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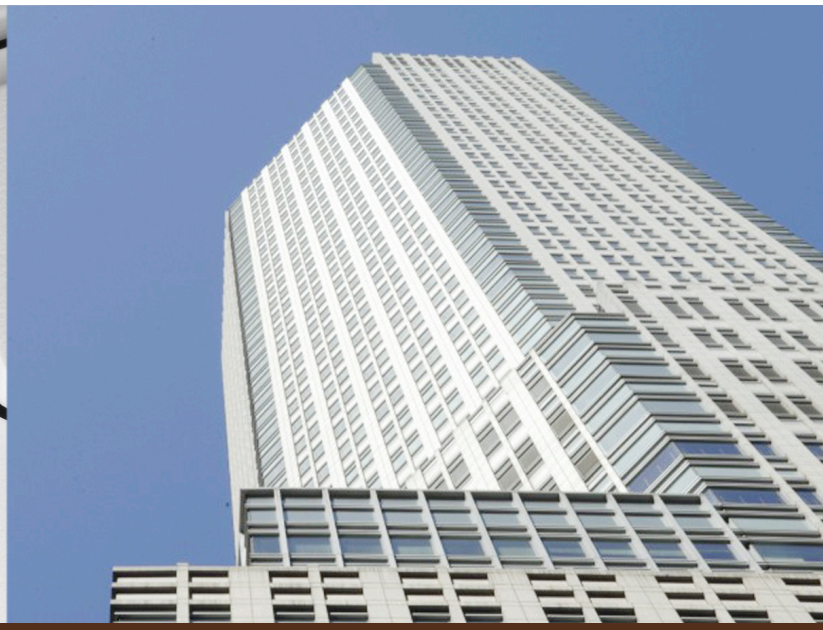

Exchange Traded Funds (ETFs)

2019 J.P. Morgan Global ETF Handbook

This is intended for informational use only and is not intended as an offer to sell or buy shares of any ETF listed herein.

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May 2019

ETFs are designed to allow an investor to quickly and easily obtain a desired market or benchmark exposure, by trading just a single security. ETF shares may offer intraday liquidity, and continuous, real-time trading and pricing.

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Exchange Traded Funds – ETFs

What are ETFs?
Each share of an ETF represents a fractional ownership interest in a portfolio of securities, commodities or other instruments. This investment medium has captured significant market interest in the last several years. As of the end of April 2019, total ETF assets under management (AUM) was ~$5.6Tr globally, up from $5.0Tr a year earlier (see Figure 1 for a list and breakdown of regions included in this calculation). In addition, the number of listed ETFs globally (in those same regions) has grown to more than 8,400 (with ~6,000 listed in the US and Europe).

Characteristics of ETFs
ETFs have some characteristics that are similar to those of both stocks and mutual funds, but also have many differentiating characteristics. Like stocks, ETFs are listed on one or more stock exchanges. In some cases, they also trade in the third market (i.e. over the counter) and through Electronic Communication Networks (ECNs). Like mutual funds, ETFs are available on a wide range of both broad and narrow indices or they can be actively managed. An ETF investor effectively can go long or sell short an entire portfolio of securities by trading a single listed ETF.[1]

Advantages of Using ETFs
Index-linked ETFs generally provide an effective way to track their underlying benchmarks because an ETF itself typically trades on the exchange at a price that is at or about the net asset value (NAV) of the ETF.

Index-linked ETFs are designed to allow an investor to obtain a desired market or benchmark exposure by trading just a single security. ETF shares are designed to offer intraday liquidity, and continuous, real-time trading and pricing. In many instances, ETFs can be sold short and can be purchased on margin by an investor seeking leverage.[2]

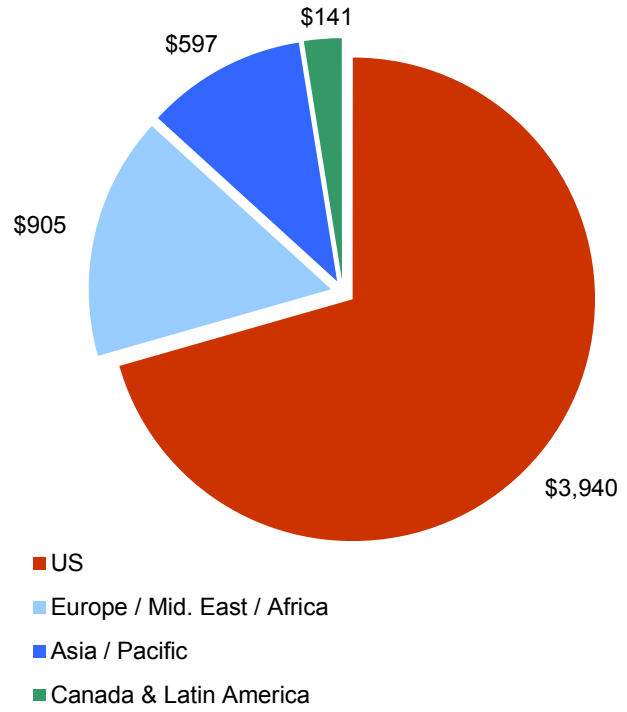
ETFs may be structured to be more tax efficient than mutual funds. Mutual funds are often forced to liquidate portions of their holdings in order to pay investor redemptions in cash, which can generate capital gain distributions for shareholders. Many ETFs, on the other hand, are created and redeemed "in-kind" by broker-dealers acting as "Authorized Participants." As a result, capital gain distributions and the internal costs associated with buying and selling securities in response to shareholder activity may be minimized.[3] Many ETFs, such as those linked to commodities or fixed-income indices, use in-cash creation and redemptions. These ETFs will not benefit from the tax advantages enjoyed by equity-linked ETFs that create and redeem on an in-kind basis.

Do ETFs Pay Dividends?[4]
It depends on the type of ETF. US ETFs that invest in stocks and securities generally are required to be registered under the Investment Company Act of 1940 (1940 Act) and qualify as regulated investment companies (RICs) under the Internal Revenue Code (IRC). These ETFs typically make distributions on a quarterly, monthly, annual, or irregular basis. Distributions must be made each year in order to eliminate any entity level tax, by distributing all of their ordinary income and long-term capital gains. There is no distribution requirement for other ETFs (e.g. ETFs based on commodities or currencies) and such ETFs typically do not make distributions.

Liquidity and Trading
Liquidity is one of the key benefits that ETFs can offer. ETFs are listed on exchanges and trade in the over-the-counter market as well. For ETFs that are created on an in-kind basis, Authorized Participants can create new ETF shares.[5] The result is that each ETF can be as liquid as its underlying securities, commodities or other instruments. In the primary market, ETFs are issued by trusts, limited partnerships or other vehicles in large-sized blocks (typically 50,000 shares) called "Creation Units." For ETFs that are created on an in-kind basis, each Authorized Participant deposits a specified portfolio with the trustee or its administrator, sponsor or distributor in exchange for a Creation Unit. In many instances, the Creation Unit is then broken up by the Authorized Participant, and the ETF shares are offered on exchanges in the secondary market where investors can buy or sell ETF shares in smaller quantities. Similarly, for ETFs that are subject to redemption on an in-kind basis, Authorized Participants can redeem ETFs by exchanging a Creation Unit of ETF shares for receipt from the ETF of assets comprising the underlying portfolio.[6] Certain ETFs also transact on a cash basis with Authorized Participants, and/or permit cash to be delivered in lieu of certain in-kind securities.

Snapshot of the Global ETF Market
Figure 1 below depicts total global AUM held in ETFs in billions of US dollars, broken down by region. US-listed ETFs, followed by European-listed ETFs, account for the largest portion of total ETF assets.

Figure 1: Global ETF AUM ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data as of end of April 2019.

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Risks and Considerations

ETF shareholders are subject to risks similar to those of holders of other portfolios of securities or commodities. A primary consideration is that the general level of prices within the portfolio may decline, adversely affecting the value of each ETF share for ETFs that provide long exposure. For ETFs providing inverse or "short" exposure, the value of the ETF will go down as the prices of the instruments in the underlying portfolio increases. In addition, ETF shares may decline in value if the overall depth and liquidity of the secondary market decreases. A sector-focused ETF may be adversely affected by the specific performance of its targeted benchmark. International investments may involve the risk of capital loss as a result of unfavorable fluctuations in currency values, differences in generally accepted accounting principles, or economic and political instability in the nations represented by issuers of the underlying securities or other countries. Actively-managed ETFs may perform better or worse than the benchmark or market sector they are designed to beat. Although the NAVs of index-linked ETFs typically correlate closely to the underlying indices, the market prices for these ETFs (particularly in the case of certain fixed income index-linked ETFs) may be discounted compared to the ETF's NAV.

Although index-linked ETFs are designed to provide investment results that generally correspond to the price and yield performance of their respective underlying indices, ETF managers may not be able to exactly replicate the performance of the indices because of expenses and other factors. ETF shareholders are typically subject to expense fees charged by the issuer, and transactions are subject to standard brokerage commissions and markups/markdowns. For a more comprehensive list of other risk factors, see the "Possible Risks of Investing in ETFs" section at the end of this document.

Definitions of Analytics in ETF Listings

The second part of this report (beginning on p.22) provides a complete listing of ETFs trading worldwide, including information on each fund's ticker and name, total AUM, changes in shares outstanding, average daily volume, bid-offer spread, expense ratio, and option liquidity.[7] The following are definitions of the metrics presented:

Total Assets: market value of the ETF's total shares outstanding (in $Mn)

Change in Shares Outstanding: arrows indicate ETFs that have seen significant changes in shares outstanding over the last year, defined as a greater than 20% increase or decrease

Average Daily Volume: average daily exchange turnover over the trailing 6 months (in $Mn)

Average Bid-Offer Spread: average intraday bid-offer spread over the trailing month, as a percentage of the ETF's price

Stocks in Underlying Index: the number of securities in the ETF's benchmark, an indication of the concentration of the ETF's exposure

NAV Tracking Error to Benchmark: 1-year tracking error between the NAV and the ETF's benchmark

Fund Leverage: the explicit leverage of the fund – e.g. '2x' denotes an ETF that delivers 200% of the daily performance of its benchmark, and '-1x' denotes a daily inverse ETF

ETF Options Liquidity: we classify the ETF's option liquidity in 4 categories based on its average daily notional turnover over the prior 3 months:

(**H**)igh = average daily notional turnover exceeds $50Mn
(**M**)edium = average daily turnover between $10 and $50Mn
(**L**)ow = average daily turnover under $10Mn
(**N**)one = not optionable

Additionally, we identify actively managed and currency-hedged ETFs with a superscripted 'A' and 'C', respectively, beside their tickers.

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ETF Market Overview

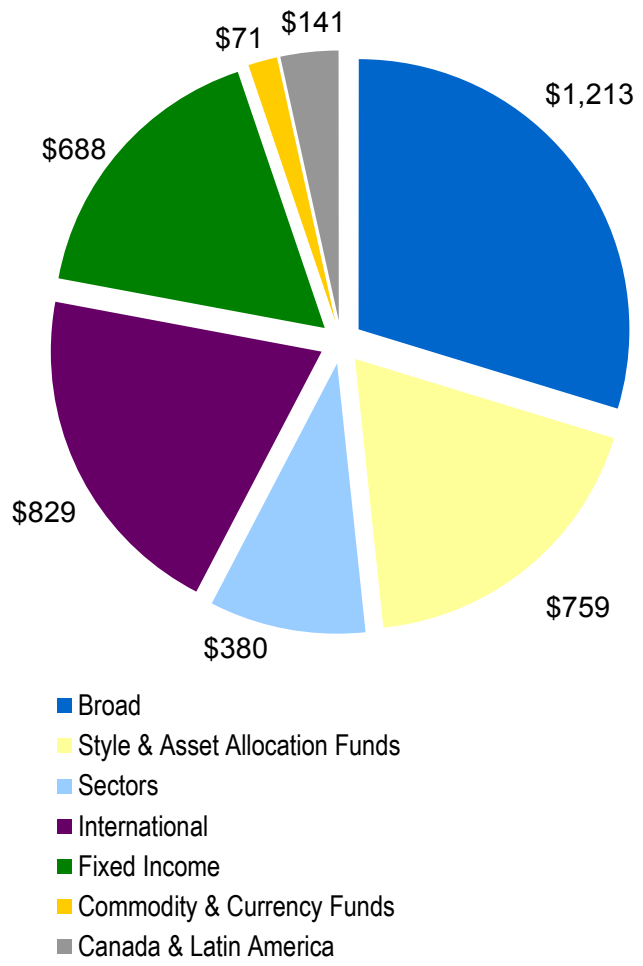
Snapshot of the US ETF Market

The US-listed ETF industry has grown dramatically over the last two decades, not only in size but also in the diversity of products offered. As of the end of April 2019, there were ~2,250 ETFs listed in the US, which held $3,940 Bn in assets (comprising ETFs formed under the 1940 Act and non-1940 Act ETPs). In the early 2000s, US-listed ETF trading was dominated by ETFs referencing broad-based US equity indices (we term these "broad-based ETFs"), such as SPY and QQQ, referencing the S&P 500 and Nasdaq 100, respectively. These broad-based ETFs held 90% of total AUM at the time. However, as new offerings came to market, the asset base began to diversify. Broad-based ETFs now account for ~31% of total ETF assets, while US-listed ETFs referencing international equity indices or securities ("International ETFs") now represent 21% of AUM, up from just 3% in the early 2000s. Style-based ETFs[8] have also grown to represent a proportionally larger piece of the ETF universe, increasing from 3% to 19% of ETF assets during the same period. Sector funds have grown from 5% to 10% of the total AUM. Finally, fixed income, commodity, and currency ETFs now represent 19% of total ETF assets. Broad-based, Style and Fixed Income ETFs all saw double digit percentage increases in AUM over the past year, owing to a combination of positive returns and continued inflows. However, Sector and International equity ETFs both recorded small (~1-2%) y/y declines in AUM, and commodity and currency funds' AUM fell nearly 20%.

The pace of growth in the number of new ETFs launched remains robust as ETF providers continue to address new investment themes, offer more granular exposures, and cover more of the investible universe. From 2015-8, an average of ~275 new ETFs were launched each year[9], and another ~85 funds have launched YTD. Meanwhile, ~160 ETFs were liquidated since January 2018.

Out of the ~360 total new launches since January 2018, 28% were international equity funds, 26% were style-based ETFs, and another 20% were fixed income ETFs. Based on AUM, the largest new launches over this period were in the international equity (~50%), sector (~19%) and style (17%) categories. The large AUM in new sector funds is due to the launch of Communication Services funds ahead of the GICS reclassification in Sep'18.

Figure 2: Americas ETF AUM ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data as of end of April 2019.

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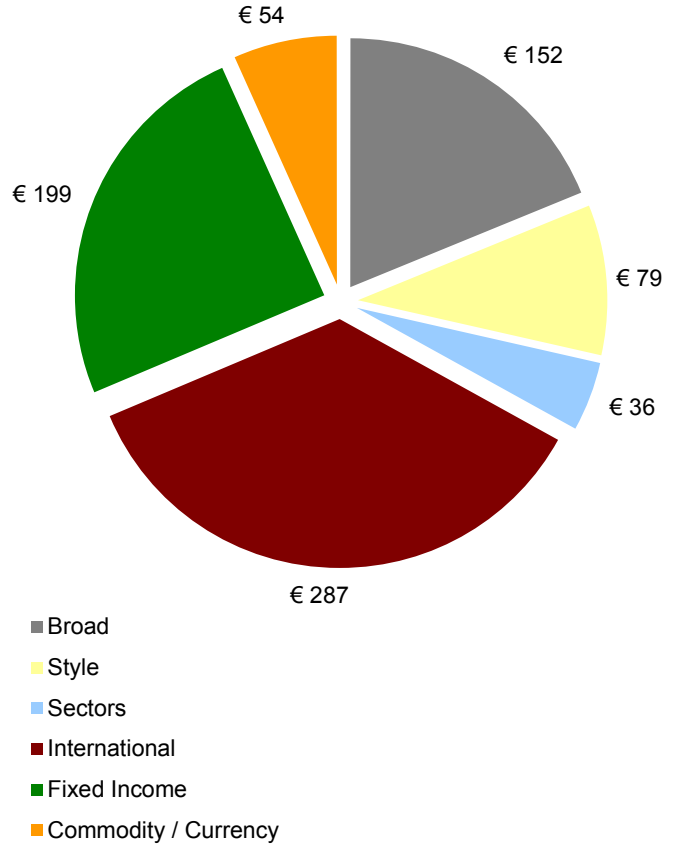
ETF Market Overview

Snapshot of the European ETF Market

There are ~3,800 European ETFs and ETCs (Exchange Traded Commodities),[10] which hold ~$900Bn of assets (as of the end of April 2019). Approximately 1,500 of these ETFs and ETCs are cross-listed on multiple exchanges in Europe. Around 19% of AUM is held in broad-based ETFs; international and fixed income based ETFs account for 36% and 25% of assets respectively, while style-based ETFs account for ~10% of assets. The European market also offers more choice among ETFs that cover alternative assets vs. the US; for instance, there are ~1,000 commodity- and currency-related ETFs and ETCs, and ~700 fixed income ETFs listed in the region (vs. ~150 and ~400 in the US, respectively).

Figure 3: European ETF AUM (€Bn)

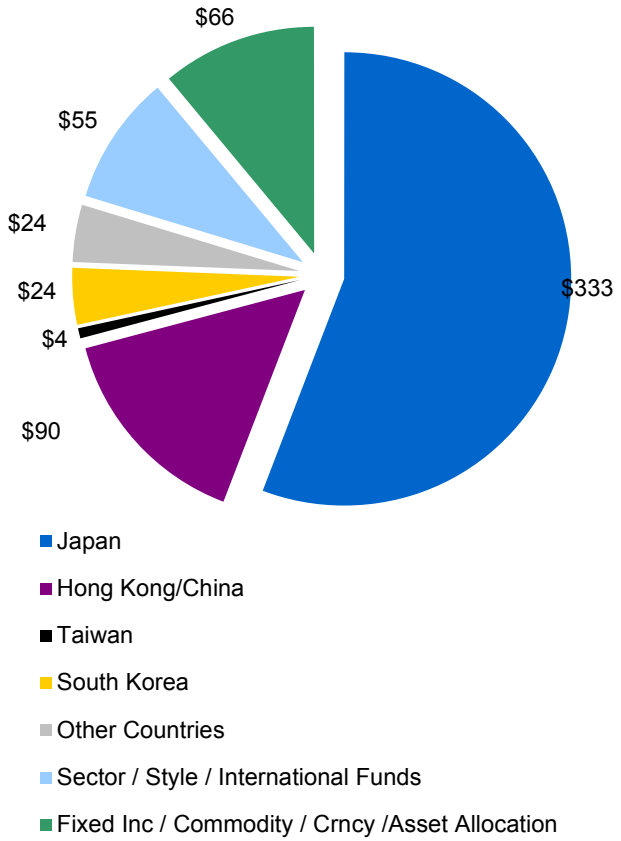


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data as of end of April 2019.

Snapshot of the Asia-Pacific ETF Market

The ETF market size in the Asia-Pacific region continues to trail that of the US and Europe, though it exhibited the highest y/y growth rates in assets and new fund listings among the 3 regions again the past year. There are currently ~1,650 listed Asia-Pacific ETFs (excluding cross-listings from other regions). Additionally, AUM has grown ~17% to ~$597 Bn USD over the past year. However, the asset base remains concentrated in Japan-focused equity ETFs which hold ~56% of total Asia-Pac ETF assets (down from 58% a year ago, and totaling ~$333 Bn in assets currently). Hong Kong/China-focused equity ETFs make up the next largest share at ~15% (~$90 Bn) of Asia-Pacific ETF assets, followed by non-equity (mainly fixed income) funds at ~11%.

Figure 4: Asia-Pacific ETF AUM ($Bn)



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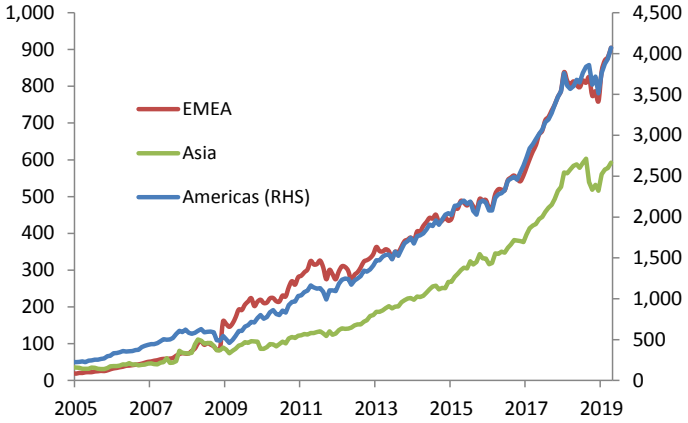
Evolution of ETF Markets

The first ETF was created in Canada in 1990 (TSE 35 participation units), and the first US ETF (the SPDR S&P 500 ETF (SPY)) came to market in 1993. By 2000, US ETF offerings included funds tracking the S&P 500 and Dow Jones sectors, international MSCI indices, major US capitalization and style benchmarks. The first ETF in Asia was launched in 1999 and in Europe in 2000. Over the following decade, ETF markets saw major growth. From 2001 to 2011, the number of ETFs listed globally increased from ~250 to ~3,700, registering an annualized growth rate of ~30% in the number of ETFs. Since then, the pace of increase of the number of ETFs listed has slowed to ~10% on average as the market matured (and just ~5% over the past year). There are currently ~8,400 ETFs listed globally, holding ~$5.6Tr in assets.

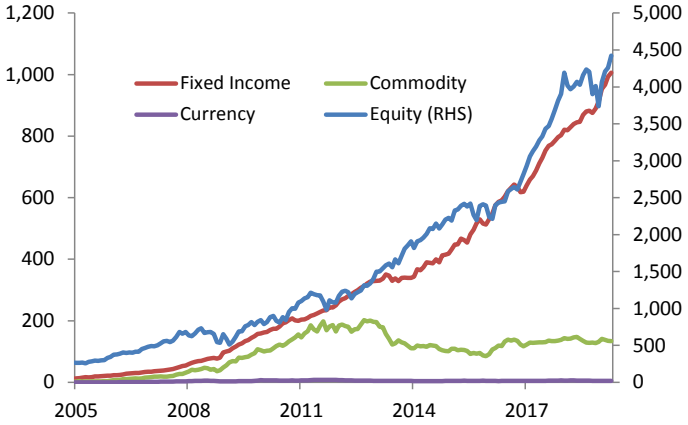
Figure 5: Global ETF AUM historical trends by region ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

The Americas (primarily the US) remains the largest ETF market, with ~73% of the global ETF AUM. Europe and Asia comprise 16% and 11% of the global ETF AUM, respectively. However, Europe has a larger number of ETFs listed than the US, reflecting the fragmented nature of the European ETF market.

Figure 6: Global AUM historical trends by ETF type ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

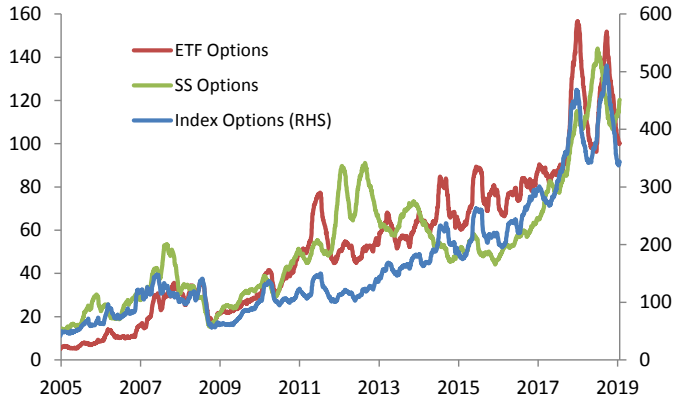
In the early years, ETFs were based only on broad equity indices. The first non-equity ETFs were launched in Canada in 2000 and in the US in 2002. However, significant interest in non-equity ETFs did not start until 2005. Since 2005, non-equity ETFs have grown from $27bn to $1.15Tr in assets globally, an average annual growth rate of ~31%, though the growth rate has been decelerating somewhat more recently (e.g. it was ~17% over the past 3 years). In terms of asset class focus, equity ETFs currently compose 79% of the global ETF AUM, fixed income 18%, commodities ~2.5%, and currency and multi-asset ETFs <0.5%.

ETF Options

Volumes in US ETF options markets have continued to grow in recent years, and are on par with aggregate volumes across all US stock options combined. Currently, just over 700 US ETFs have listed options (representing ~1/3 of all US ETFs), but ETF option activity is concentrated in a relatively small number of names. For example, SPY, QQQ and IWM accounted for ~85% of all ETF option volumes for 2019 YTD (SPY alone was nearly 70%). Table 1 shows the average daily option volumes for the most liquid optionable US ETFs in each exposure category (based on YTD notional option turnover).

Outside of the US, the ETF options markets have yet to take off. ETF daily option volumes in Europe and Asia remain orders of magnitude lower than in the US, and few ETFs in these regions have listed options trading.

Figure 7: The total volume on US ETF options is similar to that of aggregate US stock option volumes ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

ETF options' primary use remains portfolio hedging, which we can infer from the put/call (P/C) open interest ratio. The ratio for ETF options has fluctuated around 1.6 put options for every call option outstanding in recent years, close to the average ~1.8 ratio for index options. This suggests that ETF options are used mostly in protection strategies such as long puts or put spreads. This can be contrasted to the stock options market, where investors typically trade a greater proportion of call options for upside leverage or as a part of call overwriting strategies (~0.9 put options for every call option outstanding).

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Table 1: Average daily notional option volumes for the most liquid US ETFs within each classification ($Mn)

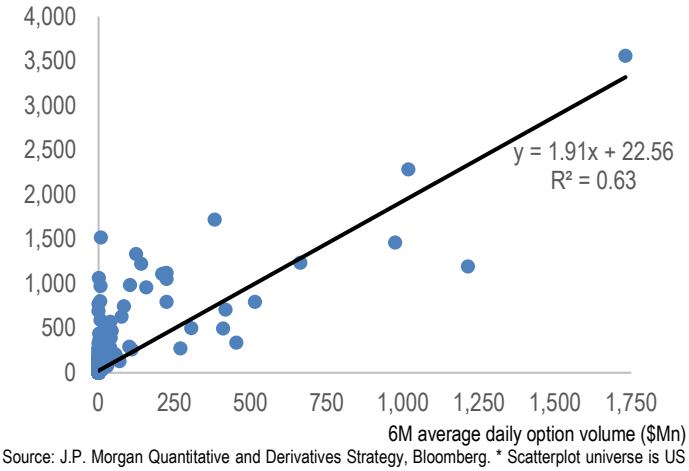
		Average Option Volumes			
Ticker	ETF Type	2019 YTD	2018	2017	2016
SPY	Broad Based	71,224	90,156	60,628	54,681
QQQ	Broad Based	12,296	16,679	8,780	4,828
IWM	Broad Based	5,321	7,195	7,081	6,404
DIA	Broad Based	1,236	1,681	781	670
TQQQ	Broad Based	121	130	47	36
EEM	International	1,767	2,022	1,253	1,176
EFA	International	1,003	876	642	438
FXI	International	895	604	260	317
EWZ	International	664	570	347	254
GDX	International	156	172	256	327
SMH	Sector	501	589	138	45
XOP	Sector	439	445	404	319
XBI	Sector	396	389	198	154
XLF	Sector	390	488	495	287
KRE	Sector	278	283	134	47
UVXY	Style	280	207	343	480
SVXY	Style	20	56	449	86
PFF	Style	8	2	1	3
HYG	Fixed Income	1,702	1,466	733	563
TLT	Fixed Income	838	993	916	1,050
IEF	Fixed Income	118	80	42	31
GLD	Commodity	1,341	1,308	1,562	2,422
USO	Commodity	113	189	137	194
SLV	Commodity	68	83	90	122
FXE	Currency	33	78	123	127
FXB	Currency	15	6	8	21

Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data through end of April 2019

Option liquidity is also a strong driver of liquidity in the underlying ETF. Increased option volumes lead to an increase in hedging flows from option market makers (who dynamically hedge the delta exposure of their option positions), and increase an ETF's usage as a trading vehicle by investors (e.g. as it allows investors to monetize more specific views on timing and price ranges, add or remove leverage, and/or risk-manage positions through option-based strategies). Figure 8 illustrates this relationship between option and cash volumes, where we find that on average each additional dollar of option volume corresponds to an additional nearly $2 of ETF cash volume for US equity funds.

Figure 8: Each dollar of option volume corresponds to an additional ~$2 of ETF cash volumes on average*

6M average daily ETF cash volume ($Mn)

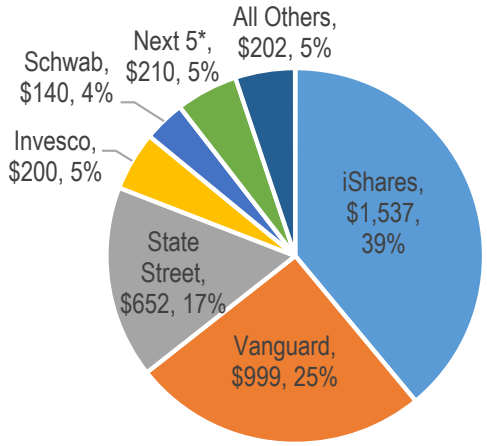


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. * Scatterplot universe is US equity ETFs, excluding the 3 largest volume outliers (SPY, QQQ and IWM)

ETF Issuer Market Shares

The ETF market remains a competitive space as issuers vie to capture market share with cheaper (see 'The Fee War Intensifies' section on p.15-17) and/or innovative new ETFs catering to investors' evolving needs. However, ETF assets are relatively concentrated among a handful of large issuers. As of April 2019, the top 3 ETF issuers in the US accounted for ~81% of total AUM (Figure 9). In particular, these 'big 3' ETF issuers (iShares, Vanguard and State Street) largely dominate the market for funds providing broad-based exposure, where the largest pools of assets reside (as illustrated in Figure 2), accounting for ~86% of assets in this category.

Figure 9: US ETF AUM market share by issuer ($Bn, %)



* Next 5 largest issuers are First Trust, WisdomTree, VanEck Vectors, ProShares, and J.P.Morgan

Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

This concentration of assets is not a new phenomenon, and it has been relatively stable in recent years. For example, the AUM market share of the 'big 3' ETF issuers has remained in a range of ~80-83% every year since 2012 (Figure 10).

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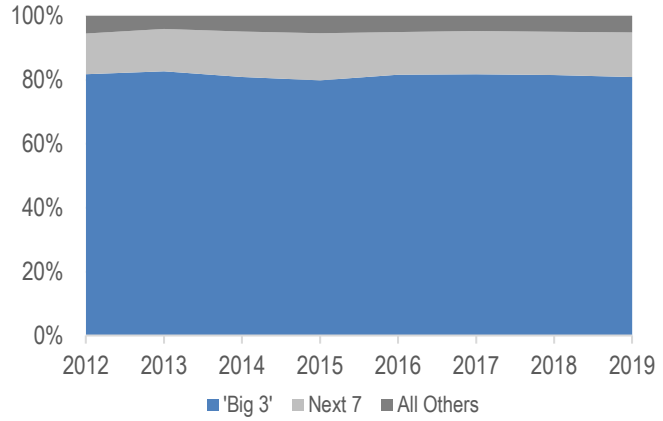
Figure 10: US ETF AUM market share by issuer (%)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Table 2 below provides a breakdown of the ETF market share leaders within each region and asset class. iShares' dominant market position extends to Europe as well, where it has nearly four times the market share of the next largest player (Xtrackers) overall, but Vanguard and State Street have a relatively smaller presence in the region (ranking #7 and #9, respectively, with ~4% market share each). In Asia, Japanese firms capture the largest market share, due to the Bank of Japan's large domestic ETF holdings (~$259Bn as of Sep'18 according to Bloomberg) as part of its QE program. iShares and State Street have the largest market shares of non-Japanese firms (#5 and #6 overall, with low-to-mid single digit percentage shares), while Vanguard sits at #15 in the region.

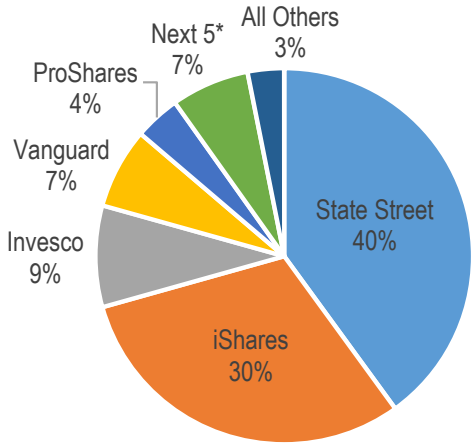
Table 2: ETF AUM by region/asset class and top issuers' market share by segment

Asset Class	US	EMEA	Asia
Equity	**$3,181 Bn** *iShares (37%)* *Vanguard (26%)* *State Street (18%)*	**$621 Bn** *iShares (33%)* *Xtrackers (11%)*	**$531 Bn** *Nomura (30%)* *Nikko AM (13%)* *Daiwa (13%)*
Fixed Income	**$688 Bn** *iShares (48%)* *Vanguard (25%)*	**$223 Bn** *iShares (60%)*	**$58 Bn** *Fortune SG (21%)* *Yinhua (13%)*
Commodity / Currency / Asset Allocation	**$71 Bn** *State Street (40%)* *iShares (29%)*	**$61 Bn** *ETF Securities (24%)* *ZKB (12%)* *Invesco (11%)*	**$8 Bn** *Shinhan (10%)*

Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

The share of ETF trading volumes by issuer shows a different picture than the AUM breakdown, as illustrated in Figure 11; for example, Vanguard products tend to be targeted more to buy-and-hold investors, while a number of State Street and iShares products have deep option liquidity and are used as trading vehicles (see discussion on ETF Options above). In particular, State Street's SPY alone accounts for roughly ¼ of all US ETF volumes. As a result, State Street and iShares products dominate volumes, accounting for ~70% of ETF secondary market trading.

Figure 11: Breakdown of US ETF 6M average daily volumes by issuer

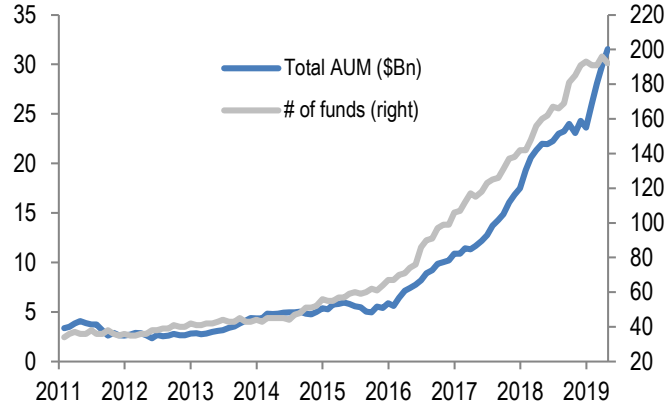


* Next 5 largest issuers are VanEck Vectors, Direxion, Schwab, VelocityShares, and First Trust
Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Socially Responsible/ESG ETFs

In our 2017 ETF Handbook, we discussed how Socially Responsible/ ESG ETFs had become an area of increasing focus for issuers, and provided an overview of their investment strategies. This theme continued to gain steam over the past year, and again saw significant growth in assets and a large number of new fund launches. As illustrated in Figure 12, over the past year, another ~30 ESG-themed funds were launched globally and AUM in ESG ETFs grew by over 40% from ~$22Bn to ~$32Bn. Notable recent launches in the ESG space include Vanguard's first ESG ETF offerings that came to market in September 2018, and iShares launching around a dozen ESG equity ETFs in Europe in 4Q18 and 1Q19.

Figure 12: Total ESG-Themed ETF AUM (Left) and No. of Funds (Right)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Update on Volatility ETPs

In our 2018 ETF Handbook, we discussed how the VIX spike on 2/5/2018 and collapse of inverse VIX ETPs, along with leverage cuts to two other popular levered VIX ETFs later the same month, reshaped the landscape for VIX products. Another VIX spike in 4Q18 then reinforced to investors that we have moved into a higher vol-of-

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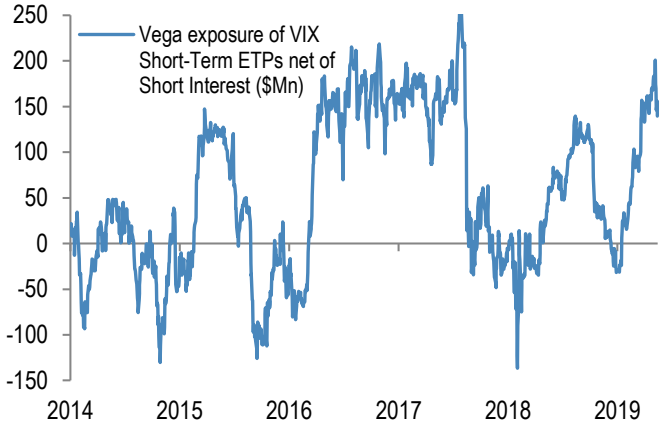
vol regime. This led investors to pile into long and levered VIX ETPs beginning in Feb'19, as soon as the VIX index fell below 16, to position for/speculate on the next volatility spike. From then until the end of April, investors deposited ~$900Mn net into unlevered long VIX ETPs, and ~$1.5Bn into levered products (the majority of which went into 2x levered TVIX). As a result, VIX ETPs' net exposure recently spiked to its largest net long position in nearly 2 years, tilted long by ~$200Mn vega (Figure 13).

Figure 13: VIX ETP exposure surged to nearly 2-year highs



Source: J.P. Morgan Quantitative and Derivatives Strategy.

Following these flows, the total vega notional in levered and inverse VIX ETPs has also increased significantly, but remains well below pre-Feb'18 levels, largely because the exposure of inverse products remains muted after last year's wash-out. Thus, we don't expect these ETPs to drive end-of-day short gamma rebalancing effects anywhere close to those experienced on 2/5/18, but their end of day rebalances are once again becoming material. Additionally, the build-up of long vega exposure in VIX ETPs suggests they could provide a headwind to the next volatility spike, as investors are likely to take profits on these positions and/or invest in inverse products to monetize the spike.

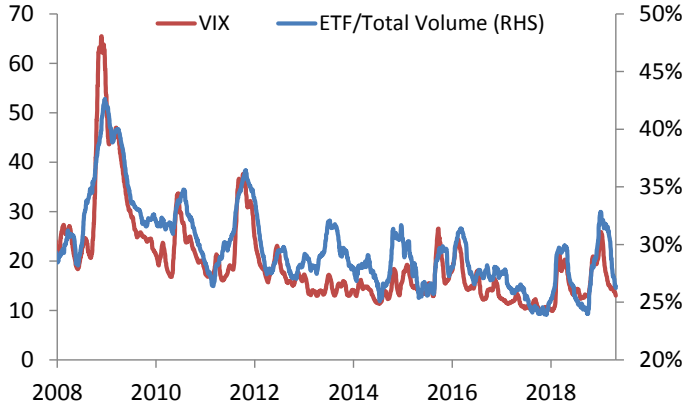
Another recent development in Volatility ETPs is the launch of the first two non-equity volatility-linked ETFs. The Tabula J.P.Morgan Global Credit Volatility Premium ETF (ticker TVOL LN) listed in Europe systematically sells delta-hedged strangles on two sub-investment grade CDS indices (equally weighted) – the iTraxx Crossover in Europe and CDX HY in the US – to capture the volatility risk premium in credit markets. Meanwhile, the Quadratic Interest Rate Volatility and Inflation Hedge ETF (ticker IVOL US) is a US-listed actively-managed ETF designed to profit from an increase in fixed income volatility, an increase in inflation expectations, and from rising long-term or falling short-term interest rates that typically occur with equity market declines.

US ETF Market

The US ETF market has grown by leaps and bounds since we published our first ETF Handbook 14 years ago. The size of the US ETF market currently stands at ~$3.9Tr, with ~$2.35Tr in domestic equity funds (equivalent to ~7% of the total US equity market cap of ~$32Tr).

As ETFs became an increasingly important part of US markets, investors started using ETFs as a hedging and positioning tool. ETF flows became one of the leading indicators to express risk-on/risk-off views on the market. During the peak of the 2008/9 financial crisis, ETFs represented almost 50% of the total average US equity trading volume, but in recent years ETF trading volume generally represented ~25-30% of the total average US equity trading volume (Figure 14). However, in 4Q18 ETFs' proportion of trading volume popped up to nearly 35% alongside a spike in market volatility. Indeed, the measure of ETF volumes as a percentage of total trading volumes correlates strongly with market volatility, as investors tend to trade more ETFs during volatile markets; higher volatility drives an increase in macro trading via ETFs with broad-based exposure, and also leads to more hedging activity, which is done by shorting or buying puts on ETFs.

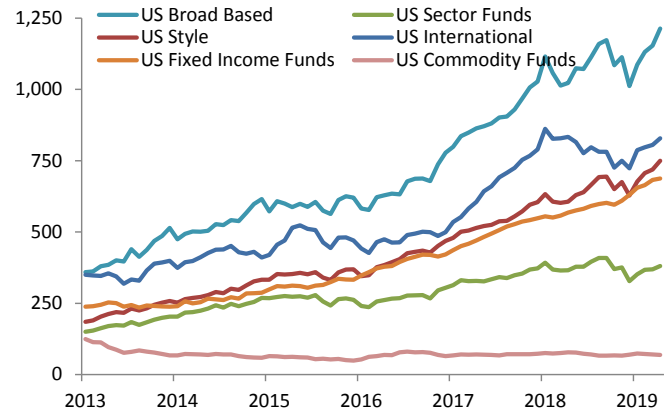
Figure 14: ETFs as a % of total stock trading volume vs. the VIX



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Over the past year, broad-based, stile and fixed income ETFs all experienced double-digit percentage gains in AUM, with the latter two recording ~20% gains. AUM in sector and international funds was little changed over the past year, while commodity and currency funds shed nearly 20% of assets primarily due to outflows from precious metals ETFs.

