



EQUITIES TRADING NOTICE

Enhancements to Exchange Traded Fund (ETF) Volatility Mechanisms

As part of TMX's commitment to fostering a healthy and vibrant ETF marketplace, we consistently review mechanisms in our system to promote the highest levels of trading efficiency. Over the past year, TMX collaborated with ETF market makers and Issuers to review current volatility mechanisms and developed several action items designed to further improve market quality for ETF trading, which will become effective November 21, 2016.

1. Customization and Publication of ETF Volatility Parameters

Due to the variety of ETF strategies and underlying securities that they represent and the trading frequency of the ETF unit, the observed volatility profile for each ETF can differ substantially. On an annual basis, TMX analyzes each ETF and establishes customized volatility parameters for each ETF. In 2016, a deeper analysis was conducted with input from the ETF community and TSX is pleased to share the results of this analysis. A list of current ETF volatility parameters established in dollar (\$) increments is attached to this notice, however effective November 21st, these parameters will be established as a dynamic percentage (%) of the last sale price, also detailed in the list. Please note these parameters are subject to change without notice in accordance with market conditions. As early as Q1 2017, volatility thresholds will be made available on a daily basis on the TMX website.

2. IIROC Marketplace Thresholds

TMX will be making several changes to our existing volatility mechanisms in accordance with IIROC Marketplace Thresholds initiative in November 2016 and as outlined in [PO Notice 2016-022](#). Highlights include:

- Adoption of two reference prices intraday: the National Last Sale Price and the National Last Sale Price established at one-minute intervals
- Freeze functionality will be replaced with new functionality that allows full access to orders in the event that they violate the volatility threshold

- Market-wide maximum price thresholds

3. Enhanced Functionality for ETFs that Trade Infrequently

In addition to the requirements set out by IIROC, we have carefully designed additional enhancements to assist with ETFs that trade infrequently. The risk for these securities is that the reference price may be based on stale last sale prices which can impair the threshold's overall purpose. As of November 21st, 2016, a snapshot of the midpoint of the protected NBBO will be taken just before 4:00 PM each day, and will serve as the reference price for the next business day's first trade of the day. This ensures that at a minimum, each ETF has an updated reference price no older than one day. If no trades occur in the Opening auction, then a snapshot of the midpoint quote at the open will update the reference price. After the first trade of the day occurs, the reference price will be updated to the NLSP and one-minute NLSP as defined under IIROC Marketplace Thresholds guidance.

For more information, please contact the [Account Management Team](#).

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Current ETF Volatility Parameters on TSX and TSX Alpha As of October 28, 2016

Parameters are subject to change at any time without notice in accordance with market conditions

Symbol	Security Name	Current Threshold (\$) as of Oct 28, 2016	Threshold (%) effective Nov 21, 2016
BKL	Pwrshr Srloan(C Hdg)	\$0.48	2.50%
BNC	Purpose Cdn Financial Income Fund Etf	\$0.30	1.50%
BND	Purpose Tacinvestbnd	\$0.30	1.50%
BXF	1stast 1-5gvtstbndun	\$0.31	3.00%
BXF.A	1stast 1-5gvtstbndad	\$0.31	3.00%
CAN	Horizons Canadian Dollar Currency Etf	\$0.20	2.00%
CBB	1stast Corebalncd Un	\$0.82	4.25%
CBB.A	1stassetcoreblncd Ad	\$0.82	4.25%
CBD	Ishares Incmcore Un	\$0.42	2.00%
CBD.A	Ishares Incmcore Adv	\$1.08	5.00%
CBH	Ishre 1-10corpbn Un	\$0.22	1.10%
CBH.A	Ishre 1-10corpbn Ad	\$0.22	1.10%

CBN	Ishares Growcore Un	\$0.95	5.00%
CBN.A	Ishares Growcore Adv	\$0.96	5.00%
CBO	Ishre 1-5 Corpbnd Un	\$0.21	1.10%
CBO.A	Ishre 1-5corpbnd Ad	\$0.21	1.10%
CBQ	Ishares BRIC Indx Un	\$1.02	5.00%
CBQ.A	Ishares BRIC Adv Un	\$1.02	5.00%
CCX	Cdn Crude Oil Idx Un	\$0.40	5.00%
CDZ	Ishr Cdndivaristo Un	\$0.49	2.00%
CDZ.A	Ishare Cdndivaristad	\$1.00	4.00%
CED	1st Astcorecdn Eq Un	\$0.80	4.25%
CED.A	1st Astcorecdn Eq Ad	\$0.84	4.25%
CES	1st Astcoreuseqtc\$Un	\$0.87	4.25%
CES.A	1st Astcoreuseq C\$Ad	\$0.87	4.25%
CES.B	1st Astcoreuseqc\$U-H	\$0.92	4.25%
CES.D	1st Astcoreuseqc\$UHA	\$0.96	4.25%
CES.U	1st Astcoreus\$U-H Un	\$0.87	4.25%
CES.V	1st Astcoreus\$U-H Ad	\$0.87	4.25%
CEW	Ishares Eqweight Un	\$0.43	4.20%
CEW.A	Ishares Eqweight Adv	\$0.39	5.00%
CGL	Ishare Gldbulhdgd Un	\$0.34	3.00%
CGL.C	Ishare Gldbul Nn-Hdg	\$0.74	4.80%
CGR	Ishares Gblrlst Un	\$0.80	2.70%
CGR.A	Ishare Gblrlst Adv	\$1.47	5.00%
CHB	Ishr US Hiyldincm Un	\$0.37	2.00%
CHB.A	Ishr US Hiyldincm Ad	\$0.36	2.00%
CIC	1st Ast Canbanc Incm	\$0.44	4.25%
CIE	Ishare Intlfdmmt Un	\$0.50	3.00%
CIE.A	Ishare Intlfdmmt Ad	\$0.83	4.80%
CIF	Ishares Gbinfras Un	\$1.22	5.00%
CIF.A	Ishare Gbinfras Adv	\$0.98	4.00%
CJP	Ishares Japfndmmt Un	\$0.48	4.00%
CJP.A	Ishares Japfndmmtlad	\$0.59	5.00%
CLF	Ishre 1-5 Govtbnd Un	\$0.21	1.10%
CLF.A	Ishre 1-5 Govtbnd Ad	\$0.21	1.10%
CLG	Ishre 1-10govtbnd Un	\$0.21	1.10%
CLG.A	Ishre 1-10govtbnd Ad	\$0.22	1.10%
CLU	Ishares US Fndmtl Un	\$0.67	2.50%
CLU.A	Ishares US Fndmtl Ad	\$1.33	5.00%
CLU.B	Ishares US Fndmntl B	\$1.53	5.00%
CLU.C	Ishares US Fndmntl C	\$0.77	2.50%
CMR	Ishares Moneymkt Un	\$0.40	0.80%

