DECEMBER 16, 2024

FOR THE WEEK ENDING DECEMBER 13, 2024

46 ETF **Providers**

1512 **ETFs** (+18%YoY) \$578B **CAD AUM** (+40% YoY) \$17.7 **Traded** (Last Week)

WEEKLY CREATIONS/REDEMPTIONS BY ASSET CLASSES

Equity (+C\$2.1B) and fixed income (+C\$577M) led inflows last week

	\$ Traded	Short Int	AUM	Net C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Equity	10,476.6	0.7%	379,342	2,097.7	0.6%	2.1%	20.9%
Fixed Income	3,179.8	0.3%	130,610	576.7	0.4%	1.4%	27.8%
Mixed Allocation	439.3	0.1%	22,506	199.1	0.9%	3.3%	41.6%
Commodity	896.3	0.9%	4,434	52.2	1.2%	1.8%	38.5%
Specialty/Alternative	92.9	3.0%	3,377	42.1	1.3%	0.6%	4.5%
Cryptocurrency	1,171.4	0.4%	9,933	-13.6	-0.1%	-0.3%	-11.3%
Preferreds	150.1	1.1%	6,494	-33.0	-0.5%	-0.3%	-6.8%
Cash	1,303.4	0.6%	21,058	-238.1	-1.1%	-0.6%	-9.1%
Total	17,709.7	0.5%	577,753	2,683.1	0.5%	1.8%	20.8%

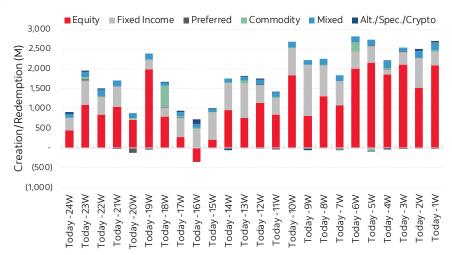
WEEKLY LARGEST CREATIONS/REDEMPTIONS

Investors added into US equities, EM equities, Cdn Energy (VFV, ZEM, XEG); Cash & ultra-short were largely sold (CSAV, ZST)

Ticker	Name	Returns (1-Week)	Short Int (% of SO)	\$ Traded (CAD M)	Net C/R (CAD M)	Net C/R (% of AUM)
VFV	Vanguard S&P 500 Index ETF	0.0%	0.1%	593.8	213.9	1.0%
ZEM	BMO MSCI Emerging Markets Index E	1.2%	0.4%	211.1	154.6	14.8%
XEG	iShares S&P/TSX Capped Energy Inde	-0.7%	10.4%	351.0	153.3	10.7%
ZFL	BMO Long Federal Bond Index ETF	-2.9%	0.2%	174.2	146.8	4.0%
VCN	Vanguard FTSE Canada All Cap Index	-1.6%	0.0%	196.3	137.6	1.6%
ZSP	BMO S&P 500 Index ETF	0.0%	1.9%	396.3	131.3	0.7%
ZAG	BMO Aggregate Bond Index ETF	-1.1%	0.0%	111.0	113.4	1.1%
CSAV	CI High Interest Savings ETF	0.1%	0.1%	258.9	-222.9	-3.4%
ZEB	BMO Equal Weight Banks Index ETF	-0.3%	4.5%	790.7	-164.0	-3.9%
ZST	BMO Ultra Short-Term Bond ETF	0.0%	0.2%	202.1	-127.1	-3.8%
ZMMK	BMO Money Market Fund ETF Series	0.1%	0.1%	322.0	-86.2	-2.9%
PSA	Purpose High Interest Savings Fund	0.1%	0.0%	202.6	-72.6	-2.3%
ZBK	BMO Equal Weight US Banks Index E	-2.9%	1.7%	94.9	-52.4	-6.2%
ZFS	BMO Short Federal Bond Index ETF	-0.3%	0.3%	19.4	-40.8	-8.6%

HISTORICAL CREATIONS/REDEMPTIONS BY ASSET CLASS

Cdn ETFs enjoy largest inflows since start of November, recording 4th largest inflow this vear