Figure 15: US ETF AUM by category



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

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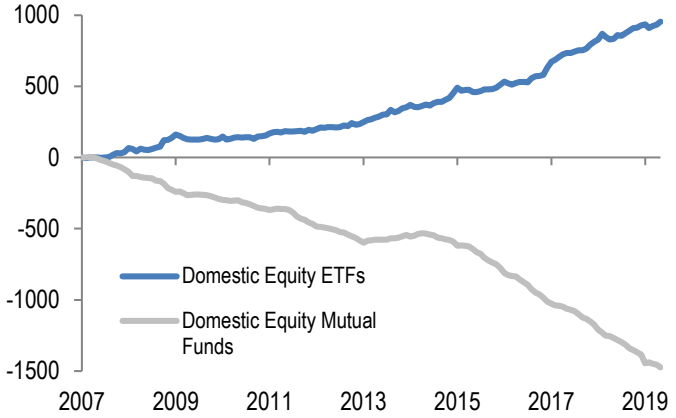
Fund Flows

Although the total asset base for mutual funds remains much larger than ETFs, ETFs have continued to attract assets at the expense of mutual funds in the US in recent years, reflecting an ongoing shift from active to passive management (see p.16-17 of our 2017 ETF Handbook for further discussion on trends in active vs. passive investing).

Since 2007, domestic equity ETFs have recorded ~$1.0Tr of net inflows, while domestic equity mutual funds have seen ~$1.5Tr of net outflows (Figure 16). This trend continued over the past year, with ETFs recording ~$125Bn of inflows and mutual funds ~$200Bn of outflows for US-listed domestic equity funds (through the end of April 2019). International equity funds recorded a similar rotation, with ETFs recording inflows of ~$40Bn and mutual funds seeing outflows of ~$65Bn over the past year.

Both bond mutual funds and bond ETFs recorded inflows over the past year, but ETFs pulled in the majority of inflows in the space for the first time in 3 years. Over the past year, US bond ETFs recorded ~$110Bn of inflows, while mutual funds saw ~$45Bn of new cash. However, mutual funds have still received the lion's share of bond fund inflows this cycle, with ~$1.6Tr of inflows since 2007 (according to ICI), compared to ~$600Bn flowing into bond ETFs.

Figure 16: Cumulative flows into US domestic equity ETFs and mutual funds ($Bn)

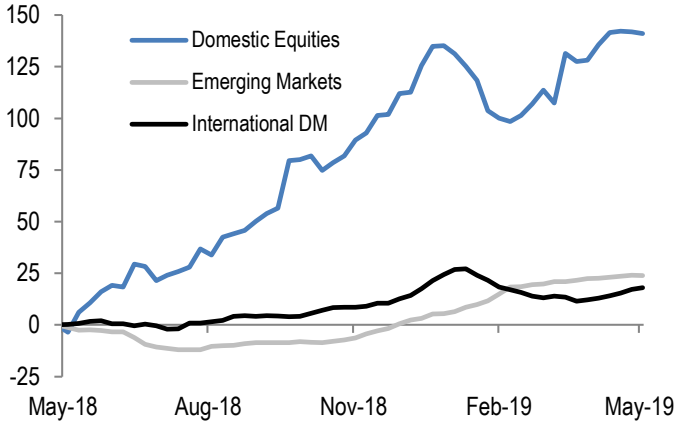


Source: J.P. Morgan Quantitative and Derivatives Strategy, EPFR.

Equity ETF Trends

Equity ETFs recorded strong net inflows again over the past year, totaling ~$180Bn for US-listed funds. Domestic equity funds attracted just over 75% of this total, with the remainder close to evenly split between emerging market and international developed market equities (Figure 17).

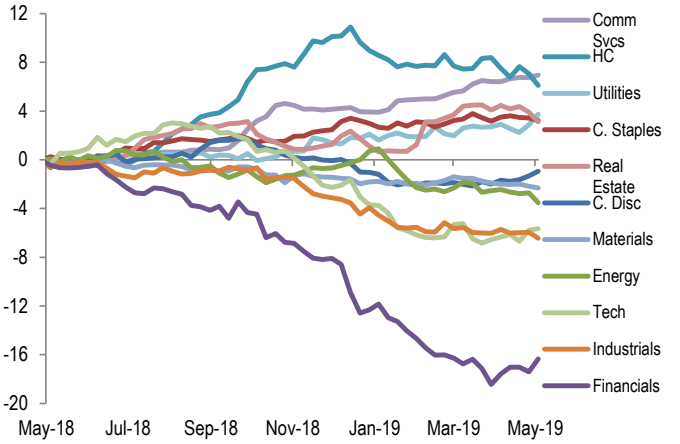
Figure 17: US-listed Equity ETF net flows ($Bn) over the past year



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Just over 35% of US domestic equity inflows were poured into broad large cap ETFs, which received ~$50Bn in net inflows over the past year, while SMid cap ETFs accounted for ~13% of total domestic equity flows. Sector funds recorded net outflows of ~$12Bn (-9% of net domestic inflows). Sector outflows were led by Financials, Industrials and Technology (which were the 3 leading sectors in terms of inflows the prior year), while Defensive sectors saw the largest inflows (Health Care and Bond Proxy sectors). Additionally, the newly created Communication Services sector saw inflows as investors realigned to its larger index weight post-rebalance (Figure 18).

Figure 18: US Sector Equity ETF net flows ($Bn) over the past year



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Style funds recorded the bulk of domestic equity inflows over the past year, accounting for ~60% of the total. All major style categories saw net inflows, with the largest inflows going into Value, Dividend and Low Vol funds (Figure 19). However, we've seen a rotation out of Value since the start of the year, as ~$5Bn came out of the Style YTD, at the same time as Low Vol and Dividend funds saw strong inflows.

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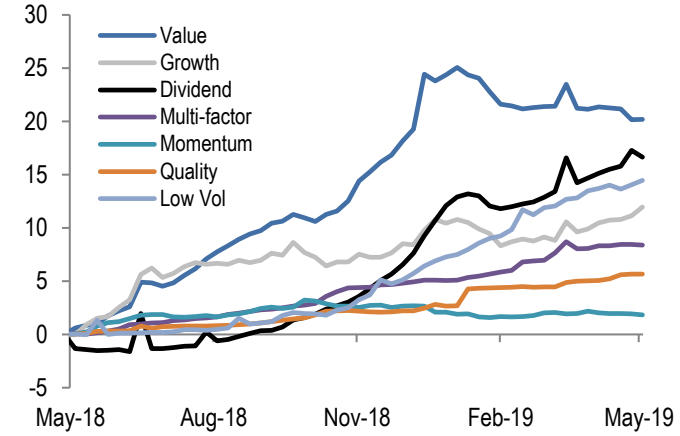
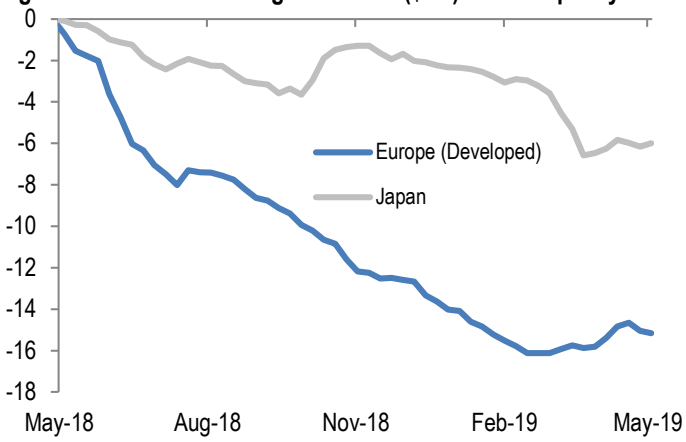
Figure 19: US Style Equity ETF net flows ($Bn) over the past year



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

International equity ETFs recorded inflows totaling just ~$40Bn over the past year (a decrease of ~$100Bn from the prior year), which were split ~55% into EM and ~45% into international DM funds (vs. ~2/3 of inflows going into DM the prior 2 years). The bulk of inflows to international DM funds went into global funds (e.g. those tracking MSCI World or ACWI), while EAFE trackers had close to zero net flows over the year (but saw a sizable rotation from EFA to lower priced IEFA – see discussion on 'Core' products on p.17). European funds saw significant outflows (~$15Bn), as did Japan-focused funds (~$6Bn, Figure 20). In EM, global EM funds saw the majority of inflows over the past year, while China and EM Asia-focused funds also recorded notable inflows. EM flows experienced two distinct regimes during the past year, with outflows in May-July 2018, followed by persistent inflows in Aug 2018-April 2019 (EM ETFs recorded inflows in 90% of the weeks during this period, Figure 17).

Figure 20: US-listed DM regional flows ($Bn) over the past year

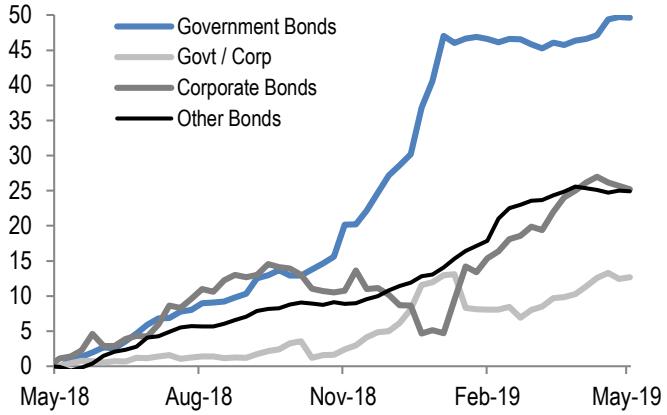


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Fixed Income ETF Trends

Fixed income funds have seen strong growth this cycle, with ~1,500 fixed income ETFs currently listed globally, up from 223 at the end of 2008. The global AUM in fixed income ETFs has grown from less than $100Bn in 2008 to ~$1.0Tr currently.

Figure 21: US Fixed Income ETF net flows ($Bn) over the past year



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. * 'Other' category includes munis, mortgages/loans, international bond funds, inflation-linked bonds, etc.

Fixed income funds attracted strong inflows again over the past year, totaling ~$110Bn among US-listed funds. Flows in this category were broad-based again, with gains across all fixed income subcategories, but Treasury ETFs taking the largest share (~45%, Figure 17). Within Treasury bond ETFs, inflows were somewhat concentrated on shorter duration funds as the Fed hiking cycle continued through 2018, with ~60% of the category's total net inflows going into funds with duration <2 years (although every tenor bucket saw net inflows during the past year). In the 'Other' bond category, inflows were nearly equal across International, Municipal and Mortgage bond ETFs, but Inflation-linked bond funds recorded moderate net outflows over the year (mainly over the past 6 months).

Commodity ETF Trends

Commodity ETFs saw strong growth from 2005-2011 (with global AUM increasing from $5bn to ~$200bn over that period), but AUM has subsequently declined (due to the ~40% decline in gold prices from 2012-2015, ~70% decline in crude oil prices in 2014-15, and relatively stagnant flows in recent years). Given these commodity prices remain below their highs earlier this cycle and flows have been muted in recent years, AUM in commodity ETFs remains well below its previous highs. Currently, there are ~1,100 commodity ETFs listed globally, with ~$135Bn in AUM.

Flows in US commodity funds were relatively muted overall during the past year, despite significant volatility in commodity prices (e.g. crude oil fell ~45% in 4Q18 but rallied ~55% this year, NatGas spiked 60% in Q4 but more than gave up these gains subsequently, and gold/steel/copper all saw double-digit percentage declines and rallies over the past year). Metals commodity ETFs (mainly gold funds) recorded net outflows over the past year (totaling ~$4Bn), with outflows in 2Q18-3Q18 and 2Q19, but inflows in 4Q18-1Q19. Energy funds saw net inflows (totaling ~$5Bn) in 4Q18 to mid-1Q19, which were offset by similar sized outflows in 3Q18 and 2Q19.

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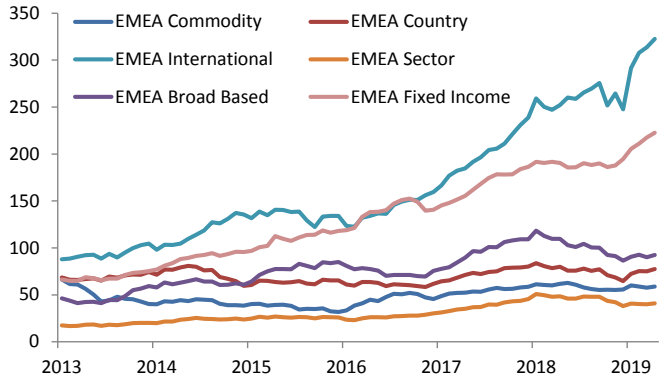
European ETF Market

Since the first European ETF was launched in 2000, AUM has grown to ~$905bn, spread across over 3750 funds. The AUM of European listed ETFs grew by ~12% (measured in $) since May 2018, a lower annual growth rate compared to last year (~27%).

Figure 22: EMEA AUM chart



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Inflows were driven by ex-Europe funds

EMEA ETF experienced inflows on aggregate over the last 12 months, as inflows into non-Europe focused equity and fixed income ETFs more than offset outflows from Europe focused funds. Weaker economic growth in the region and a revival of political uncertainty partly explain the investors' allocation shift out of European assets. Several trends stand out:

1) International equity ETFs listed in Europe experienced substantial inflows (~$56Bn) over the year, with North American funds taking the lion's share of the inflows (~$38Bn). EMEA focused country and broad market funds on the other hand recorded net outflows of ~$8Bn over the year.
2) Style-focused ETFs — factor and thematic funds — had inflows of close to $20Bn over the year. Quality and low volatility funds drove the inflows.
3) EMEA Sector ETFs experienced outflows of ~$6Bn over the year. Financials and Energy were the sectors with the largest outflows.
4) Socially responsible ETFs continued to experience strong growth and their AUM was up 74% compared to last year.
5) Overall, government bond ETFs recorded inflows of over $24Bn over the year. Similar to equity funds, the growth was driven mainly by International (~$8Bn) and EM funds (~$10Bn).
6) ETFs investing in corporate bonds and combining corporate and government bonds recorded inflows of more than $11Bn over the year.
7) EMEA listed Gold ETPs grew by ~3% in AUM terms despite the annual decline in the spot price of gold, thanks to inflows of ~$3Bn since May 2018. Broad commodity ETPs experienced outflows of ~$3Bn over the same period.

Fragmentation of Liquidity

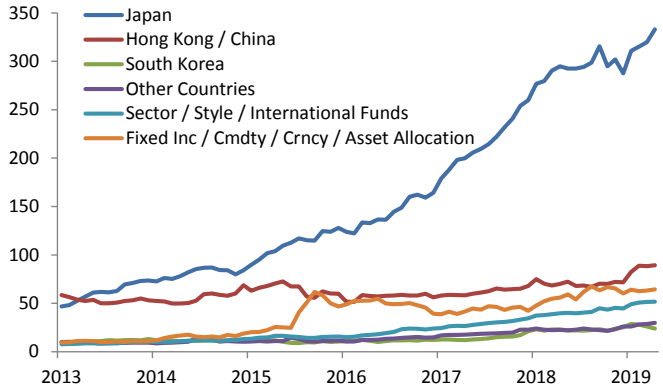
European ETFs are often listed in multiple countries in order to attract retail investor flows, as many European investors can often only trade (or prefer to trade) on their domestic exchange. Our ETF guide shows the major listings for each ETF on foreign exchanges ('cross listings'). The widespread use of multiple exchange listings has led to a fragmentation of liquidity for many European ETFs, as investor flows and market maker quotes have become dispersed across multiple exchanges rather than being consolidated in a single order book.

Asia Pacific ETF Market

Since the launch of the Tracker Fund of Hong Kong in 1999, the region's first ETF, the number of Asia Pacific ETFs has grown to ~1,650, with a total of ~$600bn in AUM. Although the industry asset size continues to lag behind that of the US and Europe, the Asia Pacific ETF market achieved the highest AUM percentage growth of ~240% over the past five years, versus 130% in US and 115% in Europe (as end of April 2019). Japan ETFs continued to drive growth in the region with the total assets increasing by $38bn (+13% y/y). Hong Kong/China ETF growth outpaced the region, increasing to ~$90bn total AUM (+28% y/y), while South Korea ETFs lagged, only adding $1bn to total assets (+3% y/y).

In terms of product trends, market access remains dominant as broad country exposure ETFs such as those linked to Japan, Korea and Hong Kong/China equity market indices account for ~75% of the region's total ETF assets. Style ETF AUM recorded modest gains of $1bn (+14% yoy), among which Dividend remained one of the most popular styles (AUM $5.8bn). Volatility and Growth style ETFs saw the largest y/y percentage increases of 290% and 182%, respectively.

Figure 23: Asia Pac ETFs AUM Growth by Type ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

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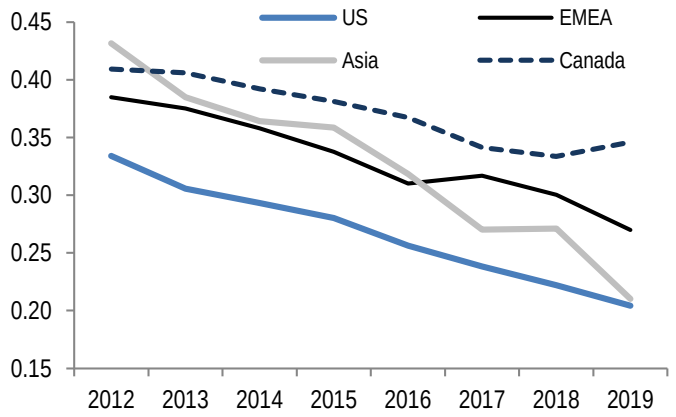
Trends in ETF fees

As we have written in past editions of this Handbook, ETF fees have been persistently squeezed by competitive forces in recent years. Forces driving this trend include the continued shift from active to passive and general shift among investors toward lower fee products, competition among established players for market share, and the challenge from new Fintech entrants to the market.

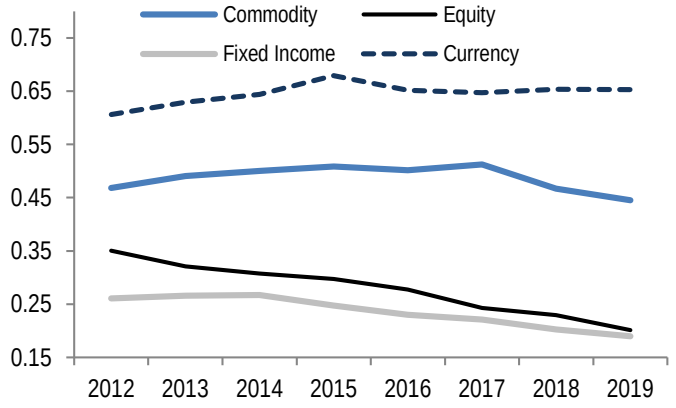
Average fees paid across ETFs have exhibited a steady march lower over the past several years, decreasing by ~40% in the US since 2012 (from an AUM-weighted average ~33.5bps to ~20.5bps). Figure 24 and Figure 25 show the AUM-weighted average fees across global ETFs over the last 8 years, broken down by region and asset class, respectively. This lower fee trend was driven both by investor flows gravitating towards lower fee funds within each region and asset class, as well as ETF issuers selectively cutting the expense ratio on a number of funds. As a recent example of the latter, Vanguard lowered fees across 21 of its largest ETFs so far this year; these funds currently hold ~$660Bn in AUM, and the cuts will save investors ~$88Mn in fees per year (all else equal).

Figure 24: AUM-weighted average fees by region



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year

Figure 25: AUM-weighted average fees among global ETFs, by asset class



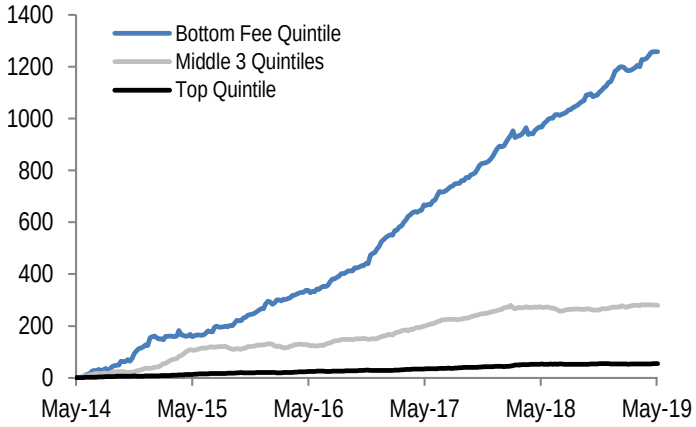
Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year

Investors gravitating towards lower fee products

As the charts below illustrate, investors have generally gravitated towards the lowest fee funds, as the cheapest funds captured the bulk of net inflows into the ETF space. For example, funds in the lowest quintile by expense ratio (i.e., those with an expense ratio ≤24bps) attracted ~80% of all net inflows to US ETFs over the past 5 years (Figure 26). In other words, the lowest 20% by expense ratio captured 80% of flows, while the remaining 80% of funds saw just 20% of flows. This skew was even starker more recently, as ETFs in the the lowest fee quintile pulled in 97% of all net flows during the past year – i.e., the 80% most expensive funds saw close to zero of the ~$300Bn of new cash invested into US ETFs over the last year.

Figure 26: The lowest fee funds captured the vast majority of inflows in recent years

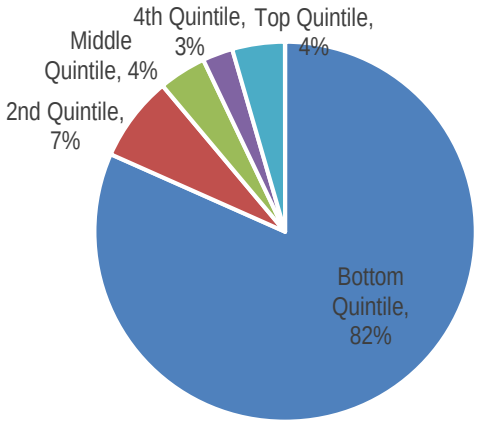
Cumulative inflows to US ETFs by expense grouping ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

This fee sensitivity was more pronounced in equities than fixed income. For example, the lowest quintile of equity funds by fees attracted 82% of all net inflows over the past 5 years (Figure 27), while the equivalent figure for fixed income ETFs was 55% (Figure 28).

Figure 27: Equity ETFs' share of 5Y net inflows by expense ratio quintile



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

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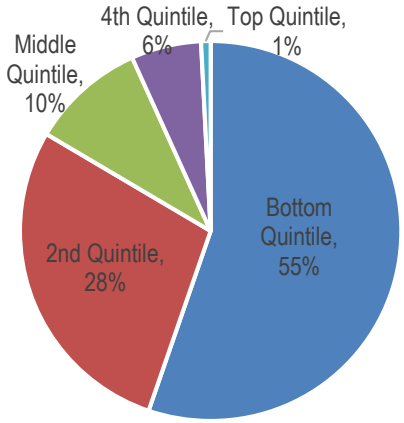
For fixed income, this disparity can be partly explained by the fact that fee levels are lower overall, and the popular iShares Treasury bond ETFs (SHV, SHY, IEF, TLT, TIP) all fall within the 2nd fee quintile of their asset class (but they are in the lowest quintile across US ETFs in all asset classes).

Figure 28: Fixed Income ETFs' share of 5Y net inflows by expense quintile



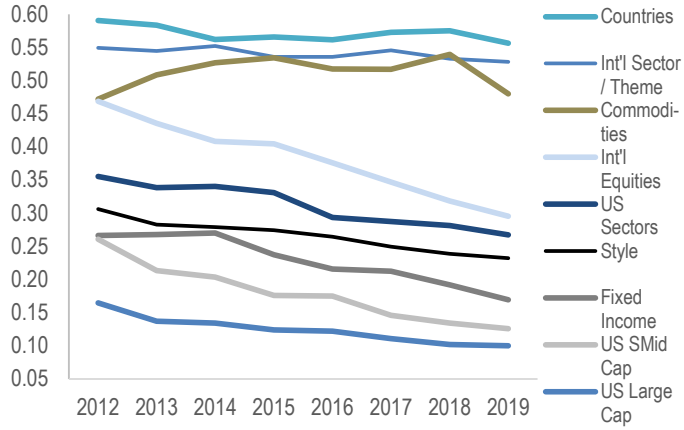
Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Fee pressures felt unequally

Different types of ETFs have been swept up in the fee war to varying degrees, as we note fees for ETFs with broad exposures fell by much more than those with narrower exposures. For example, AUM-weighted average fees in broad US equity and fixed income funds fell by ~40% since 2012, while sector and factor ETF fees fell by a more modest ~25%, ETFs providing exposure to individual countries or international sectors/themes saw single digit percentage fee declines, and commodity funds on average saw no decline (Figure 29 and Figure 30).

Figure 29: ETFs with narrower exposures maintained higher fee levels…

AUM-weighted average fee by year

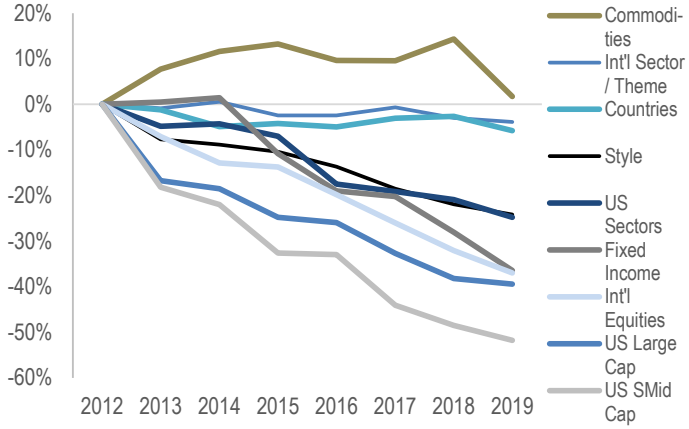


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year for US-listed ETFs

The smaller fee declines in niche products can likely be explained by the fact that they have smaller pools of assets (and thus lower economies of scale), face less competition, and often have higher trading costs (e.g., due to lower liquidity, timing risk for international markets, etc.).

Figure 30: …and saw smaller % fee declines in recent years

Change in AUM-weighted average fee vs. 2012

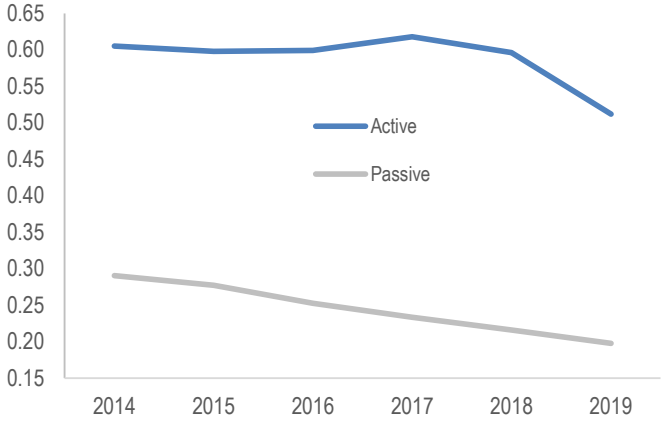


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year for US-listed ETFs

Similarly, actively managed ETFs recorded a smaller decline in fees compared to passive ETFs in recent years, as investors tend to focus more on active funds' returns/alpha than cost, and their differentiated strategies result in less competition (Figure 31).

Figure 31: Active funds saw smaller declines in fees than passive ones

AUM-weighted average fee by year



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year for US-listed ETFs

On an AUM-weighted basis, actively managed funds in aggregate saw the same ~9bp decline in fees as passive funds since 2014, but this represented just a 15% drop on average for actively managed funds vs. 32% for passive funds. Additionally, almost all of the decline in AUM-weighted fees for actively managed funds came over the past year, and most of this decline is due to investor flows into lower fee actively managed funds, rather than expense ratio cuts by the funds themselves. For example, the 8 actively managed funds

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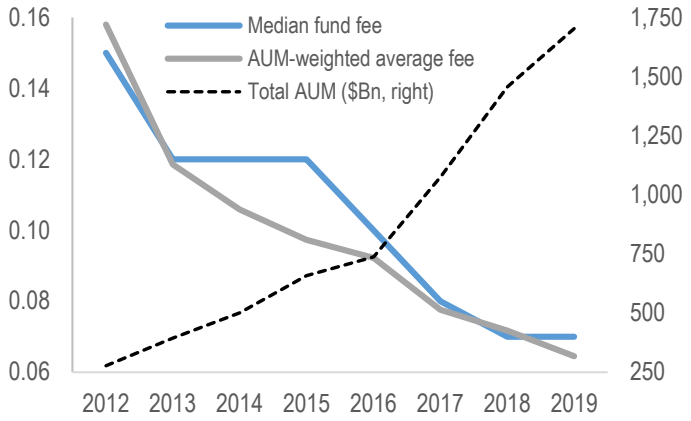
with the largest y/y increases in AUM (which together recorded a jump of $18Bn in AUM) have a relatively low weighted-average fee of ~33bps (most are short-duration fixed income strategies). Meanwhile, the 8 actively managed funds with the largest y/y declines in AUM (which lost ~$2.5Bn in AUM combined) have an elevated weighted average fee of ~77bps. Thus, investor flows in/out of these funds pulled down the overall average for actively managed funds.

Recreating 'Core' products

A recent trend in the fee war is for major ETF issuers to relaunch (or rebrand) lower fee versions of simple market beta (or 'core') products, in order to capture flows from (primarily buy-and-hold) investors seeking the cheapest passive products. These products have been at the front lines of the fee war, as they have seen repeated fee cuts and attracted large asset inflows in recent years (Figure 32). Examples of these 'Core' products include:

- iShares' Core suite of 25 funds across asset classes which have expense ratios of 3-25bps (e.g., IEFA which is a lower fee version of EFA, IEMG a lower fee verison of EEM, etc.)
- SPDR's Ultra-Low-Cost Core ETFs which comprise 15 funds across equities and fixed income with expense ratios of 3-11bps (e.g., SPLG which offers similar exposure to SPY for ~1/3 the cost)
- Schwab's Core index funds, which offer equity and bond ETFs with expense ratios of 3-13bps
- J.P.Morgan Asset Management's BetaBuilders suite which offers a handful of broad market and country equity ETFs, and a broad US fixed income ETF at fees of 2-19bps
- Invesco's PureBeta funds, which include a handful of broad equity and bond ETFs with fees of 4-15bps
- Most of Vanguard's ETF portfolio, as ~85% of their ETFs have expense ratios ≤15bps

Figure 32: Fees for 'Core' products have been falling steadily, and the funds have seen large inflows in recent years



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg. Data points as of May of each respective year

Approaching the zero fee threshold

During the past year we have seen the launch of the first funds with zero management fees. First, Fidelity launched four mutual funds with zero expense ratio in Q3 2018. Then, on the ETF side, this was followed by the launch of zero or negative fee funds this year by relative newcomers to the ETF market, but only on a limited or temporary basis. Fintech startup SoFi recently launched the first two ETFs with zero fees (tickers SFY and SFYX), though it will be based on a temporary waiver of their standard 19bp fees. Another startup, Salt Financial, recently launched a 'negative fee' ETF (ticker LSLT); however, the -5bp fee is only on the first $100Mn in AUM and only until April 2020, after which the fee is due to revert to its standard +29bps.

We have yet to see an ETF charging zero fees for an indefinite timeframe, but a number of broad US equity ETFs have come close: the recently launched J.P.Morgan BetaBuilders US Equity ETF charges just 2bps, and several funds charge 3-4bps (e.g., SPDR's SPLG and SPTM, iShares' ITOT and IVV, Vanguard's VTI and VOO, Schwab's SCHX and SCHB, etc.).

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Regulatory Shift: 'ETF Rule' and Non-Transparent ETFs

The 'ETF Rule'

Background

Regulation of ETFs in the US consists of a patchwork of rules, exemptive orders, and guidance, and, to date, there is no singular framework governing these funds. Up to now, ETFs have been permitted to be offered only after receiving an exemption from certain provisions of the Investment Company Act of 1940[a], which would otherwise not allow the structure. In other words, in order to launch a new ETF, the issuer needs to apply for an exemption order from the SEC, which is a lengthy and expensive process. The SEC estimated the median processing time for approval of a new ETF filed between 2007 and 2018 was 221 days and the typical filing cost was ~$100,000[b]. Additionally, exemptive orders are provided on a case-by-case basis (with more than 300 exemptive orders issued over the last two decades), meaning ETF issuers effectively are subject to differing limitations as the SEC's views change. For example, custom creation/redemption baskets were generally permitted in exemptive orders issued before 2012, but in subsequent orders the SEC has required these baskets to be a pro rata slice of the portfolio (other than with respect to an index rebalancing). In particular, this means that actively managed ETFs that rely on exemptive orders issued after 2012 (i.e. the vast majority of active ETFs) are not permitted to use custom baskets.

The 'ETF Rule': Provisions and Implications

In order to bring about greater uniformity and clarity to ETF regulation, the SEC proposed the ETF Rule (6c-11) last June. As written, the Rule would do the following:

- ***Create a level playing field*** by rescinding the various exemptive orders and subjecting these funds to a uniform set of rules. Passive and active (transparent) ETFs are also treated the same way.
- ***Reduce the time and cost to issue new ETFs***, which could lead to increased product innovation (e.g., as it lowers the barriers to entry)
- ***Allow the use of custom creation and redemption baskets***, which permits more efficient portfolio rebalancing. Custom baskets can potentially reduce tracking error, transaction costs, and tax liabilities for the fund, by allowing fund managers to acquire or dispose of the securities they need for rebalances through creations/redemptions, rather than needing to buy/sell them out of the ETF's portfolio. ETFs that use custom baskets would need to adopt policies to ensure they are used in the best interest of the fund and its shareholders.
- ***Increase transparency for investors*** by requiring issuers to disclose on a daily basis the portfolio holdings, creation and redemption baskets, NAV, market price and premium/discount, as well as median bid-ask spreads over the last fiscal year. The Rule also requires additional disclosures on costs in the funds' prospectuses.

Some of these additional disclosures and policies could lead to increased compliance costs for ETF issuers, which might more than offset the reduced filing costs. For example, ETF issuers will need to create a custom basket policy that ensures these baskets are used in the best interests of the ETF and its shareholders (incurring legal fees to draft the policy and periodic compliance fees thereafter). Then, in order to be able to verify compliance with the custom basket policy, the SEC may require ETFs to keep records for every custom basket traded, including the names and quantity of positions comprising the basket, cash balancing amount, and name of the AP, leading to ongoing recordkeeping costs.

Scope

The SEC intends to bring most ETFs under the Rule, but others that fall out of scope would continue to be subject to the existing provisions of their exemptive relief. ETFs expected to fall outside the scope of the Rule include Unit Investment Trusts (which includes some of the oldest and largest ETFs, such as SPY, QQQ, DIA and MDY), ETFs structured as a share class of a multi-class fund (e.g., Vanguard funds), and leveraged and inverse ETFs. Additionally, ETNs are not subject to the Rule, as they are not governed by the Investment Company Act.

Status and Next Steps

The SEC proposed the ETF Rule in June 2018 and issued a request for comments due by October 1, 2018. Since then, the SEC has received ~90 comment letters and held over 30 meetings with ETF issuers and other concerned parties. The comment letters were, for the most part, strongly supportive of the Rule and its overall aims, but included many suggested changes to technical elements. Once the SEC has evaluated the feedback it received, it is expected to issue a final rule which incorporates some of the suggested changes. The timeline for this is uncertain, but the SEC has indicated it is a priority for this fiscal year (ending September).

Non-Transparent ETFs

Background

In our 2015 ETF Handbook we discussed how ETFs' requirement to provide daily disclosures of portfolio holdings was a major impediment to active managers' broader adoption of the ETF structure. Such disclosures are problematic for active managers because they broadcast to the market exactly what the fund is holding, buying and selling each day. This permits their strategies to be reverse-engineered and/or front-run.

ETF providers have submitted a number of proposals to the SEC, over the better part of the past decade, for non-transparent ETF structures that would alleviate this problem. In November 2014, the SEC approved a non-transparent structure which was a hybrid of ETFs and mutual funds (called 'Exchange Traded Managed Funds' and branded as 'NextShares'), but this structure so far hasn't been widely adopted. According to NextShares' website, in April 2019 (around 4.5 years after approval of this structure) there were just 13 funds outstanding with a total of ~$135Mn in AUM.

[a] The Act was originally meant to regulate other types of funds, such as mutual funds

[b] See p.203 here

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Regulatory Shift: 'ETF Rule' and Non-Transparent ETFs

In April 2019, the SEC issued a notice indicating that it would approve the first non-transparent ETF structure that trades like a traditional ETF: Precidian's ActiveShares structure. However, Eaton Vance (the owner of NextShares) filed comments on the impending order on May 3rd and May 8th, which is delaying the SEC's final approval of Precidian's structure.

What are ActiveShares?

Precidian's ActiveShares platform resembles a traditional ETF, as they offer the same tax and cash efficiency due to 'in-kind' creation/redemption, and the same intraday pricing/liquidity. ActiveShares are also marginable, shortable and optionable. There are two main differences between ActiveShares and traditional ETFs: 1) the creation and redemption baskets are only disclosed, confidentially, to trusted Authorized Participant Representatives who sign non-disclosure agreements, and 2) the funds ensure market makers and investors have sufficient information to trade and/or hedge the fund at fair prices by disseminating a 'Verified Intra-day Indicative Value' ("VIIV") every second of the trading day (whereas traditional ETFs are only required to publish indicative values every 15 seconds). Below we present an FAQ discussing important characteristics of the structure.

FAQ on the ActiveShares structure

1. *Who sees the ETF's holdings?*

The actual ETF holdings are only revealed on a daily basis to trusted Authorized Participant Representatives ("APR"), which are segregated from the firms' general Authorized Participant ("AP") and market making functions via information barriers. Each fund can designate 1 or more APRs (the number is up to the fund manager). Holdings are only disclosed to the public quarterly with a 60-day delay.

2. *What is in the creation/redemption basket?*

The creation and redemption baskets are pro rata slices of the full underlying portfolio. The structure does not permit custom in-kind baskets; however, Precidian indicated that future generations of the product may allow custom baskets (if approved by the SEC). The inability to trade custom in-kind baskets means portfolio turnover may result in the distribution of capital gains to investors (e.g., when the fund rebalances holdings and sells stocks with unrealized gains, those gains will need to be passed through to ETF holders for tax purposes).

3. *What is the creation/redemption process?*

The trusted APR stands between the general AP account and the ActiveShares ETF custodian. In an in-kind creation, the AP delivers cash to the APR, which is held in an account on the APR's books in the name of the AP. The APR then buys the basket securities to deliver to the ETF custodian, and the custodian then delivers in exchange for the delivery of ETF shares back to the AP. In an in-kind redemption, the AP delivers ETF shares to the custodian, who delivers the basket securities in-kind to the APR, who sells the shares into the market and delivers the proceeds in cash back to the AP. Thus, in a creation or redemption, only the trusted APR sees the pro rata basket composition, not the general AP account. The general AP account transacts only in cash and ETF shares. In purchasing or selling securities for the confidential AP accounts held on its books, the APR will use methods to avoid revealing the components of the ETF's creation basket, such as breaking the transaction up into multiple orders or transacting in multiple markets.

4. *What is the Verified Intra-day Indicative Value ("VIIV")?*

The VIIV is a per-share value of the ETF's portfolio, calculated as the mid of the bid-offer and truncated to 2 decimal points. The truncation of the VIIV makes it difficult to reverse-engineer the fund's holdings, as its limited precision ensures one cannot have certainty on the underlying holdings. The VIIV is calculated simultaneously by two independent engines to ensure it is correct and valid before being disseminated.

5. *How do market makers hedge without knowing the portfolio holdings?*

Between the ETF's stated strategy (e.g., "ETF XYZ is an actively managed US Value fund"), 13F public holdings disclosures (on a delayed basis), and dissemination of the VIIV, market makers can develop proxy hedging strategies to track the ETF using baskets of futures, passive ETFs, and/or stocks (e.g., running statistical analysis to decompose the fund's exposures by factor, sector, country, etc.). Market makers already use this same approach to hedge many ETFs (e.g., particularly ETFs holding international securities, where it's not possible to transact in the full basket during US trading hours, because some underlying markets are closed).

6. *What can ActiveShares ETFs hold?*

The approved structure permits subject ETFs to hold only US listed securities (e.g. stocks, ADRs, futures, ETFs, etc.) as it needs to be possible to calculate a VIIV throughout the US trading day, which requires live pricing for all underlying securities. According to Precidian, future generations of the product may permit inclusion of foreign and/or OTC securities, such as fixed income.

7. *How do ETF managers use the ActiveShares platform?*

An ETF manager will be able to use the ActiveShares structure through a licensing agreement. The ETF would use its own trust, but reference the Precidian ActiveShares exemptive relief in its SEC-filed registration statement (i.e., Precidian is not 'white-labelling'). The manager licenses the ActiveShares workflow and technology, for which they pay Precidian an AUM-based fee (which, according to the company will be in single-digit bps per annum). Managers will need to file their own short form exemptive application with the SEC, which will take time for approval, but which will incorporate by reference all of the terms and conditions of the ActiveShares exemptive application (similar to the process used by NextShares).

8. *How are ActiveShares impacted by the ETF Rule?*

ActiveShares will fall outside the scope of the ETF Rule discussed above, and thus remain subject to the conditions of their exemptive order(s).