CMR.A	Ishares Moneymkt Adv	\$0.40	0.80%
COW	Ishares Gblagri Un	\$1.02	3.00%
COW.A	Ishares Gblagri Adv	\$0.99	3.00%
CPD	Ishares Cdnpref Un	\$0.25	2.00%
CPD.A	Ishares Cdnpref Adv	\$0.62	5.00%
CRQ	Ishares Cdnfndmntlun	\$0.43	3.00%
CRQ.A	Ishare Cdnfndmntl Ad	\$0.71	5.00%
CSD	Ishr Shduratn Highun	\$0.36	2.00%
CSD.A	Ishr Shduratn Highad	\$0.65	3.60%
CSY	First Asstcorecdnetf	\$0.60	3.00%
CUD	Ishare US Divgrow Un	\$0.69	2.00%
CUD.A	Ishare US Divgro Adv	\$0.69	2.00%
CVD	Ishares Convbond Un	\$0.65	3.50%
CVD.A	Ishares Convbond Adv	\$0.95	5.00%
CWO	Ishares Emergmkts Un	\$1.14	3.70%
CWO.A	Ishares Emrgmkts Adv	\$1.48	4.80%
CWW	Ishares Gblwater Un	\$0.91	3.00%
CWW.A	Ishares Glbwater Adv	\$1.50	5.00%
CXF	1st Asset Convbnd Un	\$0.40	4.25%
CXF.A	1st Asst Convbnd Adv	\$0.42	4.25%
CYH	Ishares Gblmodiv Un	\$0.46	2.70%
CYH.A	Ishares Gblmodiv Ad	\$0.64	3.60%
DGR	Wisdomtree Us Qlty Div Gwth Idx Etf	\$0.50	2.50%
DGR.B	Wisdomtree Us Qlty Div Gwth Idx Etf Nh	\$0.30	1.50%
DLR	Horizon Us\$ Cur A Un	\$0.13	1.00%
DLR.U	Horizon Us\$Cur A Usf	\$0.10	1.00%
DQD	Wisdomtree Us Qlty Div Gwth Dyn Hgd Etf	\$0.30	1.50%
DQI	Wisdomtree Intl Qlty Div Gwth Dyn Hgd	\$0.30	1.50%
DXM	1stasst Mornstrdiv30	\$0.43	4.25%
DXM.A	1stasst Morndiv30adv	\$0.43	4.25%
EHE	Wisdomtree Europe Hedged Eqty Idx Etf	\$0.33	1.50%
ELV	Pwrshr S&P Emrgmkts	\$0.87	5.00%
ETP	1st Tr Glb Rskmngun	\$0.68	3.60%
ETP.A	1st Tr Glb Rskmngead	\$0.70	3.60%
EUR	1st Tralphdex EU Div	\$0.44	2.20%
EUR.A	1st Tralphdx Euidivad	\$0.44	2.20%
FAI	1st Astactutilinfrun	\$0.44	4.25%
FAI.A	1st Astactutilinfrad	\$0.44	4.25%
FAO	1st Asstactvcred Un	\$0.40	4.25%
FAO.A	1st Astactvcrdtca\$Ad	\$0.42	4.25%
FAO.U	1st Asstactvcred US	\$0.40	4.25%

FAO.V	1st Astactvcrdtus\$Ad	\$0.42	4.25%
FBE	First Asset Canadian Buyback Index Etf	\$0.31	1.50%
FBU	First Asset Us Buyback Index Etf	\$0.30	1.50%
FCE	First Asset Cambridge Core Cdn Eq Etf	\$0.40	2.00%
FCY	First Asset Cambridge Core Us Equity Etf	\$0.40	2.00%
FCY.B	First Asset Cambridge Core Us Eq Etf Uh	\$0.41	2.00%
FDE	1st Tr Alphemrgmktun	\$0.76	5.00%
FDE.A	1st Tr Alphemrgmktad	\$0.75	5.00%
FDL	Fa Canadian Dividend Low Vol Idx Etf	\$0.60	3.00%
FDV	1st Asstactvcadiv Un	\$0.41	4.25%
FDV.A	FIRST ASSET ACTIVE CDN DIVIDEND ETF AC	\$0.40	4.25%
FDY	1st Tr Alphcdndiv Un	\$0.94	5.00%
FDY.A	1st Tr Alphcdndiv Ad	\$0.94	5.00%
FGB	1stasst ST Govtbndcl	\$0.60	3.00%
FGL	1stasstglbl Momentcl	\$0.90	4.25%
FGM	1stasst Glb Mmtmca-H	\$0.92	4.25%
FGU	1st Asset Glblval Cl	\$0.92	4.25%
FGV	1st Aset Glblvalca-H	\$0.94	4.25%
FHB	1stast Hamcpeu Etfun	\$0.27	4.25%
FHB.A	1stast Hamcpeu Etfad	\$0.27	4.25%
FHC	1sttr Alpdex US Stpl	\$0.70	3.00%
FHD	1sttr Alpdex US Dscr	\$1.10	5.00%
FHE	1sttralpdex US Engy	\$0.66	5.00%
FHF	1sttr Alpdex US Fin	\$1.13	5.00%
FHG	1sttr Alpdex US Ind	\$1.04	5.00%
FHH	1sttr Alpdex US Hlth	\$1.09	5.00%
FHM	1sttr Alpdex US Mtrl	\$1.12	5.00%
FHQ	1sttr Alpdex US Tech	\$1.20	5.00%
FHU	1sttr Alpdex US Util	\$1.17	5.00%
FIE	Ishares Cdnfinmo Un	\$0.21	3.15%
FIE.A	Ishares Cdnfinmo Adv	\$0.30	4.80%
FIG	First Asset Investment Grade Bond Etf	\$0.35	3.10%
FLB	Fa Long Dur Fixed Inc Etf	\$0.85	4.00%
FLI	1st Ast US&Cdalifeco	\$0.44	4.25%
FLI.A	1stast US&Cdalifecoad	\$0.46	4.25%
FPR	Fa Preferred Share Etf	\$0.50	2.50%
FQC	Msci Can Quality Index Class Etf	\$0.41	2.00%
FSD	1st Tr Shdurhiyld Un	\$0.22	1.00%
FSD.A	1st Tr Shdurhiyld Ad	\$0.19	1.00%
FSF	1stast Glbfinsctr Un	\$0.68	5.00%
FSL	1st Tr Snrloan Cad-H	\$0.39	2.00%