LAST WEEK'S MOST ACTIVE ETFS

Cdn ETFs traded a major \$17.7B last week, Cdn & US equities, Cdn banks led trading (XIU, ZEB, VFV)

Ticker	Name	Returns (1-Week)	Short Int (% of SO)	B/A Spread (bps)	\$ Traded (CAD M)	\$ Traded vs CR/RD
XIU	iShares S&P/TSX 60 Index ETF	-1.5%	5.4%	1.3	1,658.5	31.4 x
ZEB	BMO Equal Weight Banks Index ETF	-0.3%	4.5%	1.6	790.7	4.8 x
VFV	Vanguard S&P 500 Index ETF	0.0%	0.1%	2.9	593.8	2.8 x
XIC	iShares Core S&P/TSX Capped Comp	-1.6%	3.8%	1.7	400.9	7.0 x
ZSP	BMO S&P 500 Index ETF	0.0%	1.9%	1.8	396.3	3.0 x
XEG	iShares S&P/TSX Capped Energy Inde	-0.7%	10.4%	1.4	351.0	2.3 x
BTCC	Purpose Bitcoin ETF	0.3%	0.1%	1.9	337.5	39.4 x
CASH	Global X High Interest Savings ETF	0.0%	0.4%	1.1	335.0	23.9 x
ZMMK	BMO Money Market Fund ETF Series	0.1%	0.1%	1.1	322.0	4 x
HND	BetaPro Natural Gas Inverse Le	-12.5%	12.0%	5.9	300.4	8.2 x
CSAV	CI High Interest Savings ETF	0.1%	0.1%	1.1	258.9	1.2 x
BTCC/B	Purpose Bitcoin ETF	0.9%	0.6%	2.0	254.9	15.1 x
HXT	Global X S&P/TSX 60 Index Corporate	-1.5%	0.3%	2.0	254.7	3.5 x
HNU	BetaPro Natural Gas Leveraged Daily	11.7%	2.2%	9.3	233.2	65.3 x

2

EQUITY FUND FLOWS

Last Week's Net Creations/Redemptions by Strategy & Sector

Investors bought Energy sector & Blend strategy, sold Financials

	\$ Traded	Short Int	AUM	1-Week C/R	Net C/R (% AUM)		
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Dividend/Income	776.8	0.3%	25,546	264.1	1.0%	3.5%	31.2%
Blend	7,882.2	1.0%	274,623	1,497.7	0.5%	2.1%	24.4%
Growth	1,078.6	0.1%	47,791	261.3	0.5%	2.1%	9.4%
Value	254.1	0.1%	14,122	61.6	0.4%	2.5%	15.9%
ESG/SRI	34.0	0.0%	6,293	18.2	0.3%	1.2%	-23.5%
Low Volatility	83.4	0.0%	7,852	15.7	0.2%	0.3%	18.6%
Momentum	0.3	0.0%	85	-	1	-	35.0%
Multi-Factor	12.2	0.0%	2,184	-0.0	-0.0%	2.2%	11.2%
Leverage/Inverse	367.3	0.0%	845	-21.0	-2.4%	-3.1%	-15.0%
Total	10,488.9	0.7%	379,342	2,097.7	0.6%	2.1%	20.9%
Preferreds	150.1	1.1%	6,494	-33.0	-0.5%	-0.3%	-6.8%

	\$ Traded	Short Int	AUM	1-Week C/R	Net C/R (% AUM)		
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Communications	18.7	0.2%	124	10.5	9.3%	85.4%	211.1%
Energy	456.8	4.1%	4,038	162.9	4.2%	1.7%	-2.4%
Utilities	225.9	0.3%	5,498	48.9	0.9%	1.0%	15.2%
Info Tech	191.9	0.2%	8,845	58.2	0.7%	3.1%	37.5%
Thematic	110.4	0.7%	14,008	40.1	0.3%	0.6%	-3.9%
Consumer Staples	8.6	0.2%	315	0.5	0.2%	8.5%	5.0%
Health Care	79.8	0.1%	3,627	4.6	0.1%	1.0%	12.7%
Real Estate	201.4	0.7%	3,491	-3.5	-0.1%	-0.6%	14.7%
Cons. Discretionary	-	0.2%	615	-2.7	-0.5%	-0.7%	11.8%
Industrials	2.7	1.4%	228	-1.9	-0.8%	5.7%	36.8%
Financials	1,290.8	0.6%	18,701	-154.1	-0.8%	0.1%	-2.2%
Materials	308.2	0.5%	3,168	-33.9	-1.1%	-4.4%	22.8%
Sector Subtotal	2,895.2	0.8%	62,660	129.7	0.4%	2.3%	14.2%