Outlook for Actively Managed ETFs

In our 2017 ETF Handbook, we discussed trends in active vs. passive investing. We noted that the post-financial crisis period has been marked by a strong and persistent shift from actively- to passively-managed funds. Yet despite this shift, actively-managed ETFs were exhibiting strong AUM growth in recent years, off a low base. This

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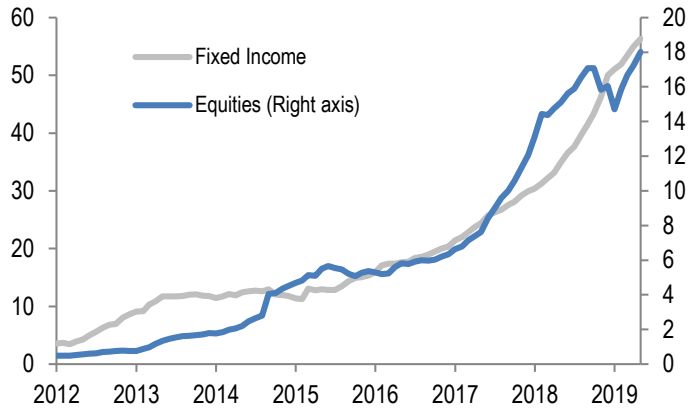
strong growth in active ETFs has continued over the past couple of years, with US actively-managed ETF AUM more than doubling over this period in both equities and fixed income (Figure 33). Given the AUM in actively-managed ETFs is orders of magnitude smaller than that of active mutual funds, the strong inflows from the former aren't remotely offsetting the outflows from the latter.

Figure 33: AUM in US actively managed ETFs ($Bn)

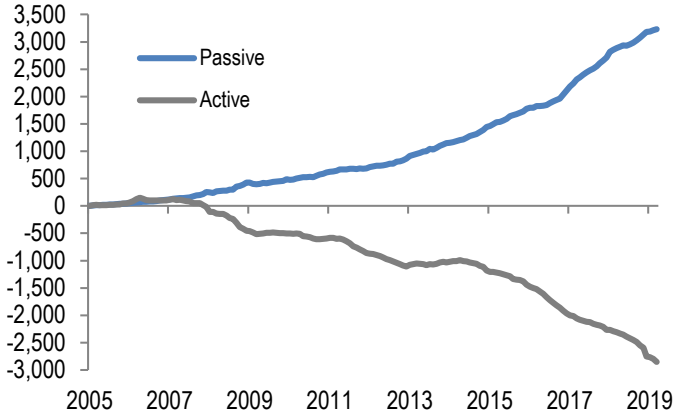


Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

The SEC's approval of the first non-transparent ETF structure discussed above could lead to an accleration in launches of new actively managed ETFs in the coming quarters, and likely the conversion of a number of actively managed mutual funds into ETFs. As such, growth of actively-managed ETFs is poised to accelerate even further, in our view, once ActiveShares products begin coming to market.

However, the broader rotation from active to passive (which has seen ~$3Tr flow in that direction in equities this cycle, Figure 34) is likely to continue overall in the coming years, suggesting much of the growth in active ETFs will come at the expense of active mutual funds.

Figure 34: Cumulative flows to active and passive US equity funds ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, EPFR.

Additionally, although it's likely to be the first to market, the ActiveShares structure may not be the final word on non-transparent ETFs, as a number of alternative structures remain under review by the SEC (including proposals by Blue Tractor, T.Rowe Price, NYSE/Natixis, and Fidelity).

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Endnotes

[1] Unlike mutual funds, however, ETFs are not redeemed by general holders. Moreover, unlike mutual funds, which must be transferred at their net asset values, ETFs trade at market prices that may differ from their NAVs. Similarly, unlike most stocks, most ETFs are in continuous offering.

[2] Unlike the exemption that was previously available for short sales of ETFs in Rule 10a-1 under Securities Exchange Act of 1934, under current Rule 201 of Regulation SHO, ETFs are deemed to be "covered securities" and, thus, subject to the price tests developed by exchanges for execution of short sales. In addition, although ETFs are marginable securities, broker-dealers generally are restricted from providing financing on the shares under Section 11(d)(1) of the Securities Exchange Act of 1934 if the broker-dealer or its affiliates or personnel receive compensation or economic benefit to promote or sell the ETF.

[3] There are many factors which could impact this; one factor depends on how creation and redemption baskets are structured.

[4] ETFs that are formed under the 1940 Act and qualify as "RICs" for tax purposes make distributions that are treated as ordinary dividends which, in general, reflects such RICs' receipt of dividends and interest from their investments and gains from their short-term capital gain transactions. Long-term capital gain distributions are also distributed to shareholders, reflecting such RICs' long-term capital gains from disposition of investments. ETFs taxable as RICs typically make distributions on a quarterly basis, but in all events, at least annually, in order to distribute all of their ordinary and capital gain distributions to avoid an otherwise applicable excise tax. ETFs formed as grantor trusts, which include metal-based ETFs, generally do not make distributions, and income and expenses are treated as if investors directly owned the underlying metals. Other types of ETFs (such as commodity-linked ETFs formed as limited partnerships) distribute earnings in accordance with general tax rules applicable to that type of entity.

[5] ETF shares can be created on a T+3 basis (but will move to a T+2 basis later this year) provided the Authorized Participant delivers in payment for the ETF shares the portfolio basket underlying an aggregation of ETF shares (known as a "Creation Unit") whose size is specified by the issuer, as well as a designated amount of cash.

[6] ETFs that are subject to cash creation and redemption also require such creations and redemptions to be carried out through an "Authorized Participant" in Creation Unit size. Although there are designated market makers for ETFs on exchanges, some ETFs trade infrequently and have sizeable spreads between the bid and ask prices.

[7] This information is provided for educational purposes only and we do not recommend investing in any particular ETF compared to any other ETF. Before investing in any ETF, an investor should review the ETF's prospectus and consider talking to with financial and tax professionals. All of this information has been provided by third-parties and may change from time to time. There is no guarantee that the information is accurate.

[8] "Style-based" ETFs are those structured to provide investors an investment vehicle based on investing style (e.g. value, growth or a combination). International ETFs refer generally to ETFs investing in securities based on geographic focus.

[9] Source: J.P. Morgan Securities, Bloomberg

[10] An ETC is an investment vehicle, including a type of fund, partnership, trust or other collective investment entity that tracks the performance of an underlying commodity or basket of commodities. It is a variation on an ETF. "Single commodity ETCs" typically follow the spot-price of a single commodity, whereas "index-tracking ETCs" follow the movement of an index or grouping of commodities, such as futures on oil or livestock.

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Broad Based									
Large Cap										
SPY	SPDR SPX Trust	282,401		27,632	0.00	505	0.09	0.05	-	H
IVV	iShares Core SPX	178,851		1,497	0.01	505	0.04	0.01	-	L
VOO	Vanguard SPX	113,248		959	0.01	505	0.03	0.02	-	L
QQQ	Invesco QQQ Trust Series 1	76,053		8,357	0.01	103	0.20	0.04	-	H
DIA	SPDR Dow Jones Industrial Average Trust	22,457		1,166	0.01	30	0.17	0.04	-	H
IWB	iShares R1000	20,258		264	0.01	977	0.15	0.03	-	L
SCHX	Schwab US Large-Cap	16,672	↑	118	0.01	756	0.03	0.01	-	L
RSP	Invesco SPX Eq Wgt	16,142		118	0.02	505	0.20	0.03	-	L
VV	Vanguard Large-Cap	14,361		70	0.02	606	0.04	0.05	-	L
OEF	iShares S&P 100	5,041		97	0.01	101	0.20	0.03	-	L
TQQQ	ProShares UltraPro QQQ	4,438		1,293	0.02	103	0.95	-	+3x	H
SSO	ProShares Ultra S&P500	2,665		257	0.02	505	0.90	0.89	+2x	M
SPLG	SPDR Portfolio Large Cap	2,338	↑	30	0.03	757	0.03	0.06	-	L
ONEQ	Fidelity NASDAQ Composite Idx Tracking	2,106		16	0.13	2,643	0.21	0.37	-	N
QLD	ProShares Ultra QQQ	2,058		175	0.01	103	0.95	0.75	+2x	L
MGC	Vanguard Mega Cap	1,869	↑	9	0.02	262	0.07	0.05	-	L
SH	ProShares Short S&P500	1,758	↑	182	0.04	505	0.89	1.02	-1x	L
UPRO	ProShares UltraPro SPX	1,474	↓	321	0.02	505	0.92	2.05	+3x	M
IYY	iShares Dow Jones U.S.	1,241		6	0.03	1,224	0.20	0.04	-	N
VONE	Vanguard R1000	1,118		8	0.02	977	0.12	0.03	-	N
SPXL	Direxion Daily SPX Bull 3X	1,062	↓	307	0.02	505	1.02	1.77	+3x	M
SQQQ	ProShares UltraPro Short QQQ	979	↑	297	0.11	103	0.95	7.49	-3x	M
RWL	Oppenheimer SPX Revenue	977		5	0.08	505	0.39	0.06	-	L
SDS	ProShares UltraShort S&P500	936	↑	200	0.03	505	0.90	1.92	-2x	M
JKD	iShares Morningstar Large-Cap	863		4	0.04	-	0.20	0.05	-	N
XLG	Invesco SPX Top 50	818		8	0.02	50	0.20	0.04	-	N
SCHK	Schwab 1000 Idx	812	↑	9	0.04	994	0.05	3.14	-	N
QQEW	First Trust NASDAQ-100 Eq Wgt	792	↑	5	0.05	103	0.60	0.06	-	L
EQAL	Invesco R1000 Eq Wgt	586	↑	5	0.06	977	0.20	0.05	-	N
UDOW	ProShares UltraPro Dow 30	517	↓	131	0.03	30	0.95	1.94	+3x	L
SPXU	ProShares UltraPro Short SPX	490	↑	153	0.03	505	0.91	4.01	-3x	L
PSQ	ProShares Short QQQ	416	↑	69	0.03	103	0.95	1.19	-1x	L
DDM	ProShares Ultra Dow 30	377	↓	47	0.02	30	0.95	-	+2x	L
SPXS	Direxion Daily SPX Bear 3X Shares	357	↑	123	0.05	505	1.08	3.71	-3x	L
QID	ProShares UltraShort QQQ	307	↑	100	0.03	103	0.95	3.48	-2x	L
EPS	WisdomTree US Earnings 500 Fund	266	↑	2	0.17	500	0.28	0.05	-	N
EUSA	iShares MSCI USA Eq Wgt	265	↑	1	0.07	623	0.15	0.06	-	N
QQQE	Direxion NASDAQ-100 Eq Wgt Idx Shares	237	↑	2	0.25	103	0.35	0.06	-	L
IWL	iShares Russell Top 200	229	↑	2	0.12	195	0.15	0.05	-	N
SDOW	ProShares UltraPro Short Dow 30	223	↑	66	0.08	30	0.95	4.87	-3x	L
DOG	ProShares Short Dow 30	208		44	0.02	30	0.95	1.00	-1x	L
DUSA [A]	Davis Select US Equity	195	↑	1	0.28	-	0.63	4.97	-	N
EQL	ALPS Equal Sector Weight	160		0	0.09	11	0.28	1.09	-	N
DXD	ProShares UltraShort Dow 30	138		34	0.04	30	0.95	2.98	-2x	L
GSEW	Goldman Sachs Eq Wgt US Large Cap	122	↑	2	0.13	501	0.09	0.10	-	L
WBIG [A]	WBI BullBear Yield 1000	102	↑	1	0.22	721	1.04	9.59	-	N
PAPR [A]	Innovator SPX Power Buffer April	98		-	0.20	-	0.79	-	-	N
QQXT	First Trust NDX Ex-Tech Sector IdxSM	92		0	0.12	64	0.60	0.08	-	N
CCOR [A]	Cambria Cambria Core Equity	89		0	0.88	-	1.05	-	-	N
EQWL	Invesco Russell Top 200 Eq Wgt	60		0	0.26	-	0.25	0.03	-	N
SSPY	Syntax Stratified Large Cap	49		-	0.09	505	0.30	0.14	-	N
PHDG [A]	Invesco SPX Downside Hedge	40	↑	0	0.87	-	0.39	0.28	-	L
TAIL [A]	Cambria Tail Risk	38	↑	1	0.43	-	0.59	-	-	N
BAPR [A]	Innovator SPX Buffer April	30		-	0.34	-	0.79	-	-	N
WBIL [A]	WBI BullBear Quality 1000	26	↓	0	0.20	721	1.07	-	-	N
PPLC	PortfolioPlus SPX	20	↓	1	0.03	505	0.32	2.52	+1.35x	N
RNLC	Large Cap US Equity Select	19		0	0.37	393	0.60	0.04	-	N
EDOW	First Trust Dow 30 Eq Wgt	17	↑	1	0.19	30	0.50	0.33	-	N
UAPR [A]	Innovator SPX Ultra April	16		-	0.32	-	0.79	-	-	N
XDIV	US Equity EX Div Fund-Series 2027	15		0	1.68	-	0.52	3.15	-	N
DWSH [A]	AdvisorShares Dorsey Wright Short	14		1	0.50	-	0.99	-	-	N
SPDN	Direxion Daily SPX Bear 1x Shares	14		1	0.04	505	0.49	1.02	-1x	L
SLT	Salt HighTrubeta US Market	12		0	0.29	100	0.29	-	-	N
RVRS	Reverse Cap Weighted US Large Cap	9	↑	0	0.20	500	0.29	-	-	N
SPUU	Direxion Daily SPX Bull 2X Shares	8		1	0.05	505	0.64	3.03	+2x	N
SPXE	ProShares Trust SPX EX-Energy	7		0	0.40	476	0.27	0.10	-	N
LSLT	Salt Low Trubeta US Market	4		-	0.30	100	0.29	-	-	N
SPXT	ProShares SPX EX-Tech	3		0	0.25	-	0.27	0.88	-	N
PBUS	Invesco PureBeta MSCI USA	3		0	1.29	624	0.04	0.04	-	N
SPXN	ProShares SPX EX-Fin.	2	↑	0	0.28	-	0.27	0.12	-	N
SPXV	ProShares Trust-SPX EX-Health Care	2		0	0.28	-	0.27	0.11	-	N
Mid Cap										
IJH	iShares Core S&P Mid-Cap	50,601		333	0.01	400	0.07	0.03	-	L
VO	Vanguard Mid-Cap	25,859		114	0.02	359	0.04	0.04	-	L
MDY	SPDR S&P MidCap 400 Trust	20,492		460	0.01	400	0.24	0.04	-	M
IWR	iShares Russell Mid-Cap	19,228		124	0.02	782	0.20	0.09	-	L
SCHM	Schwab U.S. Mid-Cap	6,115	↑	31	0.03	498	0.04	0.02	-	L

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Broad Based									
Mid Cap (Continued)										
EZM	WisdomTree US MidCap Earnings Fund	1,165		4	0.07	581	0.38	0.04	-	N
IVOO	Vanguard S&P Mid-Cap 400	981		5	0.04	400	0.15	0.04	-	N
JKG	iShares Morningstar Mid-Cap	716		2	0.08	-	0.25	0.03	-	N
RWK	Oppenheimer S&P MidCap 400 Revenue	371		2	0.13	394	0.39	0.05	-	L
CZA	Invesco Zacks Mid-Cap	265		1	0.23	-	0.68	0.06	-	N
MVV	ProShares Ultra MidCap400	153		5	0.07	400	0.95	-	+2x	L
EWMC	Invesco S&P MidCap 400 Eq Wgt	106		0	0.35	-	0.40	0.03	-	N
MIDU	Direxion Daily Mid Cap Bull 3X Shares	55		2	0.12	400	1.06	1.70	+3x	L
EQWM	Invesco Russell MidCap Eq Wgt	25		0	1.09	-	0.25	0.06	-	N
UMDD	ProShares UltraPro MidCap400	25	↓	0	0.29	400	0.95	1.66	+3x	L
RNMC	Mid Cap US Equity Select	15	↑	0	0.31	375	0.60	0.04	-	N
MYY	ProShares Short MidCap 400	12		1	0.05	400	0.95	-	-1x	L
OSIZ	Oppenheimer R1000 Size Factor	6		0	0.71	628	0.19	0.07	-	N
MZZ	ProShares UltraShort MidCap400	3		0	0.36	400	0.95	1.88	-2x	L
MIDZ	Direxion Daily Mid Cap Bear 3x Shares	3		0	0.21	400	1.09	3.60	-3x	L
PPMC	PortfolioPlus S&P Mid Cap	3	↓	0	0.32	400	0.38	2.26	+1.35x	N
SMDD	ProShares UltraPro Short MidCap400	2	↑	0	0.22	400	0.95	3.67	-3x	L
Small Cap										
IJR	iShares Core S&P SC	44,989		368	0.01	601	0.07	0.08	-	L
IWM	iShares R2000	43,039		3,728	0.01	1,990	0.19	0.04	-	H
VB	Vanguard SC	25,456		124	0.04	1,362	0.05	0.04	-	L
SCHA	Schwab US SC	8,323		47	0.03	1,734	0.04	0.01	-	L
FNDA	Schwab Fundamental U.S. Small Company	3,317		18	0.07	933	0.25	0.03	-	L
VTWO	Vanguard R2000	1,559		16	0.03	1,990	0.15	0.05	-	L
SPMD	SPDR Portfolio Mid Cap	1,522	↑	16	0.05	1,001	0.05	0.05	-	N
SPSM	SPDR Portfolio SC	1,320	↑	21	0.05	2,128	0.05	0.19	-	L
SLY	SPDR S&P 600 SCETF	1,298	↑	8	0.06	601	0.15	0.04	-	N
VIOO	Vanguard S&P SC 600	1,111	↑	10	0.04	601	0.15	0.04	-	N
TNA	Direxion Daily SC Bull 3X Shares	803		280	0.03	1,990	1.14	2.15	+3x	M
EES	WisdomTree US SC Earnings Fund	790	↑	4	0.12	876	0.38	0.06	-	N
RWJ	Oppenheimer S&P SC 600 Revenue	454		2	0.20	593	0.39	0.07	-	L
PSC	Principal US SC Multi Factor Idx	361	↑	0	0.81	1,876	0.38	0.10	-	N
TZA	Direxion Daily SC Bear 3X Shares	316		115	0.11	1,990	1.11	4.45	-3x	L
RWM	ProShares Short Russell2000	295		30	0.03	1,990	0.95	0.92	-1x	L
JKJ	iShares Morningstar SC	237		1	0.17	-	0.25	0.04	-	N
UWM	ProShares Ultra Russell2000	212		19	0.04	1,990	0.95	0.78	+2x	L
URTY	ProShares UltraPro Russell2000	98	↓	22	0.05	1,990	0.95	2.15	+3x	L
TWM	ProShares UltraShort Russell2000	79		18	0.07	1,990	0.95	2.26	-2x	L
SRTY	ProShares UltraPro Short Russell2000	54	↑	18	0.04	1,990	0.95	4.50	-3x	L
EWSC	Invesco S&P SC 600 Eq Wgt	36		0	0.75	-	0.40	0.03	-	N
SAA	ProShares Ultra SC600	28		0	0.57	601	0.95	0.73	+2x	L
PPSC	PortfolioPlus S&P SC	7		0	0.11	601	0.35	2.69	+1.35x	N
RNSC	SC US Equity Select	5	↑	0	0.40	350	0.60	0.07	-	N
SCAP [A]	AdvisorShares Cornerstone SC	5		0	1.44	-	0.90	3.46	-	N
SBB	ProShares Short SC600	4		0	0.42	601	0.95	0.75	-1x	N
RYLD	Global X R2000 Covered Call	4		-		-	0.60	-	-	N
SMLL	Direxion Daily SC Bull 2X Shares	3		0	0.29	1,990	0.79	4.27	+2x	N
SDD	ProShares UltraShort SC600	3	↑	0	0.55	601	0.95	2.15	-2x	N
PBSM	Invesco PureBeta MSCI USA SC	3		0	1.50	1,782	0.06	0.16	-	N
Micro Cap										
IWC	iShares Micro-Cap	894		6	0.21	1,533	0.60	0.18	-	L
FDM	First Trust Dow Jones Select Microcap	151	↑	1	0.10	-	0.60	0.09	-	N
Multi Cap										
VTI	Vanguard Total Stock Market	115,193		582	0.01	3,557	0.03	0.04	-	L
ITOT	iShares Core S&P Total US Stock Market	19,976	↑	191	0.02	-	0.03	0.06	-	L
SCHB	Schwab US Broad Market	14,797		115	0.02	2,489	0.03	0.01	-	L
IWV	iShares Russell 3000	9,537		101	0.02	2,967	0.20	0.03	-	L
VXF	Vanguard Extended Market	7,066		59	0.03	-	0.07	0.13	-	L
SPTM	SPDR Portfolio Total Stock Market	3,314	↑	27	0.03	2,885	0.03	0.13	-	L
VTHR	Vanguard Russell 3000	447		2	0.05	2,967	0.15	0.03	-	N
SIZE	iShares Edge MSCI USA Size Factor	420	↑	6	0.04	623	0.15	2.13	-	L
SMMD	iShares Russell 2500	37	↑	1	0.18	2,463	0.15	0.25	-	N
BBUS	JPMorgan BetaBuilders US Equity	32		-	0.04	-	0.02	-	-	N
RWLS	Direxion Russell Large Over SC	16		-	0.12	-	0.46	-	-	N
RWSL	Direxion Russell Small Over Large Cap	15		-	0.10	-	0.47	-	-	N

	Style									
Growth (Large Cap)										
IWF	iShares R1000 Growth	44,729		360	0.01	545	0.20	0.04	-	L
VUG	Vanguard Growth	40,191		169	0.02	-	0.04	0.03	-	L
IVW	iShares SPX Growth	23,407		186	0.02	295	0.18	0.09	-	L
SCHG	Schwab U.S. Large-Cap Growth	7,706	↑	53	0.02	408	0.04	0.02	-	L
SPYG	SPDR Portfolio SPX Growth	4,934	↑	78	0.03	295	0.04	0.04	-	L
MGK	Vanguard Mega Cap Growth	4,279		24	0.03	-	0.07	0.03	-	L
VONG	Vanguard R1000 Growth	2,678	↑	19	0.03	545	0.12	0.02	-	N
VOOG	Vanguard SPX Growth	2,673		19	0.03	295	0.15	0.02	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Growth (Large Cap) (Continued)										
RPG	Invesco SPX Pure Gw th	2,646		22	0.03	104	0.35	0.03	-	L
FLGE	Credit Suisse FI Large Gw th Enhanced	2,109		2	0.37	545	0.85	-	+2x	N
FBGX	FI Enhanced Large Cap Gw th ETN	1,559		1	0.69	545	0.85	-	+2x	N
IWY	iShares Russell Top 200 Gw th	1,445	↑	9	0.03	-	0.20	0.34	-	N
JKE	iShares Morningstar Large-Cap Gw th	1,105		6	0.04	-	0.25	0.05	-	N
FTC	First Trust Large Cap Gw th AlphaDEX	989		6	0.05	-	0.61	0.16	-	L
FRLG	Large Cap Gw th Idx-Linked ETNs	822	↑	5	0.90	545	-	-	+2x	N
PWB	Invesco Dynamic Large Cap Gw th	756		4	0.05	-	0.57	0.03	-	N
PXLG	Invesco Russell Top 200 Pure Gw th	350	↑	3	0.28	-	0.39	0.01	-	N
WBIE[A]	WBI BullBear Rising Inc. 1000	51	↓	0	0.20	721	1.05	9.39	-	N
SFY	Sofi Select 500	42		-	0.28	500	0.00	-	-	N
SYG[A]	SPDR MFS Systematic Gw th Equity	38		0	0.10	545	0.61	3.44	-	N
Growth (Mid Cap)										
IWP	iShares Russell Mid-Cap Gw th	10,854		90	0.03	-	0.25	0.03	-	L
IJK	iShares S&P Mid-Cap 400 Gw th	7,703		33	0.06	243	0.25	0.05	-	L
VOT	Vanguard Mid-Cap Gw th	6,188		28	0.03	169	0.07	0.03	-	L
MDYG	SPDR S&P 400 Mid CapGw th	1,661	↑	10	0.07	243	0.15	0.04	-	N
IVOG	Vanguard S&P Mid-Cap 400 Gw th	753	↓	3	0.08	243	0.20	0.03	-	N
PXMG	Invesco Russell MidCap Pure Gw th	626	↑	7	0.07	-	0.39	0.03	-	N
RFG	Invesco S&P MidCap 400 Pure Gw th	494		2	0.08	88	0.35	0.09	-	N
JKH	iShares Morningstar Mid-Cap Gw th	476	↑	3	0.06	-	0.30	0.04	-	N
FNY	First Trust Mid Cap Gw th AlphaDEX	260	↑	2	0.35	-	0.70	0.10	-	N
JSMD	Janus Small/Mid Cap Gw th Alpha	75	↑	1	1.00	252	0.35	0.10	-	N
SFYX	Sofi Next 500	5		-	0.41	500	0.00	-	-	N
Growth (Small Cap)										
IWO	iShares R2000 Gw th	9,354		167	0.04	1,232	0.24	0.03	-	L
VBK	Vanguard SC Gw th	9,043		39	0.06	602	0.07	0.04	-	L
IJT	iShares S&P SC 600 Gw th	5,702		29	0.09	335	0.25	0.05	-	L
SLYG	SPDR S&P 600 SC Gw th	1,966		18	0.06	335	0.15	0.06	-	N
VIOG	Vanguard S&P SC 600 Gw th	436	↑	2	0.10	335	0.20	0.03	-	N
VTWG	Vanguard R2000 Gw th	305		3	0.09	1,232	0.20	0.06	-	N
FYC	First Trust SC Gw th AlphaDEX	299	↑	4	0.16	-	0.70	0.10	-	N
RZG	Invesco S&P SC 600 Pure Gw th	249		2	0.32	147	0.35	0.10	-	N
JKK	iShares Morningstar SC Gw th	215		1	0.17	-	0.30	0.03	-	N
PXSG	Invesco R2000 Pure Gw th	90	↑	1	0.30	302	0.39	0.06	-	N
MFMS[A]	MFAM SC Gw th	74		1	0.47	-	0.85	-	-	N
JSML	Janus SC Gw th Alpha	30	↑	0	1.36	202	0.35	0.18	-	N
PQSG[A]	PGIM QMA Strategic Alpha SC Gw th	10		-	0.30	-	0.29	-	-	N
Growth (Multi Cap)										
IUSG	iShares Core S&P U.S. Gw th	6,314	↑	69	0.02	-	0.04	0.06	-	L
FAD	First Trust MultiCap Gw th AlphaDEX	188	↑	1	0.26	-	0.69	0.12	-	N
CACG[A]	ClearBridge All Cap Gw th	101	↑	1	0.29	-	0.53	-	-	N
Value (Large Cap)										
VTV	Vanguard Value	48,254	↑	236	0.01	337	0.04	0.08	-	H
IWD	iShares R1000 Value	39,104		428	0.01	721	0.20	0.05	-	L
IVE	iShares SPX Value	15,679		165	0.02	383	0.18	0.03	-	L
SCHV	Schw ab U.S. Large-Cap Value	5,789	↑	50	0.02	348	0.04	0.01	-	L
SPYV	SPDR Portfolio SPX Value	2,784	↑	49	0.03	383	0.04	0.05	-	L
MGV	Vanguard Mega Cap Value	2,430		13	0.03	-	0.07	0.08	-	L
VONV	Vanguard R1000 Value	1,855	↑	13	0.03	721	0.12	0.05	-	N
FTA	First Trust Large Value AlphaDEX	1,194		6	0.04	-	0.61	0.23	-	N
PWV	Invesco Dynamic Large Cap Value	1,042	↓	6	0.04	-	0.56	0.24	-	N
VOOV	Vanguard SPX Value	992		8	0.04	383	0.15	0.02	-	N
RPV	Invesco SPX Pure Value	929		11	0.04	119	0.35	0.03	-	L
JKF	iShares Morningstar Large-Cap Value	493	↑	2	0.04	70	0.25	0.15	-	N
IWX	iShares Russell Top 200 Value	453	↑	2	0.30	-	0.20	0.06	-	N
DVP	ETF Series Solutions - Deep Value	282	↑	2	0.22	-	0.59	0.42	-	N
COWZ	Pacer US Cash Cow s 100	267	↑	2	0.07	100	0.49	0.08	-	N
PXLV	Invesco Russell Top 200 Pure Value	96		1	0.33	-	0.39	0.04	-	N
JVAL	JPMorgan US Value Factor	57	↑	0	0.18	279	0.12	0.91	-	N
QSY[A]	WisdomTree US Quality Shareholder Yield	40		0	0.18	-	0.38	-	-	N
WBIF[A]	WBI BullBear Value 1000	40	↓	0	0.21	721	1.05	9.20	-	N
SYV[A]	SPDR MFS Systematic Value Equity	34		0	0.18	721	0.60	2.68	-	N
USEQ	Invesco R1000 Enhanced Eq Wgt	30	↓	1	0.23	689	0.29	0.06	-	N
SPVU	Invesco SPX Enhanced Value	26		0	0.15	96	0.13	0.04	-	N
OVLU	Oppenheimer R1000 Value Factor	5		0	0.52	596	0.19	0.07	-	N
Value (Mid Cap)										
IWS	iShares Russell Mid-Cap Value	11,056		85	0.02	-	0.25	0.13	-	L
VOE	Vanguard Mid-Cap Value	9,274		53	0.02	202	0.07	0.06	-	L
IJJ	iShares S&P Mid-Cap 400 Value	6,646		29	0.05	294	0.25	0.02	-	L
MDYV	SPDR S&P 400 Mid Cap Value	1,504	↑	13	0.09	294	0.15	0.05	-	N
IVOV	Vanguard S&P Mid-Cap 400 Value	738		2	0.06	294	0.20	0.04	-	N
JKI	iShares Morningstar Mid-Cap Value	463		2	0.13	182	0.30	0.15	-	N
RFV	Invesco S&P MidCap 400 Pure Value	143	↑	1	0.31	94	0.35	0.05	-	N
FNK	First Trust Mid Cap Value AlphaDEX	56		0	0.43	-	0.70	0.23	-	N
PXMV	Invesco Russell MidCap Pure Value	52		0	0.50	-	0.39	0.06	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Value (Small Cap)										
VBR	Vanguard SC Value	13,623		54	0.04	-	0.07	0.04	-	L
IWN	iShares R2000 Value	9,126		146	0.02	1,358	0.24	0.04	-	L
IJS	iShares S&P SC 600 Value	6,395	↑	36	0.06	447	0.25	0.07	-	M
SLYV	SPDR S&P 600 SCValue	2,136	↑	16	0.04	447	0.15	0.08	-	N
JKL	iShares Morningstar SC Value	431		1	0.13	237	0.30	0.20	-	N
VIOV	Vanguard S&P SC 600 Value	382	↑	2	0.08	447	0.20	0.04	-	N
VTWV	Vanguard R2000 Value	254	↑	2	0.08	1,358	0.20	0.07	-	N
RZV	Invesco S&P SC 600 Pure Value	192	↑	1	0.47	166	0.35	0.10	-	N
PXSV	Invesco R2000 Pure Value	79		0	0.40	-	0.39	0.10	-	N
FYT	First Trust SC Value AlphaDEX	62		1	0.36	-	0.76	0.27	-	N
OSCV[A]	Opus SC Value Plus	47		0	0.14	-	0.79	-	-	N
PQSV[A]	PGIM QMA Strategic Alpha SC Value	10		-	0.29	-	0.29	-	-	N
Value (Multi Cap)										
IUSV	iShares Core S&P U.S. Value	5,497	↑	57	0.02	-	0.04	0.08	-	L
VLUE	iShares Edge MSCI USA Value Factor	3,295		61	0.02	147	0.15	0.04	-	L
TILT	FlexShares Morningstar US Mkt Factor Tilt	1,503		4	0.05	-	0.25	0.25	-	N
FNDB	Schw ab Fundamental U.S. Broad Mkt	285		1	0.15	1,640	0.25	0.01	-	N
FVAL	Fidelity Value Factor	132	↑	1	0.16	128	0.29	0.05	-	N
QVAL	Alpha Architect US Quantitative Value	105		0	0.12	-	0.49	0.17	-	N
FAB	First Trust Multi Cap Value AlphaDEX	90		0	0.34	-	0.71	0.21	-	N
FTVA	Aptus Fortified Value	86	↑	1	0.15	-	0.79	0.42	-	N
VFVA[A]	Vanguard U.S. Value Factor	57	↑	1	0.10	-	0.13	-	-	N
FVL	First Trust Value Line 100	41		0	0.26	-	0.70	0.21	-	N
FOVL	iShares Focused Value Factor	33		-	0.12	40	0.25	-	-	N
VLU	SPDR S&P 1500 Value Tilt	21	↑	0	0.63	-	0.13	0.07	-	N
PVAL	Principal Contrarian Value Idx	5		0	0.38	-	0.29	0.07	-	N
Dividend										
VIG	Vanguard Div Appreciation	34,290		146	0.01	183	0.08	0.04	-	L
VYM	Vanguard High Div Yield	23,887		138	0.01	-	0.06	0.05	-	L
SDY	SPDR S&P Div	18,827		94	0.02	111	0.35	0.07	-	L
DVY	iShares Select Div	17,574		105	0.02	100	0.39	0.04	-	L
SCHD	Schw ab US Div Equity	9,497		68	0.02	100	0.06	0.01	-	L
HDV	iShares Core High Div	7,174		79	0.01	-	0.08	0.04	-	L
DGRO	iShares Core Div Gw th	7,085	↑	67	0.03	-	0.08	0.09	-	L
FVD	First Trust Value Line Div	5,937	↑	33	0.03	-	0.70	0.05	-	L
NOBL	ProShares SPX Div Aristocrats	4,690	↑	53	0.02	57	0.35	0.09	-	L
DON	WisdomTree US MidCap Div Fund	3,868		16	0.04	401	0.38	0.08	-	L
DES	WisdomTree US SC Div Fund	2,170		8	0.05	750	0.38	0.13	-	L
DLN	WisdomTree US LargeCap Div Fund	2,098		9	0.03	300	0.28	0.06	-	L
SDOG	ALPS Sector Div Dogs	1,938		9	0.04	50	0.40	0.05	-	N
RDIV	Oppenheimer S&P Ultra Div Revenue	1,818	↑	15	0.06	60	0.39	0.10	-	N
FDL	First Trust Morningstar Div Leaders Idx	1,628		7	0.04	-	0.45	0.06	-	L
SPYD	SPDR Portfolio SPX High Div	1,569	↑	23	0.03	-	0.07	0.05	-	N
DHS	WisdomTree US High Div Fund	972		3	0.04	-	0.38	0.11	-	N
PEY	Invesco HY Equity Div Archievers	833		3	0.06	-	0.54	0.04	-	L
DTN	WisdomTree US Div ex-Fin. Fund	805		2	0.04	90	0.38	0.06	-	L
RDVY	First Trust Rising Div Achievers	775	↑	6	0.05	-	0.50	0.04	-	N
CDC	VictoryShares US EQ Inc. Enh Vol Wtd	724		5	0.10	100	0.35	0.05	-	N
DTD	WisdomTree US Total Div Fund	669		2	0.04	1,456	0.28	0.08	-	N
SMDV	ProShares R2000 Div Grow ers	632	↑	5	0.09	59	0.40	0.09	-	L
REGL	ProShares S&P Midcap 400 Div Aristocrats	624	↑	4	0.05	52	0.40	0.09	-	L
DIV	Global SuperDiv US	458		2	0.10	50	0.45	0.16	-	N
ONEY	SPDR R1000 Yield Focus	429		0	0.19	268	0.20	0.05	-	N
FDRR	Fidelity Div for Rising Rates	385	↑	3	0.20	132	0.29	0.09	-	N
FDVV	Fidelity High Div	330	↑	3	0.14	123	0.29	0.08	-	N
PFM	Invesco Div Achievers	299		1	0.09	261	0.55	0.03	-	L
JPSE	JPMorgan Diversified Ret US SC Equity	174	↑	2	0.13	869	0.29	0.12	-	N
WBIY	WBI Pow er Factor High Div	122	↑	1	0.14	50	0.70	0.91	-	N
EXT	WisdomTree US Total Earnings Fund	117	↑	1	0.18	1,957	0.28	0.15	-	N
SYLD	Cambria Shareholder Yield	112		0	0.21	-	0.59	0.49	-	N
DJD	Invesco Dow Jones Industrial Average Div	74	↑	3	0.15	-	0.07	0.04	-	N
DIVY[A]	Reality Shares DIVS	70		0	0.63	-	0.85	6.71	-	N
SMHB	ETRACS Mthly Pay 2xLev US SC High Div	55		-	0.61	100	0.85	-	+2x	N
SMHD	ETRACS Mthly Pay 2xLev US SC High Div	52	↑	1	0.78	100	0.85	-	+2x	N
DVYL	ETRACS Mthly Pay 2xLev DJ Select Div	43		0	0.36	100	0.35	-	+2x	N
LEAD	Reality Shares DIVCON Leaders Div	37	↓	0	0.52	-	0.43	0.06	-	N
SPDV	AAM SPX High Div Value	34	↑	0	0.22	55	0.29	0.06	-	N
KNG	Cboe Vest SPX Div Aristocrats Target Inc.	33	↑	0	0.22	-	0.75	0.14	-	N
USDY[A]	Pacific Global US Equity Inc.	32		-	0.13	721	0.29	-	-	N
JDIV	JPMorgan US Div	31		0	0.23	212	0.12	0.23	-	N
DIVO[A]	Amplify YieldShares CWP Div & Option Inc.	21	↑	0	1.10	30	0.49	3.54	-	N
SDYL	ETRACS Mthly Pay 2xLev S&P Div ETN	18		0	0.61	111	0.30	-	+2x	N
PY	Principal Shareholder Yield Idx	15		0	0.36	136	0.29	0.08	-	N
VSDA	Victoryshares Div Accelerator	15	↑	0	0.08	75	0.35	0.05	-	N
GARD	Reality Shares DIVCON Div Guard	14	↑	0	0.51	-	1.41	0.42	-	N
DURA	VanEck Morningstar Durable Div	10		0	0.08	-	0.29	-	-	N
HIPS	GraniteShares HIPS US High Inc.	9		0	0.64	293	0.70	0.12	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
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Dividend (Continued)										
DIVB	iShares US Div and Buyback	8		0	0.52	-	0.25	0.13	-	N
MLTI	Credit Suisse XLinks Multi-Asset High Inc	7		0	0.84	115	0.84	5.40	-	N
OYLD	Oppenheimer R1000 Yield Factor	7	↑	0	1.08	244	0.19	0.07	-	N
RNDV	US Equity Div Select	6	↑	0	0.55	193	0.50	0.06	-	N
DFND	Reality Shares DIVCON Div Defender	5	↓	0	0.38	-	1.38	0.13	-	N
IDIV	US Equity Cumulative Divs-Series 2027	4	↑	0	2.39	-	0.81	9.76	-	N
SDVY	First Trust SMID Cap Rising Div Archievers	4	↑	0	0.11	-	0.60	0.18	-	N
DIVA	AGFiQ Hedg Div Inc. Fund	4	↑	0	1.32	-	0.45	0.26	-	N
Low Volatility										
USMV	iShares Edge MSCI Min Vol USA	25,786	↑	268	0.02	213	0.15	0.08	-	L
SPLV	Invesco SPX Low Vol	10,480	↑	177	0.02	100	0.25	0.02	-	L
XMLV	Invesco S&P MidCap Low Vol	2,784	↑	23	0.04	80	0.25	0.03	-	L
XSLV	Invesco S&P SC Low Vol	1,951	↑	14	0.05	118	0.25	0.05	-	N
USMC	Principal US Mega-Cap Multi-Factor	1,648		0	0.20	-	0.12	0.09	-	L
CFO	VictoryShares US 500 Enhanced Vol Wtd	899		6	0.13	500	0.35	0.04	-	N
CFA	VictoryShares US 500 Vol Wtd	748	↑	5	0.13	500	0.35	0.03	-	N
QYLD	Global X Nasdaq 100 Covered Call	523	↑	4	0.10	-	0.60	1.15	-	N
ONEV	SPDR R1000 Low Vol Focus	507		0	0.13	418	0.20	0.04	-	N
DMRL	Deltashares SPX Managed Risk	426		0	1.07	-	0.35	0.32	-	N
SPHB	Invesco SPX High Beta	355	↓	8	0.04	100	0.25	0.04	-	L
LGLV	SPDR SSGA US Large Cap Low Vol	350	↑	4	0.05	-	0.12	0.05	-	N
PBP	Invesco SPX BuyWrite	321		3	0.25	-	0.49	1.01	-	N
PUTW	WisdomTree Cboe SPX Putwrite Strategy	241	↑	2	0.29	-	0.38	2.14	-	N
SMLV	SPDR SSGA US SC Low Vol Idx	231		1	0.25	-	0.12	0.16	-	N
DEF	Invesco Defensive Equity	222		1	0.35	100	0.59	0.04	-	N
HUSV [A]	First Trust Horizon Managed Vol Domestic	194	↑	1	0.14	505	0.70	6.51	-	N
FDLO	Fidelity Low Vol Factor	173	↑	2	0.12	127	0.29	0.27	-	N
USLB	Invesco R1000 Low Beta Eq Wgt	140		1	0.29	977	0.35	0.06	-	N
XRLV	Invesco SPX ex-Rate Sensitive Low Vol	128	↓	1	0.14	-	0.25	0.02	-	N
SMMV	iShares Edge MSCI Min Vol USA SC	126	↑	1	0.40	424	0.20	0.10	-	N
RBUS	Nationwide Risk-Based US Equity	111		0	0.46	250	0.30	0.05	-	N
CSF	VictoryShares US Discovery Enhanced Vol	107		1	0.10	464	0.35	0.11	-	N
MXDU	Nationwide Max Diversification US Core	103		0	0.28	493	0.34	0.05	-	N
HSPX	Global X SPX Covered Call	100	↑	1	0.41	-	0.65	0.70	-	N
POCT [A]	Innovator SPX Power Buffer - October	99		1	0.26	-	0.79	-	-	N
DMRM	Deltashares S&P 400 Managed Risk	98		0	1.09	-	0.45	0.34	-	N
UOCT [A]	Innovator SPX Ultra Buffer October	91		1	0.30	-	0.79	-	-	N
PJAN [A]	Innovator SPX Power Buffer - January	77		-	0.31	-	0.79	-	-	N
SWAN	Amplify Blackswan Growth & Treasury Core	75		-	0.38	-	0.49	-	-	N
FTHI [A]	FTHI/First Trust VI FirstTrust BuyWrite Inc.	66		0	0.26	-	0.85	-	-	N
UJUL [A]	Innovator SPX Ultra Buffer - July	58		1	0.24	-	0.79	-	-	N
BTAL	AGFiQ US Market Neutral Anti-Beta Fund	47	↑	1	0.38	-	0.45	0.48	-	N
JMIN	JPMorgan US Minimum Vol	41	↑	0	0.16	218	0.12	0.13	-	N
DMRS	Deltashares S&P 600 Managed Risk	40	↓	0	1.70	-	0.45	0.37	-	N
UJAN [A]	Innovator SPX Ultra Buffer - January	37		-	0.34	-	0.79	-	-	N
BOCT [A]	Innovator SPX Buffer - October	37		1	0.34	-	0.79	-	-	N
VFMV [A]	Vanguard U.S. Minimum Vol	36	↑	0	0.08	-	0.13	-	-	N
PJUL [A]	Innovator SPX Power Buffer	32		0	0.26	-	0.79	-	-	N
BJAN [A]	Innovator SPX Buffer - January	24		-	0.33	-	0.79	-	-	N
BJUL [A]	Innovator SPX Power Buffer - July	18		0	0.24	-	0.79	-	-	N
FLLV [A]	Franklin Liberty US Low Vol	14	↑	0	0.47	977	0.50	3.28	-	N
OVOL	Oppenheimer R1000 Low Vol Factor	6		0	0.28	294	0.19	0.05	-	N
SPMV	Invesco SPX Minimum Variance	1		0	0.17	112	0.10	0.07	-	N
RPUT	WisdomTree CBOE R2000 PutWrite	1	↓	0	0.48	-	0.43	2.16	-	N
Volatility										
TVIX	VelocityShares Daily 2x VIX ST ETN	897	↑	314	0.05	-	1.65	5.34	+2x	N
VXX	iPath Series B SPX VIX ST Futures ETN	848	↑	343	0.04	-	0.89	4.14	-	M
UVXY	ProShares Ultra VIX ST Futures	648	↑	259	0.04	-	0.95	2.00	+1.5x	M
SVXY	ProShares Short VIX ST Futures	444	↓	156	0.02	-	0.95	2.04	-0.5x	M
VIXY	ProShares VIX ST Futures	240	↑	37	0.04	-	0.85	0.12	-	L
ZIV	VelocityShares Daily Inv VIX Medium	110		5	0.17	-	1.35	1.16	-1x	N
VIIX	VelocityShares VIX ST ETN	44	↑	1	0.10	-	0.70	0.04	-	L
VIXM	ProShares VIX Mid-Term Futures	34	↑	1	0.28	-	0.85	0.08	-	L
VXZ	iPath Series B SPX VIX Mid-Term Futures	19	↑	0	0.20	-	0.89	2.04	-	L
EXIV	VelocityShares 1x Daily Inv VSTOXX Fut	15	↓	0	1.67	-	1.35	-	-1x	N
IVOL [A]	Quadratic Int Rate Vol Infl Hedge	5		-	-	-	0.99	-	-	N
XVZ	iPath SPX Dynamic VIX ETN	5	↓	0	1.19	-	0.95	0.01	-	N
EVIX	VelocityShares 1x Long VSTOXX Futures	2		0	1.97	-	1.35	0.23	+1x	L
Momentum										
MTUM	iShares Edge MSCI USA Mom Factor	8,666		164	0.01	125	0.15	0.26	-	L
FV	First Trust Dorsey Wright Focus 5	2,512		11	0.08	-	0.89	0.24	-	L
PTLC	Pacer Trendpilot US Large Cap	2,161	↑	18	0.04	-	0.60	0.07	-	L
PDP	Invesco DWA Mom	1,540		10	0.07	-	0.63	0.10	-	L
PTMC	Pacer Trendpilot US Mid Cap	752	↑	5	0.06	-	0.60	0.23	-	N
FVC	FirstTrust Dorsey Wright Dynamic Focus 5	538		3	0.21	-	0.89	0.22	-	N
PTNQ	Pacer NASDAQ-100 Trendpilot	502	↑	4	0.06	-	0.65	0.18	-	N
ONEO	SPDR R1000 Mom Focus	441	↓	0	0.12	894	0.20	0.07	-	N