FSL.A	1st Tr Snrloanc-H Ad	\$0.39	2.00%
FSR	First Trust Dw Dyn Us Sctr Idx Etf	\$0.59	3.00%
FTB	1st Tr Tacticlbnd Un	\$0.47	2.40%
FUD	1st Tr Alphausdiv Un	\$1.13	5.00%
FUD.A	1st Tr Alphausdivadv	\$1.15	5.00%
FUM	Fa Us Equity Multi Factor Idx Etf	\$0.60	3.00%
FUT	Fa Us Tactical Sector Allocation Idx Etf	\$0.60	3.00%
FXM	1stast Morncdaval Un	\$0.56	4.25%
FXM.A	1stast Morncdaval Ad	\$0.56	4.25%
GAS	Canadian Natural Gas Index Etf	\$0.35	3.50%
HAB	Horizon Corpbnd E Un	\$0.16	1.50%
HAB.A	Horizons Corpbnd Adv	\$0.17	1.50%
HAC	Horizon Seasonl E Un	\$0.34	2.00%
HAC.A	Horizons Seasonl Adv	\$0.34	2.00%
HAD	Horizon Actvcdbndun	\$0.20	2.00%
HAD.A	Horizon Actvcdbndad	\$0.21	2.00%
HAF	Horizon Activeglbl E	\$0.16	2.00%
HAF.A	Horizon Activeglb Ad	\$0.16	2.00%
HAI	Horizon Actvemrgdvun	\$0.44	3.50%
HAI.A	Horizon Actvemrgdvd	\$0.44	3.50%
HAL	Horizons Cdn Div E	\$0.36	2.50%
HAL.A	Horizons Cdn Div Adv	\$0.36	2.50%
HAU	Horizons Actvusdiv E	\$0.27	2.50%
HAU.A	Horizons Actvusdivad	\$0.27	2.50%
HAU.U	Horizons Actvusdivus	\$0.21	2.50%
HAZ	Horizon Gblldiv E Un	\$0.45	2.50%
HAZ.A	Horizons Gblldiv Adv	\$0.46	2.50%
HBB	Horizon Cdn Slctuniv	\$0.66	1.50%
HBD	Horizon Gld Bear+ Un	\$0.70	5.00%
HBF	Brand Leaders Plus Income Etf	\$0.25	3.00%
HBF.U	Brand Leaders Plus Income Etf Usd	\$0.25	3.00%
HBG	Hamilton Capglb Bk E	\$0.87	5.00%
HBU	Horizon Gld Bull+ Un	\$0.48	5.00%
HCN	Horizn China Diva Un	\$0.54	2.50%
HEA	Horizon Incmeq CAD E	\$0.35	2.50%
HEA.A	Horizon Incmeqcad Ad	\$0.35	2.50%
HEA.U	Horizon Incmeq USD E	\$0.27	2.50%
HEA.V	Horizon Inceqsd Adv	\$0.26	2.50%
HED	Horizon Betaengybear	\$0.41	4.00%
HEE	Horizons Incm Engy E	\$0.45	3.00%
HEE.A	Horizons Incmegy Adv	\$0.46	3.00%

HEF	Horizons Incm Fin E	\$0.25	3.00%
HEF.A	Horizons Incmfin Adv	\$0.25	3.00%
HEJ	Horizons Intl Eqty E	\$0.19	3.00%
HEJ.A	Horizons Intl Eq Adv	\$0.19	3.00%
HEP	Horizons Gold Prod E	\$0.95	3.00%
HEP.A	Horizon Enhncgld Adv	\$0.94	3.00%
HEU	Horizon Betaengybull	\$0.44	4.00%
HEW	Horizons 60eqlwgt Un	\$0.26	2.00%
HEX	Horizon Incm Eq E Un	\$0.20	3.00%
HEX.A	Horizon Enhnceqty Ad	\$0.20	3.00%
HFD	Horizon Betafin Bear	\$0.33	4.00%
HFP	Horizn Actfltgpref E	\$0.18	2.25%
HFP.A	Horizn Actfltgpr Adv	\$0.18	2.25%
HFR	Horizon Fltgrtbd Un	\$0.15	1.50%
HFR.A	Horizons Fltgbnd Adv	\$0.15	1.50%
HFU	Horizon Betafin Bull	\$1.05	4.00%
HGD	Horizon Betagld Bear	\$0.33	4.00%
HGM	Horizn Mgeglb Opp E	\$0.31	3.00%
HGM.A	Horizn Mgeglbopp Adv	\$0.31	3.00%
HGU	Horizon Betagld Bull	\$0.95	4.00%
HGY	Horizons Gldyld E Un	\$0.17	3.00%
HGY.A	Horizons Gld Yld Adv	\$0.17	3.00%
HHF	Horizon Mornstrhdg E	\$0.33	2.50%
HHF	Horizons Morningstar Hdg Fd Idx Etf	\$0.34	2.50%
HHF.A	Horizon Mornstrhg Ad	\$0.33	2.50%
HID	Wisdomtree Us High Div Idx Etf	\$0.38	2.00%
HID.B	Wisdomtree Us High Div Idx Etf Nh	\$0.39	2.00%
HII	Horizon Cdn Insdr Un	\$0.34	3.00%
HIU	Horizon SP500Inverse	\$1.28	3.50%
HIX	Horizons 60 Invr A	\$0.25	3.50%
HMA	Horizn Mge Momntm E	\$0.29	3.00%
HMA.A	Horizn Mge Momntm Ad	\$0.28	3.00%
HMF	Horizons Auspicee Un	\$0.41	4.00%
HMF.A	Horizons Auspice Adv	\$0.39	4.00%
HMP	Horizn Actcdnmunbd E	\$0.20	2.00%
HMP.A	Horizn Actcdnmunbdad	\$0.20	2.01%
HND	Horizon Natgas Br+Un	\$0.61	5.00%
HNU	Horizon Natgas Bulun	\$0.58	5.00%
HNY	Horizons Natgasyld E	\$0.48	3.00%
HNY.A	Horizon Natgasyld Ad	\$0.48	3.00%
HOD	Horizon Crdeoil Brun	\$0.59	5.00%