Last Week's Net Creations/Redemptions by Geography

Equity investors added to most regions, favouring US & Canada

	\$ Traded	Short Int	AUM	1-Week C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
United States	3,222.0	0.4%	147,910	956.2	0.6%	2.8%	27.8%
Canada	5,163.5	1.5%	116,205	625.6	0.5%	2.1%	11.5%
DM Regional/Country	425.0	0.1%	18,395	97.8	0.5%	2.4%	12.0%
Global/International	1,600.3	0.2%	91,832	417.2	0.5%	1.2%	26.3%
EM Regional/Country	65.7	1.6%	5,001	0.9	0.0%	1.4%	20.9%
Total	10,476.6	0.7%	379,342	2,097.7	0.6%	2.1%	20.9%

FIXED INCOME, CURRENCIES AND COMMODITIES FUND FLOWS

Last Week's Net Creations/Redemptions by Strategy & Term/Rating

Investors bought universe & govie; selling out of cash & ultra-short bond ETFs

	\$ Traded	Short Int	AUM	1-Week C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Bank Loans	202.3	0.1%	1,141	15.2	1.4%	3.1%	12.5%
Government	688.3	0.2%	20,168	154.7	0.8%	2.3%	8.5%
Target Date	94.6	0.1%	4,239	28.3	0.7%	2.5%	91.3%
Aggregate	2981.8	0.1%	75,265	283.9	0.4%	0.4%	22.7%
Corporate	323.2	0.6%	28,646	93.4	0.3%	2.1%	21.0%
Inflation Protected	16.0	0.1%	1,004	1.1	0.1%	-1.0%	-19.5%
Convertible	1.3	0.0%	148	-	-	0.8%	-4.2%
FI Subtotal	4,307.5	0.3%	130,610	576.7	0.4%	1.4%	27.8%
Commodity	896.3	0.9%	4,434	52.2	1.2%	1.8%	38.5%
Cash/Currency	1303.4	0.6%	21,058	-238.1	-1.1%	-0.6%	-9.1%
FICC Total	6,507.2		156,101	390.8	0.3%		

	\$ Traded	Short Int	AUM	1-Week C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
IG A or Higher	1902.5	0.1%	66,473	379.3	0.6%	0.9%	23.2%
IG BBB or higher	1052.5	0.4%	54,734	179.7	0.3%	2.0%	36.4%
High Yield	224.9	0.2%	9,403	17.7	0.2%	1.4%	15.5%
FI Total	3,179.8	0.3%	130,610	576.7	0.4%	1.4%	27.8%

	\$ Traded	Short Int	AUM	1-Week C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Long-Term	471.6	0.1%	12,489	84.8	0.7%	2.7%	16.0%
Mixed	886.3	0.3%	69,669	449.3	0.6%	1.0%	27.1%
Intermediate	453.8	0.2%	18,520	104.1	0.6%	1.1%	13.9%
Short-Term	485.6	0.1%	17,721	96.0	0.5%	2.4%	20.6%
Ultra Short	882.5	0.2%	12,210	-157.5	-1.3%	0.6%	112.8%
FI Total	3,179.8	0.3%	130,610	576.7	0.4%	1.4%	27.8%