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Momentum (Continued)										
DWAS	Invesco DWA SC Mom	247		2	0.17	-	0.60	0.09	-	L
WTMF [A]	WisdomTree Managed Futures Strategy	237	↑	3	0.13	-	0.65	0.08	-	N
FDMO	Fidelity Mom Factor	110	↑	1	0.16	126	0.29	0.05	-	N
QMOM	Alpha Architect US Quantitative Mom	76		0	0.10	-	0.49	0.19	-	N
DWTR	Invesco DWA Tactical Sector Rotation	65		0	0.60	-	0.75	1.05	-	N
SPMO	Invesco SPX Mom	56	↑	1	0.16	100	0.13	0.03	-	N
JPMF [A]	JPMorgan Managed Futures	52		0	0.45	-	0.59	-	-	N
RYZZ [A]	RYZZ Managed Futures Strategy Plus	47		-		-	0.99	-	-	N
DWAQ	Invesco DWA NASDAQ Mom	45		-	0.53	-	0.60	0.04	-	N
MMTM	SPDR S&P 1500 Mom Tilt	45	↑	1	0.49	1,504	0.12	0.09	-	N
JMOM	JPMorgan US Mom Factor	40	↑	0	0.13	276	0.12	0.06	-	N
VFMO [A]	Vanguard US Mom Factor	36	↑	0	0.08	-	0.13	-	-	N
UTRN	Vesper US Large ST Reversal Strategy	18		0	0.22	-	0.75	-	-	N
FMF [A]	First Trust Morningstar Managed Futures	11		0	1.15	-	0.95	0.77	-	N
BOUT	Innovator IBD Breakout Opportunities	11		0	0.72	81	0.80	-	-	N
OMOM	Oppenheimer R1000 Mom Factor	6		0	0.24	590	0.19	0.06	-	N
PMOM	Principal Sustainable Mom Idx	6		0	0.46	-	0.29	0.10	-	N
MOM	AGFiQ US Market Neutral Mom Fund	5	↓	0	2.39	400	0.75	0.39	-	N
FUT [A]	ProShares Managed Futures Strategy	4	↑	0	0.27	-	0.75	0.51	-	N
SCTO	Global X JPMorgan US Sector Rotator Idx	4		0	0.55	-	0.83	-	-	N
EEH	ELEMENTS SPECTRUM ETN	1		0		-	0.75	-	-	N
Quality										
QUAL	iShares Edge MSCI USA Quality Factor	11,310	↑	131	0.01	125	0.15	0.05	-	L
SPHQ	Invesco SPX Quality	1,468		13	0.03	100	0.15	0.02	-	L
FQAL	Fidelity Quality Factor	154	↑	1	0.11	126	0.29	0.04	-	N
QLC	FlexShares US Quality Large Cap	82	↑	0	0.13	-	0.32	0.20	-	N
JQUA	JPMorgan US Quality Factor	52	↑	0	0.12	228	0.12	0.15	-	N
VFQY [A]	Vanguard U.S. Quality Factor	25	↑	0	0.08	-	0.13	-	-	N
OQAL	Oppenheimer R1000 Quality Factor	6		0	0.23	418	0.19	0.06	-	N
XSHQ	Invesco S&P SC Quality	6	↑	0	1.36	-	0.29	0.04	-	N
IUS	Invesco Strategic US	3		0	0.11	539	0.19	-	-	N
IUSS	Invesco Strategic US Small Company	2		-	0.40	1,154	0.23	-	-	N
Multi-factor										
PRF	Invesco FTSE RAFI US 1000	5,586		25	0.03	1,007	0.39	0.03	-	L
FNDX	Schwab Fundamental US Large Company	5,006		22	0.04	707	0.25	0.01	-	L
GSLC	Goldman Sachs ActiveBeta US Large Cap	4,822	↑	25	0.03	-	0.09	0.05	-	L
SPHD	Invesco SPX High Div Low Vol	3,241		32	0.02	50	0.30	0.04	-	L
DGRW	WisdomTree U.S. Quality Div Growth Fund	2,786	↑	17	0.03	300	0.28	0.10	-	L
PRFZ	Invesco FTSE RAFI US 1500 Small-Mid	2,093		14	0.04	1,487	0.39	0.04	-	L
QDF	FlexShares Quality Div	1,792		6	0.05	-	0.37	0.60	-	N
FEX	First Trust Large Cap Core AlphaDEX	1,433		8	0.04	-	0.61	0.07	-	L
FLQL	Franklin LibertyQ US Equity	1,172	↑	7	0.09	977	0.25	0.04	-	N
LRGF	iShares Edge MSCI Multifactor USA	1,102		12	0.04	152	0.20	0.09	-	L
JHMM	John Hancock Multi-Factor Mid Cap	1,031	↑	6	0.10	700	0.45	0.12	-	N
OMFL	Oppenheimer R1000 Dynamic Multifactor	957	↑	2	0.10	225	0.29	0.09	-	N
FNX	First Trust Mid Cap Core AlphaDEX	926		4	0.10	-	0.62	0.05	-	N
JHML	John Hancock Multi-Factor Large Cap	921	↑	3	0.10	774	0.35	0.07	-	N
LVHD	Legg Mason Low Vol High Div	754		3	0.16	77	0.27	0.05	-	N
JPUS	JPMorgan Diversified Ret US Equity	684	↑	4	0.06	447	0.19	0.10	-	L
FYX	First Trust SC Core AlphaDEX	618		4	0.10	-	0.66	0.07	-	N
OUSA	O'Shares FTSE US Quality Div	473		6	0.14	137	0.48	0.07	-	H
JHSC	John Hancock Multifactor SC	439	↑	1	0.24	450	0.50	0.03	-	N
ULVM	USAA MSCI USA Value Mom Blend Idx	437	↑	1	0.10	196	0.20	0.03	-	N
QDEF	FlexShares Quality Div Defensive	381		1	0.08	-	0.37	0.65	-	N
CSML	IQ Chaikin US SC	348	↓	2	0.21	214	0.35	0.16	-	N
CDL	VictoryShares US Large Cap Hig	322	↑	2	0.14	100	0.35	0.04	-	N
CLRG	IQ Chaikin US Large Cap	278		6	0.14	67	0.25	0.09	-	N
QUS	SPDR MSCI USA StrategicFactors	277	↑	3	0.07	621	0.15	0.06	-	N
ROUS	Hartford Multifactor US Equity	261	↑	2	0.25	336	0.19	0.04	-	N
SMLF	iShares Edge MSCI Multifactor USA SC	237	↑	3	0.29	-	0.30	0.14	-	N
DEUS	Xtrackers R1000 Comprehensive Factor	219	↑	2	0.13	828	0.17	0.06	-	N
JPME	JPMorgan Diversified Ret US Mid Cap	167	↑	1	0.11	453	0.24	0.27	-	N
PWC	Invesco Dynamic Market	158		0	0.34	-	0.60	0.05	-	N
AUSF	Global X Adaptive US Factor	147		1	0.24	184	0.27	-	-	N
DIVC	C-Tracks ETN Miller/Howard Strategic Div	143		0	2.20	-	0.70	-	-	N
RFFC [A]	RiverFront Dynamic US Flex-Cap	143	↑	1	0.11	-	0.52	-	-	N
RFDA [A]	RiverFront Dynamic US Div Advantage	142		1	0.29	-	0.52	3.09	-	N
QARP	DBX Trust - Xtrackers R1000 US QARP	139	↑	1	0.20	-	0.19	0.03	-	N
DGRS	WisdomTree U.S. SC Quality Div Growth	122		1	0.24	267	0.38	0.07	-	N
USMF	WisdomTree US Multifactor	117	↑	2	0.25	198	0.28	0.06	-	N
SCIU	Global X Scientific Beta US	100	↓	1	0.16	-	0.19	0.09	-	N
USVM	USAA MSCI USA SC Value Mom Blend	99	↑	0	0.10	495	0.25	0.08	-	N
MFUS	PIMCO RAFI Dynamic Multi-Factor U.S.	99	↑	0	0.19	868	0.29	0.18	-	N
OUSM	O'Shares FTSE Russell SC Quality Div	98	↓	1	0.18	217	0.48	0.24	-	N
GSSC	Goldman Sachs ActiveBeta US SC Equity	93	↑	1	0.22	1,421	0.20	0.26	-	N
VFMF [A]	Vanguard US Multifactor	87	↑	1	0.08	-	0.18	-	-	N
CSB	VictoryShares US SC High Div Vol Wtd	68	↑	1	0.23	100	0.35	0.10	-	N

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Multi-factor (Continued)										
LSAF	LeaderShares AlphaFactor US Core Equity	63		0	0.32	-	0.75	-	-	N
QDYN	FlexShares Quality Div Dynamic	52		0	0.07	-	0.37	0.37	-	N
VSMV	VictoryShares US Multi-Factor Minimum Vol	41	↑	1	0.18	68	0.35	0.04	-	N
FCTR	First Trust Lunt US Factor Rotation	40		0	0.25	-	0.65	-	-	N
CSA	VictoryShares US SC Vol Wtd	35		0	0.22	463	0.35	0.07	-	N
DSTL	Distillate US Fundamental Stability & Value	35		0	0.14	100	0.39	-	-	N
RWGV	Direxion R1000 Gw th Over Value	31		-	0.08	-	0.46	-	-	N
DDIV	First Trust Dorsey Wright Mom & Div	31		0	0.15	-	0.60	-	-	N
DVOL	First Trust Dorsey Wright Mom & Low Vol	28		0	0.20	-	0.60	-	-	N
RWVG	Direxion R1000 Value Over Gw th	27		-	0.07	-	0.46	-	-	N
FMK	First Trust Mega Cap AlphaDEX	25	↑	0	0.33	-	0.70	0.04	-	N
XSHD	Invesco S&P SC High Div Low Vol	23	↑	0	1.07	-	0.30	0.09	-	N
DYNF[A]	Blackrock US Equity Factor Rotation	21		-	0.11	-	0.30	-	-	N
FLQS	Franklin LibertyQ US SC Equity	20	↑	0	0.21	1,992	0.35	0.07	-	N
VAMO[A]	Cambria Value and Mom	20	↓	0	0.80	-	0.59	-	-	N
HDLV	ETRACS 2x US High Div Low Vol ETN	19		0	0.79	40	0.85	-	+2x	N
DVLU	First Trust Dorsey Wright Mom & Value	19		0	0.27	-	0.60	-	-	N
QGRO	American Century STOXX US Quality Gw th	18		0	0.24	209	0.29	-	-	N
TUSA	First Trust Total US Market AlphaDEX	17		0	0.41	-	0.70	0.15	-	N
XUSA	QuantX Dynamic Beta US Equity	16	↓	0	0.96	-	0.59	0.25	-	N
VALQ	American Century STOXX US Quality Value	15	↑	0	0.16	247	0.29	0.13	-	N
OMFS	Oppenheimer R2000 Dynamic Multifactor	12		0	0.09	571	0.39	0.16	-	N
FLQM	Franklin LibertyQ US Mid Cap Equity	11	↑	0	0.19	2,969	0.30	0.04	-	N
DESC	Xtrackers R2000 Comprehensive	10		0	0.72	1,520	0.30	0.08	-	N
SQLV	Legg Mason SC Quality Value	8	↑	-	0.12	231	0.60	0.23	-	N
FSMD	Fidelity Small-Mid Factor	8		-	0.22	590	0.29	-	-	N
LVUS	Hartford Multifactor Low Vol US Equity	7	↑	0	0.27	256	0.21	0.06	-	N
QDIV	Global X SPX Quality Div	6		0	0.27	-	0.35	-	-	N
LVIN	Hartford Multifactor Low Vol Intl Equity	5		0	1.42	295	0.29	0.25	-	N
QVM	Arrow QVM Equity Factor	4		0	0.67	-	0.65	0.22	-	N
DQML	Reality Shares Fundstrat DQM Long	3		-	0.41	-	0.69	-	-	N
SIZ	AGFiQ US Market Neutral Size Fund	2		0	1.65	-	0.75	0.35	-	N
Socially Responsible										
DSI	iShares MSCI KLD 400 Social	1,416	↑	10	0.03	403	0.25	0.06	-	N
SUSA	iShares MSCI USA ESG Select	1,003	↑	6	0.03	131	0.25	0.05	-	N
USSG	Xtrackers MSCI USA ESG Leaders Equity	905		-	0.17	-	0.10	-	-	N
ESGD	iShares Trust iShares ESG MSCI EAFE	762	↑	6	0.11	475	0.20	0.11	-	N
ESGE	iShares Inc iShares ESG MSCI EM	581	↑	4	0.20	307	0.25	0.51	-	N
CRBN	iShares MSCI ACWI Low Carbon Target	453		3	0.14	1,851	0.20	0.21	-	N
ESGV	Vanguard ESG US Stock	411		4	0.07	1,562	0.12	-	-	N
SPYX	SPDR SPX Fossil Fuel Reserves Free	351		1	0.24	467	0.20	1.10	-	N
TAN	Invesco Solar	309	↓	3	0.11	22	0.70	2.60	-	L
SHE	SPDR SSGA Gender Diversity Idx	275		1	0.04	166	0.20	0.46	-	N
CATH	Global X SPX Catholic Values	258	↑	1	0.13	459	0.29	0.11	-	N
VSGX	Vanguard ESG Intl Stock	252		3	0.28	4,449	0.15	-	-	N
ICLN	iShares Global Clean Energy	224	↑	1	0.17	30	0.47	0.45	-	N
ESGU	iShares Trust iShares ESG MSCI USA	214	↑	2	0.06	326	0.15	0.07	-	N
PZD	Invesco Cleantech	181		0	0.42	51	0.68	0.56	-	N
BLES	Inspire Global Hope	148	↑	1	1.08	-	0.61	1.21	-	N
PBW	Invesco WilderHill Clean Energy	145		1	0.24	38	0.70	0.13	-	L
LRGE[A]	ClearBridge Large Cap Gw th ESG	134	↑	1	0.28	-	0.59	3.37	-	N
JUST	Goldman Sachs JUST US Large Cap Equity	122		1	0.14	435	0.20	-	-	L
NUSC	Nuveen ESG SC	118	↑	1	0.21	616	0.40	0.06	-	N
QCLN	First Trust NDX Clean Edge Green Energy	103		0	0.51	41	0.60	0.07	-	N
GEX	VanEck Global Alternative Energry	95		0	0.55	30	0.62	0.91	-	L
ISMD	Inspire Small/Mid Cap Impact	87	↑	1	0.74	-	0.61	0.65	-	N
ESGG	FlexShares STOXX Global ESG Impact	74		0	0.31	-	0.42	0.31	-	N
FAN	First Trust Global Wind Energy	74		0	0.16	-	0.60	2.08	-	N
LOWC	SPDR MSCI ACWI Low Carbon Target	74	↓	1	0.27	1,851	0.20	0.13	-	N
EFAX	SPDR MSCI EAFE Fossil Fuel Reserves	72		0	0.35	-	0.20	0.11	-	N
KRMA	Global X Conscious Companies	65		0	0.35	-	0.43	0.17	-	N
HECO[A]	Strategy Shares EcoLogical Strategy	64	↑	0	0.19	-	0.95	-	-	L
NULG	Nuveen ESG Large-Cap Gw th	61	↑	0	0.08	127	0.35	0.03	-	N
NULV	Nuveen ESG Large-Cap Value	60	↑	1	0.07	139	0.35	0.09	-	N
ACES	ALPS Clean Energy	58		0	0.39	32	0.65	-	-	N
BIBL	Inspire 100	57	↑	0	0.36	-	0.35	0.78	-	N
NUMV	Nuveen ESG Mid-Cap Value	57	↑	0	0.14	82	0.40	0.05	-	N
EEMX	SPDR MSCI EM Fossil Fuel Reserves	54	↑	0	0.36	-	0.30	0.68	-	N
ETHO	Etho Climate Leadership US	52	↑	0	0.51	267	0.45	0.12	-	N
NUMG	Nuveen ESG Mid-Cap Gw th	52		0	0.14	80	0.40	0.03	-	N
SDG	iShares MSCI Global Impact	51	↑	0	0.30	102	0.49	0.14	-	N
PBD	Invesco Global Clean Energy	50		0	0.46	-	0.75	1.81	-	N
ESG	FlexShares STOXX US ESG Impact	46	↑	0	0.05	-	0.32	0.61	-	N
WIL	Barclays Women in Leadership ETN	40		0	0.41	-	0.45	0.01	-	N
EVX	VanEck Environmental Services	35	↑	0	0.57	-	0.55	0.26	-	N
ESML	iShares ESG MSCI USA SC	34	↑	0	0.16	-	0.17	0.14	-	N
ESGL	Oppenheimer ESG Revenue	29		0	0.12	237	0.40	0.07	-	N

Ticker	ETF Name	Total Assets ($M)	Style	Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Socially Responsible (Continued)										
ESGF	Oppenheimer Global ESG Revenue	24		0	0.38	1,268	0.45	0.12	-	N
ESGW	Columbia Sustainable Global Equity Inc.	17	↑	0	0.48	200	0.40	0.20	-	N
EQLT	Alps Workplace Portfolio Fund	17		-	0.41	272	0.75	0.92	-	N
EMSG	Xtrackers MSCI EM ESG Leaders Equity	8		-	0.38	408	0.20	-	-	N
ACSG	Xtrackers MSCI ACWI ex US ESG Leaders	8		-	0.33	-	0.16	-	-	N
EASG	Xtrackers MSCI EAFE ESG Leaders Equity	8		-	0.31	453	0.14	-	-	N
ESGN	Columbia Sustainable Intl Equity Inc.	7	↓	0	1.35	100	0.45	0.21	-	N
CHGX	Change Finance US LC Fossil Fuel Free	6	↑	0	0.55	100	0.49	0.05	-	N
YLDE[A]	ClearBridge Div Strategy ESG	5		0	0.21	-	0.60	3.97	-	N
TBLU	Tortoise Global Water ESG Fund	4		0	1.04	-	0.40	1.54	-	N
XKCP	SPDR Kensho Clean Pow er	4		0	0.21	43	0.45	-	-	N
ESGS	Columbia Sustainable US Equity Inc.	4		0	0.52	100	0.35	0.17	-	N
WOMN	Impact Shares Women's Empow erment	4		0	0.26	-	0.76	-	-	N
VETS	Pacer Military Times Best Employers	3		-	0.07	-	0.60	0.31	-	N
PRID	Insightshares LGBT Employment Equality	3	↓	0	0.11	269	0.65	0.10	-	N
NACP	Impact Shares Minority Empow erment	2		0	0.53	-	0.76	-	-	N
SDGA	Impact Shares Sustainable Dev. Goals	1		0	0.47	208	0.76	-	-	N
Theme										
FDN	First Trust Dow Jones Internet	9,263		108	0.03	41	0.53	0.08	-	L
FTCS	First Trust Capital Strength	2,238	↑	20	0.03	-	0.61	0.06	-	N
ARKK[A]	ARK Innovation	1,674	↑	17	0.07	505	0.75	-	-	L
ROBO	ROBO Global Robotics and Automation	1,506	↓	11	0.07	89	0.95	0.16	-	L
PKW	Invesco BuyBack Achievers	1,205		18	0.04	173	0.63	0.04	-	L
FPX	First Trust US Equity Opportunities	1,150		8	0.04	-	0.59	0.04	-	N
BIZD	VanEck BDC Inc.	207		2	0.23	25	9.41	0.14	-	N
BDCL	ETRACS 2xLev Long Wells Fargo BDC	202		2	0.21	43	0.85	-	+2x	N
VRAI	Virtus Real Asset Inc.	201		-	0.73	88	0.55	-	-	N
KNOW	Direxion All Cap Insider Sentiment Shares	155	↓	1	0.16	-	0.59	0.13	-	N
AIEQ[A]	AI Pow ered Equity	147		1	0.22	505	0.77	5.71	-	N
CSD	Invesco S&P Spin-Off	147	↓	1	0.41	47	0.65	0.03	-	L
PAVE	Global X US Infra Development	133	↑	1	0.24	-	0.47	0.19	-	N
TTAC[A]	TrimTabs All Cap US Free-Cash-Flow	125	↑	1	0.20	2,967	0.59	4.99	-	N
GVIP	Goldman Sachs Hedge Industry VIP	84		1	0.29	-	0.45	0.36	-	L
BDCS	ETRACS Wells Fargo BDC Idx ETN	80		0	0.64	43	0.85	0.45	-	N
FIVG	Defiance 5G Next Gen Connectivity	80		-	0.11	-	0.30	-	-	N
ENTR	ERShares Entrepreneur 30	80		0	0.30	-	0.49	1.44	-	N
NFO	Invesco Insider Sentiment	71		0	0.26	100	0.60	0.05	-	N
PEJ	Invesco Dynamic Leisure and Entertain.	67	↓	1	0.19	-	0.63	0.15	-	N
ACSI	American Customer Satisfaction	59		0	0.14	-	0.66	0.08	-	N
CPI	IQ Real Ret	57	↑	0	0.22	13	0.44	0.03	-	N
CALF	Pacer US SC Cash Cow s 100	51	↑	1	0.11	-	0.59	0.34	-	N
GNAF	MicroSectors FANG Idx Inv ETN	47		0	0.08	10	0.95	-	-1x	N
FNGO	MicroSectors FANG Idx 2X Lev ETN	46		0	0.15	10	0.95	-	+2x	N
MILN	Global X Millennials Thematic	45	↑	0	0.30	80	0.50	0.14	-	N
FNGZ	MicroSectors FANG Idx 2X Inv Lev ETN	41		0	0.13	10	0.95	-	-2x	N
IPO	Renaissance IPO	41	↑	1	0.34	-	0.60	0.44	-	N
GRID	First Trust NSX Clean Edge Smart Grid	28		0	0.20	55	0.70	1.10	-	N
SPYB	SPDR SPX Buyback	24	↑	0	0.19	100	0.35	0.05	-	N
PLCY[A]	EventShares US Policy Alpha ET	18	↑	0	0.27	-	0.85	-	-	N
MAGA	Point Bridge Gop Stock Tracker	17	↓	0	0.33	-	0.72	0.06	-	L
CWS[A]	AdvisorShares Focused Equity	17		0	0.84	505	0.68	6.00	-	N
RWCD	Direxion Msci Cyclicals Over Defensives	17		-	0.44	-	0.45	-	-	N
VFLQ[A]	Vanguard US Liquidity Factor	17	↑	0	0.08	-	0.13	-	-	N
PSET	Principal Price Setters Idx	15	↓	0	0.31	149	0.29	0.06	-	N
XKFS	SPDR Kensho Future Security	15	↑	0	0.28	63	0.46	0.49	-	N
RWDC	Direxion Msci Defensives Over Cyclicals	14		-	0.44	-	0.45	-	-	N
ACT[A]	AdvisorShares Vice	13		0	0.29	505	0.75	-	-	N
BVAL	ETF Series Solutions-Brand Value	12	↑	0	0.20	-	0.65	3.16	-	N
AMCA	iShares R1000 Pure US Revenue	11		0	0.11	403	0.15	0.20	-	N
ORG	The Organics	11		0	1.28	25	0.35	0.13	-	N
FLAG	FLAG-Forensic Accounting Long-Short	10	↓	0	1.18	-	1.15	0.13	-	N
XKII	SPDR Kensho Intelligent Structures	9	↑	0	0.87	44	0.46	0.05	-	N
BDCZ	ETRACS Wells Fargo BDC ETN Series B	8		0	1.09	43	0.85	0.45	-	N
KOMP	SPDR Kensho New Economies Composite	7		0	0.18	368	0.20	-	-	N
XKST	SPDR Kensho Smart Mobility	7	↑	0	0.39	56	0.46	0.08	-	N
LBDC	ETRACS 2xMthly Lev Wells Fargo BDC	6		0	1.16	43	0.85	-	+2x	N
IFRA	iShares US Infra	5	↑	0	0.21	150	0.40	0.74	-	N
BATT[A]	Amplify Adv Battery Metals & Materials	5		0	0.38	42	0.72	-	-	N
EQRR	ProShares Equities For Rising Rates	5	↓	0	0.23	50	0.35	0.09	-	N
HOMZ	Hoya Capital Housing	5		-	0.24	99	0.45	-	-	N
BOSS	Global X Founder - Run Cos	4		0	0.48	-	0.65	0.19	-	N
XKFF	SPDR Kensho Final Frontiers	3		0	0.22	31	0.45	-	-	N
BKCH[A]	AdvisorShares Sabretooth	3		-	0.85	505	0.85	-	-	N
BUY	USCF SummerHaven SHPEI	2		0	1.68	-	0.95	0.22	-	N
PEXL	Pacer US Export Leaders	1		0	0.22	-	0.60	-	-	N
HONR	Insightshares Patriotic Employers	1	↓	0	0.13	91	0.65	0.07	-	N
BUYN	USCF SummerHaven SHPEN	1	↓	0	1.49	-	0.95	0.36	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Alpha										
MOAT	VanEck Morningstar Wide Moat	2,283	↑	21	0.03	46	0.49	0.04	-	L
QAI	IQ Hedge Multi-Strategy Tracker	993		10	0.04	98	0.79	0.11	-	N
MNA	IQ Merger Arbitrage	985	↑	8	0.07	35	0.78	0.20	-	N
CSM	ProShares Large Cap Core Plus	824		3	0.08	459	0.45	0.43	-	N
VUSE	Vident Core US Equity	516		1	0.25	227	0.50	0.07	-	N
FFTY	Innovator IBD 50	479	↑	9	0.05	50	0.80	0.20	-	L
SECT[A]	Main Sector Rotation	461	↑	2	0.13	505	0.78	3.86	-	N
HUSE[A]	Strategy Shares US Market Rotation	194	↑	1	0.24	1,506	0.95	7.24	-	L
FTLS[A]	First Trust Ill-First Trust Long/Short	191	↑	1	0.17	505	0.95	7.46	-	N
TMFC	Motley Fool 100 Idx	185	↑	1	0.23	100	0.50	0.14	-	N
JPHF[A]	JPMorgan Diversified Alternatives	173		1	0.47	-	0.85	4.44	-	N
RYJ	Invesco Raymond James SB-1 Equity	173		0	0.24	-	0.81	0.06	-	N
BFOR	Barron's 400	165		0	0.19	-	0.65	0.05	-	L
CAPE	Barclays ETN+ Shiller CAPE ETN	155	↑	1	0.18	-	0.45	0.45	-	N
WBII[A]	WBI BullBear Global Inc.	150		1	0.15	-	1.28	3.57	-	N
HDGE[A]	AdvisorShares Ranger Equity Bear	120		2	0.22	-	2.72	-	-1x	L
RLY[A]	SPDR SSgA Multi-Asset Real Ret	120		1	0.35	18	0.50	-	-	N
LVHB	Innovator Lunt Low Vol/High Beta Tactical	118	↓	1	0.30	-	0.49	0.09	-	N
DYLS	WisdomTree Dynamic Long/Short U.S.	94		2	0.21	100	0.48	0.66	-	N
WBIH[A]	WBI BullBear Global High Inc.	71	↓	2	0.17	-	1.23	-	-	N
WBIC[A]	WBI BullBear Yield 2000	68	↑	1	0.32	-	1.06	-	-	N
DBLV[A]	AdvisorShares DoubleLine Value Equity	63	↓	0	0.95	721	0.90	3.70	-	N
GURU	Global X Guru Idx	59		0	0.21	-	0.75	0.21	-	L
HTUS[A]	Hull Tactical US	54	↓	0	0.45	505	0.91	7.92	-	N
SYE[A]	SPDR MFS Systematic Core Equity	41	↑	0	0.09	505	0.60	2.61	-	N
WBIB[A]	WBI BullBear Value 2000	35	↓	0	0.28	-	1.06	-	-	N
HDG	ProShares Hedge Replication	35		0	0.46	-	0.95	1.03	-	N
JPED[A]	JPMorgan Event Driven	28		0	0.26	-	0.85	-	-	N
VALX	Validea Market Legends	25		0	1.69	-	0.79	0.55	-	N
SMCP[A]	Alphamark Actively Managed SC	24		0	1.00	1,232	1.22	6.73	-	N
JPLS[A]	JPMorgan Long/Short	24		0	0.39	-	0.69	-	-	N
ALFA	AlphaClone Alternative Alpha	21	↓	0	0.51	39	0.69	0.09	-	L
QMN	IQ Hedge Market Neutral Tracker	16		0	2.11	58	1.01	0.05	-	N
SZNE	Pacer CFRA-Stovall Eq Wgt	13		0	0.15	-	0.60	-	-	N
PQLC[A]	PGIM QMA Strategic Alpha Large Core	11		0	0.10	505	0.17	-	-	N
DYB	WisdomTree Dynamic Bearish U.S.	10	↑	0	0.21	-	0.48	0.80	-	N
FTLB[A]	First Trust Hedg BuyWrite Inc.	10		0	0.32	-	0.85	-	-	N
RALS	ProShares RAFI Long/Short	9		0	0.75	-	0.95	0.12	-	N
BERN	Bernstein US Research Fund	7	↑	0	0.56	55	0.50	0.12	-	N
ALTS	ProShares Morningstar Alternatives Sol	7		0	0.68	-	0.95	0.36	-	N
QLS	IQ Hedge Long/Short Tracker	6	↓	0	1.17	46	1.04	0.04	-	N
MSUS[A]	LHA Market State US Tactical	6		0	0.35	-	1.25	-	-	N
MRGR	ProShares Merger	6		0	0.51	-	0.75	0.93	-	N
MCRO	IQ Hedge Macro Tracker	5		0	0.11	61	0.99	0.03	-	N
QED	IQ Hedge Event-Driven Tracker	4	↑	0	1.61	17	1.11	0.04	-	N
XLSR[A]	SPDR SSGA US Sector Rotation	3		-	0.13	-	0.70	-	-	N
CHEP	AGFiQ US Market Neutral Value Fund	1		0		400	0.75	0.48	-	N
VSL	VOLSHARES LARGE CAP	1	↓	0	0.45	25	0.65	0.88	-	N
Preferred / Convertible										
PFF	iShares Preferred & Inc. Securities	14,866		132	0.03	-	0.46	-	-	L
PGX	Invesco Preferred	4,948		34	0.07	298	0.52	0.29	-	L
CWB	SPDR BBG Barclays Convertible	4,050		63	0.02	170	0.40	0.52	-	L
FPE[A]	First Trust Preferred Securities and Inc.	3,574		24	0.05	220	0.85	2.86	-	L
VRP	Invesco Variable Rate Preferred	1,515	↓	13	0.08	-	0.50	0.12	-	L
PGF	Invesco Financial Preferred	1,387		11	0.06	-	0.63	0.27	-	L
PSK	SPDR Wells Fargo Preferred Stock	751	↑	6	0.07	156	0.45	0.08	-	N
ICVT	iShares Convertible Bond	340		4	0.12	217	0.20	0.27	-	N
PFFD	Global X US Preferred	249	↑	2	0.29	-	0.23	0.25	-	N
FCVT[A]	FirstTrust SSI Strategic Convertible	192	↑	2	0.24	-	0.95	-	-	N
SPFF	Global X SuperInc. Preferred	191		1	0.17	-	0.58	0.57	-	N
FPEI[A]	First Trust Institutional Pref.Securities	161	↑	1	0.19	109	0.85	1.77	-	N
PREF[A]	Principal Spectrum Preferred Securities	58		0	0.12	109	0.55	1.15	-	N
PFFA[A]	Virtus InfraCap U.S. Preferred Stock	25		0	0.31	-	2.13	-	-	N
PFFL	ETRACS Mthly Pay 2xLev Preferred	24		0	1.08	-	0.85	-	+2x	N
PFFR	Infracap REIT Preferred	23		0	0.62	-	0.45	0.41	-	N
EPRF	Innovator S&P IG Preferred	15	↓	0	1.22	110	0.47	0.08	-	N
	Sector Funds									
Communication Services										
XLC	Comm.Srvcs. Select Sector SPDR Fund	5,796		171	0.02	26	0.13	-	-	L
VOX	Vanguard Comm.Srvcs.	2,036	↑	27	0.05	107	0.10	8.62	-	L
IYZ	iShares US Telecommunications	496	↑	18	0.04	42	0.43	0.17	-	L
FCOM	Fidelity MSCI Comm.Srvcs. Idx	349	↑	4	0.09	-	0.08	0.13	-	N
XTL	SPDR S&P Telecom	102	↓	1	0.16	43	0.35	0.08	-	N
PBS	Invesco Dynamic Media	88	↑	1	0.16	30	0.63	0.15	-	N
JHCS	John Hancock Media & Communications	24		-	0.20	-	0.40	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector Funds									
Communication Services (Continued)										
EWCO	Invesco SPX Eq Wgt Comm.Srvcs.	23		-	0.20	26	0.40	-	-	N
IEME[A]	iShares Evolved US Media and Entertain.	6		0	0.37	-	0.18	-	-	N
UCOM	ProShares Ultrapro Comm.Srvcs.	5		-	0.16	26	0.95	-	+3x	L
TAWK	Direxion Daily Comm.Srvcs. Idx Bull 3X	5		-	0.15	26	1.10	-	+3x	N
XCOM	ProShares Ultra Comm.Srvcs.	5		-	0.13	26	0.95	-	+2x	N
YCOM	ProShares Ultrapro Short Comm.Srvcs.	3		-	0.12	26	0.95	-	-2x	N
SCOM	ProShares Ultrashort Comm.Srvcs.	3		-	0.16	26	0.95	-	-3x	L
MUTE	Direxion Daily Comm.Srvcs. Idx Bear 3X	2		-	0.17	26	1.10	-	-3x	N
LTL	ProShares Ultra Telecommunications	1	↓	0	1.44	42	0.95	2.94	+2x	N
Consumer Discretionary										
XLY	Consumer Disc. Select Sector SPDR Fund	13,850		710	0.01	64	0.13	0.04	-	H
VCR	Vanguard Consumer Disc.	3,057		21	0.04	293	0.10	1.77	-	L
ITB	iShares U.S. Home Construction	1,249		112	0.03	46	0.43	0.10	-	M
IYC	iShares U.S. Consumer Services	934		9	0.04	168	0.43	0.25	-	N
XHB	SPDR S&P Homebuilders	766		156	0.03	34	0.35	0.14	-	M
FDIS	Fidelity MSCI Consumer Disc. Idx	707	↑	11	0.05	293	0.08	0.08	-	L
XRT	SPDR S&P Retail	450		288	0.02	94	0.35	0.06	-	H
FXD	First Trust Consumer Disc. AlphaDEX	352	↓	4	0.06	109	0.64	0.05	-	L
RCD	Invesco SPX Eq Wgt Consumer Disc.	113	↑	1	0.17	64	0.40	0.04	-	N
PSCD	Invesco S&P SC Consumer Disc.	78		0	0.44	-	0.29	0.03	-	N
RTH	VanEck Retail	78		3	0.04	25	0.35	0.08	-	L
CLIX	ProShares Long Online/Short Stores	50		0	0.22	-	0.65	0.15	-	N
NAIL	Direxion Homebuilders & Supplies Bull 3x	46		3	0.26	46	0.99	2.52	+3x	N
JHMC	John Hancock Multi-Factor Consumer Disc.	42		0	0.19	-	0.40	0.07	-	N
PEZ	Invesco DWA Consumer Cyclicals Mom	31	↓	1	0.25	-	0.60	0.17	-	L
ONLN	ProShares Online Retail	25		1	0.17	20	0.58	-	-	N
UCC	ProShares Ultra Consumer Services	25	↓	0	0.36	168	0.95	0.87	+2x	N
RETL	Direxion Daily Retail Bull 3X Shares	17		1	0.30	94	1.09	2.50	+3x	L
HOML	ETRACS Mthly Reset 2xLev Homebuilders	8	↑	0	1.28	19	0.85	-	+2x	N
FTXD	First Trust Nasdaq Retail	8	↑	0	0.39	-	0.60	0.34	-	N
PMR	Invesco Dynamic Retail	8	↓	0	0.50	-	0.63	0.06	-	N
IEDI[A]	iShares Evolved US Disc. Spending	6		0	0.32	-	0.18	-	-	N
EMTY	ProShares Decline of the Retail Store	5	↓	0	0.25	56	0.65	1.08	-1x	N
WANT	Direxion Daily Consumer Disc. Bull 3X	3		-	0.22	64	0.98	-	+3x	N
PASS	Direxion Daily Consumer Disc.Bear 3X	1		-	0.28	64	1.08	-	-3x	N
SCC	ProShares UltraShort Consumer Services	1	↓	0	0.22	168	0.95	2.72	-2x	N
Consumer Staples										
XLP	Consumer Staples Select Sector SPDR	11,116	↑	967	0.02	33	0.13	0.05	-	M
VDC	Vanguard Consumer Staples	4,887		33	0.03	91	0.10	0.03	-	L
FSTA	Fidelity MSCI Consumer Staples Idx	501	↑	7	0.04	-	0.08	0.11	-	N
IYK	iShares US Consumer Goods	469		4	0.04	109	0.43	0.04	-	N
RHS	Invesco SPX Eq Wgt Consumer Staples	432		8	0.03	33	0.40	0.03	-	N
FXG	First Trust Consumer Staples AlphaDEX	327		4	0.05	34	0.64	1.67	-	L
PSL	Invesco DWA Consumer Staples Mom	175	↑	2	0.28	-	0.60	0.05	-	L
PBJ	Invesco Dynamic Food & Beverage	72		0	0.38	-	0.63	0.23	-	N
PSCC	Invesco S&P SC Consumer Staples	66	↑	1	0.46	-	0.29	0.07	-	N
JHMS	John Hancock Multifactor Consumer Stap.	29		0	0.18	-	0.40	0.27	-	N
UGE	ProShares Ultra Consumer Goods	7	↓	0	0.37	109	0.95	1.01	+2x	N
IECS[A]	iShares Evolved US Consumer Staples	4	↓	0	0.43	-	0.18	-	-	N
NEED	Direxion Daily Consumer Staples Bull 3X	3		-	0.15	33	0.97	-	+3x	N
FTXG	First Trust Nasdaq Food & Beverage	2	↑	-	0.42	-	0.60	0.29	-	N
SZK	ProShares UltraShort Consumer Goods	1	↓	0	0.44	109	0.95	1.34	-2x	N
LACK	Direxion Daily Consumer Staples Bear 3X	1		-	0.15	33	1.06	-	-3x	N
Energy										
XLE	Energy Select Sector SPDR Fund	13,488		1,076	0.02	29	0.13	0.13	-	H
AMLP	Alerian MLP	8,966		205	0.10	23	0.85	1.55	-	L
VDE	Vanguard Energy	3,644		39	0.04	134	0.10	0.05	-	L
AMJ	JPMorgan Alerian MLP Idx ETN	2,985		69	0.04	35	0.85	1.41	-	L
EMLP[A]	First Trust NA Energy Infra Fund	2,430		21	0.05	-	0.95	-	-	L
XOP	SPDR S&P Oil&Gas Explor& Production	2,184		689	0.03	64	0.35	0.07	-	H
MLPI	ETRACS Alerian MLP Infra Idx ETN	1,272		20	0.05	23	0.85	0.42	-	L
MLPA	Global X MLP	920		10	0.11	20	0.46	1.46	-	L
MLPX	Global X MLP & Energy Infra	844	↑	9	0.08	32	0.45	0.27	-	L
OIH	VanEck Oil Services	800	↓	142	0.06	24	0.35	0.11	-	M
IYE	iShares U.S. Energy	789		26	0.03	67	0.43	0.13	-	L
IGE	iShares NA Natural Resources	754		9	0.03	124	0.47	0.11	-	L
NANR	SPDR S&P NA Natural Resources	698		1	0.15	124	0.35	0.16	-	L
FENY	Fidelity MSCI Energy Idx	539		6	0.06	-	0.08	0.07	-	L
AMZA[A]	InfraCap MLP	484		5	0.17	23	1.93	7.96	-	L
ATMP	Barclays ETN+ Select MLP ETNs	394		3	0.19	22	0.95	2.92	-	N
ERX	Direxion Daily Energy Bull 3X Shares	368	↑	74	0.05	29	1.09	3.54	+3x	L
TPYP	Tortoise NA Pipeline Fund	342	↑	3	0.23	66	0.40	0.20	-	N
AMU	ETRACS Alerian MLP Idx ETN	287		3	0.13	35	0.80	0.30	-	N
IEO	iShares US Oil&Gas Explor & Production	276	↓	8	0.05	60	0.43	0.19	-	L
YYY	YieldShares High Inc.	226	↑	1	0.09	30	2.02	0.37	-	N
GUSH	Direxion Daily S&P Oil & Gas Bull 3X	223	↑	64	0.09	64	1.17	6.13	+3x	L
XES	SPDR S&P Oil & Gas Equipment & Servcs	217		18	0.09	41	0.35	0.08	-	H