HOG	Horizn Cdnmdstream A	\$0.28	3.00%
HOU	Horizon Crdoil Bl+Un	\$0.40	5.00%
HPF	Energy Leaders Plus Income Etf	\$0.18	3.00%
HPF.U	Energy Leaders Plus Income Etf Usd	\$0.18	3.00%
HPR	Horizon Pref Cl E Un	\$0.17	2.00%
HPR.A	Horizons Pref Adv Un	\$0.17	2.00%
HQD	Horizons Nasdq100 Br	\$0.69	4.00%
HQU	Horizons Nasdq100 Bl	\$1.31	4.00%
HRA	Horizons Global Risk Parity Etf	\$0.20	2.00%
HSD	Horizons S&P500 Br A	\$0.30	4.00%
HSH	Horizons Sp500 Cad Hedged Index Etf	\$1.25	2.50%
HSL	Horizn Actvfltloan E	\$0.20	2.00%
HSL.A	Horizn Actvfltln Ad	\$0.20	2.04%
HSU	Horizons S&P500 Bl A	\$1.34	4.00%
HTB	Horizn US7-10treasbd	\$0.83	1.50%
HTB.U	Horiznus7-10treabdus	\$0.63	1.50%
HTD	Horizon Us30yrbnd Br	\$0.33	4.00%
HTH	Horizons Us 7 10 Yr Treas Bd Cad Heg Etf	\$0.75	1.50%
HUC	Horizons Crudeoil Un	\$0.47	4.00%
HUF	Horizons Usfltgbndca	\$0.20	1.50%
HUF.U	Horizons Usfltgbndus	\$0.15	1.50%
HUF.V	Horizons Usfltgbndad	\$0.15	1.50%
HUG	Horizons Comexgold A	\$0.49	4.00%
HUL	Us Buyback Leaders Etf	\$0.27	3.50%
HUL.U	Us Buyback Leaders Etf Usd	\$0.27	3.50%
HUN	Horizon NYMEX Natgas	\$0.28	4.00%
HUV	Horizon Shtrm Futr A	\$1.20	10.00%
HUZ	Horizons Comexslvr A	\$0.44	4.00%
HVI	Horizons 500vixsh Un	\$1.31	10.00%
HVU	Horizon Shrtfuttr Bl+	\$0.82	20.00%
HXD	Horizon Beta60bear A	\$0.32	4.00%
HXE	Horizn S&Pcapengyidx	\$0.51	2.50%
HXF	Horizn S&Pcapfin Idx	\$0.64	2.00%
HXH	Horizons Cdn Hidiv A	\$0.55	2.00%
HXQ	Horizon NASDAQ-100 A	\$0.88	2.50%
HXQ.U	Horizon NASDAQ100 US	\$0.67	2.50%
HXS	Horizons S&P500 Un	\$1.04	2.00%
HXS.U	Horizon S&P500 Us Un	\$0.75	2.00%
HXT	Horizon S&P/TSX60 A	\$0.58	2.00%
HXT.U	Horizon S&P/TSX60 US	\$0.44	2.00%
HXU	Horizon Beta60bull A	\$1.15	4.00%

HYI	Horizon Highyldbnd E	\$0.20	2.00%
HYI.A	Horizon Highyldbndad	\$0.20	2.00%
HZD	Horizon Comexslvr Br	\$0.27	5.00%
HZU	Horizon Comexslvr Bl	\$1.14	5.00%
ILV	Pwrshr S&Pintl Lwvol	\$0.77	3.50%
IQD	Wisdomtree Intl Qlty Div Gwth Idx Etf	\$0.40	2.00%
IQD.B	Wisdomtree Intl Qlty Div Gwth Idx Etf Nh	\$0.40	2.00%
MEU	Mackenzie Max Diversif Dev Eur Idx Etf	\$0.49	2.50%
MFT	Mackenzie Fltgrate E	\$0.41	2.00%
MGB	Mackenzie Glbfxcncme	\$0.21	1.00%
MKB	Mackenzie Cafxcncm E	\$0.21	1.00%
MKC	Mackenzie Max Dvrs Cda Index Etf	\$0.54	2.50%
MNS	Ry Cdn Mint-Sil Etr	\$0.92	6.00%
MNS.U	Ry Cdn Mint-Sil Usf	\$0.70	6.00%
MNT	Ry Cdn Mint-Gold Etr	\$0.37	2.00%
MNT.U	Ry Cdn Mint-Gold Usf	\$0.28	2.00%
MUB	Mackenzie Uncnstrn E	\$0.20	1.00%
MUS	Mackenzie Max Dvrs Us Index Etf	\$0.53	2.50%
MWD	Mackenzie Max Diversif World Dev Idx Etf	\$0.50	2.50%
MXF	1stasset Material Un	\$0.70	4.25%
MXF.A	1stasst Materials Ad	\$0.70	4.25%
MXU	Mackenzie Max Divers Wrld Dev Ex Na Idx	\$0.49	2.50%
NXF	1stastengygiantcovun	\$0.34	4.25%
NXF.A	1stastengygiantcovad	\$0.34	4.25%
NXF.B	1stastengygiatunhgun	\$0.35	4.25%
NXF.D	1stastengygiatunhgad	\$0.37	4.25%
OXF	1stasset Engycall Un	\$0.48	4.25%
OXF.A	1st Assetengy Adv Un	\$0.49	4.25%
PBD	Purpose Tot Ret Bond	\$0.34	1.80%
PBI	Purpose Best Ideas	\$1.11	5.00%
PBI.B	Purpose Best Nncurhg	\$1.19	5.00%
PDC	Pwrshares Cdn Div Un	\$0.62	2.50%
PDF	Purpose Core Div Fnd	\$0.63	2.50%
PEU	Purpose Enhnc Us Eq	\$1.04	5.00%
PEU.B	Purpose Enhncusnncur	\$1.19	5.00%
PFH	Pwrshr HY Corpbnd Un	\$0.30	1.50%
PFL	Pwrshr 1-3Yr Ladfltg	\$0.30	1.50%
PGL	Pwrshr Ultr Liqltgyt	\$0.50	2.00%
PHE	Purpose Tact Hegd Eq	\$1.07	5.00%
PHE.B	Purpose Tachg NN-Cur	\$1.09	5.00%
PHR	Purpose Duratn Hgref	\$1.01	5.00%