Last Week's Net Commodity-Linked Creations/Redemptions

Nat Gas & Gold ETFs drive commodity inflows

	\$ Traded	Short Int	AUM	1-Week C/R	Ne	t C/R (% AUM)
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Natural Gas	533.8	5.3%	286	33.0	13.5%	7.4%	66.2%
Crude Oil	231.8	3.1%	199	9.5	5.2%	1.0%	-24.1%
Energy Subtotal	765.7	4.0%	486	42.5	10.0%	4.7%	18.5%
Gold	64.5	0.3%	3,390	10.8	0.3%	1.9%	51.8%
Silver	60.0	0.1%	424	0.4	0.1%	1.8%	1.6%
Broad Based	6.0	0.0%	133	-1.4	-1.1%	-8.2%	3.8%
Commodity Total	896.3	0.9%	4,434	52.2	1.2%	1.8%	38.5%

CRYPTOCURRENCY FUND FLOWS

Last Week's Net Creations/Redemptions by Strategy

Bitcoin ETFs suffer elevated outflows

	\$ Traded	Short Int	AUM	1-Week C/R	Net C/R (% AUM)		
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Multi-Crypto	3.6	0.1%	93	0.7	0.8%	-1.2%	-2.9%
Ether	256.5	0.6%	2,057	7.0	0.3%	0.4%	-8.0%
Bitcoin	911.3	0.3%	7,782	-21.3	-0.3%	-0.5%	-12.4%
Total	1,171.4	0.4%	9,933	-13.6	-0.1%	-0.3%	-11.3%

Last Week's Net Creations/Redemptions by Provider

Purpose, Evolve saw the largest crypto ETF outflows (as % of AuM)

	# of Crypto	AUM	Market Net C/R		Net C/R (% AUM)		
	ETFs	(CAD M)	Share	(CAD M)	1-Week	1-Month	1-Year
Purpose	14	4,512	45.4%	-23.6	-0.5%	-2.9%	-34.5%
CIETFs	6	3,065	30.9%	-1.5	-0.1%	-1.7%	-10.6%
Fidelity	3	1,119	11.3%	14.0	1.3%	10.4%	210.6%
3iQ	2	629	6.3%	-1.7	-0.3%	1.8%	10.7%
Evolve	6	592	6.0%	-2.4	-0.4%	6.2%	9.6%
Global X	1	16	0.2%	1.6	11.5%	6.8%	50.2%
Total	32	9,933	100.0%	-13.6	-0.1%	-0.3%	-11.3%

ESG-FOCUSED FUND FLOWS

Last Week's Net Creations/Redemptions by ESG Attribute

Broad ESG strategy once again outpaced flows into other ESG strategies

	\$ Traded	Short Int	AUM	1-Week C/R	Ne)	
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Socially Responsible	23.2	0.2%	1,769	7.2	0.4%	2.0%	22.5%
Broad ESG	79.1	0.8%	14,783	24.4	0.2%	-0.5%	-4.3%
Clean Energy	6.1	0.2%	113	0.1	0.1%	-1.0%	6.7%
Climate Change	1.4	0.2%	162	-	-	1.1%	15.8%
Env. Friendly	9.9	0.0%	1,548	-1.9	-0.1%	0.6%	-7.5%
Total	119.8	0.3%	18,376	29.9	0.2%	0.4%	6.6%

ACTIVE STRATEGIES FUND FLOWS

Last Week's Net Creations/Redemptions by Strategy

Active continues attracting strong flows week over week, across most strategies

	\$ Traded	Short Int	AUM	1-Week C/R	Ne)	
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Single Stock	105.7	1.0%	684	9.5	1.4%	14.1%	279.7%
Dividend/Income	443.0	0.3%	16,071	144.1	0.9%	3.3%	41.2%
Mixed Allocation	430.2	0.2%	21,864	173.7	0.8%	2.8%	38.1%
Factor/Multi-Factor	124.8	0.1%	11,406	77.0	0.7%	5.9%	45.3%
True Active	2,863.1	0.1%	108,222	504.3	0.5%	2.3%	33.4%
Proprietary	29.0	0.1%	2,367	0.3	0.0%	-1.6%	-10.9%
Smart Beta	2.3	0.1%	156	-0.6	-0.4%	-1.2%	-4.9%
Total	3,998.1	0.3%	160,768	908.4	0.6%	0.8%	26.1%