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Sector Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Energy (Continued)										
RYE	Invesco SPX Eq Wgt Energy	210		5	0.05	29	0.40	0.06	-	N
FXN	First Trust Energy AlphaDEX	174		5	0.09	41	0.63	0.16	-	L
IEZ	iShares U.S. Oil Equipment & Services	146		4	0.10	40	0.43	0.14	-	L
FCG	First Trust Natural Gas	97		5	0.06	32	0.60	0.35	-	L
MLPC	C-Tracks ETNs	96		0	1.08	-	0.95	-	-	N
DIG	ProShares Ultra Oil & Gas	95		5	0.06	67	0.95	1.96	+2x	L
MLPQ	ETRACS 2xMthly Lev Alerian MLP Infra	79	↑	1	0.71	23	0.85	-	+2x	N
ENFR	Alerian Energy Infra	66	↑	1	0.52	38	0.65	0.50	-	N
DRIP	Direxion Daily S&P Oil & Gas Bear 3X	61	↓	40	0.12	64	1.07	-	-3x	L
NRGU	MicroSectors US Big Oil Idx 3X Lev	56		-	0.36	-	0.95	-	+3x	N
NRGO	MicroSectors US Big Oil Idx 2X Lev	54		-	0.27	-	0.95	-	+2x	N
PXI	Invesco DWA Energy Mom	51	↓	1	0.10	-	0.60	0.08	-	L
ZMLP	Direxion Zacks MLP High Inc. Idx Shares	51		0	0.30	-	0.65	0.29	-	N
YGRN	MicroSectors US Big Oil Idx Inv ETNs	48		-	0.21	-	0.95	-	-1x	N
NRGZ	MicroSectors US Big Oil Idx -2X Inv Lev	46		-	0.28	-	0.95	-	-2x	N
MLPY	Morgan Stanley Cushing MLP High Inc	45		0	2.10	30	0.85	-	-	N
NRGD	MicroSectors US Big Oil Idx -3X Inv Lev	44		-	0.37	-	0.95	-	-3x	N
YMLP	VanEck High Inc. MLP	42		0	0.45	17	0.82	0.74	-	L
PXE	Dynamic Energy Exploration & Prod.	40		1	0.24	-	0.65	0.07	-	N
IMLP	iPath S&P MLP ETN	33	↓	0	0.76	41	0.80	3.13	-	L
MLPO	Credit Suisse S&P MLP Idx ETN	32	↓	0		41	0.95	-	-	N
PSCE	Invesco S&P SC Energy	29	↓	0	0.68	-	0.29	0.02	-	N
MLPZ	ETRACS 2xMthly Lev S&P MLP Idx ETN	28	↓	0	1.24	41	0.95	-	+2x	N
ERY	Direxion Daily Energy Bear 3X Shares	28	↓	10	0.10	29	1.09	5.86	-3x	L
JHME	John Hancock Multifactor Energy	26		0	0.27	-	0.40	0.36	-	N
FRAK	VanEck Unconventional Oil & Gas	24	↓	1	0.53	44	0.54	0.08	-	L
PYPE	ETRACS NYSE Pickens Core Midstream	22		0	0.73	30	0.85	-	-	N
MLPE	C-Tracks ETNs on the Miller/Howard MLP	21		0	1.62	-	0.85	-	-	N
YMLI	VanEck High Inc. Infra MLP	19		0	1.98	25	0.83	0.71	-	N
PXJ	Invesco Dynamic Oil & Gas Services	18	↓	0	0.30	-	0.63	0.04	-	L
DUG	ProShares UltraShort Oil & Gas	15	↓	2	0.10	67	0.95	3.20	-2x	L
AMJL	X-Links Mthly Pay 2xLev Alerian MLP ETN	13		0	2.18	35	0.85	-	+2x	N
FTXN	First Trust Nasdaq Oil & Gas	12	↑	0	0.57	-	0.60	0.47	-	N
USAI	American Energy Independence	11	↑	0	0.27	31	0.75	0.18	-	N
MLPG	ETRACS Alerian Natural Gas MLP ETN	9		0	0.99	11	0.85	0.47	-	N
MLPB	ETRACS Alerian MLP Infra ETN Series B	9		0	0.87	23	0.85	0.42	-	N
AMUB	ETRACS Alerian MLP Idx ETN Series B	6		0	1.01	35	0.80	0.30	-	N
PPLN	Cushing 30 MLP ETNs due June 15 2037	5	↓	0	0.56	30	0.95	-	-	N
BOON	NYSE Pickens Oil Response	4	↓	0	0.21	108	0.85	0.14	-	N
BMLP	Dorsey Wright MLP Idx ETNs	3	↓	0	1.03	-	0.85	0.28	-	N
XLSY	Cushing Energy Supply Chain & MLP	3		-	0.68	51	0.65	-	-	N
XLEY	Cushing Energy & MLP	3		-	0.13	36	0.65	-	-	N
DDG	ProShares Short Oil & Gas	2		0	0.48	67	0.95	1.19	-1x	L
Financials										
XLF	Financial Select Sector SPDR Fund	25,739	↓	1,715	0.04	67	0.13	0.06	-	H
VFH	Vanguard Fin.	7,665		60	0.03	402	0.10	0.05	-	L
KRE	SPDR S&P Regional Banking	2,425	↓	499	0.02	123	0.35	0.06	-	H
KBE	SPDR S&P Bank	2,354	↓	147	0.02	88	0.35	0.08	-	L
IYF	iShares US Fin.	1,693	↓	48	0.02	283	0.43	0.05	-	L
FAS	Direxion Daily Financial Bull 3X Shares	1,579	↓	125	0.05	252	1.00	1.58	+3x	M
IYG	iShares U.S. Financial Services	1,435		19	0.03	283	0.43	0.04	-	L
FNCL	Fidelity MSCI Fin. Idx	1,184	↓	12	0.05	403	0.08	0.04	-	L
FXO	First Trust Financial AlphaDEX	997		8	0.04	185	0.63	0.10	-	L
UYG	ProShares Ultra Fin.	829		4	0.06	283	0.95	0.71	+2x	L
KIE	SPDR S&P Insurance	780	↓	11	0.04	48	0.35	0.04	-	L
KBWB	Invesco KBW Bank	600	↓	23	0.03	24	0.35	0.03	-	L
IAT	iShares US Regional Banks	555	↓	18	0.03	58	0.43	0.19	-	L
KBWD	Invesco KBW High Div Yield Financial	305		1	0.13	40	2.42	0.77	-	N
RYF	Invesco SPX Eq Wgt Fin.	291	↓	3	0.09	67	0.40	0.03	-	N
IAI	iShares US Broker-Dealers & Securities	236	↓	3	0.06	26	0.43	0.09	-	L
QABA	First Trust NASDAQ ABA Community Bank	202	↓	2	0.09	161	0.60	0.04	-	L
FAZ	Direxion Daily Financial Bear 3X Shares	171	↑	24	0.11	252	1.07	3.01	-3x	L
FTXO	First Trust Nasdaq Bank	163	↓	5	0.06	-	0.60	0.30	-	N
PSCF	Invesco S&P SC Fin.	145	↓	1	0.45	-	0.29	0.03	-	N
IAK	iShares U.S. Insurance	106		1	0.09	62	0.43	0.21	-	N
KBWR	Invesco KBW Regional Banking E	84	↓	1	0.26	50	0.35	0.03	-	N
KBWP	Invesco KBW Property & Casualty	66		0	0.14	24	0.35	0.03	-	N
JHMF	John Hancock Multi-Factor Fin.	48	↓	0	0.17	-	0.40	0.03	-	N
KCE	SPDR S&P Capital Markets	40	↓	1	0.19	55	0.35	0.16	-	L
RWW	Oppenheimer S&P Fin. Revenue	38	↓	0	0.18	67	0.45	0.10	-	N
FINU	ProShares UltraPro Financial Select Sector	32	↓	1	0.10	67	0.95	1.58	+3x	N
BNKU	MicroSectors US Big Banks Idx 3X Lev	30		-	0.28	-	0.95	-	+3x	N
LMLP	ETRACS Mthly Pay 2xLev Wells Fargo MLP	29		0	0.85	14	0.85	-	+2x	N
BNKO	MicroSectors US Big Banks Idx 2X Lev	28		-	0.25	-	0.95	-	+2x	N
SKF	ProShares UltraShort Fin.	26		1	0.11	283	0.95	1.49	-2x	L
DPST	Direxion Daily Regional Banks Bull 3x	25	↓	3	0.24	123	1.00	2.30	+3x	N
PFI	Invesco DWA Financial Mom	25	↓	0	0.47	-	0.60	0.04	-	N

Sector Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Financials (Continued)										
KNAB	MicroSectors US Big Banks Idx Inv ETN	23		-	0.16	-	0.95	-	-1x	N
BNKZ	MicroSectors US Big Banks Idx -2X Inv	22		-	0.23	-	0.95	-	-2x	N
BNKD	MicroSectors US Big Banks Idx -3X Inv	20		-	0.29	-	0.95	-	-3x	N
SEF	ProShares Short Fin.	19		1	0.06	283	0.95	-	-1x	L
TETF	ETF Industry Exposure & Financial Srvcs	7		0	0.29	45	0.64	0.21	-	N
IEFN[A]	iShares Evolved US Fin.	5		0	0.48	-	0.18	-	-	N
WDRW	Direxion Daily Regional Banks Bear 3x	3		0	0.81	123	1.07	4.28	-3x	N
FINZ	ProShares UltraPro Short Fin. Select Sector	1	↑	0	0.97	67	0.95	3.38	-3x	N
Health Care										
XLV	Health Care Select Sector SPDR Fund	18,161		1,050	0.01	62	0.13	0.05	-	H
VHT	Vanguard Health Care	9,005		55	0.03	357	0.10	0.03	-	L
IBB	iShares Nasdaq BioTech	7,598		256	0.02	221	0.47	0.05	-	M
XBI	SPDR S&P Biotech	4,222		474	0.02	120	0.35	0.06	-	H
IHI	iShares U.S. Medical Devices	3,338	↑	57	0.05	-	0.43	0.07	-	L
FBT	First Trust NYSE Arca BioTech	2,957	↑	25	0.09	30	0.56	0.03	-	L
IYH	iShares U.S. Healthcare	2,099		28	0.03	129	0.43	0.06	-	L
FHLC	Fidelity MSCI Health Care Idx	1,546	↑	15	0.05	-	0.08	0.04	-	L
FXH	First Trust Health Care AlphaDEX	1,421	↑	37	0.06	73	0.63	0.08	-	L
IHF	iShares U.S. Healthcare Providers	842	↑	20	0.07	47	0.43	0.14	-	L
RYH	Invesco SPX Eq Wgt Health Care	706		7	0.05	62	0.40	0.01	-	L
LABU	Direxion Daily S&P Biotech Bull 3X Shares	679	↑	181	0.12	120	1.12	4.89	+3x	M
PSCH	Invesco S&P SC Health Care	635	↑	13	0.14	-	0.29	0.02	-	L
XHE	SPDR S&P Health Care Equipment	594	↑	8	0.11	67	0.35	0.06	-	L
PJP	Invesco Dynamic Pharmas	416	↓	2	0.07	30	0.57	0.12	-	L
BBH	VanEck Biotech	388		3	0.08	25	0.35	0.08	-	L
IHE	iShares US Pharmas	359		2	0.07	-	0.43	0.09	-	L
BIB	ProShares Ultra Nasdaq BioTech	254	↓	11	0.11	221	0.95	1.15	+2x	L
PBE	Invesco Dynamic BioTech & Genome	248		2	0.15	-	0.59	0.31	-	N
XPH	SPDR S&P Pharmas	225	↓	3	0.07	41	0.35	0.11	-	L
SBIO	ALPS Medical Breakthroughs	188		2	0.17	68	0.50	0.40	-	L
PPH	VanEck Pharma	180	↓	3	0.06	25	0.35	0.08	-	L
PTH	Invesco DWA Healthcare Mom	163		2	0.15	-	0.60	0.07	-	L
LABD	Direxion Daily S&P Biotech Bear 3X Shares	122	↑	77	0.09	120	1.11	-	-3x	L
RXL	ProShares Ultra Health Care	111		3	0.10	129	0.95	0.63	+2x	L
XHS	SPDR S&P Health Care Services	93		1	0.20	50	0.35	0.06	-	N
JHMH	John Hancock Multi-Factor Health Care	54	↑	0	0.14	-	0.40	0.04	-	N
BTEC	Principal Healthcare Innovators Idx	54		0	0.46	191	0.42	0.07	-	N
CNCR	Loncar Cancer Immunotherapy	39		0	0.38	25	0.79	0.21	-	N
BBP	Virtus LifeSci Biotech Product	36		0	0.62	41	0.79	0.50	-	N
UBIO	ProShares UltraPro NASDAQ BioTech	29		2	0.22	221	0.95	3.40	+3x	L
BBC	Virtus LifeSci Biotech Clinical Trials	28	↓	0	0.47	95	0.79	0.82	-	N
BIS	ProShares UltraShort Nasdaq BioTech	24		2	0.17	221	0.95	3.33	-2x	L
FTXH	First Trust Nasdaq Pharmas	6	↑	0	0.59	-	0.60	0.23	-	N
IEIH[A]	iShares Evolved US Innovative Healthcare	5		0	0.36	-	0.18	-	-	N
ZBIO	ProShares UltraPro Short NDX BioTech	4	↑	0	0.45	221	0.95	-	-3x	L
PILL	Direxion Daily Pharma & Medical Bull 3X	4	↑	0	0.52	30	0.99	1.78	+3x	N
IEHS[A]	iShares Evolved US Healthcare Staples	4	↓	0	0.36	-	0.18	-	-	N
RXD	ProShares UltraShort Health Care	3	↑	0	0.39	129	0.95	1.81	-2x	N
Industrials										
XLI	Industrial Select Sector SPDR Fund	10,771		1,098	0.01	70	0.13	0.06	-	H
ITA	iShares US Aerospace & Defense	5,241		65	0.05	34	0.43	0.12	-	L
VIS	Vanguard Industrials	3,534		27	0.04	346	0.10	0.03	-	L
XAR	SPDR S&P Aerospace & Defense	1,357		19	0.07	31	0.35	0.07	-	L
IYJ	iShares U.S. Industrials	942		15	0.04	217	0.43	0.05	-	L
PPA	Invesco Aerospace & Defense	926		5	0.06	-	0.60	0.02	-	N
IYT	iShares Transportation Average	575	↓	51	0.03	20	0.43	0.21	-	M
FIDU	Fidelity MSCI Industrials Idx	461	↓	5	0.06	-	0.08	0.04	-	L
FXR	First Trust Indu./Prod. Durables AlphaDEX	387	↓	23	0.05	95	0.62	0.07	-	L
RGI	Invesco SPX Eq Wgt Industrials	246	↓	3	0.22	70	0.40	0.03	-	N
ARKQ[A]	ARK Industrial Innovation	177		1	0.19	-	0.75	-	-	N
XTN	SPDR S&P Transportation	161	↓	1	0.09	42	0.35	0.04	-	N
PKB	Invesco Dynamic Building & Construct	119	↓	1	0.15	-	0.58	0.04	-	N
PRN	Invesco DWA Industrials Mom	102		0	0.34	-	0.60	0.02	-	L
AIRR	FirstTrust RBA American Indu Renaissance	80	↓	1	0.24	56	0.70	0.16	-	N
PSCI	Invesco S&P SC Industrials	67	↓	1	0.39	-	0.29	0.02	-	N
DFEN	Direxion Daily Aerospace&Defense Bull 3X	61	↓	4	0.17	34	0.98	2.87	+3x	L
JHMI	John Hancock Multifactor Industrials	32		0	0.29	-	0.40	0.15	-	N
UXI	ProShares Ultra Industrials	22	↓	0	0.55	217	0.95	0.83	+2x	L
DUSL	Direxion Daily Industrials Bull 3x Shares	7		0	0.32	70	1.07	2.30	+3x	N
TPOR	Direxion Daily Transportation Bull 3x	4	↓	1	0.61	20	0.98	2.49	+3x	N
SIJ	ProShares UltraShort Industrials	3	↑	0	0.74	217	0.95	2.26	-2x	L
XLTY	Cushing Transportation & MLP	3		-	0.56	28	0.65	-	-	N
FTXR	First Trust Nasdaq Transportation	2	↓	0	0.15	-	0.60	0.33	-	N
Materials										
XLB	Materials Select Sector SPDR Fund	4,049		472	0.02	26	0.13	0.05	-	M
VAW	Vanguard Materials	2,043		23	0.05	118	0.10	0.03	-	L
IYM	iShares U.S. Basic Materials	423	↓	6	0.05	49	0.43	0.05	-	L

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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US Listed ETFs

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	Sector Funds									
Materials (Continued)										
XME	SPDR S&P Metals & Mining	408	↓	70	0.03	29	0.35	0.05	-	M
FMAT	Fidelity MSCI Materials Idx	228		2	0.07	-	0.08	0.03	-	L
FXZ	First Trust Materials AlphaDEX	147	↓	2	0.06	50	0.64	0.05	-	L
SGDM	Sprott Gold Miners	140		1	0.37	-	0.57	0.17	-	N
RTM	Invesco SPX Eq Wgt Materials	130	↓	1	0.23	26	0.40	0.03	-	N
PYZ	Invesco DWA Basic Materials Mom	63	↓	0	0.30	-	0.60	0.04	-	N
UYM	ProShares Ultra Basic Materials	44		0	0.60	49	0.95	1.03	+2x	L
JHMA	John Hancock Multifactor Materials	23		0	0.35	-	0.40	0.23	-	N
PSCM	Invesco S&P SC Materials	19	↓	0	0.73	-	0.29	0.15	-	N
GOAU	US Global GO Gold & Precious Metal Miners	13		0	0.74	28	0.60	1.04	-	N
SMN	ProShares UltraShort Basic Materials	6		0	0.63	49	0.95	-	-2x	L
SBM	ProShares Short Basic Materials	1	↓	0	0.28	49	0.95	0.80	-1x	N
Real Estate										
VNQ	Vanguard Real Estate	33,860		624	0.01	185	0.12	0.35	-	H
SCHH	Schwab U.S. REIT	5,443		41	0.03	95	0.07	0.02	-	L
IYR	iShares U.S. Real Estate	4,337		790	0.01	114	0.43	0.14	-	H
XLRE	Real Estate Select Sector SPDR Fund	3,009		185	0.03	32	0.13	0.04	-	L
RWR	SPDR Dow Jones REIT	2,465		29	0.04	95	0.25	0.08	-	L
ICF	iShares Cohen & Steers REIT	2,187	↓	17	0.04	30	0.34	0.03	-	L
REET	iShares Global REIT	1,638	↑	10	0.11	-	0.14	0.41	-	N
USRT	iShares Core US REIT	1,290	↑	14	0.05	159	0.08	0.63	-	N
REM	iShares Mortgage Real Estate	1,282	↑	14	0.04	-	0.48	0.13	-	L
FREL	Fidelity MSCI Real Estate Idx	752	↑	10	0.06	183	0.08	0.06	-	N
MORL	ETRACS Mthly Pay 2xLev Mortgage REIT	454		4	0.14	25	0.40	-	+2x	N
REZ	iShares Residential Real Estate	427	↑	3	0.15	21	0.48	0.07	-	L
KBWY	Invesco KBW Premium Yield Equity REIT	339		3	0.08	29	0.35	0.12	-	N
MORT	VanEck Mortgage REIT Inc.	175	↑	1	0.25	25	0.40	0.05	-	N
BBRE	JPMorgan BetaBuilders MSCI US REIT	150		1	0.03	153	0.11	-	-	N
FRI	First Trust S&P REIT	148	↑	2	0.08	156	0.48	0.07	-	L
URE	ProShares Ultra Real Estate	140		1	0.10	114	0.95	1.28	+2x	L
MRRL	ETRACS Mthly Pay 2xLev Mortgage REIT	124	↑	2	0.27	25	0.40	-	+2x	N
PPTY	US Diversified Real Estate	110	↑	0	0.23	115	0.53	0.17	-	N
REML	X-Links Mthly Pay 2x Lev Mortgage REIT	93	↑	1	0.58	35	0.50	-	+2x	N
ROOF	IQ US Real Estate SC	72		0	0.22	75	0.70	0.12	-	N
NURE	Nuveen ST REIT	55	↑	0	0.21	-	0.35	0.17	-	N
PSR[A]	Invesco Active US Real Estate Fund	49	↑	0	0.54	-	0.35	1.04	-	N
DRN	Direxion Daily Real Estate Bull 3x Shares	46	↓	1	0.62	153	1.04	2.60	+3x	L
EWRE	Invesco SPX Eq Wgt Real Estate	37	↑	0	0.23	31	0.40	0.04	-	N
RORE	Hartford Multifactor REIT	31	↑	0	0.77	55	0.45	0.04	-	N
SRVR	Pacer Benchmark Data & Infra RE Sctr	23		0	0.22	-	0.60	-	-	N
SRS	ProShares UltraShort Real Estate	20	↑	1	0.07	114	0.95	2.29	-2x	L
DRV	Direxion Daily Real Estate Bear 3x Shares	20	↑	1	0.30	153	1.10	3.85	-3x	L
NETL	NETLease Corp Real Estate	11		-	0.19	165	0.60	-	-	N
REK	ProShares Short Real Estate	9		0	0.19	114	0.95	1.19	-1x	L
INDS	Pacer Benchmark Industrial Real Estate	7		0	0.20	-	0.60	-	-	N
LRET	ETRACS Mthly Pay 2xLev MSCI US REIT	6		0	1.04	153	0.85	-	+2x	N
RTL	Pacer Benchmark Retail Real Estate	1		0	0.24	-	0.60	-	-	N
Technology										
VGT	Vanguard Information Tech	21,086		167	0.02	315	0.10	1.49	-	L
XLK	Tech Select Sector SPDR Fund	20,752		1,172	0.01	68	0.13	0.06	-	H
IYW	iShares US Tech	4,269		41	0.03	149	0.43	0.12	-	L
IGV	iShares Expanded Tech-Software Sector	3,006	↑	94	0.04	89	0.47	0.70	-	M
QTEC	First Trust NASDAQ-100 Tech	2,644		20	0.04	39	0.58	0.03	-	L
FTEC	Fidelity MSCI Information Tech Idx	2,442		25	0.03	-	0.08	0.03	-	L
FXL	First Trust Tech AlphaDEX	2,363		22	0.04	90	0.63	0.38	-	L
RYT	Invesco SPX Eq Wgt Tech	1,789		16	0.04	68	0.40	0.02	-	N
IGM	iShares Expanded Tech Sector	1,723		13	0.04	289	0.47	0.08	-	L
SOXX	iShares PHLX Semiconductor	1,407	↓	154	0.03	30	0.47	0.06	-	M
TDIV	First Trust NASDAQ Tech Div	1,002		5	0.04	-	0.50	0.06	-	L
CIBR	First Trust NASDAQ Cybersecurity	880	↑	5	0.24	45	0.60	0.45	-	L
SMH	VanEck Semiconductor	845	↓	775	0.01	25	0.35	0.09	-	H
TECL	Direxion Daily Tech Bull 3X Shares	813		58	0.08	68	1.08	1.99	+3x	M
SOXL	Direxion Daily Semiconductors Bull 3x	611	↓	172	0.10	30	0.99	4.12	+3x	M
PNQI	Invesco Nasdaq Internet	598		4	0.06	85	0.60	0.01	-	L
ARKW[A]	ARK Web x.0	507		7	0.09	-	0.75	-	-	L
XNTK	SPDR NYSE Tech	444	↓	5	0.04	35	0.35	-	-	N
PSJ	Invesco Dynamic Software	438	↑	7	0.10	-	0.63	0.06	-	N
ROM	ProShares Ultra Tech	367		11	0.06	149	0.95	1.14	+2x	L
XSD	SPDR S&P Semiconductor	364		9	0.04	34	0.35	0.09	-	L
PSCT	Invesco S&P SC Information Tech	333	↓	2	0.47	-	0.29	0.01	-	N
XSW	SPDR S&P Software & Services	247	↑	3	0.20	156	0.35	0.15	-	N
PSI	Invesco Dynamic Semiconductors	200	↓	2	0.06	-	0.61	0.05	-	N
PTF	Invesco DWA Tech Mom	172		1	0.25	-	0.60	0.11	-	L
SOXS	Direxion Daily Semiconductors Bear 3x	170	↑	28	0.18	30	1.08	8.28	-3x	L
IGN	iShares NA Tech-Multimedia Networking	163	↑	2	0.08	20	0.47	0.07	-	L
FNGU	MicroSectors FANG+ Idx 3X	155	↑	9	0.14	10	0.95	-	+3x	N
PXQ	Invesco Dynamic Networking	101	↑	1	0.24	-	0.63	0.05	-	N

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	Sector Funds									
Technology (Continued)										
XITK	SPDR FactSet Innovative Tech	87	↑	2	0.11	95	0.45	0.31	-	N
USD	ProShares Ultra Semiconductors	63	↓	2	0.08	31	0.95	1.57	+2x	L
JHMT	John Hancock Multi-Factor Tech	62		0	0.11	-	0.40	0.42	-	N
XWEB	SPDR S&P Internet	56	↑	1	0.09	45	0.35	0.06	-	N
TECS	Direxion Daily Tech Bear 3X Shares	35	↑	7	0.08	68	1.10	6.78	-3x	L
FTXL	First Trust Nasdaq Semiconductor	33	↓	0	0.56	-	0.60	0.22	-	N
FNGD	MicroSectors FANG+ Idx -3X INV Lev ETN	19		1	0.22	10	0.95	-	-3x	N
FNG[A]	AdvisorShares New Tech and Media	18	↓	0	0.94	-	0.86	-	-	L
XTH	SPDR S&P Tech Hardware	8	↑	0	0.22	41	0.35	0.05	-	N
IETC[A]	iShares Evolved US Tech	7	↑	0	0.40	-	0.18	-	-	N
SSG	ProShares UltraShort Semiconductors	5	↑	0	1.19	31	0.95	4.46	-2x	L
REW	ProShares UltraShort Tech	4	↑	0	0.57	149	0.95	3.49	-2x	L
Utilities										
XLU	Utilities Select Sector SPDR Fund	9,160		1,103	0.02	28	0.13	0.07	-	H
VPU	Vanguard Utilities	3,663	↑	30	0.04	68	0.10	0.05	-	L
FXU	First Trust Utilities AlphaDEX	1,207	↑	16	0.06	34	0.63	0.24	-	L
PHO	Invesco Water Resources	941		2	0.07	35	0.62	0.07	-	L
IDU	iShares US Utilities	810		16	0.04	48	0.43	0.05	-	L
FUTY	Fidelity MSCI Utilities Idx	643	↑	9	0.04	-	0.08	0.04	-	N
FIW	First Trust Water	353		2	0.12	36	0.56	0.18	-	L
RYU	Invesco SPX Eq Wgt Utilities	335	↑	7	0.04	54	0.40	0.04	-	N
PUI	Invesco DWA Utilities Mom	225	↑	3	0.08	-	0.60	0.02	-	N
PSCU	Invesco S&P SC Utilities	59	↑	0	0.54	-	0.29	0.12	-	N
JHMU	John Hancock Multifactor Utilities	29	↑	1	0.13	-	0.40	0.50	-	N
UPW	ProShares Ultra Utilities	17		0	0.49	48	0.95	1.52	+2x	N
UTES[A]	Reaves Utilities	15		0	0.86	-	0.95	3.11	-	N
UTSL	Direxion Daily Utilities Bull 3x Shares	7		1	0.10	28	1.07	1.45	+3x	N
SDP	ProShares UltraShort Utilities	4		0	0.44	48	0.95	1.20	-2x	N
XLUY	Cushing Utility & MLP	3		-	0.63	39	0.65	-	-	N

	International									
Global										
VEA	Vanguard FTSE DM	72,663		684	0.02	3,884	0.05	3.12	-	L
IEFA	iShares Core MSCI EAFE	64,387		761	0.02	3,249	0.08	0.09	-	L
EFA	iShares MSCI EAFE	63,489		2,234	0.02	921	0.31	0.07	-	H
VEU	Vanguard FTSE All-World ex-US	23,715		198	0.02	2,626	0.09	3.24	-	L
SCHF	Schwab Intl Equity	17,777	↑	172	0.03	-	0.06	0.15	-	L
IXUS	iShares Core MSCI Total Intl Stock	14,582	↑	75	0.02	6,257	0.10	0.11	-	L
VT	Vanguard Total World Stock	12,740		230	0.01	-	0.09	1.46	-	L
VXUS	Vanguard Total Intl Stock	12,412		72	0.02	-	0.09	3.14	-	L
EFAV	iShares Edge MSCI Min Vol EAFE	11,258	↑	84	0.01	-	0.20	0.12	-	L
ACWI	iShares MSCI ACWI	10,790	↑	324	0.01	2,773	0.31	0.20	-	L
SCZ	iShares MSCI EAFE SC	9,703		89	0.02	2,328	0.39	0.33	-	L
EFV	iShares MSCI EAFE Value	6,071		64	0.02	479	0.38	0.09	-	L
VSS	Vanguard FTSE All World ex-US SC	5,467	↑	38	0.05	3,449	0.12	2.80	-	L
DBEF[C]	Xtrackers MSCI EAFE Hedg Equity	5,029	↓	48	0.03	-	0.35	0.09	-	L
SPDW	SPDR Portfolio Developed World ex-US	4,836	↑	55	0.03	5,220	0.04	0.40	-	L
IDV	iShares Intl Select Div	4,391		28	0.03	-	0.50	0.22	-	L
ACWV	iShares Edge MSCI Min Vol Global	4,314		29	0.04	421	0.20	0.09	-	L
FNDF	Schwab Fundamental Intl Large Company	4,282	↑	22	0.05	951	0.25	0.12	-	L
EFG	iShares MSCI EAFE Gwth	3,848		34	0.04	548	0.40	0.07	-	L
ACWX	iShares MSCI ACWI ex US	3,768	↑	133	0.02	2,149	0.31	0.26	-	L
HEFA[C]	iShares Currncy Hedg MSCI EAFE	2,989		24	0.03	-	0.34	3.35	-	L
XT	iShares Exponential Technologies	2,448		6	0.11	-	0.47	0.15	-	L
SCHC	Schwab Intl SC Equity	2,185		17	0.05	-	0.12	0.10	-	L
RODM	Hartford Multifactor DM ex-US	2,074	↑	19	0.07	468	0.29	0.08	-	N
IOO	iShares Global 100	2,005		8	0.10	102	0.40	0.23	-	L
FNDC	Schwab Fundamental Intl Small Company	1,957		10	0.12	1,664	0.39	0.16	-	N
FIHD	FI Enhanced Global HY ETN/UBS	1,905	↑	5	0.83	294	0.80	-	+2x	N
CWI	SPDR MSCI ACWI ex-US	1,772		21	0.03	2,149	0.30	0.54	-	L
JPIN	JPMorgan Diversified Ret Intl Equity	1,729	↑	16	0.04	437	0.38	3.13	-	L
DLS	WisdomTree Intl SC Div Fund	1,719		9	0.06	1,595	0.58	0.66	-	L
FIYY	Barclays ETN+ FI Enhanced Global HY ETN	1,553		2	0.87	294	0.93	1.28	+2x	N
PXF	Invesco FTSE RAFI DM ex-US	1,518	↑	12	0.11	1,031	0.45	1.30	-	N
IDEV	iShares Core MSCI Intl DM	1,445	↑	10	0.09	3,549	0.05	0.21	-	N
GSIE	Goldman Sachs ActiveBeta Intl Equity	1,434	↑	9	0.15	-	0.25	0.07	-	L
INTF	iShares Edge MSCI Multifactor Intl	1,268	↑	12	0.07	-	0.30	0.15	-	L
VIGI	Vanguard Intl Div Appreciation	1,116	↑	7	0.07	-	0.25	2.70	-	N
VYMI	Vanguard Intl High Div Yield	1,090	↑	8	0.11	-	0.32	2.75	-	N
FDT	First Trust DM ex-US AlphaDEX	1,043		9	0.15	-	0.80	3.80	-	N
TLTD	FlexShares Morningstar DM ex-US Factor	1,035		6	0.14	-	0.39	0.18	-	N
SDIV	Global X SuperDiv	933		6	0.06	100	0.58	0.65	-	L
IQDF	FlexShares Intl Quality Div	855		6	0.09	-	0.47	0.12	-	L
DWM	WisdomTree Intl Equity Fund	849		5	0.11	2,681	0.48	0.23	-	N
DWX	SPDR S&P Intl Div	844	↓	4	0.06	98	0.45	0.37	-	L
GWX	SPDR S&P Intl SC	828		7	0.13	-	0.40	0.54	-	L