PHW	Purpose Intl Tachgeq	\$0.87	4.80%
PID	Purpose Intl Div Un	\$0.97	5.00%
PIN	Purpose Monthly Incm	\$0.83	4.20%
PLV	Pwrshr Lowvolportfl	\$0.30	1.50%
PMM	Purpose Mult-Stgyneu	\$0.61	3.00%
PPS	Pwrshares Cdn Pr Un	\$0.70	5.00%
PR	Lysander-Slatrpractv	\$0.46	5.00%
PRA	Purpose Diversrl Ast	\$1.08	6.00%
PRP	Purpose Conservative Income Fund Etf	\$0.30	1.50%
PSA	Purpose High Intsvgs	\$0.25	0.50%
PSB	Pwrshares Corpbnd Un	\$0.21	1.10%
PSU.U	Purpose Us Cash Usf	\$0.25	0.25%
PSY	Pwrshr Glb Shrhldrca	\$1.04	5.00%
PSY.U	Pwrshr Glb Shrhldr	\$0.79	5.00%
PTB	Powershr Tactbond Un	\$0.48	2.40%
PUD	Purpose US Divetf Un	\$1.03	5.00%
PUD.B	Purpose US Div Nncur	\$1.24	5.00%
PXC	Pwrshr FTSE RAFI Cdn	\$0.69	3.00%
PXF	1st Asset Provbd Un	\$0.32	3.00%
PXF.A	1st Asset Provbd Ad	\$0.32	3.00%
PXG	Pwrshrtse Glb+Fndmn	\$0.98	5.00%
PXG.U	Pwrshrtse Glb+Fndus	\$0.74	5.00%
PXS	Pwrshrtse Usfnd CAD	\$1.06	5.00%
PXS.U	Pwrshrtse Usfnd US	\$0.81	5.00%
PXU	Pwrshrs FTSE RAFI US	\$1.59	5.00%
PYF	Purpose Prem Yld Etf	\$0.40	2.00%
PZC	Pwrshrtse CA Sml-Md	\$0.98	5.00%
PZW	Pwrshr FTSERAF Glbca	\$1.08	5.00%
PZW.U	Pwrshr FTSERAF Glbus	\$0.82	5.00%
QCP	Questrade Fxdincm+Un	\$0.31	1.50%
QGE	Questrade Globleq Un	\$0.86	4.00%
QMG	Questrade Rusus Mdgr	\$0.70	3.60%
QMV	Questrade Rusus Mdvl	\$1.01	5.00%
QQC	Pwrshares QQQCADH Un	\$1.06	2.50%
QRD	Questrdrs1000uscnsmr	\$0.93	5.00%
QRH	Quest Rs1000ushealth	\$0.96	5.00%
QRI	Quest Rs1000usindust	\$0.99	5.00%
QRT	Questr Rs1000us Tech	\$1.07	5.00%
QXM	1stasst Mornstrnbkqc	\$0.72	4.25%
QXM.A	1stasst Mornnbkqc Ad	\$0.75	4.25%
RBO	RBC 1-5Yr Lddcrp Bnd	\$0.22	1.10%

RCD	RBC Quantcdndiv Lead	\$0.77	4.00%
RCE	RBC Quant Cdneqleadr	\$0.97	5.00%
RHF	RBC Qnteafe EQ Caheg	\$0.88	5.00%
RHI	RBC Qnt EAFE Divlead	\$0.73	3.50%
RHP	RBC Quant Euidvldheg	\$1.03	5.00%
RHS	RBC Quantuseqty(C-H)	\$1.00	5.00%
RHU	RBC Quant US Divlead	\$0.74	3.50%
RID	RBC Quanteafe Div Un	\$0.67	3.00%
RID.U	RBC Quanteafe Div US	\$0.51	3.00%
RIE	Rbc Quant Eafe Eqty	\$0.98	5.00%
RIE.U	RBC Quanteafe Eqtyus	\$0.74	5.00%
RIG	Rbc Quant Global Infrs Leaders Etf	\$0.49	2.50%
RIG.U	Rbc Quant Global Infrs Leaders Etf Usd	\$0.37	2.50%
RIT	1st Asset Cdnreit Un	\$0.62	4.25%
RIT.A	1st Assetcdn REIT Ad	\$0.65	4.25%
RLB	RBC 1-5Yr Ladcdn Bnd	\$0.20	1.00%
RLD	RBC Stratgc Glbdivld	\$0.65	3.00%
RLE	RBC Stratgc Glbeqldr	\$0.88	4.00%
RPD	RBC Quant EU Divldca	\$0.83	4.00%
RPD.U	RBC Quant EU Divldus	\$0.64	4.00%
RPF	Rbc Canadian Preferred Share Etf	\$0.31	1.50%
RQD	RBC Target 16 Crpbnd	\$0.28	1.50%
RQE	RBC Target 17 Crpbnd	\$0.29	1.50%
RQF	RBC Target 18 Crpbnd	\$0.30	1.50%
RQG	RBC Target 19 Crpbnd	\$0.30	1.50%
RQH	RBC Target 20 Crpbnd	\$0.31	1.50%
RQI	RBC Target 21corpbnd	\$0.41	2.00%
RQJ	Rbc Target 2022 Corp Bond Idx Etf	\$0.20	1.00%
RQK	Rbc Target 2023 Corp Bond Idx Etf	\$0.20	1.00%
RUD	RBC Qntus Divlead Un	\$0.69	2.50%
RUD.U	RBC Qntus Divleadusd	\$0.51	2.50%
RUE	RBC Quant Useqldr Un	\$1.11	5.00%
RUE.U	RBC Quant Useqldr US	\$0.84	5.00%
RWC	1st Astmsci Cdalr Un	\$0.48	4.25%
RWC.A	1st Astmsci Cdalr Ad	\$0.48	4.25%
RWE	1stast MSCI Eurlr Un	\$0.99	4.25%
RWE.A	1stast MSCI Eurlr Ad	\$1.01	4.25%
RWE.B	1stast Eurlr Unhg Un	\$1.01	4.25%
RWE.D	1stast Eurlr Unhg Ad	\$1.03	4.25%
RWU	1st Ast MSCI USA Un	\$0.56	4.25%
RWU.A	1st Ast MSCI USA Adv	\$0.56	4.25%

