
12	NSCE NBI Sustainable Canadian Equity ETF	\$134	11%
13	XBB iShares Core Canadian Universe Bond Index ETF	\$134	3%
14	ZMN BMO Mid-Term US IG Corporate Bond CAD-Hedged	\$114	5%
15	NHYB NBI High Yield Bond ETF	\$107	12%
16	ZLU BMO Low Volatility US Equity ETF	\$99	7%
17	XSP iShares Core S&P 500 Index ETF CAD- Hedged	\$96	1%
18	VCN Vanguard FTSE Canada All Cap Index ETF	\$94	3%
19	VSP Vanguard S&P 500 Index ETF CAD-hedged	\$82	3%
20	ZHY BMO High Yield US Corporate CAD Hedged	\$81	16%

Source: National Bank of Canada, Bloomberg;

Table 6 - Top Single Long ETF Outflows - Nov 2022

Ticker	Name	Flow (\$M)	Flow/AUM
1	ZST BMO Ultra Short-Term Bond ETF	-\$927	-58%
2	ZCN BMO S&P/TSX Capped Composite Index ETF	-\$274	-4%
3	ZEB BMO Equal Weight Banks Index ETF	-\$182	-8%
4	XSB iShares Core Canadian Short Term Bond Index ETF	-\$155	-5%
5	ZMMK BMO Money Market Fund ETF Series	-\$149	-27%
6	ZSP BMO S&P 500 Index ETF	-\$138	-2%
7	DXZ Dynamic Active US Mid-Cap ETF	-\$118	-98%
8	DANC Desjardins Alt Long/Short Equity Market Neutral ETF	-\$107	-15%
9	TERM Manulife Smart Short-Term Bond ETF	-\$100	-20%
10	MFT Mackenzie Floating Rate Income ETF	-\$93	-11%
11	WXM CI Morningstar Canada Momentum Index ETF	-\$85	-10%
12	XGRO iShares Core Growth ETF Portfolio	-\$62	-4%
13	FIG CI Investment Grade Bond ETF	-\$60	-15%
14	ZCS BMO Short Corporate Bond Index ETF	-\$54	-4%
15	XEC iShares Core MSCI Emerging Markets IMI Index ETF	-\$53	-6%
16	HSUV/US Horizons USD Cash Maximizer ETF	-\$52	-6%
17	PGL Invesco Long Term Government Bond Index ETF	-\$49	-26%
18	XRB iShares Canadian Real Return Bond Index ETF	-\$43	-9%
19	ZDI BMO International Dividend ETF	-\$40	-17%
20	ZMP BMO Mid Provincial Bond Index ETF	-\$40	-11%

Source: National Bank of Canada, Bloomberg;

Tables continue on the next page

Asset Class	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Equity	\$204,033	64%	\$1,594	0.8%
Fixed Income	\$92,001	29%	\$2,321	2.6%
Commodities	\$1,578	0%	\$85	6.1%
Multi-Asset	\$16,273	5%	\$24	0.2%
Inverse / Levered	\$3,002	1%	\$176	6.4%
Crypto-Asset	\$1,790	1%	-\$29	-1.3%
Total	\$318,677	100%	\$4,172	1.4%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

Geography	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Canada	\$77,156	38%	\$745	1.0%
United States	\$70,636	35%	\$414	0.6%
DM: Broad	\$21,024	10%	\$110	0.6%
DM: Regional & Country	\$5,627	3%	\$9	0.2%
Emerging Markets	\$5,421	3%	\$103	2.2%
Global	\$24,168	12%	\$212	0.9%
Total	\$204,033	100%	\$1,594	0.8%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

Sector	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Financials	\$9,907	36%	-\$166	-1.7%
Energy	\$3,840	14%	\$1	0.0%
Real Estate	\$3,133	11%	\$73	2.6%
Health Care	\$2,823	10%	\$12	0.4%
Technology	\$2,771	10%	\$24	0.9%
Utilities	\$2,498	9%	\$23	1.0%
Materials	\$2,195	8%	\$31	1.7%
Other	\$608	2%	\$10	2.1%
Total	\$27,774	100%	\$8	0.0%