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	International									
Global (Continued)										
PID	Invesco Intl Div Achievers	766		4	0.07	63	0.55	0.25	-	L
IDLV	Invesco S&P Intl Developed Low Vol	765	↑	6	0.15	199	0.25	1.09	-	N
IQLT	iShares Edge MSCI Intl Quality Factor	754	↑	7	0.18	298	0.30	0.17	-	N
URTH	iShares MSCI World	626		13	0.08	1,636	0.24	0.12	-	L
VIDI	Vident Intl Equity Fund	598		2	0.41	246	0.61	0.20	-	N
IFV	First Trust Dorsey Wright Intl Focus 5	575	↓	4	0.45	-	1.03	1.43	-	N
FGD	First Trust DJ Global Select Div	523		3	0.13	101	0.58	1.80	-	N
JHMD	John Hancock MultiFactor Developed Intl	512	↑	4	0.33	745	0.45	0.13	-	N
IHDG [C]	WisdomTree Intl Hedg Quality Div Gw th	451	↓	3	0.10	294	0.58	0.18	-	L
DOL	WisdomTree Intl LargeCap Div Fund	398		2	0.14	295	0.48	0.14	-	N
RFDI [C A]	First Trust RiverFront Dynamic Developed	337	↓	3	0.11	-	0.83	4.01	-	N
PDN	Invesco FTSE RAFI DM ex-US Small-Mid	335	↑	4	0.25	-	0.49	2.72	-	N
UIVM	USAA MSCI Intl Value Mom Blend Idx	321	↑	0	0.20	310	0.35	0.09	-	N
IVLU	iShares Edge MSCI Intl Value Factor	319	↑	2	0.19	348	0.30	0.22	-	N
DIM	WisdomTree Intl MidCap Div Fund	286		2	0.15	778	0.58	0.20	-	N
HFXI [C]	IQ 50 Percent Hedg FTSE Intl	282	↓	3	0.32	1,500	0.20	0.24	-	N
IDOG	ALPS Intl Sector Div Dogs	280		2	0.30	-	0.50	1.70	-	N
QEFA	SPDR MSCI EAFE StrategicFactors	278		2	0.24	912	0.30	0.29	-	N
WDIV	SPDR S&P Global Div	276	↑	2	0.13	100	0.40	0.15	-	N
HDEF	Xtrackers MSCI EAFE High Div Yield Equity	258	↑	2	0.26	106	0.20	0.09	-	N
GAL [A]	SPDR SSgA Global Allocation	257		2	0.35	-	0.35	4.53	-	N
DTH	WisdomTree Intl High Div Fund	257		1	0.16	792	0.58	0.18	-	N
DDWM [C]	WisdomTree Dynamic Curncy Hedg Intl	235	↓	2	0.22	-	0.35	0.41	-	N
DWLD [A]	Davis Select Worldw ide	233	↑	2	0.32	-	0.64	7.17	-	N
GCOW	Pacer Global Cash Cow s Div	211	↑	1	0.47	100	0.60	1.15	-	N
JPGE	JPMorgan Diversified Ret Global Equity	211		1	0.10	562	0.38	2.61	-	N
SRET	Global X SuperDiv REIT	203	↑	2	0.10	-	0.59	0.79	-	N
DMRI	Deltashares S&P Intl Managed Risk	195		0	1.30	-	0.50	1.63	-	N
PIZ	Invesco DWA DM Mom	184	↓	1	0.26	-	0.80	1.26	-	L
IPKW	Invesco Intl BuyBack Achievers	182	↓	2	0.26	-	0.55	2.36	-	N
ACIM	SPDR MSCI ACWI IMI US	178	↑	2	0.45	8,663	0.25	0.82	-	N
DOO	WisdomTree Intl Div Ex-Fin. Fund	176		1	0.16	89	0.58	0.18	-	N
GVAL	Cambria Global Value	157		1	0.26	-	0.69	1.78	-	N
TOK	iShares MSCI Kokusai	143		0	0.29	1,314	0.25	0.08	-	N
IMTM	iShares Edge MSCI Intl Mom Factor	139		1	0.17	298	0.30	0.24	-	N
CIZ	VictoryShares Developed Enhanced Vol	139		1	0.45	500	0.45	0.36	-	N
KLDW	Know ledge Leaders Developed World	132		1	0.12	786	0.75	1.05	-	N
ACWF	iShares Edge MSCI Multifactor Global	120	↑	3	0.21	532	0.35	2.07	-	N
DINT [A]	Davis Select Intl	120	↑	1	0.33	-	0.75	-	-	N
RBIN	Nationw ide Risk-Based Intl Equity	118		0	0.43	227	0.42	0.11	-	N
EFAD	ProShares MSCI EAFE Div Grow ers	112		1	0.31	54	0.50	0.10	-	N
IDLB	Invesco FTSE Intl Low Beta Eq Wgt	112		1	0.59	1,557	0.45	2.57	-	N
AADR [A]	AdvisorShares Dorsey Wright ADR	107	↓	1	0.48	-	0.88	-	-	N
INKM [A]	SPDR SSgA Inc. Allocation	106		1	0.10	-	0.50	9.28	-	N
DBAW [C]	Xtrackers MSCI All World ex US Hedg	104		1	0.20	-	0.40	0.18	-	N
TOLZ	ProShares DJ Brookfield Global Infra	100	↑	1	0.16	124	0.46	0.60	-	N
DGT	SPDR Global Dow	99		0	0.27	150	0.50	0.22	-	L
IQDE	FlexShares Intl Quality Div Defensive	96		1	0.21	-	0.47	0.17	-	N
DEW	WisdomTree Global High Div Fund	94		1	0.16	933	0.58	0.15	-	N
IVAL	Alpha Architect Intl Quantitative Value	92		0	0.16	-	0.59	0.31	-	N
MOTI	VanEck Morningstar Intl Moat	91		1	0.63	-	0.56	2.99	-	N
HDMV [A]	First Trust Horizon Managed Vol	89	↑	1	0.30	-	0.80	5.58	-	N
DEEF	Xtrackers FTSE Developed ex US	88	↑	1	0.36	-	0.24	0.07	-	N
IQIN	IQ 500 Intl	86		-	0.33	500	0.25	-	-	N
ISCF	iShares Edge MSCI Multifactor Intl SC	79	↑	1	0.34	-	0.40	0.33	-	N
IQDG	WisdomTree Intl Quality Div Gw th Fund	78	↑	1	0.17	294	0.38	0.16	-	N
DNL	WisdomTree Glb ex-US Quality Div Gw th	75		1	0.20	299	0.58	0.17	-	N
IGRO	iShares Intl Div Gw th	67		1	0.78	-	0.22	0.26	-	N
IMOM	Alpha Architect Intl Quantitative Mom	58		0	0.22	-	0.59	0.43	-	N
NUDM	Nuveen ESG Intl Devel	53	↑	0	0.53	-	0.40	0.08	-	N
HAWX [C]	iShares Curncy Hedg MSCI ACWI EX US	50	↓	1	0.20	-	0.34	3.40	-	N
FFSG [A]	FormulaFolios Smart Gw th	49	↑	0	0.71	-	0.71	-	-	N
LVHI [C]	Legg Mason Intl Low Vol High Div	48		0	0.38	-	0.40	0.78	-	N
IQDY	FlexShares Intl Quality Div Dynamic	45	↓	0	0.23	-	0.47	0.20	-	N
CIL	VictoryShares Intl Vol Wtd	44	↑	0	0.30	500	0.45	0.28	-	N
CID	VictoryShares Intl High Div Vol Wtd	43		0	0.46	100	0.45	0.33	-	N
MFDX	PIMCO RAFI Dynamic Multi-Factor Intl	38	↑	0	0.27	-	0.39	2.84	-	N
ADRD	Invesco BLDRS DM 100 ADR	36	↓	0	0.55	97	0.27	0.20	-	N
DDLS [C]	WisdomTree Dynamic Curncy Hedg Intl SC	34	↑	0	0.35	-	0.43	0.51	-	N
LVL	Invesco S&P Global Div Opportunities	31	↓	0	0.79	-	0.64	0.55	-	N
IDHQ	Invesco S&P Intl Developed Quality	31		0	0.68	254	0.29	1.29	-	N
FIDI	Fidelity Intl High Div	30	↑	0	0.68	-	0.39	1.49	-	N
QXGG	QuantX Risk Managed Gw th	27	↓	0	1.11	-	1.22	1.06	-	N
FYLD	Cambria Foreign Shareholder Yield	27	↓	0	0.62	-	0.59	1.28	-	N
PQIN [A]	PGIM QMA Strategic Alpha Intl Equity	26		-	0.51	-	0.29	-	-	N
MVIN [A]	Natixis Seeyond Intl Minimum Vol	26	↑	0	0.22	-	0.55	5.81	-	N
WBIA [A]	WBI BullBear Rising Inc. 2000	26	↓	0	0.29	-	1.08	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	International									
Global (Continued)										
FLQG	Franklin LibertyQ Global Equity	25	↑	0	0.82	-	0.35	0.16	-	N
HDAW	Xtrackers MSCI All World ex US Div Yield	25	↑	0	0.45	304	0.20	0.16	-	N
EFZ	ProShares Short MSCI EAFE	24	↑	1	0.07	921	0.95	4.27	-1x	L
ROGS	Hartford Multifactor Global SC	24		0	0.43	441	0.39	0.11	-	N
FPXI	First Trust Intl Equi	23		0	0.55	-	0.70	2.52	-	N
RNDM	Developed Intl Equity Select	23	↑	0	0.50	451	0.65	2.18	-	N
HSCZ [C]	iShares Curncy Hedg MSCI EAFE SC	22	↑	0	0.16	-	0.42	3.62	-	N
GENY	Principal Millennials Idx	21		0	0.57	99	0.45	0.52	-	N
DWMF [C A]	WisdomTree Intl Multifactor Fund	20		0	0.30	-	0.38	-	-	N
DHDG [C]	WisdomTree Dynamic Curncy Hedg Intl	19	↑	0	0.35	-	0.48	3.61	-	N
RWUI	Direxion FTSE Russell US Over Intl	17		-	0.08	-	0.46	-	-	N
FLQD	LibertyQ Global Div	17		0	0.36	-	0.45	0.08	-	N
DZK	Direxion Daily DM Bull 3X Shares	16	↓	0	0.37	921	1.19	-	+3x	L
QWLD	SPDR MSCI World StrategicFactors	16	↓	0	0.26	-	0.30	0.11	-	N
VEGA [A]	AdvisorShares STAR Global Buy-Write	15		0	1.84	-	2.06	3.47	-	N
RWDE	Direxion MSCI Developed Over EM	15		-	0.14	-	0.52	-	-	N
RWIU	Direxion FTSE Russell Intl Over US	15		-	0.11	-	0.55	-	-	N
RWED	Direxion Msci Emerging Over DM	15		-	0.13	-	0.58	-	-	N
WBID [A]	WBI BullBear Quality 2000	15	↓	0	0.30	-	1.06	-	-	N
PXUS	Principal Intl Multi-Factor Idx	14		-	0.92	-	0.39	1.10	-	N
RGLB	Oppenheimer Global Revenue	13		0	0.80	2,768	0.43	0.44	-	N
REFA	Oppenheimer Intl Revenue	13		0	0.30	919	0.42	0.28	-	N
TTAI [A]	TrimTabs All Cap Intl Free Cash-Flow	12	↑	0	2.00	-	0.59	9.39	-	N
FDEV	Fidelity Targeted Intl Factor	10		-	0.15	206	0.39	-	-	N
FLIO [A]	Franklin Liberty Intl Opportunities	10	↑	0	0.41	-	0.60	2.92	-	N
IDHD	Invesco S&P Intl Developed Div Low Vol	10	↑	0	0.99	-	0.30	0.78	-	N
FDTS	First Trust DM ex-US SC AlphaDEX	9	↓	-	0.84	-	0.80	4.14	-	N
DPK	Direxion Daily DM Bear 3X Shares	8	↑	0	0.44	921	1.08	-	-3x	L
DEFA [C]	iShares Adaptive Curncy Hdg. MSCI EAFA	8	↑	0	0.28	-	0.34	3.49	-	N
TLDH [C]	FlexShares Curncy Hdg. Morningstar DM	8		0	0.46	-	0.44	3.60	-	N
FLQH [C]	LibertyQ Intl Equity Hedg	8	↓	0	0.40	-	0.40	0.13	-	N
EFO	ProShares Ultra MSCI EAFE	7	↓	0	0.77	921	0.95	7.73	+2x	N
EFAS	Global X MSCI SuperDiv EAFE	6		0	0.61	-	0.55	0.25	-	N
ISZE	iShares Edge MSCI Intl Size Factor	5		0	0.38	1,012	0.30	1.82	-	N
VGFO [A]	Virtus WMC Global Factor Opportunities	5		0	0.27	-	0.49	2.01	-	N
BRGL	Bernstein Global Research Fund	5	↑	0	0.36	145	0.65	0.62	-	N
WLDR	Affinity World Leaders Equity	5		0	1.41	-	0.47	1.14	-	N
EFU	ProShares UltraShort MSCI EAFE	3		0	0.46	921	0.95	8.26	-2x	L
XMX	WisdomTree Global EX-Mexico Equity Fund	3	↓	1	0.11	-	0.20	0.40	-	N
IDMO	Invesco S&P Intl Developed Mom	3		0	0.76	-	0.25	2.73	-	N
DMDV	AAM S&P DM High Div Value	3		-	1.16	56	0.39	-	-	N
ISDX	Invesco Strategic Developed ex-US	2		-	0.92	-	0.23	-	-	N
PBDM	Invesco PureBeta FTSE Developed ex-NA	2		0	1.35	-	0.07	1.48	-	N
RIDV	Oppenheimer Intl Ultra Div Revenue	2		0	0.34	200	0.42	-	-	N
ISDS	Invesco Developed ex-US Small Company	2		-	0.97	-	0.35	-	-	N
PPDM	PortfolioPlus DM	2	↓	0	1.23	3,884	0.45	4.11	+1.35x	N
IPOS	Renaissance Intl IPO	2		0	1.65	69	0.80	1.71	-	N
DWMC [A]	AdvisorShares Dorsey Wright Micro-Cap	2		0	1.50	-	0.99	-	-	N
Emerging Markets										
VWO	Vanguard FTSE EM	65,475		785	0.02	4,025	0.12	3.55	-	L
IEMG	iShares Core MSCI EM	60,808	↑	1,053	0.02	2,708	0.14	0.22	-	L
EEM	iShares MSCI EM	35,484		3,512	0.02	1,137	0.67	0.19	-	H
SCHE	Schw ab EM Equity	5,997		48	0.04	1,068	0.13	0.31	-	L
EEMV	iShares Edge MSCI Min Vol EM	5,806	↑	52	0.02	309	0.25	0.20	-	L
SPEM	SPDR Portfolio EM	2,913	↑	37	0.03	3,210	0.11	0.87	-	L
FNDE	Schw ab Fundamental EM Large Company	2,417		11	0.06	268	0.39	0.50	-	L
DEM	WisdomTree EM High Div Fund	2,243		17	0.04	605	0.63	0.30	-	L
GEM	Goldman Sachs ActiveBeta EM Equity	1,816		7	0.10	-	0.45	0.38	-	L
DGS	WisdomTree EM SC Div Fund	1,477		6	0.10	1,017	0.63	0.32	-	L
PXH	Invesco FTSE RAFI EM	1,340	↑	11	0.05	360	0.50	2.12	-	L
JHEM	John Hancock Multifactor EM	822		7	0.24	640	0.55	-	-	N
FEM	First Trust EM AlphaDEX	701		7	0.09	-	0.80	3.42	-	L
TLTE	FlexShares Morningstar EM Factor Tilt	588		2	0.18	-	0.59	0.18	-	N
DVYE	iShares EM Div	572	↑	8	0.08	-	0.49	0.34	-	N
EEMA	iShares MSCI EM Asia	539		6	0.27	883	0.50	-	-	N
GMF	SPDR S&P Emerging Asia Pacific	513		3	0.24	2,354	0.49	0.86	-	L
FM	iShares MSCI Frontier 100	500	↓	3	0.17	117	0.81	0.21	-	L
EWX	SPDR S&P EM SC	500		4	0.10	2,125	0.65	0.80	-	L
EDIV	SPDR S&P EM Div	455		5	0.20	-	0.49	0.82	-	L
EMQQ	EM Internet and Ecommerce	438		4	0.13	58	0.86	0.14	-	N
EMGF	iShares Edge MSCI Multifactor EM	389	↑	4	0.21	193	0.45	0.46	-	N
MFEM	PIMCO RAFI Dynamic Multi-Factor EM	389		0	0.28	-	0.49	2.84	-	N
FLQE	Franklin LibertyQ EM	348		2	0.27	-	0.55	0.26	-	N
EELV	Invesco S&P EM Low Vol	342	↓	2	0.31	200	0.29	1.45	-	L
JPEM	JPMorgan Diversified Ret EM Equity	333	↑	3	0.19	627	0.45	3.35	-	L
XSOE	WisdomTree EM EX-State-Ow ned Enterp.	325	↑	3	0.16	-	0.32	0.62	-	N
QEMM	SPDR MSCI EM StrategicFactors	295		1	0.59	-	0.30	0.45	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Emerging Markets (Continued)										
ECON	Columbia EM Consumer	291	↓	5	0.10	61	0.59	0.41	-	L
HEEM[C]	iShares Curncy Hedg MSCI EM	274	↓	2	0.20	-	0.67	4.62	-	N
EEMS	iShares MSCI EM SC	273		3	0.34	1,571	0.67	0.41	-	N
EDC	Direxion Daily EM Bull 3X Shares	239		23	0.08	1,137	1.47	-	+3x	L
BKF	iShares MSCI BRIC	203	↓	7	0.15	623	0.67	0.31	-	L
UEVM	USAA MSCI EM Value Mom Blend Idx	181	↑	0	0.20	249	0.45	0.69	-	N
PIE	Invesco DWA EM Markets Mom	162	↓	1	0.43	-	0.90	1.98	-	L
FEMS	First Trust EM SC AlphaDEX	156	↓	2	0.66	-	0.80	3.44	-	N
BICK	First Trust BICK	154	↓	0	0.70	-	0.64	2.52	-	N
ADRE	Invesco BLDRS EM 50 ADR	139		0	0.38	50	0.18	0.20	-	N
DBEM[C]	Xtrackers MSCI EM Hedg Equity	120	↓	1	0.55	-	0.65	0.25	-	N
RFEM[C A]	First Trust RiverFront Dynamic EM	117		1	0.21	-	0.95	4.53	-	N
ROAM	Hartford Multifactor Emerging Markets	82	↑	1	0.65	326	0.49	0.18	-	N
EEB	Invesco BRIC	73		0	0.11	-	0.64	0.59	-	L
DGRE[A]	WisdomTree EM Quality Div Gw th Fund	71		0	0.58	-	0.32	-	-	N
EDZ	Direxion Daily EM Bear 3X Shares	65		10	0.06	1,137	1.09	-	-3x	L
EUM	ProShares Short MSCI EM	63	↓	16	0.06	1,137	0.95	5.84	-1x	L
FRN	Invesco Frontier Markets	58	↓	1	0.34	-	0.70	0.75	-	N
NUEM	Nuveen ESG EM Eq	56	↑	0	0.62	-	0.45	0.30	-	N
EET	ProShares Ultra MSCI EM	54		2	0.63	1,137	0.95	-	+2x	L
DVEM	WisdomTree EM Div Fund	51	↑	0	0.46	1,689	0.32	0.30	-	N
DMRE	DeltaShares S&P EM 100 & Managed Risk	46		-	0.19	-	0.60	-	-	N
CEY	VictoryShares EM High Div Vol WTD Idx	37	↑	0	0.25	-	0.50	-	-	N
EMCG[A]	WisdomTree EM Consumer Gw th Fund	35		0	0.46	-	0.32	-	-	N
EDOG	ALPS Emerging Sector Div Dogs	33	↓	0	0.37	50	0.60	0.27	-	N
MXDE	Nationw ide Max Diversification EM	27		0	0.53	677	0.64	0.81	-	N
EMMF[C A]	WisdomTree EM Multifactor Fund	26		0	0.29	-	0.48	-	-	N
BBRC	Columbia Beyond BRICs	26	↓	0	1.06	91	0.60	0.22	-	N
EMIF	iShares EM Infra	25	↓	0	0.71	30	0.75	1.48	-	N
EMDV	ProShares MSCI EM Div Grow ers	21		0	0.40	83	0.60	1.42	-	N
EYLD	Cambria Emerging Shareholder Yield	21	↓	0	0.99	-	0.69	2.10	-	N
SDEM	Global X MSCI SuperDiv Em	19		0	0.30	-	0.67	0.32	-	N
CEZ	VictoryShares EM Vol Wtd	18		0	0.16	500	0.50	0.53	-	N
EEV	ProShares UltraShort MSCI EM	17		1	0.08	1,137	0.95	-	-2x	L
EMFM	Global X MSCI Next Emerging & Frontier	17		0	0.57	200	0.55	3.10	-	N
REEM	Oppenheimer EM Revenue	16		0	0.57	1,136	0.46	0.52	-	N
EMXC	iShares MSCI EM ex China	15	↑	0	0.24	667	0.49	0.92	-	N
EWEM	Invesco MSCI EM Equal Country Weight	13		0	0.30	-	0.70	1.11	-	N
RNEM	EM Equity Select	13	↑	0	0.45	277	0.75	2.60	-	N
XCEM	Columbia EM Core ex-China	12	↑	0	1.87	699	0.35	3.38	-	N
EMEM	Virtus Glovista EM	10	↓	0	0.68	568	0.67	1.66	-	N
FDEM	Fidelity Targeted EM Factor	10		-	0.20	215	0.45	-	-	N
KALL	KraneShares MSCI All China Idx	8	↑	0	0.38	639	0.72	5.88	-	N
EEMO	Invesco S&P EM Markets Mom	7	↓	0	0.82	-	0.30	2.44	-	N
LVHE[C]	Legg Mason EM Low Vol High Div	6		0	1.28	-	0.50	0.59	-	N
TLEH[C]	FlexShares Curncy Hedg Morningstar EM	6	↓	0	0.35	-	0.64	5.64	-	N
HILO	Columbia EM Quality Div	6	↓	0	2.10	50	0.60	0.32	-	N
DEMG	Xtrackers FTSE Emerging Comprehensive	4	↓	0	0.81	873	0.50	0.24	-	N
REDV	Oppenheimer EM Ultra Div Revenue	4		0	0.28	100	0.46	-	-	N
EEMD	AAM S&P EM High Div Value	3	↑	0	0.41	55	0.49	0.50	-	N
PPEM	PortfolioPlus EM	3	↓	0	1.17	-	0.45	7.42	+1.35x	N
ISEM	Invesco Strategic EM	3		0	0.62	-	0.35	-	-	N
KEMX	KraneShares MSCI EM ex China Idx	3		-	0.53	667	0.49	-	-	N
PBEE	Invesco PureBeta FTSE EM	2		0	1.92	1,068	0.14	2.09	-	N
Regional										
VGK	Vanguard FTSE Europe	13,936	↓	265	0.02	1,326	0.09	2.30	-	L
EZU	iShares MSCI Eurozone	7,093	↓	244	0.03	246	0.47	0.13	-	L
AAXJ	iShares MSCI All Country Asia ex JP	4,596		100	0.01	956	0.67	0.17	-	L
BBEU	JPMorgan BetaBuilders Europe	4,333		36	0.05	540	0.09	-	-	N
VPL	Vanguard FTSE Pacific	4,072		29	0.02	2,297	0.09	5.68	-	L
HEDJ[C]	WisdomTree Europe Hedg Equity Fund	3,899	↓	50	0.02	139	0.58	0.25	-	L
IEUR	iShares Core MSCI Europe	3,496	↑	42	0.02	1,431	0.10	0.10	-	L
EPP	iShares MSCI Pacific ex JP	2,551		24	0.02	1,032	0.48	0.08	-	L
FEZ	SPDR EURO STOXX 50	2,290	↓	163	0.03	50	0.29	0.12	-	M
IEV	iShares Europe	1,928	↓	29	0.02	-	0.60	0.12	-	L
ILF	iShares Latin America 40	1,861		49	0.03	41	0.48	0.71	-	L
BBAX	JPMorgan BB Developed Asia EX-JP	1,289		8	0.12	168	0.19	-	-	N
AIA	iShares Asia 50	1,128		5	0.10	51	0.50	0.43	-	L
IPAC	iShares Core MSCI Pacific	1,030		6	0.10	1,751	0.10	0.27	-	N
HEZU[C]	iShares Curncy Hedg MSCI Eurozone	934	↓	21	0.03	-	0.50	2.40	-	L
FFEU	Barclays ETN+ FI Enhanced Europe 50 ETN	887	↑	2	0.49	50	1.05	1.44	+2x	N
DBEU[C]	Xtrackers MSCI Europe Hedg Equity	849	↓	13	0.04	-	0.45	0.12	-	L
EUFN	iShares MSCI Europe Fin.	712	↓	19	0.05	80	0.48	0.24	-	L
DFE	WisdomTree Europe SC Div Fund	643	↓	5	0.06	477	0.58	0.32	-	L
FEP	First Trust Europe AlphaDEX	631	↓	6	0.09	-	0.80	2.40	-	L
FIEE	FI Enhanced Europe 50 ETN/UBS	526		1	1.04	50	0.95	-	+2x	N
FEUL	Credit Suisse FI Enhanced Europe 50 ETN	339		0	0.72	50	1.00	-	+2x	N

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International										
Regional (Continued)										
FDD	First Trust STOXX European Select Div	332	↓	2	0.08	-	0.60	2.04	-	L
IEUS	iShares MSCI Europe SC	288	↑	3	0.25	991	0.40	0.11	-	N
PTEU	Pacer Trendpilot European Idx	185	↑	1	0.35	-	0.65	1.15	-	N
FEU	SPDR STOXX Europe 50	174	↓	1	0.11	50	0.29	0.16	-	N
FNI	First Trust Chindia	132	↓	3	0.16	50	0.60	0.06	-	N
EUSC[C]	WisdomTree Europe Hedg SC Equity	126	↓	1	0.15	-	0.58	0.51	-	L
FLEE	Franklin FTSE Europe	77	↓	0	0.25	586	0.09	0.11	-	N
RFEU[C A]	First Trust RiverFront Dynamic Europe	67	↓	1	0.26	-	0.83	4.06	-	N
AFK	VanEck Africa Idx	60		0	0.67	82	0.78	1.55	-	N
FEUZ	First Trust Eurozone AlphaDEX	55		1	0.85	-	0.80	2.19	-	N
EUDG	WisdomTree Europe Quality Div Gw th Fund	42	↓	0	0.23	294	0.58	0.28	-	N
RFAP[C A]	First Trust RiverFront Dynamic Asia Pacific	39	↓	0	0.41	-	0.83	6.38	-	N
FPA	First Trust Asia Pacific ex-JP AlphaDEX	37	↓	0	1.02	-	0.80	3.79	-	N
AXJL	WisdomTree Asia-Pacific ex-JP Fund	34	↓	0	0.27	299	0.48	0.34	-	N
DBEZ[C]	Xtrackers MSCI Eurozone Hedg Equity	33	↓	0	0.09	-	0.45	0.15	-	N
DVYA	iShares Asia/Pacific Div	33		0	0.48	30	0.49	0.12	-	N
EURL	Direxion Daily FTSE Europe Bull 3x Shares	31	↓	1	0.10	1,326	1.06	-	+3x	L
GSEU	Goldman Sachs ActiveBeta Europe Equity	30	↓	0	0.19	-	0.25	0.15	-	N
IFEU	iShares Europe Developed Real Estate	30	↓	0	0.23	108	0.48	0.13	-	N
LBJ	Direxion Daily Latin America Bull 3X Shares	29	↑	1	0.49	41	1.33	5.96	+3x	L
OEUR	O'Shares FTSE Europe Quality Div	27	↓	0	0.33	187	0.48	0.37	-	N
EUMV	iShares Edge MSCI Min Vol Europe	24	↓	0	0.16	176	0.25	0.18	-	N
GXF	Global X FTSE Nordic Region	23	↓	0	1.92	31	0.58	0.32	-	N
ASEA	Global X FTSE Southeast Asia	22		0	1.11	-	0.65	0.18	-	N
GULF	WisdomTree Middle East Div Fund	22		0	1.12	95	0.88	0.40	-	N
SMEZ	SPDR EURO STOXX SC	21	↓	0	0.18	99	0.46	0.11	-	N
ADRA	Invesco BLDRS Asia 50 ADR	19		0	1.18	50	0.30	0.38	-	N
FLN	First Trust Latin America AlphaDEX	19	↓	0	0.62	-	0.80	4.49	-	N
FLAX	Franklin FTSE Asia ex JP	18	↑	0	0.35	929	0.19	0.42	-	N
JPEU	JPMorgan Diversified Ret Europe Equity	17	↓	1	0.10	346	0.38	2.30	-	N
EPV	ProShares UltraShort FTSE Euro	13	↓	0	0.24	1,326	0.95	-	-2x	L
EUMF	WisdomTree Dynamic Curncy Hedg EU	13		0	0.56	-	0.43	1.07	-	N
ADRU	Invesco BLDRS Europe Select ADR	12	↓	0	0.84	70	0.30	0.08	-	N
EUDV	ProShares MSCI Europe Div Grow ers	10		0	0.44	35	0.55	0.13	-	N
AXJV	iShares Edge MSCI Min Vol Asia ex JP	9	↑	0	0.54	261	0.35	0.58	-	N
HFXE[C]	IQ 50 Percent Hedg FTSE Europe	9	↓	0	0.35	586	0.30	0.47	-	N
FLEU	Barclays ETN+ FI Enhanced Europe 50	9	↓	0	0.46	50	0.76	1.48	+2x	N
UPV	ProShares Ultra FTSE Europe	6	↓	0	1.60	1,326	0.95	8.81	+2x	N
SCID	Global X Scientific Beta Europe	5	↓	0	0.33	-	0.38	0.17	-	N
FLEH[C]	Franklin FTSE Europe Hedg	5	↓	0	0.56	586	0.09	0.29	-	N
EUXL	Direxion Daily Euro Stoxx 50 Bull 3x Shares	3		0	0.58	50	1.21	-	+3x	N
DEZU[C]	iShares Curncy Hedg MSCI Eurozone	3		0	0.23	-	0.50	2.46	-	N
PACA	Xtrackers MSCI LA Pacific Alliance	3		-	0.29	140	0.45	-	-	N
FLLA	Franklin FTSE Latin America	3		0	0.20	148	0.19	-	-	N
SCIX	Global X Scientific Beta Asia ex-JP	2	↓	0	0.38	-	0.38	0.18	-	N
EURZ	Xtrackers Eurozone Equity	2		0	0.22	309	0.09	0.10	-	N
Country										
EWJ	iShares MSCI JP	14,298	↓	565	0.02	322	0.47	0.09	-	M
EWZ	iShares MSCI Brazil	8,653		1,213	0.02	-	0.59	0.14	-	H
FXI	iShares China Large-Cap	6,280	↑	1,442	0.02	50	0.74	0.26	-	H
INDA	iShares MSCI India	5,074		171	0.03	79	0.68	1.26	-	M
EWY	iShares MSCI South Korea	4,937	↑	239	0.02	114	0.59	0.20	-	M
MCHI	iShares MSCI China	4,866	↑	414	0.02	469	0.59	0.12	-	L
BBCA	JPMorgan BetaBuilders Canada	3,744		15	0.06	97	0.19	-	-	N
BBJP	JPMorgan BetaBuilders JP	3,473		30	0.05	385	0.19	-	-	N
EWT	iShares MSCI Taiw an	3,469		188	0.03	87	0.59	0.12	-	L
DXJ[C]	WisdomTree JP Hedg Equity Fund	3,340	↓	84	0.02	-	0.48	0.30	-	L
EWH	iShares MSCI Hong Kong	2,830		131	0.04	47	0.48	0.12	-	L
EWC	iShares MSCI Canada	2,647		77	0.04	91	0.47	0.12	-	L
EWG	iShares MSCI Germany	2,592	↓	110	0.04	64	0.47	0.15	-	L
EWU	iShares MSCI UK	2,414	↑	93	0.03	96	0.47	0.08	-	L
ASHR	Xtrackers Harvest CSI 300 China A-Shares	2,304	↑	128	0.03	-	0.66	2.80	-	H
KWEB	KraneShares CSI China Internet	2,069	↑	113	0.02	-	0.70	0.52	-	M
GXC	SPDR S&P China	1,570	↑	24	0.06	672	0.59	0.39	-	L
RSX	VanEck Russia	1,412	↓	204	0.05	26	0.62	1.86	-	L
EPI	WisdomTree India Earnings Fund	1,347		44	0.04	417	0.84	1.10	-	L
EWA	iShares MSCI Australia	1,263		57	0.05	69	0.47	0.15	-	L
EWW	iShares MSCI Mexico	1,126		197	0.02	-	0.47	0.09	-	H
EWL	iShares MSCI Sw itzerland	1,041		38	0.03	-	0.47	0.22	-	L
EWP	iShares MSCI Spain	913		29	0.03	21	0.47	0.12	-	L
EWQ	iShares MSCI France	883		33	0.03	79	0.47	0.19	-	L
INDY	iShares India 50	835		5	0.05	-	0.92	4.06	-	L
KBA	KraneShares Bosera MSCI China A	673	↑	8	0.05	238	0.60	2.85	-	L
EIDO	iShares MSCI Indonesia	652	↑	35	0.04	71	0.59	0.44	-	L
KSA	iShares MSCI Saudi Arabia	627	↑	8	0.11	-	0.74	0.14	-	L
ERUS	iShares MSCI Russia	617		12	0.03	23	0.59	0.50	-	L
EWS	iShares MSCI Singapore	608		16	0.04	25	0.47	0.16	-	L