RWU.B	1stastmsci USA Unheg	\$0.67	4.25%
RWU.D	1st Ast USA Unheg Ad	\$0.67	4.25%
RWW	1st Astmsci World Un	\$1.04	4.25%
RWW.A	1st Astmsci Wrld Adv	\$1.08	4.25%
RWW.B	1st Astmsci Wrldunhg	\$1.19	4.25%
RWW.D	1st Astmsci Wrlunhga	\$1.19	4.25%
RXD	RBC Quant Emrgmktdiv	\$0.94	5.00%
RXD.U	RBC Quant Emrgmkt US	\$0.69	5.00%
RXE	RBC Qntemrgmkteqldr	\$1.09	5.00%
RXE.U	RBC Qntemrmkteqldrus	\$0.84	5.00%
SBT	Silver Bullion Trust Etf	\$0.58	5.00%
SBT.B	Silver Bullion Trust Etf Cdn Non Hedged	\$0.70	5.00%
SBT.U	Silver Bullion Trust Etf Us Non Hedged	\$0.53	5.00%
SHA	Sphere Asiasustylun	\$0.55	5.00%
SHC	Sphere FTSE Cdaunheg	\$0.54	5.00%
SHE	Spher Eurosustylun	\$0.49	5.00%
SHU	Sphere Us Sustn Heg	\$0.51	5.00%
SHZ	Sphere Ftse Emerg Mkts Yld Idx Etf	\$0.30	3.00%
SVR	Ishr Sil Bul Hdgd Un	\$0.71	6.60%
SVR.C	Ishr Sil Bul Nn-Hdgd	\$0.78	7.80%
TDB	Td Cdn Aggregate Bnd	\$0.15	1.00%
THE	Td Int'l Eqty Ca Heg	\$0.46	3.00%
THU	TD S&P500 CAD Hegidx	\$0.47	3.00%
TLV	Powrshr Lowvltlty Un	\$0.64	2.50%
TPE	Td Int'l Eqty Idx Un	\$0.46	3.00%
TPU	Td S&P 500 Index Un	\$0.48	3.00%
TTP	TD S&P/TSX Capcompo	\$0.49	3.00%
TXF	1stasttech Giants Un	\$0.55	4.25%
TXF.A	1stasttech Giant Adv	\$0.55	4.25%
ULV	Pwrshr Lowvol CH Idx	\$0.62	2.00%
USB	Pwrshr Lddrrtus0-5Yr	\$0.82	3.60%
USB.U	Pwrshr Lddrrto-5yrus	\$0.65	3.60%
UXM	1stastus Div50 Un	\$0.55	4.25%
UXM.A	1stastus Div50 Ad Un	\$0.56	4.25%
UXM.B	1stastus Dv50 Unhgun	\$0.62	4.25%
UXM.D	1stastus Div50UnhgAd	\$0.62	4.25%
VA	Vanguard Dev Asiapac	\$1.05	3.50%
VAB	Vanguard Cdn Agr Bnd	\$0.21	0.80%
VAH	Vanguard Ftse Dev Asia Pac Etf Cad Hdg	\$1.02	4.00%
VBG	Vanguard Glbxus Aggr	\$0.21	0.80%
VBU	Vanguard Usaggre Bnd	\$0.20	0.80%

VCE	Vanguard FTSE Cdaidx	\$0.44	1.50%
VCN	Vanguard Cdaallcapun	\$0.42	1.50%
VDU	Vangrd FTSE Dev Exus	\$0.46	1.50%
VDY	Vanguard FTSE Divyld	\$0.44	1.50%
VE	Vanguard Ftse Dev Eu	\$0.49	2.00%
VEE	Vanguard Ftseemrgmkt	\$0.59	2.00%
VEF	Vangrd Dev US CA-Heg	\$0.67	2.00%
VEH	Vanguard Ftse Dev Europe Etf Cad Hdg	\$1.01	4.00%
VFV	Vanguard S&P500 Indx	\$0.75	1.50%
VGG	Vanguard US Divappr	\$0.75	2.00%
VGH	Vanguard Usdivcad-Hg	\$0.57	2.00%
VI	Vanguard Exna CA-Heg	\$0.69	3.00%
VIU	Vanguard Exna Idx Un	\$0.49	2.00%
VLQ	Vanguard Glob Liquidity Factor Etf	\$0.44	1.60%
VMO	Vanguard Glob Momentum Factor Etf	\$0.44	1.60%
VRE	Vanguard Ftsecdnreit	\$0.87	3.00%
VSB	Vanguard Cdn S-T Bnd	\$0.25	1.00%
VSC	Vanguard S-T Crpbond	\$0.25	1.00%
VSP	Vanguard S&P500 C-Hg	\$0.55	1.50%
VUN	Vanguard US Mktidxun	\$0.59	1.50%
VUS	Vanguard US Totmktun	\$0.61	1.50%
VVL	Vanguard Glob Val Factor Etf	\$0.44	1.60%
VVO	Vanguard Global Min Vol Etf	\$0.43	1.60%
VXC	Vanguard Ftseglobeca	\$0.60	2.00%
VXM	1stasst Mrnintlvalun	\$0.80	4.25%
VXM.A	1stasst Mrnintlvalad	\$0.82	4.25%
VXM.B	1stast Intlvalunhgun	\$0.94	4.25%
VXM.D	1stast Intlvalunhgad	\$0.94	4.25%
WXM	1stasst Mornmomnt Un	\$0.64	4.25%
WXM.A	1stasst Mornmomentad	\$0.64	4.25%
XAL	Ishrs Alternateportf	\$0.54	2.00%
XAW	Ishr Coremsci AC Wex	\$0.63	3.00%
XBB	Ishr Cdn Univers Bnd	\$0.32	1.00%
XBM	Ishr SP/Tsxgblbsemtl	\$0.62	6.20%
XBZ	Ishares MSCI Brazil	\$0.61	5.00%
XCB	Ishares Cdn Corp Bnd	\$0.43	2.00%
XCD	Ishare S&P Cnsmrdscr	\$0.69	2.50%
XCG	Ishares Cdn Growth	\$0.82	2.75%
XCH	Ishares China Index	\$0.50	2.10%
XCR	Ishrs Conserve Core	\$0.48	2.00%
XCS	Ishare SP/TSX Smlcap	\$0.39	2.40%