Last Week's Net Creations/Redemptions by Asset Class

Equity and mixed allocation saw bulk of active inflows

	\$ Traded (CAD M)	Short Int (% of SO)	AUM (CAD M)	Net C/R (CAD M)	Ne 1-Week	t C/R (% AUM)	1-Year
Specialty/Alternative	189.5	0.2%	5,084	54.3	1.1%	2.0%	13.8%
Mixed Allocation	439.2	0.1%	22,491	199.1	0.9%	3.3%	41.7%
Equity	1,698.8	0.2%	83,809	531.5	0.6%	3.0%	29.6%
Fixed Income	1,663.2	0.1%	49,179	124.4	0.3%	2.0%	43.0%
Commodity	7.3	0.1%	205	-0.9	-0.4%	-6.2%	2.3%
Total	3,998.1	0.1%	160,768	908.4	0.6%	0.8%	26.1%

SINGLE-STOCK FUND FLOWS

Last Week's Net Creations/Redemptions in Single Stock ETFs

TSLA single-stock ETF continues seeing outflows

	\$ Traded Short Int		AUM	1-Week C/R	Net C/R (% AUM)		
	(CAD M)	(% of SO)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
Other (6)	16.9	0.8%	137	6.4	5.0%	26.7%	319.7%
Microsoft	3.9	2.4%	38	1.2	3.4%	18.7%	N/A
Amazon	6.2	0.2%	119	3.7	3.2%	12.4%	125.9%
NVIDIA	44.6	2.2%	151	4.4	2.8%	35.3%	N/A
Tesla	34.1	0.0%	239	-6.2	-2.8%	-7.3%	104.6%
Total	105.7	1.1%	684	9.5	1.4%	17.2%	183.4%

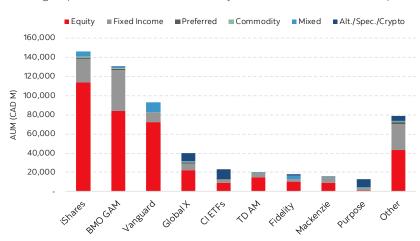
PROVIDER MARKET SHARE

46 Providers have total AuM of C\$578B (+40% YoY)

	# of	AUM	Market	Net C/R (% AUM)		
Providers	ETFs	(CAD M)	Share	1-Week	1-Month	1-Year
iShares	167	146,317	25.3%	0.4%	1.5%	16.2%
BMO GAM	195	129,742	22.5%	0.2%	1.1%	16.1%
Vanguard	38	93,061	16.1%	0.7%	2.0%	26.0%
Global X	142	40,259	7.0%	0.7%	2.2%	18.0%
CIETFs	132	23,417	4.1%	-0.6%	-1.0%	-4.2%
TD AM	48	19,688	3.4%	0.6%	3.2%	39.0%
Fidelity	54	17,983	3.1%	1.6%	8.7%	179.4%
Mackenzie	53	15,623	2.7%	0.5%	0.5%	15.9%
Purpose	73	13,039	2.3%	-0.1%	1.5%	-1.1%
National Bank	15	12,632	2.2%	0.0%	0.1%	5.2%
RBC GAM	66	8,437	1.5%	0.6%	2.2%	38.4%
Invesco	63	7,385	1.3%	0.3%	3.0%	15.7%
Hamilton Capital	24	6,969	1.2%	1.1%	5.1%	78.8%
1832 Asset Management	41	6,920	1.2%	0.5%	1.9%	40.5%
Other (32)	401	36,280	6.3%	0.9%	3.3%	31.4%
Total	1,512	577,753	100.0%	0.4%	1.8%	20.8%