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	International									
Country (Continued)										
DFJ	WisdomTree JP SC Div Fund	592	↓	8	0.08	869	0.58	0.33	-	L
QQQQ	Invesco China Tech	565	↑	12	0.11	-	0.70	2.57	-	N
HEWJ [C]	iShares Currncy Hedg MSCI JP	555	↓	25	0.03	-	0.48	7.93	-	L
EWM	iShares MSCI Malaysia	537		30	0.03	44	0.47	0.10	-	L
DBJP [C]	Xtrackers MSCI JP Hedg Equity	520	↓	13	0.04	322	0.46	0.15	-	L
EZA	iShares MSCI South Africa	510		52	0.03	50	0.59	0.09	-	L
BRZU	Direxion Daily Brazil Bull 3X Shares	492	↑	66	0.06	52	1.36	-	+3x	L
THD	iShares MSCI Thailand	448		22	0.08	-	0.59	0.13	-	L
VNM	VanEck Vietnam	428		5	0.07	25	0.66	3.96	-	N
YINN	Direxion Daily FTSE China Bull 3X Shares	414	↑	68	0.04	50	1.52	-	+3x	L
ECH	iShares MSCI Chile	389		19	0.05	34	0.59	0.18	-	L
TUR	iShares MSCI Turkey	343	↑	18	0.05	52	0.59	0.22	-	L
FLJP	Franklin FTSE JP	309	↑	3	0.15	512	0.09	0.09	-	N
EWI	iShares MSCI Italy	308	↓	21	0.04	-	0.47	0.27	-	L
GREK	Global X MSCI Greece	296	↓	3	0.13	-	0.59	1.22	-	L
EPOL	iShares MSCI Poland	291		9	0.05	-	0.63	0.48	-	L
SMIN	iShares MSCI India SC	277		3	0.24	259	0.77	0.53	-	N
EPHE	iShares MSCI Philippines	264	↑	12	0.07	40	0.59	0.11	-	L
CN	Xtrackers MSCI All China Equity	260	↑	5	0.14	639	0.50	3.42	-	N
EWD	iShares MSCI Sweden	222	↓	14	0.03	32	0.53	0.62	-	L
PGJ	Invesco Golden Dragon China	217		1	0.48	64	0.70	0.03	-	L
HEWG [C]	iShares Currncy Hedg MSCI Germany	202	↓	5	0.04	515	0.53	2.60	-	L
EWN	iShares MSCI Netherlands	192		9	0.03	20	0.47	0.23	-	L
PIN	Invesco India Trust	184	↓	2	0.07	-	0.82	2.37	-	L
EPU	iShares MSCI Peru	183		2	0.13	24	0.59	0.73	-	L
SCIF	VanEck India SC Idx	183		2	0.28	194	0.72	3.45	-	L
CHAU	Direxion Daily CSI 300 China A Share Bull2X	172	↑	13	0.04	-	1.15	-	+2x	L
FSZ	First Trust Switzerland AlphaDEX	171	↓	1	0.30	-	0.80	2.43	-	N
CHIQ	Global X MSCI China Consumer Disc.	169	↓	1	0.19	51	0.65	4.10	-	L
FGM	First Trust Germany AlphaDEX	162	↓	0	0.28	-	0.80	2.43	-	N
ENZL	iShares MSCI New Zealand	160		2	0.35	-	0.47	0.15	-	L
SCJ	iShares MSCI JP SC	157	↓	8	0.09	976	0.47	0.13	-	L
CXSE	WisdomTree China ex-State-Owned Enterp.	156	↓	3	0.18	-	0.32	2.81	-	N
CNYA	iShares MSCI China A	144	↑	1	0.25	238	0.65	1.86	-	L
FJP	First Trust JP AlphaDEX	143		2	0.36	-	0.80	6.65	-	N
EIS	iShares MSCI Israel	138		1	0.45	-	0.59	0.25	-	N
FBZ	First Trust Brazil AlphaDEX	137	↑	2	0.58	-	0.80	6.34	-	N
RUSL	Direxion Daily Russia Bull 3x Shares	129	↓	5	0.16	26	1.36	-	+3x	L
INCO	Columbia India Consumer	128		1	0.63	30	0.76	0.70	-	N
JPXN	iShares JPX Nikkei 400 Idx	116		1	0.16	397	0.48	1.18	-	N
CHIX	Global X MSCI China Fin.	108	↑	2	0.16	83	0.65	5.17	-	L
ASHX	Xtrackers MSCI China A Inclusion Equity	99	↑	1	0.71	238	0.60	2.72	-	N
NORW	Global X MSCI Norway	96	↓	1	0.65	-	0.50	0.34	-	N
PEK	VanEck ChinaAMC CSI 300	91	↑	1	0.20	300	0.60	5.57	-	L
YANG	Direxion Daily FTSE China Bear 3X Shares	90	↑	14	0.05	50	1.08	-	-3x	L
EWZS	iShares MSCI Brazil SC	89	↑	1	0.50	-	0.59	1.64	-	N
BRF	VanEck Brazil SC	88		1	0.51	66	0.59	5.73	-	L
ARGT	Global X MSCI Argentina	87	↓	2	0.33	-	0.59	0.18	-	L
ASHS	Xtrackers Harvest CSI 500 China A-Shares	82	↑	2	0.13	500	0.65	2.72	-	L
GXG	Global X MSCI Colombia	81	↓	1	0.43	-	0.61	2.00	-	L
INDL	Direxion Daily MSCI India Bull	81	↓	4	0.20	79	1.38	-	+3x	L
DXJS [C]	WisdomTree JP Hedg SC	80	↓	1	0.27	869	0.58	0.32	-	L
CWEB	Direxion Daily CSI China Internet Idx Bull 2x	76		3	0.19	-	1.25	7.08	+2x	L
EWUS	iShares MSCI UK SC	71	↑	0	0.56	267	0.59	0.13	-	N
EWO	iShares MSCI Austria	70	↓	1	0.29	-	0.47	0.28	-	L
HAO	Invesco China SC	67		0	0.16	-	0.75	3.68	-	L
ITEQ	BlueStar Israel Tech	64	↑	1	0.14	56	0.75	0.83	-	N
TAO	Invesco China Real Estate	63	↓	1	0.47	-	0.70	3.51	-	L
EIRL	iShares MSCI Ireland	61		1	0.59	27	0.47	0.54	-	N
EGPT	VanEck Egypt Idx	57		1	1.36	25	0.94	1.76	-	N
QAT	iShares MSCI Qatar	57		0	0.30	-	0.59	0.50	-	N
UAE	iShares MSCI UAE	56	↑	0	0.40	-	0.59	0.83	-	N
DXGE [C]	WisdomTree Germany Hedg Equity Fund	55	↓	0	0.18	-	0.48	0.51	-	N
ISRA	VanEck Israel	54		0	0.69	123	0.59	3.84	-	L
EWK	iShares MSCI Belgium	54	↓	1	0.25	46	0.47	0.22	-	L
XPP	ProShares Ultra FTSE China 50	47		1	0.30	50	0.95	-	+2x	L
KORU	Direxion Daily South Korea Bull 3X Shares	47	↑	3	0.11	114	1.37	-	+3x	N
EDEN	iShares MSCI Denmark	45		1	0.31	-	0.53	0.22	-	N
IDX	VanEck Indonesia Idx	45		0	0.29	43	0.57	3.21	-	N
FLCH	Franklin FTSE China	44	↑	0	0.24	273	0.19	0.08	-	N
EWGS	iShares MSCI Germany SC	43	↓	0	0.31	113	0.59	0.18	-	N
JPMV	iShares Edge MSCI Min Vol JP	39		0	0.10	180	0.30	0.11	-	N
HEWC [C]	iShares Currncy Hedg MSCI Canada	39	↑	0	0.32	-	0.50	1.57	-	N
NGE	Global X MSCI Nigeria	38	↓	0	0.93	-	0.88	0.53	-	N
PAK	Global X MSCI Pakistan	36		0	1.37	-	0.87	1.09	-	N
RSXJ	VanEck Russia SC	36		0	1.07	25	0.67	1.05	-	N
KURE	Kraneshares MSCI All China HealthCare	35	↑	1	1.05	59	0.82	0.74	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	International									
Country (Continued)										
FXP	ProShares UltraShort FTSE China 50	35	↑	5	0.04	50	0.95	-	-2x	L
CNXT	VanEck ChinaAMC SME-Ch	34	↑	1	0.19	-	0.65	5.79	-	L
ENOR	iShares MSCI Norway	33		1	0.45	-	0.53	0.26	-	N
EFNL	iShares MSCI Finland	31	↓	1	0.32	-	0.53	0.47	-	N
GSJY	Goldman Sachs ActiveBeta JP Equity	31	↓	0	0.22	-	0.25	0.31	-	N
JPN	Xtrackers JP JPX-Nikkei 400 Equity	31	↑	2	0.30	397	0.09	1.20	-	N
INXX	Columbia India Infra	30	↓	0	0.97	30	0.76	0.91	-	L
FLGB	Franklin FTSE UK	30	↑	0	0.22	133	0.09	0.06	-	N
BZQ	ProShares UltraShort MSCI Brazil Capped	30	↑	3	0.11	52	0.95	-	-2x	L
DBGR [C]	Xtrackers MSCI Germany Hedg Equity	25	↓	0	0.18	515	0.45	0.22	-	N
RUSS	Direxion Daily Russia Bear 3x Shares	24	↑	2	0.17	26	1.12	-	-3x	L
ECNS	iShares MSCI China SC	23		0	0.79	233	0.59	0.85	-	L
PGAL	Global X MSCI Portugal	23	↓	0	1.05	1,757	0.57	0.87	-	N
ZCAN	SPDR Solactive Canada	22	↓	0	0.12	98	0.14	1.86	-	N
WCHN	WisdomTree ICBCCS S&P China 500 Fund	22	↑	0	0.17	563	0.55	0.44	-	N
CHAD	Direxion Daily CSI 300 China A Share	22	↓	1	0.12	-	0.85	-	-1x	L
AGT	iShares MSCI Argentina and Glb Exposure	21	↓	0	0.28	-	0.59	0.14	-	N
FLBR	Franklin FTSE Brazil	21	↓	0	0.24	77	0.19	0.55	-	N
FLHK	Franklin FTSE Hong Kong	20	↑	0	0.27	91	0.09	0.10	-	N
IZRL	ARK Israel Innovative Tech	20		0	0.94	-	0.49	0.75	-	N
FLKR	Franklin FTSE South Korea	17		0	0.42	137	0.09	0.18	-	N
DAX	Global X Dax Germany	16		0	0.34	30	0.20	0.36	-	N
ICOL	iShares MSCI Colombia	16		0	0.63	28	0.61	0.40	-	N
FLTW	Franklin FTSE Taiwan	15	↑	0	0.21	91	0.19	0.06	-	N
FLJH [C]	Franklin FTSE JP Hedg	14	↓	0	0.25	512	0.09	0.56	-	N
SCIN	Columbia India SC	14	↓	0	2.76	74	0.77	1.57	-	N
HEWU [C]	iShares Currncy Hedg MSCI UK	13	↓	0	0.22	-	0.47	2.61	-	N
FLRU	Franklin FTSE Russia	12	↑	0	0.32	32	0.19	0.21	-	N
AFTY	CSOP FTSE China A50/United States	12	↑	0	0.27	50	0.70	0.89	-	L
FKU	First Trust UK AlphaDEX	11	↓	0	0.65	-	0.80	2.89	-	N
HEWP [C]	iShares Currncy Hedg MSCI Spain	11	↓	0	0.28	21	0.50	2.87	-	N
FCA	First Trust China AlphaDEX	11		0	1.51	-	0.80	4.79	-	L
FLIY	Franklin FTSE Italy	11	↑	0	0.22	37	0.09	0.21	-	N
JPNL	Direxion Daily JP 3x Bull Shares	11	↓	0	0.60	322	1.29	-	+3x	L
FCAN	First Trust Canada AlphaDEX	9	↑	0	0.21	-	0.80	1.64	-	N
ZGBR	SPDR Solactive UK	9	↓	0	0.29	108	0.14	1.45	-	N
ZDEU	SPDR Solactive Germany	9		0	0.14	47	0.14	1.69	-	N
ZHOK	SPDR Solactive Hong Kong	8		0	0.18	58	0.14	-	-	N
UBR	ProShares Ultra MSCI Brazil Capped	8	↓	0	0.35	52	0.95	-	+2x	N
FLAU	Franklin FTSE Australia	8	↑	0	0.78	99	0.09	0.13	-	N
EWJV	iShares MSCI JP Value	7		-	1.73	-	0.15	-	-	N
ZJPN	SPDR Solactive JP	7	↓	0	0.13	340	0.14	1.70	-	N
HEWL [C]	iShares Currncy Hedg MSCI Switzerland	7	↑	0	0.12	-	0.50	2.47	-	N
FLIN	Franklin FTSE India	7	↑	0	0.27	148	0.19	1.10	-	N
MEXX	Direxion Daily MSCI Mexico Bull 3x Shares	7	↓	0	0.83	57	1.27	-	+3x	N
EWJE	iShares MSCI JP Eq Wgt	7		-	2.07	322	0.15	-	-	N
YXI	ProShares Short FTSE China 50	6		0	0.24	50	0.95	7.82	-1x	L
EWV	ProShares UltraShort MSCI JP	6		0	0.86	322	0.95	-	-2x	L
HFXJ [C]	IQ 50 Percent Hedg FTSE JP	6	↓	0	0.34	512	0.30	0.12	-	N
EZJ	ProShares Ultra MSCI JP	6	↓	0	1.60	322	0.95	-	+2x	L
DBKO [C]	Xtrackers MSCI South Korea Hedg Equity	6	↓	0	0.52	-	0.58	0.18	-	N
XINA	SPDR MSCI China A Shares IMI	5	↑	0	1.04	1,703	0.65	2.65	-	N
FLCA	Franklin FTSE Canada	5	↑	0	0.61	57	0.09	0.06	-	N
FLMX	Franklin FTSE Mexico	5	↑	0	0.31	39	0.19	0.12	-	N
FLGR	Franklin FTSE Germany	4	↑	0	0.16	82	0.09	0.24	-	N
KFYP	KraneShares CICC China Leaders 100 Idx	4		0		-	0.71	7.88	-	N
DEWJ [C]	iShares Adaptive Currncy Hedg MSCI JP	4		0	0.23	-	0.47	7.96	-	N
KGRN	KraneShares MSCI China Environment Idx	4	↓	0	1.44	44	0.79	1.64	-	N
HEWY [C]	iShares Currncy Hedg MSCI South Korea	4	↑	0	0.55	-	0.59	5.35	-	N
NFTY	First Trust India Nifty 50 Equ	4	↑	-	1.27	50	0.80	2.94	-	N
FHK	First Trust Hong Kong AlphaDEX	4		-	0.83	-	0.80	3.63	-	N
FLSA	Franklin FTSE Saudi Arabia	3		0	0.37	44	0.39	-	-	N
CHIL	Global X MSCI China Large-Cap 50	3		-	1.20	50	0.29	-	-	N
FLZA	Franklin FTSE South Africa	3		0	0.71	75	0.19	-	-	N
HJPX [C]	iShares Currncy Hedg JPX-Nikkei 400	3		0	0.33	-	0.48	8.24	-	N
SCJ	Global X Scientific Beta JP	3	↓	0	0.25	-	0.39	0.15	-	N
JAMF [C]	WisdomTree Dynamic Currncy Hedg JP	3		0	0.45	-	0.43	1.49	-	N
FLFR	Franklin FTSE France	3		0	0.12	86	0.09	0.15	-	N
IXSE	WisdomTree India EX-State-Owned Enterp.	3		-	0.36	78	0.58	-	-	N
CHIM	Global X MSCI China Materials	2	↓	0	2.07	42	0.65	6.91	-	N
FLSW	Franklin FTSE Switzerland	2		0	0.26	49	0.09	0.24	-	N
CHIE	Global X MSCI China Energy	2	↑	0		23	0.66	-	-	N
FKO	First Trust South Korea AlphaDEX	2		-	0.74	-	0.80	3.55	-	N
DBUK [C]	Xtrackers MSCI UK Hdg Equity	2		0	0.55	-	0.45	0.14	-	N
GRMY	Xtrackers Germany Equity	2		0	0.28	83	0.09	0.18	-	N
CHII	Global X MSCI China Industrials	2	↓	0	2.92	81	0.66	6.93	-	N
HEWI [C]	iShares Currncy Hedg MSCI Italy	2	↓	0	0.16	23	0.47	3.63	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Country (Continued)										
FAUS	First Trust Australia AlphaDEX	2		0	0.72	-	0.80	4.49	-	N
CNHX [C]	CSOP MSCI China A Intl Hedg	1		0	0.33	-	0.79	3.91	-	N
HAUD [C]	iShares Currncy Hedg MSCI Australia	1		0	0.69	-	0.50	5.01	-	N
HEWW [C]	iShares Currncy Hedg MSCI Mexico	1	↓	0	0.53	-	0.50	1.43	-	N
Sector / Theme										
GDX	VanEck Gold Miners	9,175	↑	944	0.05	46	0.53	0.86	-	H
VNQI	Vanguard Global ex-U.S. Real Estate	5,859		25	0.03	587	0.12	2.80	-	L
GUNR	FlexShares Glb Upstream Natural Resource	5,667		20	0.04	117	0.46	0.10	-	L
GDXJ	VanEck Junior Gold Miners	3,629		389	0.03	67	0.54	1.11	-	M
IGF	iShares Global Infra	2,857		15	0.04	75	0.47	0.26	-	L
IXN	iShares Global Tech	2,572	↑	22	0.07	116	0.47	0.08	-	N
SKYY	First Trust Cloud Computing	2,305	↑	18	0.04	28	0.60	1.00	-	L
RWX	SPDR Dow Jones Intl Real Estate	2,293	↓	24	0.03	118	0.59	0.45	-	L
RWO	SPDR Dow Jones Global Real Estate	2,269		10	0.09	213	0.50	0.16	-	L
IXJ	iShares Global Healthcare	2,056	↑	13	0.07	103	0.47	0.13	-	L
BOTZ	Global X Robotics & AI	1,741	↓	19	0.05	36	0.68	0.33	-	L
HACK	ETFMG Prime Cyber Security	1,679		10	0.09	52	0.60	0.17	-	L
MJ	ETFMG Alternative Harvest	1,262	↑	30	0.20	33	0.75	4.08	-	M
GNR	SPDR S&P Global Natural Resources	1,224		9	0.11	88	0.40	0.27	-	L
NUGT	Direxion Daily Gold Miners Idx Bull 3X	1,082	↑	149	0.05	46	1.23	7.73	+3x	H
IXC	iShares Global Energy	982	↓	16	0.05	68	0.47	0.17	-	L
NFRA	FlexShares STOXX Global Broad Infra	942		2	0.11	-	0.47	0.12	-	N
MOO	VanEck Agribusiness	779		5	0.12	57	0.54	1.18	-	L
KXI	iShares Global Consumer Staples	762	↑	7	0.17	91	0.47	0.11	-	L
GDVD [A]	Principal Active Global Div Inc.	725		0	0.67	-	0.58	3.66	-	N
JNUG	Direxion Daily Junior Gold Miners Idx Bull 3x	709	↑	84	0.11	67	1.17	8.69	+3x	M
CGW	Invesco S&P Global Water Idx	621		2	0.10	50	0.62	0.57	-	N
LIT	Global X Lithium & Battery Tech	558	↓	4	0.07	40	0.75	0.45	-	L
IPAY	ETFMG Prime Mobile Payments	487	↑	5	0.17	39	0.75	0.19	-	L
IFGL	iShares Intl Developed Real Estate	477		3	0.16	210	0.48	0.16	-	L
ARKG [A]	ARK Genomic Revolution Multi-Sector	430	↑	5	0.16	-	0.75	-	-	N
IXG	iShares Global Fin.	367	↓	8	0.19	-	0.47	0.15	-	N
FINX	Global X FinTech	365	↑	4	0.27	35	0.68	0.14	-	N
GQRE	FlexShares Global Quality Real Estate	336	↑	1	0.08	-	0.45	0.23	-	N
MXI	iShares Global Materials	325		3	0.20	105	0.47	0.19	-	L
GII	SPDR S&P Global Infra	323	↑	2	0.13	75	0.40	0.26	-	N
SIL	Global X Silver Miners	314		3	0.20	20	0.65	0.40	-	L
IBUY	Amplify Online Retail	290		5	0.14	40	0.65	0.09	-	N
IXP	iShares Global Comm Services E	255	↓	3	0.18	-	0.47	0.28	-	L
PICK	iShares MSCI Global Metals & Mining	254	↓	5	0.19	214	0.39	0.29	-	L
WOOD	iShares Global Timber & Forestry	246	↓	2	0.38	25	0.47	0.24	-	L
PSP	Invesco Global Listed Private Equity	244		2	0.36	-	2.03	0.66	-	L
EXI	iShares Global Industrials	237		2	0.31	-	0.47	0.12	-	N
URA	Global X Uranium	232	↓	2	0.14	20	0.69	3.17	-	L
RXI	iShares Global Consumer Disc.	216		4	0.25	-	0.47	0.19	-	N
RING	iShares MSCI Global Gold Miners	200	↓	3	0.18	34	0.39	0.30	-	L
JXI	iShares Global Utilities	198	↑	5	0.12	-	0.47	0.13	-	L
PIO	Invesco Global Water	187		0	0.25	-	0.75	0.68	-	N
GRES	IQ Global Resources	176	↓	1	0.31	222	0.78	0.11	-	N
CURE	Direxion Daily Healthcare Bull 3x Shares	172		10	0.10	62	1.08	1.73	+3x	L
CUT	Invesco MSCI Global Timber	169		0	0.28	78	0.55	0.74	-	N
DFNL [A]	Davis Select Financial	150		1	0.35	-	0.64	5.00	-	N
SOCL	Global X Funds Global X Social Media	143	↓	1	0.29	38	0.65	0.21	-	L
REMX	VanEck Rare Earth/Strategic Metals	134		1	0.22	20	0.57	5.05	-	L
WPS	iShares Intl Developed Property	133		5	0.27	348	0.48	0.18	-	L
DRW	WisdomTree Global ex-US Real Estate	112		1	0.15	250	0.58	0.15	-	N
BLOK [A]	Amplify Transformational Data Sharing	110	↓	1	0.21	-	0.70	-	-	L
GAMR	ETFMG Video Game Tech	99		1	0.36	79	0.75	0.58	-	N
VMOT	Alpha Architect Value Mom Trend	97		1	0.23	-	0.80	2.06	-	N
DUST	Direxion Daily Gold Miners Idx Bear 3X	96	↓	93	0.06	46	1.05	7.66	-3x	M
CLOU	Global X Cloud Computing	88		-		-	0.68	-	-	N
SNSR	Global X Internet of Things	87		0	0.43	52	0.68	0.17	-	N
JETS	US Global Jets	81		1	0.22	33	0.60	0.43	-	L
BLCN	Reality Shares Nasdaq Nexgen Economy	76	↓	0	0.45	-	0.68	1.07	-	L
HAP	VanEck Natural Resource	74	↓	0	0.27	-	0.49	3.29	-	N
ARKF [A]	ARK Fintech Innovation	66		-	0.16	-	0.75	-	-	N
SLX	VanEck Steel	62	↓	1	0.10	-	0.55	0.80	-	L
COPX	Global X Copper Miners	61		1	0.47	30	0.65	0.15	-	N
DTEC	ALPS Disruptive Technologies	59	↑	0	0.37	97	0.50	0.30	-	N
GHII	Invesco S&P High Inc. Infra	59	↑	0	0.61	-	0.45	0.50	-	N
SLVP	iShares MSCI Global Silver Miners	57		0	0.81	32	0.39	0.31	-	N
GRI	Cohen & Steers Global Realty Majors	54		0	0.48	-	0.55	0.10	-	N
SEA	Invesco Shipping	53	↓	0	0.23	26	0.66	2.17	-	L
KOL	VanEck Coal	51	↓	0	0.30	25	0.59	2.67	-	L
OGIG	O'Shares Global Internet Giants	51		1	0.26	73	0.48	-	-	N
FILL	iShares MSCI Global Energy Producers	51	↑	0	0.58	210	0.39	0.24	-	N
SGDJ	Sprott Junior Gold Miners	50	↓	0	0.41	-	0.57	0.23	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Sector / Theme (Continued)										
FFR	First Trust FTSE EPRA/NAREIT DM RE	49		0	0.42	336	0.60	1.00	-	N
JDST	Direxion Daily Junior Gold Miners Bear 3X	48	↓	40	0.12	67	1.09	9.85	-3x	L
SILJ	ETFMG Prime Junior Silver	46		1	0.73	29	0.69	0.69	-	L
ROBT	First Trust Nasdaq AI and Robotics	44	↑	1	0.21	95	0.65	1.82	-	N
AIQ	Global X Future Analytics Tech	43		0	0.42	-	0.68	-	-	N
LEGR	First Trust Indxx Inno. Transact. & Process	43		0	0.43	-	0.65	1.42	-	N
PRNT	The 3D Printing	40		0	1.24	-	0.66	0.31	-	N
IFLY	ETFMG Drone Economy Strategy	39		0	0.62	53	0.75	0.68	-	N
YOLO [A]	AdvisorShares Pure Cannabis	36		-		505	0.74	-	-	N
KARS	KraneShares EVs and Future Mobility Idx	35	↑	0	1.21	59	0.70	0.95	-	N
ICOW	Pacer DM Intl Cash Cow s 100	34	↑	0	0.32	100	0.65	1.49	-	N
GOEX	Global X Gold Explorers	32		0	1.49	-	0.65	0.20	-	L
IRBO	iShares Robotics & AI	31		0	0.24	87	0.47	-	-	N
VEGI	iShares MSCI Global Agriculture Producers	30		0	0.36	142	0.39	0.21	-	N
BJK	VanEck Gaming	29	↑	0	0.52	43	0.65	2.38	-	L
KEMQ	KraneShares EM Consumer Tech Idx	29	↑	0	0.36	49	0.79	1.63	-	N
GASL	Direxion Daily Natural Gas Related Bull 3X	28	↑	4	0.13	32	1.04	5.95	+3x	L
CHIC	Global X MSCI China Comm.Srvcs.	28		0	2.56	27	0.65	-	-	L
PAWZ	ProShares Pet Care	28		-	0.24	23	0.50	-	-	N
NLR	VanEck Uranium+Nuclear Energy	26		0	0.40	25	0.60	0.92	-	N
RAAX [A]	VanEck Trust-VanEck Real Asset Allocat.	25	↑	0	0.21	-	0.64	-	-	N
HAUZ	Xtrackers Intl Real Estate	24	↑	0	0.99	-	0.10	8.01	-	N
UBOT	Direxion Daily Robotics AI & Automation	24	↑	1	0.47	36	1.49	-	+3x	N
ESPO	VanEck Video Gaming and eSports	23		0	0.23	25	0.55	-	-	N
OBOR	KraneShares MSCI One Belt One Road Idx	21	↓	0	0.28	94	0.78	0.62	-	N
CARZ	First Trust NASDAQ Global Auto	21		0	0.34	-	0.70	3.09	-	N
INFR	Legg Mason Global Infra	21	↓	0	2.38	120	0.40	0.56	-	N
PEX	ProShares Global Listed Private Equity	19	↑	0	0.29	-	2.78	0.73	-	N
CRAK	VanEck Oil Refiners	19		1	0.48	-	0.59	2.39	-	N
QINT	American Century Quality Diversified Intl	18		0	0.51	385	0.39	-	-	N
YLCO	Global X YieldCo & Renew able Energy Inc.	17	↓	0	0.83	-	0.65	4.90	-	N
BFIT	Global X Health & Wellness Thematic	17	↑	0	1.54	57	0.50	0.19	-	N
DWCR	Arrow DWA Country Rotation	16		0	1.43	-	1.34	1.74	-	N
OLD	The LT Care	16	↑	0	0.41	46	0.35	0.06	-	N
LNGR	Global X Longevity Thematic	16		0	1.15	100	0.50	0.14	-	N
FONE	First Trust NASDAQ Smartphone	15		0	0.53	-	0.70	2.56	-	N
LOUP	Innovator Loup Frontier Tech	14		0	0.29	30	0.70	-	-	N
DRIV	Global X Autonomous & Electric Vehicles	14	↓	0	0.32	77	0.68	0.28	-	N
FID	First Trust S&P Intl Div Aristocrats	14		0	1.45	-	0.60	2.99	-	N
FIVA	Fidelity Intl Value Factor	13		0	0.83	-	0.39	1.47	-	N
SLIM	The Obesity	13	↑	0	1.45	39	0.35	0.10	-	N
FLM	First Trust Global Engg. and Const.	13	↓	0	0.47	-	0.70	2.67	-	N
ERSX	ERShares Non-US SC	13		-	0.40	3,449	0.75	-	-	N
SOIL	Global X Fertilizers/Potash	11		0	0.71	-	0.69	0.43	-	N
GDAT	Goldman Sachs Motif Data-Driven World	11		-	0.17	-	0.50	-	-	N
GDXX	ProShares Ultra Gold Miners	10	↑	0	0.30	46	1.28	4.68	+2x	L
ASET	Flexshares Real Assets Allocation	10		0	0.40	-	0.57	0.01	-	N
KOIN	Innovation Shares NextGen Protocol	10	↓	0	0.57	45	0.65	0.31	-	N
CROP	IQ Global Agribusiness SC	10		0	0.18	43	0.76	0.25	-	L
EUFL	Direxion Daily European Fin. Bull 2X Shares	9	↑	0	0.43	80	1.14	9.65	+2x	N
TTTN	TigerShares China-U.S. Internet Titans	9		-	0.60	20	0.59	-	-	N
FTRI	First Trust Indxx Glb. Natural Resource Inc.	9		0	0.66	49	0.70	1.70	-	L
IDRV	iShares Self-Driving EV and Tech	8		-		108	0.47	-	-	N
QTUM	Defiance Quantum	8		0	0.23	66	0.40	-	-	N
GFIN	Goldman Sachs Motif Finance Reimagined	5		-	0.19	-	0.50	-	-	N
GBUY	Goldman Sachs Motif New Age Consumer	5		-	0.17	-	0.50	-	-	N
GMAN	Goldman Sachs Motif Manuf. Revolution	5		-	0.18	-	0.50	-	-	N
GDNA	Goldman Sachs Motif Human Evolution	5		-	0.19	-	0.50	-	-	N
DOGS	Arrow Dogs of the World	5		0	1.46	-	1.64	-	-	N
FTAG	First Trust Indxx Global Agriculture	5	↓	0	0.50	41	0.70	1.67	-	L
KMED	KraneShares EM Healthcare Idx	4		0	1.81	66	0.79	-	-	N
TPAY	Tortoise Digital Payments Infra Fund	4		-	0.89	-	0.40	-	-	N
GOAT	VanEck Morningstar Global Wide Moat	4		0	0.24	-	0.52	-	-	N
GASX	Direxion Daily Natural Gas Related Bear 3X	4	↓	1	0.26	32	1.09	-	-3x	L
GDXS	ProShares Ultrashort Gold Miners	4	↑	0	0.49	46	0.95	4.72	-2x	L
AUGR	Defiance Future Tech	4		0	0.23	68	0.40	-	-	N
AIIQ [A]	AI Pow ered Intl Equity	4		0	0.23	-	0.79	-	-	N
GNOM	Global X Genomics & BioTech	4		-	0.27	40	0.68	-	-	N
CHNA	Loncar China Biopharma	4		0	0.86	29	0.79	-	-	N
FDNI	First Trust Dow Jones Intl Internet	3		-	0.80	-	0.65	-	-	N
XBUY	Amplify Intl Online Retail	3		-	0.21	47	0.69	-	-	N
TCLD	Tortoise Cloud Infra Fund	3		-	0.70	-	0.40	-	-	N
UFO	Procure Space	3		-	0.45	-	0.75	-	-	N
BCNA	Reality Shares Nasdaq Nexgen EcoChina	2		-	1.33	-	0.78	-	-	N
PRME [A]	First Trust Heitman Glb Prime Real Estate	2	↑	0	1.19	-	0.95	2.34	-	N
CHIS	Global X MSCI China Consumer Staples	2		-	2.56	25	0.65	-	-	N
FPXE	First Trust IPOX EU Equity Opportunities	2		0	0.41	-	0.70	-	-	N

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International										
Sector / Theme (Continued)										
EBIZ	Global X E-Commerce	2		-	0.32	39	0.68	-	-	N
CHIK	Global X MSCI China Information Tech	2		-	1.34	42	0.65	-	-	N
CHIR	Global X MSCI China Real Estate	2		-	1.68	38	0.65	-	-	N
CHIH	Global X MSCI China Health Care	2		-	2.24	36	0.65	-	-	N
CHIU	Global X MSCI China Utilities	2		-	1.30	27	0.65	-	-	N
EKAR	Innovation Shares NextGen Vehicles	1	↓	0	0.28	70	0.65	0.47	-	N
Asset Allocation Funds										
AOR	iShares Core Gw th Allocation	1,274		12	0.05	-	0.25	0.08	-	N
AOM	iShares Core Moderate Allocation	1,047		15	0.06	-	0.25	0.10	-	N
AOA	iShares Core Aggressive Allocation	952		9	0.06	-	0.25	0.08	-	N
PCEF	Invesco CEF Inc. Composite	759		4	0.07	-	2.07	0.12	-	L
MDIV	First Trust Multi-Asset Diversified Inc.	637		2	0.19	-	0.70	0.70	-	L
AOK	iShares Core Conservative Allocation	499		5	0.10	-	0.25	0.12	-	N
IYLD	iShares Morningstar Multi-Asset Inc.	317		2	0.12	-	0.60	0.18	-	N
YLD[A]	Principal Edge Active Inc.	277		1	1.15	-	0.65	2.23	-	N
CEFL	ETRACS Mthly Pay 2xLev Closed-End Fund	248		2	0.18	-	0.50	-	+2x	N
CVY	Invesco Zacks Multi-Asset Inc.	230	↓	1	0.30	-	0.88	0.12	-	L
GMOM[A]	Cambria Global Mom	129	↑	1	0.77	-	1.03	5.35	-	N
OCIO[A]	Clearshares Ocio	110		0	0.20	-	0.67	-	-	N
PWS	Pacer WealthShield	109	↑	1	0.09	-	0.60	0.60	-	N
DRSK[A]	Aptus Defined Risk	105		1	0.27	-	0.78	-	-	N
FDIV[A]	First Trust Strategic Inc.	85		1	0.20	-	0.88	7.05	-	N
BEMO	Aptus Behavioral Mom	70	↑	1	0.14	-	0.79	0.11	-	N
FFHG[A]	Formula Folios Hedg Gw th	69		0	0.55	-	1.15	-	-	N
DALI	First Trust DorseyWright DALI 1	68		0	0.14	-	0.30	-	-	N
GAA[A]	Cambria Global Asset Allocation	64		0	0.80	-	0.30	0.76	-	N
LFEQ	VanEck NDR CMG Long/Flat Allocation	63	↑	1	0.09	-	0.55	0.38	-	N
GYLD	Arrow Dow Jones Global Yield	60		0	1.33	-	0.75	1.05	-	L
FFTG[A]	FormulaFolios Tactical Gw th	51	↑	0	0.77	-	1.00	-	-	N
DALT[A]	Anfield Capital Diversified Alternatives	50	↑	0	1.62	-	1.30	-	-	N
CEFS[A]	Saba Closed-End Funds	48	↑	0	0.75	-	2.55	-	-	N
DWPP	First Trust Dorsey Wright Peoples Portfolio	46	↑	0	0.37	-	0.60	0.13	-	N
QGTA	IQ Leaders GTAA Tracker	44		0	0.35	-	0.40	0.05	-	N
TERM[A]	EquityCompass Tactical Risk Manager	43		0	0.40	-	1.50	-	-	N
TCTL	Premise Capital Frontier Adv. Diversified	40	↑	0	0.16	-	0.91	0.76	-	N
DWIN	Invesco DWA Tactical Multi-Asset Inc.	36	↓	0	0.32	-	0.61	0.41	-	N
FCEF[A]	First Trust CEF Inc. Opportunity	36	↑	0	0.45	-	2.96	-	-	N
VQT	BARCLAYS ETN+ DYN VEQTOR	31		0	1.95	-	0.95	0.00	-	N
TRTY[A]	Cambria Trinity	29		0	0.36	-	0.66	-	-	N
GDG[A]	Gadsden Dynamic Gw th	27		-	0.30	-	0.88	-	-	N
ERM[A]	EquityCompass Risk Manager	27		0	0.33	-	0.65	-	-	N
EASI	Amplify EASI Tactical Gw th	26		0	0.21	-	0.75	-	-	N
DVHL	ETRACS Mthly Pay 2xLev High Inc.	21		0	1.01	-	0.85	-	+2x	N
ALTY	Global X SuperDiv Alternatives	21	↑	0	0.55	-	2.84	0.18	-	N
LDRS	Innovator IBD Leaders	19	↓	0	0.55	-	0.60	0.54	-	N
WBIR[A]	WBI BullBear Global Rotation	19		0	0.20	-	1.58	-	-	N
GDMA[A]	Gadsden Dynamic Multi-Asset	18		-	0.19	-	0.71	-	-	N
QXTR	QuantX Risk Managed Multi-Asset Tot Ret	16	↓	0	1.27	-	1.51	-	-	N
HNDL	Strategy Shares NASDAQ 7 HANDL	12	↑	0	0.70	-	0.95	0.17	-	N
CWAI[A]	CWA Inc.	8		0	0.81	-	0.75	-	-	N
GCE	Claymore CEF GS Connect ETN	7		0		-	0.95	-	-	N
EFFE	Global X JPMorgan Efficiente Idx	6	↑	0	0.55	-	0.88	0.11	-	N
DWAT[A]	Arrow DWA Tactical	6	↓	0	1.91	-	1.70	5.97	-	N
NTSX[A]	WisdomTree 90/60 US Balanced Fund	5		0	0.20	-	0.20	-	-	N
BIKR	Rogers AI Global Macro	5		0	0.59	-	0.86	-	-	N
PSMG[A]	Invesco Gw th Multi-Asset Allocation	4	↑	0	0.40	-	0.39	5.85	-	N
PSMM[A]	Invesco Moderate Conservative MultiAsset	4	↑	0	0.49	-	0.39	-	-	N
WBAL	WisdomTree Balanced Inc. Fund	4	↑	0	0.78	-	0.35	0.02	-	N
PSMB[A]	Invesco Balanced Multi-Asset Allocation	3	↑	0	0.44	-	0.40	-	-	N
PSMC[A]	Invesco Conservative MultiAsset Allocation	3	↑	0	0.45	-	0.39	-	-	N
TFLT	Global X TargetInc. Plus 2	1		0	0.30	-	0.78	-	-	N
TFIV	Global X TargetInc. 5	1		0	0.34	-	0.77	-	-	N
Fixed Income Funds										
Treasuries										
SHV	iShares Short Treasury Bond	20,000	↑	290	0.01	-	0.15	0.03	-	N
SHY	iShares 1-3Y Treasury Bond	19,640	↑	308	0.01	-	0.15	0.04	-	L
IEF	iShares 7-10Y Treasury Bond	13,439	↑	511	0.01	-	0.15	0.07	-	H
TLT	iShares 20+Y Treasury Bond	13,107	↑	1,061	0.01	-	0.15	0.07	-	H
GOVT	iShares US Treasury Bond	9,906	↑	91	0.04	-	0.15	0.12	-	L
BIL	SPDR BBG Barclays 1-3 Mnth T-Bill	7,749	↑	184	0.01	13	0.14	0.04	-	L
IEI	iShares 3-7Y Treasury Bond	6,822		105	0.01	-	0.15	0.04	-	L
SCHO	Schw ab ST U.S. Treasury	5,300	↑	60	0.02	94	0.06	0.04	-	N
VGSH	Vanguard ST Treasury	4,664	↑	76	0.02	94	0.07	0.11	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
Treasuries (Continued)										
SCHR	Schw ab Intermediate-Term U.S. Treasury	3,965	↑	29	0.02	115	0.06	0.06	-	N
VGIT	Vanguard Intermediate-Term Treasury	3,779	↑	38	0.02	115	0.07	0.35	-	N
GBIL	Goldman Sachs Access Treasury 0-1Y	3,103	↑	36	0.01	-	0.12	0.02	-	N
ISTB	iShares Core 1-5Y USD Bond	2,582	↑	17	0.02	7,599	0.06	0.08	-	N
USFR	WisdomTree Floating Rate Treasury Fund	2,433	↑	29	0.04	4	0.15	0.08	-	N
SPTL	SPDR Portfolio LT Treasury	1,653	↑	33	0.03	49	0.06	0.06	-	N
SPTS	SPDR Portfolio ST Treasury	1,027	↑	14	0.03	94	0.06	0.04	-	N
TLH	iShares 10-20Y Treasury Bond	991	↑	12	0.02	-	0.15	0.05	-	L
TBT	ProShares UltraShort 20+Y Treasury	947	↓	76	0.03	-	0.89	0.73	-2x	M
VGLT	Vanguard LT Treasury	880	↑	17	0.03	49	0.07	1.21	-	N
ITE	Barclays Intermediate Term Treasury	716		21	0.03	115	0.10	0.06	-	N
TFLO	iShares Treasury Floating Rate Bond	604	↑	9	0.03	9	0.15	0.20	-	N
CLTL	Invesco Treasury Collateral	537		2	0.06	-	0.08	0.37	-	N
TBF	ProShares Short 20+Y Treasury	342	↓	10	0.05	40	0.91	0.62	-1x	L
TMV	Direxion Daily 20Y Plus Treasury Bear 3x	208	↓	11	0.06	-	1.02	3.07	-3x	L
ZROZ	PIMCO 25+Y Zero Coupon U.S. Treasury	192		3	0.56	20	0.15	2.10	-	L
PLW	Invesco 1-30 Laddered Treasury	164		1	0.11	-	0.25	0.04	-	N
TMF	Direxion Daily 20Y Plus Treasury Bull 3x	110		9	0.05	-	1.09	2.90	+3x	L
PST	ProShares UltraShort 7-10Y Treasury	76	↓	1	0.10	-	0.95	0.51	-2x	L
TUZ	PIMCO 1-3Y U.S. Treasury Idx	53	↓	0	0.12	98	0.15	0.10	-	N
TTT	ProShares UltraPro Short 20+Y Treasury	45	↓	1	0.17	-	0.95	0.95	-3x	L
DTYS	iPath US Treasury 10Y Bear ETN	39	↓	0	1.86	-	0.75	-	-1x	N
TBX	ProShares Short 7-10 Treasury	31	↓	1	0.16	-	0.95	0.54	-1x	N
OPER[A]	Clearshares Ultra-Short Maturity	30		0	0.03	-	0.30	-	-	N
UBT	ProShares Ultra 20+Y Treasury	28		2	0.31	-	0.95	0.82	+2x	L
UST	ProShares Ultra 7-10Y Treasury	27	↓	2	0.31	-	0.95	0.97	+2x	L
TYO	Direxion Daily 7-10Y Treasury Bear 3x	15	↓	0	0.47	-	1.07	1.38	-3x	L
RISE[A]	Sit Rising Rate	14	↓	1	0.52	-	1.00	5.95	-	N
TYD	Direxion Daily 7-10Y Treasury Bull 3x	14	↑	0	0.94	-	1.10	1.33	+3x	L
TAPR	Barclays Inv. US Treasury Composite ETN	13		0		-	0.43	-	-1x	N
DLBS	iPath US Treasury Long Bond Bear ETN	12	↓	0	0.56	-	0.75	-	-1x	N
LGOV[A]	First Trust Long Duration Opportunities	10		-	0.34	-	0.65	-	-	N
DTYL	iPath US Treasury 10Y Bull ETN	5		-		-	0.75	2.96	-	N
DTUL	iPath US Treasury 2Y Bull ETN	5	↑	-		-	0.75	4.58	-	N
DFVL	iPath US Treasury 5Y Bull ETN	5		-		-	0.75	4.67	-	N
DTUS	iPath US Treasury 2Y Bear ETN	5	↓	-		-	0.75	-	-1x	N
FLAT	iPath US Treasury Flattener ETN	5	↑	-		-	0.75	-	-1x	N
STPP	iPath US Treasury Steepener ETN	4		-		-	0.75	-	-	N
DFVS	iPath US Treasury 5Y Bear ETN	4	↑	-		-	0.75	-	-1x	N
TYBS	Direxion Daily 20+Y Treasury Bear 1x	4		0	0.22	-	0.48	1.34	-1x	N
TYNS	Direxion Daily 7-10Y Treasury Bear 1x	1		0	0.16	-	0.49	0.87	-1x	N
Corporates										
LQD	iShares iBoxx $ Investment Grade Corp	32,201		1,092	0.01	1,910	0.15	0.05	-	H
VCSH	Vanguard ST Corp Bond	23,759		184	0.01	2,238	0.07	0.29	-	N
VCIT	Vanguard Intermediate-Term Corp Bond	23,439	↑	154	0.01	1,712	0.07	0.62	-	L
HYG	iShares iBoxx HY Corp Bond	16,727		1,933	0.01	947	0.49	0.07	-	H
FLOT	iShares Floating Rate Bond	10,482		109	0.02	689	0.20	0.07	-	N
JNK	SPDR BBG Barclays HY Bond	10,048		580	0.03	809	0.40	0.27	-	L
NEAR[A]	iShares Short Maturity Bond	6,211	↑	70	0.02	-	0.25	0.26	-	N
SPSB	SPDR Portfolio ST Corp Bond	5,195	↑	44	0.03	1,164	0.07	0.06	-	N
BKLN	Invesco Senior Loan	5,120	↓	198	0.04	-	0.65	0.59	-	M
SPIB	SPDR Portfolio Intermediate Term Corp	4,478	↑	41	0.03	3,950	0.07	0.08	-	N
FTSM[A]	First Trust Enhanced Short Maturity	4,212	↑	54	0.02	-	0.35	-	-	N
FLRN	Barclays Investment Grade Floating Rate	4,052	↑	55	0.03	689	0.15	0.06	-	N
VCLT	Vanguard LT Corp Bond	3,600	↑	30	0.03	1,948	0.07	1.31	-	L
SJNK	SPDR BBG Barclays ST HY Bond	3,384		73	0.04	664	0.40	0.23	-	L
HYLB	Xtrackers USD HY Corp Bond	2,803	↑	39	0.02	-	0.20	0.08	-	L
SHYG	iShares 0-5Y HY Corp Bond	2,788	↓	39	0.02	-	0.30	0.12	-	L
GSY[A]	Invesco Ultra Short Duration	2,343	↑	25	0.02	-	0.25	0.18	-	N
SRLN[A]	SPDR Blackstone / GSO Senior Loan	2,319		46	0.03	-	0.70	1.13	-	N
BSCK	Invesco BulletShares 2020 Corp Bond	1,767	↑	10	0.05	380	0.10	0.04	-	N
HYS	PIMCO 0-5Y HY Corp Bond Idx	1,702		34	0.03	848	0.55	0.51	-	L
SLQD	iShares 0-5Y Investment Grade Corp Bond	1,698	↑	9	0.03	-	0.06	0.07	-	N
FTSL[A]	First Trust Senior Loan	1,627		15	0.07	-	0.88	0.83	-	N
BSCL	Invesco BulletShares 2021 Corp Bond	1,509	↑	8	0.05	401	0.10	0.05	-	N
ICSH[A]	iShares Ultra ST Bond	1,321	↑	14	0.02	-	0.08	0.15	-	N
BSCJ	Invesco BulletShares 2019 Corp Bond	1,230		9	0.05	207	0.10	0.04	-	N
BSCM	Invesco BulletShares 2022 Corp Bond	1,220	↑	7	0.05	385	0.10	0.05	-	N
IBDL	iShares iBonds Dec 2020 Term Corp	1,125	↑	6	0.05	536	0.10	0.11	-	N
IBDM	iShares iBonds Dec 2021 Term Corp	1,117	↑	5	0.04	573	0.10	0.13	-	N
BSJK	Invesco BulletShares 2020 HY Corp Bond	1,067	↑	7	0.05	-	0.42	0.30	-	N
ANGL	VanEck Fallen Angel HY Bond	979		12	0.05	207	0.35	0.23	-	L
BSJJ	Invesco BulletShares 2019 HY Corp Bond	899		8	0.04	-	0.42	0.19	-	N
USHY	iShares Broad USD HY Corp Bond	876	↑	6	0.07	1,800	0.22	0.10	-	L
IBDN	iShares iBonds Dec 2022 Term Corp	810	↑	4	0.06	567	0.10	0.13	-	N
IBDK	iShares iBonds Dec 2019 Term Corp	798	↑	5	0.04	296	0.10	0.14	-	N
BSJL	Invesco BulletShares 2021 HY Corp Bond	732	↑	5	0.09	-	0.42	0.18	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
Corporates (Continued)										
PHB	Invesco Fundamental HY Corp Bond	727	↓	10	0.05	-	0.50	0.10	-	L
BSCN	Invesco BulletShares 2023 Corp Bond	690	↑	4	0.07	-	0.10	0.05	-	N
IBDO	iShares iBonds Dec 2023 Term Corp	685	↑	4	0.07	488	0.10	0.13	-	N
CORP	PIMCO Investment Grade Corp Bond Idx	637	↓	7	0.11	7,910	0.20	0.60	-	N
PFXF	VanEck Preferred Securities ex Fin.	584		3	0.09	-	0.40	0.31	-	N
FLTR	VanEck Investment Grade Floating Rate	542	↑	7	0.04	-	0.14	0.08	-	N
SPLB	SPDR Portfolio LT Corp Bond	540	↑	8	0.05	1,948	0.07	0.17	-	N
IBDP	iShares iBonds Dec 2024 Term Corp	468	↑	3	0.07	400	0.10	0.14	-	N
BSCO	Invesco BulletShares 2024 Corp Bond	465	↑	3	0.09	-	0.10	0.07	-	N
BSJM	Invesco BulletShares 2022 HY Corp Bond	430	↑	4	0.10	-	0.42	0.27	-	N
IBDQ	iShares iBonds Dec 2025 Term Corp	406	↑	3	0.10	372	0.10	0.15	-	N
SNLN	Highland/iBoxx Senior Loan	386	↓	6	0.07	-	0.55	0.84	-	L
GIGB	GS Access Investment Grade Corp Bond	353	↑	2	0.10	-	0.14	0.16	-	L
IGHG	ProShares Investment Grade-Int Rate Hedg	338	↓	5	0.20	-	0.30	0.68	-	N
QLTA	iShares Aaa - A Rated Corp Bond	315	↑	3	0.14	2,021	0.15	0.07	-	N
BSCP	Invesco BulletShares 2025 Corp Bond	254	↑	2	0.12	-	0.10	0.06	-	N
IBDR	iShares iBonds Dec 2026 Term Corp	249	↑	2	0.12	359	0.10	0.15	-	N
HYZD	WisdomTree Interest Rate Hedg HY	248	↑	3	0.35	-	0.43	0.20	-	N
IG[A]	Principal Investment Grade Corp Active	236	↑	0	0.34	5,898	0.26	0.77	-	N
HYGH[A]	iShares Interest Rate Hedg HY Bond	230		4	0.07	-	0.53	2.12	-	L
PGHY	Invesco Global ST HY Bond	220		1	0.17	-	0.35	0.52	-	N
LQDH[A]	iShares Interest Rate Hedg Corp Bond	203		3	0.09	-	0.25	1.43	-	L
BSJN	Invesco BulletShares 2023 HY Corp Bond	186	↑	2	0.19	-	0.42	0.39	-	N
VPC	Virtus Private Credit Strategy	176		-	0.87	61	7.64	-	-	N
ULST[A]	SPDR SSgA Ultra ST Bond	172	↑	2	0.06	-	0.20	0.23	-	N
PFIG	Invesco Fundamental Invst. Grade Corp	160	↑	1	0.18	-	0.22	0.04	-	N
IBDS	iShares iBonds Dec 2027 Term Corp	155	↑	1	0.21	308	0.10	0.13	-	N
HYUP	Xtrackers High Beta HY Bond	149		0	0.14	-	0.35	0.14	-	N
HYDW	Xtrackers Low Beta HY Bond	145		0	0.11	-	0.25	0.10	-	N
HYLD[A]	High Yield ETF	144		1	0.23	-	1.18	2.38	-	L
IBDC	iShares iBonds Mar 2020 Term Corp	143	↑	1	0.15	432	0.10	0.12	-	N
HYHG	ProShares HY-Interest Rate Hedg	130	↓	1	0.36	-	0.50	0.30	-	N
VTC	Vanguard Total Corp	128	↑	1	0.13	5,898	0.07	0.94	-	N
FLCO[A]	Franklin Liberty Investment Grade Corp	121	↑	1	0.24	-	0.35	0.67	-	N
SJB	ProShares Short HY	111		3	0.05	947	0.95	2.14	-1x	L
STOT[A]	SPDR DoubleLine Short Duration Tot Ret	108	↑	1	0.10	-	0.45	0.29	-	N
SKOR	FlexShares Credit-Scored US Corp Bond	104	↑	1	0.16	-	0.22	0.12	-	N
IGEB	iShares Edge Investment Grade Enhc.	102	↑	1	0.19	-	0.18	0.10	-	N
IBD	Inspire Corp Bond Impact	100	↑	1	0.59	-	0.61	0.37	-	N
BSCQ	Invesco BulletShares 2026 Corp Bond	100	↑	1	0.14	-	0.10	0.10	-	N
IBCD	iShares iBonds Mar2020 Term Corp ex-Fin.	88		0	0.21	254	0.10	0.12	-	N
SUSB	iShares ESG 1-5Y USD Corp Bond	86	↑	1	0.23	436	0.12	0.12	-	N
AGZD	WisdomTree Interest Rate Hedg US Agg.	81	↑	1	0.41	-	0.23	0.25	-	N
FALN	iShares Fallen Angels USD Bond	81	↑	1	0.25	253	0.25	0.22	-	N
FCOR[A]	Fidelity Corp Bond	78		1	0.10	-	0.36	0.74	-	N
IBDD	iShares iBonds Mar 2023 Term Corp	78		0	0.30	561	0.10	0.12	-	N
BSJO	Invesco BulletShares 2024 HY Corp Bond	76	↑	0	0.26	-	0.42	0.37	-	N
GHYB	Goldman Sachs Access HY Corp Bond	71	↑	1	0.15	-	0.34	0.17	-	L
CJNK	SPDR ICE BofAML Crossover Corp Bond	71		1	0.20	1,800	0.30	2.79	-	N
HYLV	IQ S&P HY Low Vol Bond	66	↓	0	0.16	406	0.40	0.12	-	N
IMTB	iShares Core 5-10Y USD Bond	64	↑	0	0.28	5,974	0.06	0.13	-	N
BSJP	Invesco BulletShares 2025 HY Corp Bond	58	↑	0	0.27	-	0.42	0.60	-	N
FLBL[A]	Franklin Liberty Senior Loan	58		0	0.30	-	0.45	-	-	N
CBND	SPDR BBG Barclays Corp Bond	58	↑	0	0.34	5,898	0.06	0.36	-	N
IBDT	iShares iBonds Dec 2028 Term Corp	58		1	0.24	295	0.10	-	-	N
HYND	WisdomTree Neg Duration HY	50	↑	1	0.79	-	0.48	0.29	-	N
BSCR	Invesco BulletShares 2027 Corp Bond	50	↑	0	0.21	216	0.10	0.17	-	N
BYLD	iShares Yield Optimized Bond	47		0	0.12	-	0.20	0.16	-	N
BLHY[A]	Virtus Newfleet Dynamic Credit	47	↓	0	1.16	-	0.68	-	-	N
FDHY[A]	Fidelity HY Factor	44		0	0.28	1,543	0.45	-	-	N
HYGV	FlexShares HY Value-Scored Bond	42		0	0.14	-	0.37	-	-	N
KORP[A]	American Century Diversified Corp Bond	40	↑	0	0.26	-	0.45	0.71	-	N
SUSC	iShares ESG USD Corp Bond	31	↑	0	0.34	2,090	0.18	0.20	-	N
FLRT[A]	Pacific Asset Enhanced Floating Rate	29		0	1.08	-	1.10	1.46	-	N
LKOR	FlexShares Credit-Scored US Long Corp	29		0	0.27	-	0.22	0.34	-	N
PHYL[A]	PGIM Active HY Bond	28		0	0.31	809	0.53	-	-	N
JIGB[A]	JPMorgan Corp Bond Research Enhanced	28		-	0.14	5,898	0.14	-	-	N
SPXB	ProShares SPX Bond	27	↑	0	0.13	-	0.15	-	-	N
AGND	WisdomTree Negative Duration US Agg.	26		-	0.62	-	0.28	0.29	-	N
WINC[A]	Western Asset Short Duration Inc.	25		-	0.13	2,238	0.29	-	-	N
IBCE	iShares iBonds Mar2023 Term Corp ex-Fin.	25	↓	0	0.38	375	0.10	0.16	-	N
SHYL	Xtrackers Short Duration HY Bond	22	↓	1	0.19	-	0.20	0.16	-	N
BSCS	Invesco BulletShares 2028 Corp Bond	19		0	0.21	148	0.10	-	-	N
HYDB	iShares Edge HY Defensive Bond	17		0	0.13	-	0.35	0.20	-	N
WFHY	WisdomTree Fundamental US HY Corp	15	↑	0	0.24	459	0.38	0.83	-	N
SFHY	WisdomTree Fundamental US ST HY Corp	15	↑	0	0.17	244	0.38	1.17	-	N
GUDB	Sage ESG Intermediate Credit	15	↑	0	0.75	-	0.35	0.11	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
Corporates (Continued)										
BSJQ	Invesco Bulletshares 2026 HY Corp Bond	13		0	0.24	-	0.42	-	-	N
IHYD	Invesco Corp Inc. Defensive	13		0	0.28	-	0.23	-	-	N
LDRI	Invesco LadderRite 0-5Y Corp	12	↓	0	0.36	-	0.22	0.10	-	N
IHYV	Invesco Corp Inc. Value	12		0	0.28	-	0.23	-	-	N
ULBR	VelocityShares Long LIBOR ETN	10		0	2.36	-	1.50	0.03	-	L
FLHY[A]	Franklin Liberty HY Corp	10		0	0.37	-	0.40	-	-	N
HYXE	iShares iBoxx $ HY ex Oil & Gas Corp	10		0	0.20	-	0.50	0.25	-	N
MLQD	iShares 5-10Y Investment Grade Corp	10		0	0.15	-	0.06	0.18	-	N
LLQD	iShares 10+Y Investment Grade Corp	10		0	0.16	-	0.06	0.33	-	N
LQDI[A]	iShares Inflation Hedg Corp Bond	8		0	0.33	-	0.19	-	-	N
IIGV	Invesco Investment Grade Value	6		0	0.62	-	0.13	-	-	N
IIGD	Invesco Investment Grade Defensive	6		0	0.27	-	0.13	-	-	N
WYDE[A]	ProShares CDS Short NA HY Credit	6	↑	0	0.57	-	0.50	-	-1x	N
SFIG	WisdomTree Fundamental US ST Corp	5		0	0.19	1,219	0.18	0.15	-	N
WFIG	WisdomTree Fundamental US Corp	5		0	0.42	3,201	0.18	0.42	-	N
UJB	ProShares Ultra HY	4		0	1.65	947	1.31	3.43	+2x	N
HYDD	Direxion Daily HY Bear 2x Shares	3		0	0.74	809	0.88	4.14	-2x	N
DLBR	VelocityShares Short LIBOR ETN	3		0	1.36	-	1.50	0.03	-	N
Govt / Corp										
AGG	iShares Core U.S. Agg. Bond	59,963		591	0.01	10,375	0.05	0.05	-	L
BND	Vanguard Total Bond Market	38,085		220	0.01	10,375	0.04	0.37	-	L
BSV	Vanguard ST Bond	22,477		227	0.01	2,910	0.07	0.17	-	L
MINT[A]	PIMCO Enhanced Short Maturity Active	11,908	↑	130	0.01	-	0.35	0.25	-	N
BIV	Vanguard Intermediate-Term Bond	11,639	↓	82	0.01	1,937	0.07	0.47	-	L
IGSB	iShares ST Corp Bond	11,248		67	0.02	3,109	0.06	0.19	-	L
JPST[A]	JPMorgan Ultra-Short Inc.	6,760	↑	96	0.02	-	0.18	0.16	-	N
IGIB	iShares Intermediate-Term Corp Bond	6,049		39	0.02	2,281	0.06	0.49	-	L
SCHZ	Schwab U.S. Agg. Bond	6,046		41	0.02	10,375	0.04	0.10	-	N
SPAB	SPDR Portfolio Agg. Bond	3,754	↑	33	0.04	10,375	0.04	0.07	-	N
USIG	iShares Broad USD Invst Grade Corp Bond	3,084	↑	19	0.03	7,910	0.06	0.22	-	L
BLV	Vanguard LT Bond	2,994	↑	39	0.04	2,270	0.07	1.11	-	L
BOND[A]	PIMCO Active Bond	2,221		18	0.02	10,375	0.55	0.60	-	L
GVI	iShares Intermediate Govt/Credit Bond	2,143		20	0.03	4,846	0.20	0.04	-	L
HYLS[A]	First Trust IV First Trust Tactical HY	1,199		12	0.07	1,800	0.95	0.95	-	N
EDV	Vanguard Extended Duration Treasury	913	↑	17	0.07	80	0.07	1.83	-	N
FBND[A]	Fidelity Total Bond	602	↑	4	0.04	10,375	0.36	0.99	-	N
HTRB[A]	Hartford Tot Ret Bond	575	↑	3	0.93	10,375	0.30	0.88	-	N
AGGY	WisdomTree Yield Enhanced US Agg.	567	↑	5	0.08	9,336	0.12	0.23	-	N
FIXD[A]	First Trust TCW Opportunistic Fixed Inc.	517	↑	5	0.11	10,375	0.55	0.20	-	N
AGZ	iShares Agency Bond	516		6	0.04	255	0.20	0.18	-	N
VBND	Vident Core U.S. Bond Strategy Fund	485	↓	2	0.16	-	0.43	0.29	-	N
VRIG[A]	Invesco Variable Rate Investment Grade	415	↑	3	0.07	716	0.30	0.25	-	N
GBF	iShares Govt/Credit Bond	294	↑	2	0.12	10,375	0.20	0.05	-	N
RAVI[A]	FlexShares Ready Access Variable Income	254	↑	3	0.07	-	0.25	0.27	-	N
ILTB	iShares Core 10+Y USD Bond	248		2	0.11	2,896	0.06	0.11	-	N
UITB[A]	USAA Core Intermediate-Term Bond	244	↑	1	0.12	10,375	0.40	0.69	-	N
NUAG	Nuveen Enhanced Yield US Agg. Bond	184	↑	1	0.10	5,683	0.20	0.22	-	N
UCON[A]	First Trust Tcw Unconstrained Plus Bond	184		2	0.32	-	0.75	-	-	N
JAGG[A]	JPMorgan U.S. Agg. Bond	171		-	0.10	10,375	0.07	-	-	N
AGGP	IQ Enhanced Core Plus Bond US	156	↓	1	0.13	13	0.38	0.07	-	N
RFCI[A]	RiverFront Dynamic Core Inc.	151	↑	1	0.31	-	0.52	0.80	-	N
FLTB[A]	Fidelity Ltd Term Bond	120		2	0.10	-	0.36	0.49	-	N
AWTM[A]	Aware Ultra-Short Duration Enhanced Inc.	120		-	0.22	-	0.23	-	-	N
FTSD[A]	Franklin Liberty Short Duration US Govt	118	↓	2	0.07	-	0.25	0.47	-	N
HSRT[A]	Hartford Short Duration	101		0	0.27	-	0.32	-	-	N
MINC[A]	AdvisorShares Newfleet Multi-Sector Inc.	101	↓	1	0.30	-	0.69	2.45	-	N
FIBR	iShares Edge U.S. Fixed Inc. Balanced Risk	95	↓	1	0.12	-	0.25	0.18	-	N
AGGE	IQ Enhanced Core Bond US	89	↑	1	0.15	8	0.30	0.08	-	N
SHAG	Barclays Yield Enhanced US ST Agg.	79	↑	1	0.11	3,133	0.12	0.13	-	N
USTB[A]	USAA Core ST Bond	75	↑	0	0.15	1,352	0.35	0.25	-	N
HOLD[A]	AdvisorShares Sage Core Reserves	70	↑	0	0.10	-	0.35	0.18	-	N
FLDR	Fidelity Low Duration Bond Factor	65		1	0.06	636	0.15	-	-	N
EAGG	iShares ESG US Agg. Bond	57		0	0.08	5,290	0.10	-	-	N
ARCM[A]	Arrow Reserve Capital Management	56	↓	0		-	0.42	-	-	N
NUBD	Nuveen ESG US Agg. Bond	54	↑	0	0.12	6,849	0.20	0.16	-	N
IMFP	Invesco Multi-Factor Core Plus Fixed Inc.	51		0	0.30	-	0.16	-	-	N
AFIF[A]	Anfield Universal Fixed Inc.	44		0	1.97	-	0.95	-	-	N
BNDC[A]	Flexshares Core Select	44	↑	0	0.28	-	0.35	2.27	-	N
NUSA	Nuveen Enhanced Yield 1-5Y US Agg.	32	↑	0	0.17	-	0.20	0.14	-	N
BBSA	JPMorgan BetaBuilders 1-5Y US Agg.	28		-	0.06	4,340	0.05	-	-	N
LSST[A]	Natixis Loomis Sayles Short Duration Inc.	28	↑	0	0.15	1,588	0.38	0.47	-	N
JCPB[A]	JPMorgan Core Plus Bond	26		-	0.10	10,375	0.40	-	-	N
IMFC	Invesco Multi-Factor Core Fixed Inc.	25		0	0.28	-	0.12	-	-	N
PBND	Invesco PureBeta US Agg. Bond	25		0	0.38	15,258	0.05	0.24	-	N
HTAB[A]	Hartford Schroders Tax-Aware Bond	22		0	0.49	-	0.39	0.69	-	N
IMFD	Invesco Multi-Factor Def.Core Fixed Inc.	20		-	0.31	-	0.12	-	-	N
LDSF[A]	First Trust Low Duration Strategic Focus	19		-	0.34	-	0.20	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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US Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
Govt / Corp (Continued)										
GSST[A]	Goldman Sachs Access Ultra Short Bond	10		-		-	0.16	-	-	N
IGIH	X-Trackers Invst Grade Bond-Int.Rate Hedg.	8		0	1.63	-	0.25	0.24	-	N
HYIH	X-trackers HY Corp Bond-Int.Rate Hedg.	8	↑	0	1.51	-	0.35	1.66	-	N
SDAG	IQ Short Duration Enhanced Core Bond U.S.	4		-	0.08	-	0.36	-	-	N
SAGG	Direxion Daily Total Bond Market Bear 1x	3		0	0.67	10,375	0.49	1.05	-1x	N
FISR[A]	SPDR SSGA Fixed Inc. Sector Rotation	3		-	0.28	10,375	0.50	-	-	N
Municipals										
MUB	iShares National Muni Bond	12,582	↑	134	0.01	-	0.08	0.08	-	L
VTEB	Vanguard Tax-Exempt Bond Idx	4,717	↑	38	0.02	-	0.08	0.09	-	N
SHM	SPDR Nuveen BBG Barclays ST Muni Bond	3,558		29	0.02	4,244	0.20	0.19	-	N
TFI	SPDR Nuveen BBG Barclays Muni Bond	2,852		32	0.03	22,030	0.23	-	-	L
HYD	VanEck High-Yield Muni Idx	2,658		22	0.02	6,800	0.35	0.81	-	L
SUB	iShares ST National Muni Bond	2,240	↑	19	0.02	-	0.07	0.06	-	N
PZA	Invesco National AMT-Free Muni Bond	1,823		11	0.04	-	0.28	0.22	-	L
ITM	VanEck AMT-Free Intermediate Muni Idx	1,719		13	0.03	18,053	0.24	0.50	-	L
CMF	iShares California Muni Bond	1,174	↑	8	0.04	-	0.25	0.08	-	N
BAB	Invesco Taxable Muni Bond	961		5	0.05	7,801	0.28	0.34	-	N
HYMB	SPDR Nuveen S&P HY Muni Bond	812	↑	12	0.06	-	0.35	0.35	-	L
FMB[A]	First Trust Managed Muni	680	↑	6	0.10	-	0.50	-	-	N
NYF	iShares New York Muni Bond	362		2	0.09	-	0.25	0.10	-	N
IBMI	iShares iBonds Sep 2020 Term Muni Bond	350	↑	1	0.11	-	0.18	0.13	-	N
PWZ	Invesco California AMT-Free Muni Bond	325	↑	2	0.28	984	0.28	0.29	-	N
MUNI[A]	PIMCO Intermediate Muni Bond Active	290		2	0.18	-	0.35	0.35	-	L
IBMK	iShares iBonds Dec 2022 Term Muni Bond	283	↑	1	0.14	-	0.18	0.12	-	N
IBMH	iShares iBonds Sep 2019 Term Muni Bond	277		1	0.11	-	0.18	0.11	-	N
IBMJ	iShares iBonds Dec 2021 Term Muni Bond	273	↑	1	0.11	-	0.18	0.15	-	N
SHYD	VanEck Short High-Yield Muni Idx	203	↑	1	0.17	-	0.35	0.51	-	N
SMB	VanEck AMT-Free Short Muni Idx	201		1	0.12	7,577	0.20	0.19	-	N
MEAR[A]	iShares Short Maturity Muni Bond	165	↑	2	0.09	1,073	0.25	0.29	-	N
IBML	iShares iBonds Dec 2023 Term Muni Bond	163	↑	1	0.16	-	0.18	0.13	-	N
MLN	VanEck AMT-Free Long Muni Idx	153		1	0.17	8,224	0.24	0.69	-	N
XMPT	VanEck CEF Muni Inc.	144	↑	1	0.16	63	0.40	0.04	-	N
HMOP[A]	Hartford Muni Opportunities	123	↑	0	0.36	-	0.30	0.50	-	N
SMMU[A]	PIMCO ST Muni Bond Active	88	↑	0	0.25	-	0.35	0.28	-	N
JMST[A]	JPMorgan Ultra-Short Muni Inc.	75		1	0.05	3,885	0.18	-	-	N
PZT	Invesco New York AMT-Free Muni Bond	68		0	0.37	964	0.28	0.32	-	N
RVNU	Xtrackers Muni Infra Revenue Bond	66		0	0.26	-	0.15	0.15	-	N
PVI	Invesco VRDO Tax-Free Weekly	60		0	0.15	-	0.25	0.04	-	N
IBMM	iShares iBonds Dec 2024 Term Muni Bond	57	↑	0	0.16	-	0.18	0.18	-	N
FMHI[A]	First Trust Muni High Inc.	49	↑	0	0.34	-	0.55	-	-	N
MMIT[A]	IQ MacKay Muni Intermediate	44	↑	0	0.35	235	0.31	1.08	-	N
MMIN[A]	IQ MacKay Muni Insured	44	↑	0	0.23	235	0.30	0.95	-	N
JMUB[A]	JPMorgan Muni	32		0	0.06	-	0.24	-	-	N
FCAL[A]	First Trust California Muni High Inc.	23	↑	0	0.45	1,590	0.50	0.80	-	N
IBMN	iShares iBonds Dec 2025 Term Muni Bond	23		-	0.19	-	0.18	-	-	N
MUST	Columbia Multi-Sector Muni Inc.	22		0	1.26	5,862	0.28	-	-	N
FUMB[A]	First Trust Ultra Short Duration Muni	20		-	0.20	-	0.35	-	-	N
FSMB[A]	First Trust Short Duration Managed Muni	19		-	0.26	-	0.45	-	-	N
TAXF[A]	American Century Diversified Muni Bond	13		0	0.16	-	0.29	-	-	N
MCEF[A]	First Trust Muni CEF Inc. Opportunity	9	↓	-	0.39	-	2.37	-	-	N
FLMB[A]	Franklin Liberty Muni Bond	9		0	0.52	-	0.30	1.42	-	N
FLMI[A]	Franklin Liberty Intermediate Muni	7		0	0.56	-	0.30	0.77	-	N
IBMP	iShares Ibonds Dec 2027 Term Muni Bond	5		-	0.21	-	0.18	-	-	N
IBMO	iShares Ibonds Dec 2026 Term Muni Bond	4		-	0.27	-	0.18	-	-	N
IBMQ	iShares iBonds Dec 2028 Term Muni Bond	3		-		-	0.18	-	-	N
International										
BNDX[C]	Vanguard Total Intl Bond	16,570	↑	103	0.02	10,548	0.09	0.27	-	L
EMB	iShares JP Morgan USD EM Bond	15,647	↑	521	0.01	-	0.39	0.10	-	H
EMLC	VanEck J.P. Morgan EM Local Curncy Bond	5,333		88	0.03	-	0.30	0.77	-	L
IUSB	iShares Core Total USD Bond Market	3,413	↑	17	0.02	16,446	0.06	0.09	-	N
TOTL[A]	SPDR Doubleline Tot Ret Tactical	3,240		22	0.03	10,375	0.55	1.01	-	N
PCY	Invesco EM Sovereign Debt	3,238	↓	52	0.04	-	0.50	0.09	-	L
IAGG[C]	iShares Core Intl Agg. Bond	1,317	↑	9	0.03	-	0.09	0.15	-	N
VWOB	Vanguard EM Govt Bond	1,244	↑	11	0.05	571	0.30	0.40	-	N
BWX	SPDR BBG Barclays Intl Treasury Bond	1,114	↓	14	0.04	1,362	0.35	0.11	-	L
IGLB	iShares LT Corp Bond	946	↑	8	0.04	2,520	0.06	0.48	-	L
IGOV	iShares Intl Treasury Bond	910		5	0.09	-	0.35	0.11	-	L
VNLA[A]	Janus Henderson Short Duration Inc.	905	↑	12	0.04	-	0.35	-	-	N
EBND	SPDR BBG Barclays EM Local Bond	748		6	0.05	653	0.40	0.65	-	L
LEMB	iShares JP Morgan EM Local Curncy Bond	666	↑	11	0.04	-	0.30	0.46	-	L
LDUR[A]	PIMCO Enhanced Low Duration Active	328	↑	2	0.12	-	0.39	0.85	-	N
EMHY	iShares EM HY Bond	325	↓	5	0.07	-	0.50	0.43	-	N
PULS[A]	PGIM Ultra Short Bond	288	↑	4	0.02	-	0.15	-	-	N
BWZ	SPDR BBG Barclays ST Intl Treasury Bond	274		2	0.35	297	0.35	0.09	-	N
HYEM	VanEck EM HY Bond	262	↓	3	0.20	677	0.40	0.20	-	N
FFTI[A]	FormulaFolios Tactical Inc.	223	↑	1	0.33	977	1.00	-	-	N
ELD[A]	WisdomTree EM Local Debt Fund	194		1	0.49	-	0.55	1.56	-	L