*Includes all geo focuses and Covered Call Strategies; Source: NBF, Bloomberg

Focus	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Cap-weighted	\$119,506	59%	\$1,094	1.0%
Dividend / Income	\$22,249	11%	\$343	1.6%
Factor: Low Vol	\$7,897	4%	\$133	1.8%
Factor: Multi-factor	\$3,037	1%	-\$70	-2.4%
Factor: Fundamental	\$5,170	3%	\$61	1.3%
Sector	\$27,774	14%	\$8	0.0%
Thematic	\$12,023	6%	\$147	1.3%
ESG**	\$7,859	4%	\$107	1.5%
Other	\$6,377	3%	-\$120	-2.0%
Total	\$204,033	100%	\$1,594	0.8%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

** Only includes ESG ETFs under Thematic category

Type	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Canada Aggregate	\$28,840	31%	\$1,289	4.8%
Canada Government	\$9,328	10%	\$101	1.1%
Canada Corporate	\$12,732	14%	-\$843	-6.3%
U.S. / North America	\$7,307	8%	\$255	3.7%
Foreign	\$10,340	11%	\$327	3.4%
Sub-Investment Grade	\$3,818	4%	\$139	3.8%
Preferred/Convertible	\$6,296	7%	-\$98	-1.5%
Cash Alternative	\$13,342	15%	\$1,152	9.5%
Total	\$92,001	100%	\$2,321	2.6%

Source: National Bank of Canada, Bloomberg

Maturity	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Broad/Mixed	\$46,196	50%	\$2,100	4.9%
Ultra Short Term	\$4,470	5%	-\$1,117	-20.0%
Short Term	\$16,059	17%	-\$264	-1.6%
Mid Term	\$4,709	5%	\$131	2.9%
Long Term	\$5,117	6%	\$221	4.8%
Real Return	\$1,494	2%	-\$60	-3.9%
Target Maturity	\$615	1%	\$157	34.7%
Cash Alternative	\$13,342	15%	\$1,152	9.5%
Total	\$92,001	100%	\$2,321	2.6%

Source: National Bank of Canada, Bloomberg

Rank	Ticker	Name	Flow (\$M)	Flow/AUM
1	CSAV	CI High Interest Savings ETF	\$2,464	118%
2	PSA	Purpose High Interest Savings ETF	\$1,620	89%
3	HBB	Horizons Cdn Select Universe Bond ETF	\$1,372	88%
4	HXT	Horizon S&P/TSX 60 Index ETF	\$1,247	43%
5	TCLB	TD Canadian Long Term Federal Bond ETF	\$1,168	398%
6	VFV	Vanguard S&P 500 Index ETF	\$1,040	16%
7	XIU	iShares S&P/TSX 60 Index ETF	\$1,036	9%
8	CASH	Horizons High Interest Savings ETF	\$1,032	6352%
9	ZMU	BMO Mid-Term US IG Corporate Bond Hedged to CAD	\$996	53%
10	NSCE	NBI Sustainable Canadian Equity ETF	\$995	280%
11	ESGY	BMO MSCI USA ESG Leaders Index ETF	\$990	109%
12	ZAG	BMO Aggregate Bond Index ETF	\$978	15%
13	VSP	Vanguard S&P 500 Index ETF CAD-hedged	\$904	42%
14	XSP	iShares Core S&P 500 Index ETF CAD- Hedged	\$875	10%
15	HISA	High Interest Savings Account Fund	\$708	270%
16	VEQT	Vanguard All-Equity ETF Portfolio	\$682	40%
17	ZWB	BMO Covered Call Canadian Banks ETF	\$642	25%
18	VGRO	Vanguard Growth ETF Portfolio	\$638	19%
19	ZEA	BMO MSCI EAFE Index ETF	\$610	11%
20	ZCPB	BMO Core Plus Bond Fund ETF	\$604	46%