XCV	Ishares Cdn Value Un	\$0.69	3.00%
XDV	Ishares Cdn Slct Div	\$0.44	2.00%
XEB	Ishr JP USD Emrg Mkt	\$0.21	1.00%
XEC	Ishr Core Emrgmktimi	\$0.49	2.10%
XEF	Ishr Cormscieafe IMI	\$0.53	2.00%
XEG	Ishares S&P/TSX Engy	\$0.44	3.50%
XEH	Ishr MSCI EU IMI CAD	\$0.43	2.10%
XEI	Ishr Coresp/TSX Div	\$0.41	2.00%
XEM	Ishare MSCI Emergmkt	\$0.58	2.10%
XEN	Ishare Jantzi Social	\$1.03	5.00%
XEU	Ishr MSCI EU IMI Idx	\$0.49	2.40%
XFA	Ishrmscimultiusa C-H	\$0.55	2.50%
XFC	Ishr Mscimultfactrca	\$0.67	3.00%
XFF	Ishr MSCI EAFE CA-HG	\$0.61	3.00%
XFH	Ishrcrmsci EAFEIMIHG	\$0.55	3.00%
XFI	Ishr Mscimultfaceafe	\$0.69	3.50%
XFN	Ishares S&P/TSX Fins	\$0.62	2.00%
XFR	Ishares Fltg Rate Un	\$0.10	0.50%
XFS	Ishrmscimultiftr USA	\$0.85	4.00%
XGB	Ishares Cdn Govt Bnd	\$0.33	1.50%
XGC	Ishrs Complete Portf	\$0.90	3.00%
XGD	Ishares S&P/TSX Gold	\$0.57	4.00%
XGI	Ishr SP Glbl Indstrl	\$0.76	3.00%
XGR	Ishrs Growcore Portf	\$0.56	2.00%
XHB	Ishare Cdn Hybrd Bnd	\$0.31	1.50%
XHC	Ishare Glbl Hlthcare	\$0.78	2.00%
XHD	Ishare US Highdiv Eq	\$0.51	2.00%
XHU	Ishr US Hidiv Eqtyun	\$0.66	3.00%
XHY	Ishares US Hiylt Bnd	\$0.29	1.50%
XIC	Ishr Coresp/TSX Comp	\$0.44	2.00%
XID	Ishares India Idx Un	\$1.04	3.50%
XIG	Ishare US IG Corpbnd	\$0.47	2.00%
XIN	Ishare MSCI EAFE Idx	\$0.54	2.50%
XIT	Ishares S&P/TSX Tech	\$0.48	3.50%
XIU	Ishares S&P/TSX60 Un	\$0.41	2.00%
XLB	Ishr Corecdnlt Bndun	\$0.26	1.00%
XMA	Ishare S&P/TSX Matrnl	\$0.35	2.70%
XMC	Ishr S&P US Midcapun	\$0.75	4.80%
XMD	Ishr S&P/TSX Cmpltn	\$0.73	3.00%
XMH	Ishr S&P Usmdcpcadhg	\$0.31	2.00%
XMI	Ishare Msciminvleafe	\$0.65	2.00%

XML	Ishr Egminvleafe C-H	\$0.62	3.00%
XMM	Ishr Minvol Emrgmkt	\$0.65	2.50%
XMS	Ishr Egminvl USA C-H	\$0.62	3.00%
XMU	Ishr MSCI Minvol USA	\$0.81	2.00%
XMV	Ishr MSCI Minvolcda	\$0.53	2.00%
XMW	Ishr MSCI Minvolglbl	\$0.72	2.00%
XMY	Ishr Egminvolglb C-H	\$0.61	3.00%
XPF	Ishr S&PTX NA Prstk	\$0.35	2.00%
XQB	Ishr Corehicdnbnnd Un	\$0.21	1.00%
XQB.A	Ishr Corehicdnbnnd Ad	\$0.32	1.50%
XQQ	Ishare NASDAQ 100 Un	\$1.20	3.00%
XRB	Ishare Cdn Rlret Bnd	\$0.37	1.50%
XRE	Ishares S&P/TSX REIT	\$0.32	2.00%
XSB	Ishre Cdn Sh Trm Bnd	\$0.23	0.80%
XSC	Ishr Conserv Shstgyfxd	\$0.30	1.50%
XSE	Ishr Conserv Stgy Incm	\$0.41	2.00%
XSH	Ishr Corecdnshmplbnd	\$0.20	1.00%
XSI	Ishr ST Stratgfyd Un	\$0.29	1.50%
XSP	Ishares Core S&P 500	\$0.47	2.00%
XSQ	Ishr Corestcdnbnnd Un	\$0.20	1.00%
XST	Ishares Consumr Stpl	\$1.34	2.50%
XSU	Ishares US Small Cap	\$0.53	2.00%
XTR	Ishare Divrs Mo Incm	\$0.22	2.00%
XUH	Ishre Cores&P US Mkt	\$0.49	2.50%
XUS	Ishares Coresp500idx	\$0.71	2.00%
XUT	Ishares S&P/TSX Util	\$0.46	2.10%
XUU	Ishr Cors&P US Mktun	\$0.55	2.50%
XWD	Ishare MSCI World Un	\$0.82	2.00%
XXM	1stastmrnstrusval Un	\$0.51	4.25%
XXM.A	1stastmrnstrusval AD	\$0.50	4.25%
XXM.B	1stast Mrnus Valunhg	\$0.64	4.25%
XXM.D	1stastmrnusvalunhgad	\$0.65	4.25%
YXM	1st Ast US Moment Un	\$0.46	4.25%
YXM.A	1st Astusmmnt Adv Un	\$0.46	4.25%
YXM.B	1st Astusmmntunhegun	\$0.63	4.25%
YXM.D	1st Astusmmnt Unhgad	\$0.60	4.25%
ZAG	BMO Aggregatebnd ETF	\$0.24	1.50%
ZBK	BMO Eqlwght US Bkcd	\$0.37	2.10%
ZCH	Bmo China Eq Idx Etf	\$1.02	5.00%
ZCM	Bmo Mid Crp Bond Etf	\$0.25	1.50%
ZCN	BMO S&P/TSX Compindx	\$0.40	2.00%