ASSET MIX BY PROVIDER

The five largest providers now account for 'only' 75% of the ETF Cdn landscape



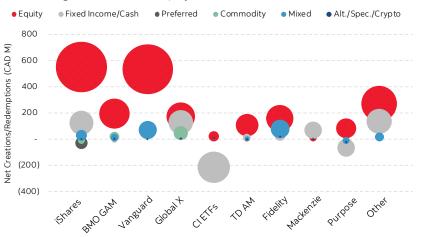
LAST WEEK'S LARGEST NET CREATIONS/REDEMPTIONS BY PROVIDER

JPMorgan and Picton Mahoney gathered the most assets (as % AUM) last week

	Average Fund Size	AUM	Net C/R	Net C/R (% AUM)		
Providers	(CAD M)	(CAD M)	(CAD M)	1-Week	1-Month	1-Year
JPMorgan ETFs	51.8	103.6	14.4	16.1%	97.1%	N/A
Picton Mahoney	120.3	1,082.3	42.4	4.1%	6.7%	45.2%
CIBC AM	117.9	4,244.3	131.9	3.2%	4.7%	43.6%
Quadravest	19.8	19.8	0.4	2.2%	21.9%	N/A
Accelerate Financial	19.1	133.8	2.7	2.1%	8.8%	54.7%
Fidelity	333.0	17,983.3	281.4	1.6%	8.7%	179.4%
Hamilton Capital	290.4	6,969.2	74.3	1.1%	5.1%	78.8%
PIMCO	406.7	3,253.8	32.8	1.0%	3.9%	40.8%
Ninepoint	77.2	849.5	-19.7	-2.2%	-7.3%	-28.3%
AGF Investments	79.7	955.9	-6.1	-0.6%	-0.5%	-12.7%
CIETFs	177.4	23,417.0	-186.6	-0.6%	-1.0%	-4.2%
Cap Group	70.5	-	-1.1	-0.4%	6.1%	N/A
3iQ	314.4	628.8	-1.7	-0.3%	1.8%	10.7%
Purpose	178.6	13,039.0	-17.9	-0.1%	1.5%	-1.1%
			-			
			-			

WEEKLY CREATIONS/REDEMPTIONS BY ASSET CLASS

iShares & Vanguard dominated Equity Creations for a second week in a row



Contacts

Daniela Fajardo, MBA

Associate Director, ETF Services 416.860.1023 Scotia Capital Inc. Canada daniela.fajardogarcia@scotiabank.com

Morley Conn, CFA

Director, ETF Services 416.863.7882 Scotia Capital Inc. Canada morley.conn@scotiabank.com

Alex Perel, CFA

MD & Head of ETF services 416.862.3158 Scotia Capital Inc. Canada alex.perel@scotiabank.com

Winnie Jiang, CFA

Associate Director, ETF Services 416.863.7295 Scotia Capital Inc. Canada winnie.jiang@scotiabank.com

Danielle Tygesen

Analyst, ETF Services 416.863.5902 Scotia Capital Inc. Canada danielle.tygesen@scotiabank.com

© The Bank of Nova Scotia 2023

To unsubscribe from this specific note/publication, email etfcommentary@scotiabank.com

TM Trademark of The Bank of Nova Scotia. Used under license, where applicable. Scotiabank, together with "Global Banking and Markets", is a marketing name for the global corporate and investment banking and capital markets businesses of The Bank of Nova Scotia and certain of its naffiliates in the countries where they operate, including Scotia Capital (IUSA) Inc., Scotia Capital (USA) Inc., Scotiabank Inc., Scotia Capital (IUSA) Inc., Scotia Capital (IUSA) Inc., Scotia Capital (IUSA) Inc., Institución de Banca Múltiple, Scotia Inverlat Casa de Bolsa S.A. de C.V., Scotia Lapital Inc. is a member of the Scotiabank Group and authorized users of the mark. The Bank of Nova Scotia is incorporated in Canada with limited liability. Scotia Capital Inc. is a member of CIPF. Scotia Capital (IUSA) Inc. is a registered broker-dealer with the SEC and is a member of the NASD and SIPC. The Bank of Nova Scotia is authorised and regulated by the Office of the Superintendent of Financial Institutions of Canada. Scotia Capital Inc. is authorised and regulated by the Institutions of Canada. The Bank of Nova Scotia (London) and Scotiabank Europe pic. are authorised by the UK Prudential Regulation Authority. Scotiabank Europe pic is regulated by the UK Financial Conduct Authority and the VEN Prudential Regulation Authority. Scotiabank Europe pic is regulated by the UK Financial Conduct Authority and the VEN Prudential Regulation Authority. Scotiabank Europe pic are available upon request. Scotiabank (Ireland) Designated Activity Company is authorised and regulated by the CBI Scotiabank Inverlat, S.A., Scotia Inverlat Casa de Bolsa, S.A. de C.V., are each authorized and regulated by the Mexican financial authorities.