Source: National Bank of Canada, Bloomberg

Rank	Ticker	Name	Flow (\$M)	Flow/AUM
1	ESGY/F	BMO MSCI USA ESG Leaders Index ETF	-\$768	-94%
2	TTP	TD Canadian Equity Index ETF	-\$651	-37%
3	HXCN	Horizons S&P/TSX Capped Composite Index ETF	-\$639	-32%
4	XIC	iShares Core S&P/TSX Capped Composite Index ETF	-\$612	-6%
5	ZSP	BMO S&P 500 Index ETF	-\$554	-5%
6	HXS	Horizons S&P 500 Index ETF	-\$522	-16%
7	XSH	iShares Core Canadian Short Term Corporate Bond	-\$494	-26%
8	XSB	iShares Core Canadian Short Term Bond Index ETF	-\$465	-13%
9	ZEM	BMO MSCI Emerging Markets Index ETF	-\$450	-22%
10	ZCM	BMO Mid Corporate Bond Index ETF	-\$414	-40%
11	ZLU	BMO Low Volatility US Equity ETF	-\$388	-21%
12	TEC	TD Global Technology Leaders Index ETF	-\$382	-18%
13	ZMP	BMO Mid Provincial Bond Index ETF	-\$360	-48%
14	CMUE	CIBC Multifactor US Equity ETF	-\$342	-93%
15	CMCE	CIBC Multifactor Canadian Equity ETF	-\$337	-103%
16	ZPR	BMO Laddered Preferred Share Index ETF	-\$323	-13%
17	VALT/U	CI Gold Bullion Fund	-\$322	-92%
18	ZCN	BMO S&P/TSX Capped Composite Index ETF	-\$315	-4%
19	FIG	CI Investment Grade Bond ETF	-\$311	-42%
20	DANC	Desjardins Alt Long/Short Equity Market Neutral ETF	-\$299	-34%

Source: National Bank of Canada, Bloomberg

YTD November 2022 Flow (Tables 13 - 21):

Canadian ETFs managed to receive net inflows of \$28 billion in 2022 year-to-date. With \$13 billion created in fixed income in 2022 so far, it is the first year for Fixed Income ETFs to lead Equities in net inflows since 2019. Despite the fact that inflation fears have been dominating conversations and headlines, Commodity ETFs in Canada had small *outflows* of \$286 million year-to-date, primarily from gold ETFs.

Multi-Asset ETFs welcomed \$1.9 billion in flows, with steady contributions from investors every month. Investors are increasingly adopting alternative strategies that invest in multiple asset classes, a trend that has been reflected in the flows. Market neutral ETFs such as **DANC** were used tactically during this volatile year. Crypto-asset ETF flows are almost flat on the year with \$66 million redeemed on a net basis.

Within equity ETFs, Canada and the U.S. equally split the inflows with \$3.9 billion towards each, while ETFs focusing on “global equity” contributed \$2.5 billion in net inflows. Low volatility ETFs and multi-factor ETFs saw redemptions. The multi-factor ETF outflows were driven mostly by redemptions from CIBC’s multi-factor ETF suite.

In a year with rapidly rising interest rates and widening credit spreads, cash alternative ETFs have claimed the crown for fixed income ETF demand. Cash alternative ETFs gathered \$7 billion, or \$2 billion more than the inflows accumulated by Canadian aggregate bond ETFs in the same year-to-date period. Categories with higher credit exposure such as sub-investment grade bonds and preferred share suffered outflows.

Table 15 - ETF Flows by Category - YTD Nov 2022

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Fixed Income	\$92,001	29%	\$13,131	14%
Commodities	\$1,578	0%	-\$286	-15%
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Inverse / Leveraged	\$3,002	1%	\$1,460	80%
Crypto-Asset	\$1,790	1%	-\$66	-1%
Total	\$318,677	100%	\$27,946	8.1%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

Table 16 - Equity ETF Flows by Geography - YTD Nov 2022

Geography	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Canada	\$77,156	38%	\$3,940	5%
United States	\$70,636	35%	\$3,902	5%
DM: Broad	\$21,024	10%	\$904	3%
DM: Regional & Country	\$5,627	3%	\$758	11%
Emerging Markets	\$5,421	3%	-\$162	-2%
Global	\$24,168	12%	\$2,466	10%
Total	\$204,033	100%	\$11,807	5.2%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

Table 17 - Equity ETF Flows by Sector* - YTD Nov 2022

Sector	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Financials	\$9,907	36%	\$431	4%
Energy	\$3,845	14%	\$402	18%
Real Estate	\$3,133	11%	-\$144	-4%
Health Care	\$2,823	10%	\$412	16%
Technology	\$2,771	10%	\$64	2%
Utilities	\$2,498	9%	\$483	21%
Materials	\$2,195	8%	-\$226	-9%
Other	\$603	2%	-\$41	-6%
Total	\$27,774	100%	\$1,381	4%