ZCS	Bmo Shrt Crp Bnd Etf	\$0.22	1.50%
ZDB	Bmo Discount Bnd Un	\$0.20	1.25%
ZDH	BMO Intl Divhg-CA Un	\$0.99	5.00%
ZDI	Bmo Int'l Div Cad Un	\$0.57	3.00%
ZDJ	BMO DJ Indav Heg ETF	\$0.91	3.00%
ZDM	BMO MSCI EAFE Hegcad	\$0.35	2.00%
ZDV	Bmo Cdn Dividend Un	\$0.33	2.00%
ZDY	BMO Usdiv ETF CAD Un	\$0.67	2.50%
ZDY.U	BMO Usdiv ETF USD Un	\$0.53	2.50%
ZEA	Bmo Msci Eafe Idx Un	\$0.34	2.10%
ZEB	Bmo EqL Wgt Bank Etf	\$0.46	2.00%
ZEF	Bmo Em Mkt Bond Hed	\$0.25	1.50%
ZEL	BMO Eq Lnkcorpbnd Un	\$0.42	2.00%
ZEM	BMO MSCI Emrgmks Un	\$0.69	4.00%
ZEO	BMO Eqwgt Oil&Gasetf	\$0.32	2.70%
ZEQ	BMO MSCI EU Higltyun	\$0.36	2.00%
ZFH	BMO Fltg Rthi Yld Un	\$0.29	2.00%
ZFL	Bmo Lng Federal Bond	\$0.39	2.00%
ZFM	Bmo Mid Fed Bnd Indx	\$0.21	1.25%
ZFS	Bmo Shrt Fed Bnd Etf	\$0.22	1.50%
ZGD	BMO S&P/TSX Eqgld Un	\$0.49	4.00%
ZGI	Bmo Gbl Infrastr Etf	\$0.71	2.00%
ZGQ	BMO MSCI Allcntrywrl	\$1.00	4.00%
ZHY	BMO HY US Crphdg ETF	\$0.28	2.00%
ZIC	BMO Miduscrpbndca Un	\$0.29	1.50%
ZIC.U	BMO Midus Crpbnd USF	\$0.23	1.50%
ZID	Bmo India Eq Idx Etf	\$0.96	5.00%
ZIN	BMO S&P/TSX Eqind Un	\$0.58	2.70%
ZJG	Bmo Junior Gold Etf	\$0.51	5.00%
ZJN	Bmo Junior Gas Etf	\$0.90	5.00%
ZJO	Bmo Junior Oil Etf	\$1.26	8.20%
ZLB	Bmo Volatlty Cad Un	\$0.57	2.00%
ZLC	Bmo Long Crp Bnd Etf	\$0.29	1.50%
ZLD	BMO Lwvol Intleq H-C	\$0.42	2.00%
ZLE	Bmo Low Vol Emerg Mkt Equity Etf	\$0.32	1.50%
ZLH	BMO Lowvol US Eq H-C	\$0.43	2.00%
ZLI	BMO Lowvolintl Eq Un	\$0.44	2.00%
ZLU	BMO Lwvltlyuseq Cadun	\$0.42	1.40%
ZLU.U	BMO Lwvltlyuseq US Un	\$0.32	1.40%
ZMI	Bmo Monthly Incm Un	\$0.31	2.00%
ZMP	BMO Midprovbnnd Cadun	\$0.21	1.35%

ZMT	BMO EW Gblmtl Hd ETF	\$0.41	5.00%
ZMU	BMO Midus IG Hegbnd	\$0.21	1.35%
ZPL	BMO Lngprovbnrcad Un	\$0.34	2.00%
ZPR	Bmo Laddered Pr Indx	\$0.22	2.18%
ZPS	Bmo Shrt Prv Bnd Etf	\$0.21	1.50%
ZPW	Bmo Us Put Write Cad	\$0.55	3.00%
ZPW.U	Bmo Us Put Write Usd	\$0.58	3.00%
ZQQ	BMO Nasdaq Eqhed ETF	\$0.75	2.00%
ZRE	BMO EqL Wgt Reits Un	\$0.38	2.00%
ZRR	Bmo RI Return Bond	\$0.27	1.50%
ZSP	BMO S&P500 Idxcad Un	\$0.47	1.50%
ZSP.U	Bmo S&P500 Idx Us Un	\$0.34	1.50%
ZST	BMO Ultra Shrtbnd Un	\$0.27	0.50%
ZSU	BMO Sh-Trm US Crpbnd	\$0.22	1.50%
ZUB	Bmo Eq Wgt Us Banks	\$0.38	2.00%
ZUD	BMO Usdiv Hdg-Cad Un	\$0.53	2.50%
ZUE	Bmo S&P 500 Hedg-Cad	\$0.63	2.00%
ZUH	BMO Eqwgt US Health	\$0.80	2.00%
ZUQ	BMO MSCI US Higltyun	\$0.64	2.50%
ZUT	Bmo EqL Wgt Util Etf	\$0.40	2.40%
ZWA	BMO DJ Industavg Un	\$0.37	2.00%
ZWB	BMO Coverd Callcndbk	\$0.25	1.50%
ZWE	BMO EU Divcovcal C-H	\$0.40	2.10%
ZWH	BMO US Highdivcov Un	\$0.39	2.00%
ZWH.U	BMO US Highdivcov US	\$0.41	2.00%
ZWU	BMO Coverdutility Un	\$0.20	1.50%
ZXM	1stast Mornintlmomun	\$0.98	4.25%
ZXM.A	1stast Mornintlmomad	\$0.99	4.25%
ZXM.B	1stast Intlmomunhgun	\$1.11	4.25%
ZXM.D	1stast Intlmomuhg Ad	\$1.11	4.25%