This publication is not a research report and is considered a marketing communication only. Consequently this commentary is not governed by rules applicable to the publication and distribution of research reports, including relevant restrictions or disclosures required to be included in research reports and has not been prepared in accordance with EU legal requirements designed to promote the independence of investment research. This publication is not meant to provide information sufficient upon to base an investment decision, or to replace any due to replace any due to analytical work required by you in making investment decisions. The information contained in this publication is not subject to any prohibition in the EU on dealing a head of the dissemination of investment decisions. The information has been prepared and distribution in the EU on dealing a head of the dissemination of investment decisions. The information has been prepared and distribution in the EU on dealing a head of the dissemination of investment decision, or to replace any due to any prohibition in the EU on dealing a head of the dissemination of investment personal repeated and distribution in the EU on dealing a head of the dissemination of investment decision, or to repeated and distribution has been prepared and distribution has been prepared and distribution in the EU on dealing a head of the dissemination of investment decision, or to replace and the purpose of full treatment because of information and statements on the discount of future performance. The opinions and statements contained herein are are not a reliable indicator of future performance. The opinions and statements contained herein are a beased on information purposes only and are subject to change without notice. In addition, the opinions and statements contained herein are beased on information taken from sources believed to be replaced by the personal views of the written and previously expressed herein represent the personal views of the written and may not be shar

Scotia Capital Inc., its directors, officers, employees, affiliates or clients may currently or from time to time own or hold interests in long or short positions in the securities referred to herein, and may at any time make purchases or sales of these securities as principal or agent. Scotia Capital Inc. or its affiliates may have provided or may provide investment banking, capital markets advice or other resvices to the companies referred to in this communication. This email should not be construed as investment advice or as an offer to sell or a solicitation of an offer to buy any securities or other financial instruments. Neither Scotia Capital Inc. nor any of its officers, directors, partners, employees or affiliates accepts any liability for any direct or consequential loss arising from this publication or its contents. Scotia Capital Inc. recommends that investors independently evaluate each issuer and security discussed in this publication, and consult with any advisors they deem necessary prior to making any investment.

If you are subject to the prohibition on third-party benefits in relation to portfolio management and independent investment advice under MiFID II (Directive 2014/65/EU and the accompanying Regulation (EU) No 600/2014) or the UK Markets in Financial Instruments (Amendment) (EU Exit) Regulations 2018, each as amended from time to time, and should not have received this communication, please advise us in writing at trade.supervision@scotiabank.com

Redistribution or onward forwarding of this email is strictly prohibited. If you believe that this email was sent to you in error, please forward a message to that effect as soon as practicable to trade_supervision@scotiabank.com

The information is not advice, a recommendation, or an offer. The information provided herein is intended for general circulation and does not take into account specific investment objectives, financial circumstances or the particular needs of any recipient. It does not construe an offer or solicitation to buy or sell or subscribe for any security or financial instrument or investment product, or to enter into a transaction or participate in any particular trading or investment strategy.

The information is not for Retail1; no assurances as to results. Trading in securities involves risks, including the risk of loss. This document and the products and strategies described herein (collectively, the "Products") are intended for use only by sophisticated professional and institutional investors as may be defined in the respective jurisdictions. Investors should consult their financial, legal and tax advisors and determine that the Products are suitable for their risk tolerance and investment objectives prior to engaging in any activity related to the Products. Scotiabank cannot provide any assurances that the Products will achieve their intended results or that the Products will outperform other similar products or strategies. While this document describes how the Products are intended to work under normal market conditions, the actual performance of the Products may not achieve their intended results, particularly during periods of unusually high volatility, unusually low liquidity and/or other extraordinary market conditions. Nothing in this document should be construed as tax or investment advice and no description of the Products-related transactions. If there are any matters arising from, or in connection with the materials, investors should contact their Scotiabank representative to seek further clarification.

1GBM&T does not deal with retail clients.