*Includes all geo focuses and Covered Call Strategies; Source: NBF, Bloomberg

Table 18 - Equity ETF Flows by Focus - YTD Nov 2022

Focus	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Cap-weighted	\$119,506	59%	\$5,879	4%
Dividend / Income	\$22,249	11%	\$2,076	9%
Factor: Low Vol	\$7,897	4%	-\$769	-9%
Factor: Multi-factor	\$3,037	1%	-\$998	-23%
Factor: Fundamental	\$5,170	3%	\$442	9%
Sector	\$27,774	14%	\$1,381	5%
Thematic	\$12,023	6%	\$2,405	22%
ESG**	\$7,859	4%	\$1,961	30%
Other	\$6,377	3%	\$1,391	26%
Total	\$204,033	100%	\$11,807	5.2%

*Equity Flows include option strategies; Source: National Bank of Canada, Bloomberg

** Only includes ESG ETFs under Thematic category

Table 19 - Fixed Income ETF Flows by Type - YTD Nov 2022

Type	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Canada Aggregate	\$28,840	31%	\$5,500	19%
Canada Government	\$9,328	10%	\$1,103	11%
Canada Corporate	\$12,732	14%	-\$577	-4%
U.S. / North America	\$7,307	8%	\$938	10%
Foreign	\$10,340	11%	\$538	5%
Sub-Investment Grade	\$3,818	4%	-\$265	-5%
Preferred/Convertible	\$6,296	7%	-\$1,180	-12%
Cash Alternative	\$13,342	15%	\$7,074	113%
Total	\$92,001	100%	\$13,131	13.6%

Source: National Bank of Canada, Bloomberg

Table 20 - Fixed Income ETF Flows by Maturity - YTD Nov 2022

Maturity	AUM (\$M)	Mkt Shr	Flow (\$M)	Flow/AUM
Broad/Mixed	\$46,196	50%	\$4,926	9%
Ultra Short Term	\$4,470	5%	\$439	10%
Short Term	\$16,059	17%	-\$1,923	-10%
Mid Term	\$4,709	5%	\$305	4%
Long Term	\$5,117	6%	\$1,780	41%
Real Return	\$1,494	2%	-\$9	0%
Target Maturity	\$615	1%	\$537	166%
Cash Alternative	\$13,342	15%	\$7,074	113%
Total	\$92,001	100%	\$13,131	13.6%

Source: National Bank of Canada, Bloomberg

Provider	New Methodology (adjusted for ETF-of-ETFs)				Unadjusted	
	AUM (\$M)	Mkt Shr (%)	YTD Nov 2022 Flow (\$M)	YTD Nov 2022 Flow/AUM	YTD Nov 2022 AUM (\$M)	YTD Nov 2022 Flow (\$M)
1 RBC iShares	\$94,348	29.6%	\$4,330	4%	\$99,964	\$4,750
2 BMO	\$79,017	24.8%	\$3,491	4%	\$87,550	\$4,859
3 Vanguard	\$41,951	13.2%	\$5,491	11%	\$51,450	\$7,066
4 Horizons	\$22,365	7.0%	\$3,925	19%	\$22,964	\$4,041
5 CI First Asset	\$14,999	4.7%	\$976	6%	\$15,181	\$1,093
6 Mackenzie*	\$12,220	3.8%	\$1,129	9%	\$12,445	\$1,159
7 TDAM	\$8,170	2.6%	\$991	12%	\$8,254	\$1,002
8 NBI	\$6,733	2.1%	\$2,354	48%	\$6,733	\$2,354
9 Purpose	\$6,299	2.0%	\$2,248	36%	\$6,566	\$2,293
10 Invesco	\$4,766	1.5%	\$640	14%	\$4,786	\$640
11 Fidelity	\$3,042	1.0%	\$585	20%	\$3,309	\$718
12 CIBC	\$2,519	0.8%	-\$293	-10%	\$2,526	-\$294
13 Harvest	\$2,514	0.8%	\$829	42%	\$2,912	\$1,204
14 Manulife	\$2,480	0.8%	\$133	5%	\$2,480	\$133
15 Dynamic	\$2,162	0.7%	-\$276	-10%	\$2,162	-\$276
16 PIMCO	\$2,078	0.7%	\$150	7%	\$2,078	\$150
17 Evolve Funds	\$2,074	0.7%	\$807	44%	\$2,125	\$796
18 Desjardins	\$1,680	0.5%	-\$297	-14%	\$1,680	-\$297
19 Hamilton	\$1,520	0.5%	\$789	68%	\$1,927	\$953
20 Franklin Templeton	\$1,334	0.4%	-\$663	-30%	\$1,334	-\$663
21 AGF	\$1,234	0.4%	-\$85	-6%	\$1,234	-\$85
22 Scotia Bank	\$1,187	0.4%	\$399	45%	\$1,187	\$399
23 Ninepoint Partners	\$686	0.2%	\$256	80%	\$686	\$256
24 Picton Mahoney	\$598	0.2%	\$138	28%	\$598	\$138
25 Brompton Funds	\$451	0.1%	\$29	5%	\$520	\$47
26 Middlefield	\$420	0.1%	-\$5	-2%	\$420	-\$5
27 First Trust	\$409	0.1%	\$20	5%	\$409	\$20
28 Bristol Gate	\$312	0.1%	-\$14	-4%	\$312	-\$14
29 3iQ	\$286	0.1%	-\$343	-22%	\$286	-\$343
30 Guardian Capital	\$233	0.1%	\$117	80%	\$233	\$117
31 Emerge	\$122	0.0%	\$19	9%	\$122	\$19
32 IA Clarington	\$104	0.0%	-\$21	-15%	\$104	-\$21
33 Lysander	\$85	0.0%	\$4	4%	\$85	\$4
34 Accelerate	\$61	0.0%	\$7	11%	\$67	\$5
35 Mulvihill	\$58	0.0%	\$61	NA	\$58	\$61
36 Russell Investments	\$48	0.0%	\$0	-1%	\$48	\$0
37 Arrow Capital	\$38	0.0%	\$18	75%	\$38	\$18
38 Starlight	\$27	0.0%	-\$7	-18%	\$27	-\$7
39 SmartBe	\$24	0.0%	-\$6	-19%	\$24	-\$6
40 Evermore Capital	\$14	0.0%	\$15	NA	\$14	\$15
41 NCM Investments	\$6	0.0%	\$0	0%	\$6	\$0
42 Caldwell	\$5	0.0%	\$5	NA	\$5	\$5
Total	\$318,677	100.0%	\$27,946	8.1%	\$344,910	\$32,303

*Includes Wealthsimple asset and flows. Source: NBF, Bloomberg

Appendix 1 - Glossary

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

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

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

Market Share (%): Category's AUM as % of the total AUM.

MER (Management Expense Ratio): Manager's 2021 annual fee for managing and administering the fund, expressed as a percentage of total fund value. In most cases this includes fees from investing in other ETFs. Where audited MER is unavailable or if the fee has been significantly reduced recently, the MER is estimated using the Stated Management Fee and sales tax.

Canadian MER does not include trading commissions incurred by the ETF, nor does it include trading expenses (such as swap or forward fees). An asterisk (*) indicates that the fund pays additional expenses such as swap or forward fees, which are normally reported under trading expenses. The asterisk can also indicate that the fund charges a performance fee. Data are sourced from annual filings.

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

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

Appendix 2 - Equity ETF Categories

We group Equity 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.

Cap-Weighted: A fund that weights securities based on the total or float-adjusted market capitalization of each security.

Dividend/Income: A fund with 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.

Fundamental: A fund that selects and/or weights securities based on fundamental metrics from a company's financial statements such as balance sheet. Strategies include Value, Growth, Quality, RAFI Fundamental, Earnings, etc.

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.

Multi-Factor: ETFs that consider more than one NBF-defined factor including Income, Fundamental and Risk.

Sector: ETFs that provide exposure to broad industry sectors classified by the Global Industry Classification Standard (GICS) or other similar classifications. This category contains all sector funds, including ones that screen and/or weight the portfolio using factors.

Thematic: ETFs that provide niche exposures such as blockchain technology, infrastructure, Marijuana companies, Socially Responsible Investing, technology sub-sectors, agriculture, water, sentiment & behaviour, etc. This category contains all thematic funds, including ones that screen and/or weight the portfolio using factors.

Other: Any non-cap weighted strategy that is not covered by otherwise defined categories. This includes momentum, equal-weight, share buyback, high beta, proprietary, actively managed, tactical rotation, price-weighted, etc.

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