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
International (Continued)										
JPGB[A]	JPMorgan Global Bond Opportunities	183		1	0.18	26,862	0.55	3.52	-	N
IBND	SPDR BBG Barclays Intl Corp Bond	177	↓	2	0.34	709	0.50	0.15	-	N
GHYG	iShares US & Intl HY Corp Bond	177	↓	2	0.16	-	0.40	0.09	-	N
JPHY[A]	JPMorgan Disciplined HY	157	↑	2	0.11	1,800	0.40	0.61	-	N
RIGS[A]	Riverfront Strategic Inc. Fund	148	↓	1	0.26	-	0.48	3.19	-	N
DIAL	Columbia Diversified Fixed Inc. Allocation	123		1	0.21	844	0.28	0.17	-	N
BNDW	Vanguard Total World Bond	119		1	0.06	20,923	0.09	-	-	N
PICB	Invesco Intl Corp Bond	119		0	0.55	-	0.50	0.14	-	N
IHY	VanEck Intl HY Bond	113	↓	1	0.20	1,463	0.40	0.23	-	L
DWFI	SPDR Dorsey Wright Fixed Inc. Allocation	107	↓	1	0.12	4	0.60	0.04	-	N
CEMB	iShares JP Morgan EM Corp Bond	105		1	0.26	-	0.50	0.18	-	N
FEMB[A]	First Trust EM Local Curncy Bond	96	↑	1	0.42	653	0.85	2.10	-	N
ISHG	iShares 1-3Y Intl Treasury Bond	75		0	0.22	-	0.35	0.09	-	N
NFLT[A]	Virtus New fleet Multi-Sector Bond	66	↓	1	0.20	10,375	0.81	2.96	-	N
JPMB	JPMorgan USD EM Sovereign Bond	62		0	0.24	-	0.39	0.21	-	N
GTO[A]	Invesco Tot Ret Bond	62		1	0.31	10,375	0.52	0.98	-	N
EMTL[A]	SPDR DoubleLine EM Fixed Inc.	57	↑	1	0.32	-	0.65	1.02	-	N
IGBH[A]	iShares Interest Rate Hedg LT Corp Bond	52	↑	1	0.29	-	0.16	-	-	N
HYXU	iShares Intl HY Bond	50	↓	1	0.16	-	0.40	0.10	-	N
FFIU[A]	Spinnaker Series	45		0	0.64	-	0.50	-	-	N
IPFF	iShares Intl Preferred Stock	44	↓	0	0.45	-	0.55	0.21	-	L
IMFI	Invesco Multi-Factor Inc.	41		-	0.26	-	0.16	-	-	N
IEMV	Invesco EM Debt Value	38		0	0.24	-	0.29	-	-	N
EMCB[A]	WisdomTree EM Corp	36	↓	0	0.66	-	0.60	0.88	-	N
WBND[A]	Western Asset Tot Ret	29		0	0.13	10,375	0.45	-	-	N
BGRN[C]	iShares Global Green Bond	26		-	0.22	327	0.20	-	-	N
GRNB	VanEck Green Bond	26	↑	0	0.26	-	0.30	0.26	-	N
IEMD	Invesco EM Debt Defensive	25		0	0.28	-	0.29	-	-	N
KCNY	Kraneshares E Fund China Commercial Paper	19	↑	0	0.70	-	0.62	2.18	-	N
SOVB[A]	Cambria Sovereign Bond	19		0	2.52	1,033	0.59	5.82	-	N
RFUN[A]	RiverFront Dynamic Unconstrained Inc.	16	↓	0	0.44	-	0.52	-	-	N
EMAG	VanEck EM Agg. Bond	15		0	1.52	-	0.35	0.41	-	N
EMBH[A]	iShares Interest Rate Hedg EM Bond	14	↑	0	0.29	-	0.48	1.92	-	N
KCCB	Kraneshares CCBS China Corp HY Bond	12		0	0.60	-	0.69	-	-	N
BSDE	Invesco BulletShares 2024 USD EM Debt	10		0	0.43	-	0.29	-	-	N
BSCE	Invesco BulletShares 2023 USD EM Debt	10		0	0.34	-	0.29	-	-	N
BSBE	Invesco BulletShares 2022 USD EM Debt	10		0	0.32	-	0.29	-	-	N
BSAE	Invesco BulletShares 2021 USD EM Debt	10		0	0.29	-	0.29	-	-	N
IGVT[C]	Barclays Intl Treasury Bond Hedg	10	↑	0	0.23	1,362	0.25	0.22	-	N
EMSH	ProShares ST USD EM Bond	8	↓	0	0.57	-	0.50	0.36	-	N
EMIH	X-Trackers EM Bond-Interest Rate Hedg	7		0		-	0.45	0.44	-	N
FWDB[A]	Madrona Global Bond	6	↓	0	0.62	505	0.95	-	-	N
IFIX[C]	X-trackers Barclays Intl Corp Bond Hedg	5		0	0.17	4,670	0.30	0.20	-	N
FLIA[A]	Franklin Liberty Intl Agg. Bond	5		0	0.40	-	0.35	-	-	N
CBON	VanEck ChinaAMC China	5		0	0.54	-	0.50	0.86	-	N
GLBY[C]	WisdomTree Yield Enhanced Global Agg.	3		-	0.55	15,680	0.20	-	-	N
Mortgage										
MBB	iShares MBS	16,227	↑	133	0.01	327	0.09	0.07	-	L
VMBS	Vanguard Mortgage-Backed Securities	8,694	↑	41	0.02	327	0.07	0.36	-	N
LMBS[A]	First Trust Low Duration Opportunities	2,676	↑	23	0.02	415	0.68	0.77	-	N
CMBS	iShares CMBS	345	↑	2	0.19	2,531	0.25	0.09	-	N
MBG	SPDR BBG Barclays Mortgage Backed	216		3	0.08	327	0.06	0.11	-	N
GNMA	iShares GNMA Bond	121		1	0.13	89	0.15	0.11	-	N
JMBS[A]	Janus Henderson Mortgage-Backed	67		1	0.13	-	0.35	-	-	N
MBSD	Flexshares Disciplined Duration Mbs	51		0	0.16	189	0.20	0.28	-	N
Inflation										
TIP	iShares TIPS Bond	20,080		153	0.01	40	0.19	0.07	-	L
SCHP	Schwab US TIPS	6,260	↑	35	0.02	40	0.05	0.03	-	L
VTIP	Vanguard ST Inflation-Protected Securities	6,096	↑	34	0.02	15	0.06	0.16	-	N
STIP	iShares 0-5Y TIPS Bond	2,288	↑	23	0.01	15	0.06	0.08	-	N
IPE	SPDR BBG Barclays TIPS	1,598	↑	10	0.04	40	0.15	0.05	-	N
TDTT	FlexShares iBoxx 3Y Target Duration TIPS	1,261	↓	7	0.04	-	0.18	0.28	-	N
STPZ	PIMCO 1-5Y U.S. TIPS Idx	796		3	0.04	12	0.20	0.19	-	N
TDTF	FlexShares iBoxx 5Y Target Duration TIPS	561	↓	6	0.06	-	0.18	0.42	-	N
WIP	SPDR FTSE Intl Govt Inflation-Protected	457	↓	2	0.22	-	0.50	0.33	-	N
TIPX	SPDR BBG Barclays 1-10Y TIPS	329	↑	1	0.09	28	0.15	0.04	-	N
LTPZ	PIMCO 15+Y U.S. TIPS Idx	161	↓	2	0.32	10	0.20	1.40	-	L
TIPZ	PIMCO Broad U.S. TIPS Idx	54		0	0.14	40	0.20	3.52	-	N
RINF	ProShares Inflation Expectations	9		0	0.85	-	0.30	0.53	-	L
GTIP	GS Access Inflation Protected USD Bond	8		0	0.06	-	0.12	-	-	N
PBTP	Invesco PureBeta 0-5 Yr US TIPS	6	↑	0	0.34	14	0.07	0.09	-	N
Currency Funds										
UUP	Invesco DB US Dollar Idx Bullish Fund	393	↓	18	0.04	-	0.79	0.08	-	M
FXE	CurncyShares Euro Curncy Trust	219	↓	26	0.01	-	0.40	-	-	M
FXY	CurncyShares JPese Yen Trust	184		17	0.02	-	0.40	-	-	L

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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	Currency Funds									
FXF	CurncyShares Swiss Franc Trust	146		2	0.07	-	0.40	-	-	L
EUO	ProShares UltraShort Euro	143	↓	3	0.04	-	0.95	-	-2x	L
FXB	CurncyShares British Pound Sterling Trust	126	↓	9	0.02	-	0.40	-	-	M
FXC	CurncyShares Canadian Dollar Trust	122	↓	3	0.05	-	0.40	-	-	L
FXA	CurncyShares Australian Dollar Trust	109		1	0.08	-	0.40	-	-	L
YCS	ProShares UltraShort Yen	54	↓	1	0.07	-	0.95	-	-2x	L
USDU[A]	WisdomTree BBG U.S. Dollar Bullish Fund	51		1	0.46	-	0.50	0.17	-	L
UDN	Invesco DB US Dollar Idx Bearish Fund	33		1	0.06	-	0.80	-	-1x	L
CYB[A]	WisdomTree Chinese Yuan Strategy Fund	29	↓	0	0.47	-	0.45	-	-	L
DBV	Invesco DB G10 Curncy Harvest Fund	25		0	0.64	-	0.80	0.05	-	L
EUFX	ProShares Short Euro	22	↑	0	0.10	-	0.95	-	-1x	L
CEW[A]	WisdomTree Emerging Curncy Strategy Fund	20	↓	0	0.34	-	0.55	-	-	L
FXS	CurncyShares Swedish Krona Trust	15	↓	0	0.21	-	0.40	-	-	L
DRR	Market Vectors Double Short Euro ETN	11		0		-	0.65	-	-2x	N
CROC	ProShares UltraShort Australian Dollar	8		0	0.23	-	0.95	-	-2x	L
CNY	Market Vectors Renminbi/USD ETN	8		0		-	0.55	-	-	N
ULE	ProShares Ultra Euro	7		0	0.18	-	0.95	-	+2x	L
DCHF	VelocityShares Daily 4X Long USD vs CHF	5		0	0.16	-	1.50	-	+4x	N
DAUD	VelocityShares Daily 4x Long USD vs AUD	5		0	0.38	-	1.50	-	+4x	N
DGBP	VelocityShares Daily 4X Long USD vs GBP	4		0	0.15	-	1.50	-	+4x	N
DJPY	VelocityShares Daily 4X Long USD vs JPY	4		0	0.11	-	1.50	-	+4x	N
UJPY	VelocityShares Daily 4X Long JPY vs USD	4		0	0.11	-	1.50	-	+4x	N
FXCH	CurncyShares Chinese Renminbi Trust	4	↓	0	0.46	-	0.40	-	-	N
FXSG	CurncyShares Singapore Dollar Trust	4		0	0.58	-	0.40	-	-	N
DEUR	VelocityShares Daily 4X Long USD vs EUR	3	↓	0	0.12	-	1.50	-	+4x	N
UGBP	VelocityShares Daily 4X Long GBP vs USD	3		0	0.16	-	1.50	-	+4x	N
UCHF	VelocityShares Daily 4X Long CHF vs USD	3		0	0.18	-	1.50	-	+4x	N
YCL	ProShares Ultra Yen	3		0	0.10	-	0.95	-	+2x	L
UEUR	VelocityShares Daily 4X Long EUR vs USD	2		0	0.13	-	1.50	-	+4x	N
UAUD	VelocityShares Daily 4X Long AUD vs USD	2		0	0.36	-	1.50	-	+4x	N
URR	Market Vectors Double Long Euro ETN	2		-		-	0.65	-	+2x	N
INR	Market Vectors Rupee/USD ETN	1		-		-	0.55	-	-	N
	Commodity Funds									
	Broad Commodities									
PDBC[A]	Invesco Optimum Yield Diverse Commodity	2,095	↑	22	0.06	-	0.58	0.94	-	L
DBC	Invesco DB Commodity Idx Tracking Fund	1,754	↓	31	0.06	-	0.89	0.06	-	L
GSG	iShares S&P GSCI Commodity Idxed Trust	1,168		15	0.06	-	0.75	1.32	-	L
DJP	iPath BBG Commodity Idx Tot Ret ETN	735	↓	11	0.04	-	0.70	1.55	-	L
USCI	United States Commodity	415	↓	2	0.08	-	1.03	0.13	-	N
COMT[A]	iShares Commodities Select Strategy	388	↓	5	0.22	-	0.48	-	-	N
RJI	ELEMENTS Rogers Intl Comm. Idx - Tot Ret	192		1	0.22	-	0.75	-	-	L
FTGC[A]	First Trust Global Tactical Comm. Strategy	169	↓	1	0.19	-	0.95	3.58	-	L
BCI[A]	Aberdeen Std BBG All Commodity	156		2	0.10	-	0.25	0.09	-	N
GCC	WisdomTree Continuous Commodity	138		1	0.16	-	0.75	0.04	-	L
GSC	GSCI Enhanced Comm Tot Ret	127		0		-	1.25	-	-	N
UCI	ETRACS CMCI Tot Ret ETN	70	↓	0	0.55	-	0.55	0.85	-	N
COMB[A]	GraniteShares BBG Comm Broad	59	↑	0	0.16	-	0.25	0.04	-	N
BCM	iPath Pure Beta Broad Commodity ETN	56		0	0.27	-	0.70	0.00	-	N
FAAR[A]	First Trust Alternative Abs Ret Strategy	43	↑	0	0.27	-	0.95	9.53	-	N
COM[A]	Direxion Auspice Broad Commodity	42		0	0.22	-	0.70	0.36	-	N
CMDY[A]	iShares BBG Roll Select Commodity	39		0	0.47	-	0.28	0.75	-	N
GSP	iPath GSCI Tot Ret Idx ETN	36		0	0.19	-	0.70	3.24	-	N
DJCI	ETRACS BBG Commodity Idx Tot Ret ETN	31	↓	0	0.49	-	0.50	0.64	-	N
COMG[A]	GraniteShares S&P GSCI Commodity Broad	7		0	0.30	-	0.35	1.36	-	N
UCIB	ETRACS Constant Maturity Commodity	6		0	2.37	-	0.55	0.85	-	N
BDRY	Breakwave Dry Bulk Shipping	4	↑	0	1.43	-	1.72	-	-	N
SDCI[A]	USCF SummerHaven Dynamic Commodity	4		0	0.49	-	0.80	-	-	N
BCD[A]	Aberdeen Std All Comm Longer Dated	4		0	0.18	-	0.29	0.35	-	N
	Energy									
USO	United States Oil Fund LP	1,567		371	0.08	-	0.73	-	-	H
UGAZ	VelocityShares 3x Long Natural Gas ETN	491	↑	109	0.08	-	1.65	-	+3x	L
UCO	ProShares Ultra BBG Crude Oil	385		88	0.04	-	0.95	1.56	+2x	L
UWT	VelocityShares 3x Long Crude Oil	376	↑	218	0.05	-	1.50	4.86	+3x	N
DBO	Invesco DB Oil Fund	308		7	0.09	-	0.78	0.13	-	L
UNG	United States Natural Gas Fund LP	270	↓	88	0.04	-	1.30	-	-	M
DGAZ	VelocityShares 3x Inv Natural Gas	217	↑	283	0.15	-	1.65	-	-3x	N
DWT	VelocityShares 3x Inv Crude Oil	159		44	0.17	-	1.50	9.27	-3x	N
OILU	ProShares UltraPro 3x Crude Oil	130	↑	28	0.10	-	0.95	4.67	+3x	L
OIL	iPath Series B S&P GSCI Crude Oil	100	↑	2	0.13	-	0.45	0.00	-	L
BNO	United States Brent Oil Fund LP	100		7	0.05	-	0.90	-	-	L
SCO	ProShares UltraShort BBG Crude Oil	94	↓	39	0.06	-	0.95	4.66	-2x	L
DBE	Invesco DB Energy Fund	89	↓	3	0.07	-	0.78	0.10	-	L
USL	United States 12 Mnth Oil Fund LP	63	↓	0	0.21	-	0.82	-	-	L
OILK[A]	ProShares K-1 Free Crude Oil Strategy	45	↑	1	0.17	-	0.65	2.01	-	N
UGA	United States Gasoline Fund LP	44		1	0.23	-	0.75	-	-	L
BOIL	ProShares Ultra BBG Natural Gas	28	↑	3	0.16	-	0.95	8.78	+2x	L
	Commodity Funds									
	Energy (Continued)									
USOU[C]	United States 3x Oil Fund	23	↑	4	0.19	-	1.51	-	+3x	L
OILD	ProShares UltraPro 3x Short Crude Oil	21	↑	6	0.12	-	0.95	8.89	-3x	L
WTIU	ProShares Daily 3x Long Crude	18	↑	2	0.23	-	1.45	-	+3x	N
OILX	ETRACS S&P GSCI Crude Oil Tot Ret Idx	15		0	0.13	-	0.50	0.00	-	N
DTO	DB Crude Oil Double Shorts	13	↓	0	2.98	-	0.75	-	-2x	N
KOLD	ProShares UltraShort BBG Natural Gas	9	↑	6	0.19	-	0.95	-	-2x	L
USOI	X-Links Crude Oil Shares Covered Call	8	↑	0	1.70	-	0.85	-	-	N
RJN	ELEMENTS Rogers Intl Comm Energy	7	↓	0	0.78	-	0.75	-	-	L
UNL	United States 12 Mnth Natural Gas Fund LP	5	↓	0	0.93	-	0.90	-	-	L
JJE	iPath Series B BBG Energy Tot Ret	4		0	0.22	-	0.45	0.00	-	N
AOIL[A]	Aberdeen Std BBG WTI Crude Oil	4		0	0.68	-	0.39	-	-	N
GAZ	iPath Series B BBG Natural Gas Tot Ret	4	↑	0	0.80	-	0.45	0.00	-	N
OLEM	iPath Pure Beta Crude Oil	3	↓	0	0.36	-	0.85	0.01	-	N
WTID	ProShares Daily 3x Inv Crude	2	↓	0	0.31	-	1.85	-	-3x	N
USOD[C]	United States 3x Short Oil Fund	2	↑	0	0.63	-	1.65	-	-3x	L
FUE	ELEMENTS MLCX Biofuels Idx Tot Ret	1		0		-	0.75	-	-	N
	Metals									
GLD	SPDR Gold Shares	30,809		993	0.01	-	0.40	0.00	-	H
IAU	iShares Gold Trust	12,188		170	0.08	-	0.25	0.00	-	L
SLV	iShares Silver Trust	4,666		110	0.07	-	0.50	0.00	-	H
PHYS	Sprott Physical Gold Trust	2,001		5	0.10	-	0.46	-	-	N
SGOL	Aberdeen Std Physical Swiss Gold Shares	848	↓	6	0.04	-	0.17	0.02	-	L
PSLV	Sprott Physical Silver Trust	803		2	0.18	-	0.68	-	-	N
GLDM	SPDR Gold MiniShares Trust	635		9	0.08	-	0.18	-	-	N
PPLT	Aberdeen Std Physical Platinum Shares	588		7	0.07	-	0.60	0.00	-	N
BAR	Graniteshares Gold Trust	449	↑	3	0.22	-	0.17	0.00	-	N
GLTR	Aberdeen Physical Precious Metals Basket	356		2	0.22	-	0.60	0.00	-	N
SIVR	Aberdeen Std Physical Silver Shares	323		2	0.08	-	0.30	0.00	-	L
USLV	VelocityShares 3x Long Silver	224	↑	14	0.12	-	1.65	1.32	+3x	N
PALL	Aberdeen Std Physical Palladium Shares	219	↓	5	0.45	-	0.60	0.00	-	N
AGQ	ProShares Ultra Silver	176		3	0.06	-	0.95	-	+2x	L
DBB	Invesco DB Base Metals Fund	166	↓	2	0.10	-	0.80	0.11	-	L
OUNZ	VanEck Merk Gold Shares	145		1	0.10	-	0.40	-	-	L
UGLD	VelocityShares 3x Long Gold	110		9	0.04	-	1.35	0.41	+3x	N
DBP	Invesco DB Precious Metals Fund	108	↓	1	0.10	-	0.78	0.05	-	L
AAAU	Perth Mint Physical Gold	106		0	0.09	-	0.18	-	-	N
DGL	Invesco DB Gold Fund	102	↓	1	0.22	-	0.78	0.06	-	L
SPPP	Sprott Physical Platinum & Palladium Trust	101		1	0.26	-	1.02	-	-	N
DGP	DB Gold Double Longs	83		1	0.46	-	0.75	-	+2x	N
UGL	ProShares Ultra Gold	75		2	0.04	-	0.95	5.36	+2x	L
GLDI	X-Links Gold Shares Covered Call	34	↓	0	0.75	-	0.65	6.49	-	L
DSLV	VelocityShares 3x Inv Silver	30		3	0.16	-	1.65	2.71	-3x	N
GLDW[C]	World Gold Trust	30	↑	0	0.41	-	0.50	0.00	-	N
GLL	ProShares UltraShort Gold	22	↓	1	0.04	-	0.95	5.32	-2x	L
SLVO	X-Links Silver Shares Covered Call	21	↓	0	1.13	-	0.65	-	-	N
DGLD	VelocityShares 3x Inv Gold	19		2	0.05	-	1.35	0.85	-3x	N
ZSL	ProShares UltraShort Silver	19	↓	1	0.13	-	0.95	-	-2x	L
DZZ	DB Gold Double Shorts	18	↓	0	0.74	-	0.75	-	-2x	N
JJC	iPath Series B BBG Copper Tot Ret	15	↑	0	0.25	-	0.45	0.00	-	L
CPER	United States Copper	15	↑	0	0.29	-	0.80	0.96	-	N
DBS	Invesco DB Silver Fund	13	↓	0	0.45	-	0.79	0.08	-	L
DGZ	DB Gold Shorts	9	↓	0	0.95	-	0.75	-	-1x	N
JJN	iPath Series B BBG Nickel Tot Ret	8	↑	0	0.45	-	0.45	0.00	-	N
UBG	ETRACS CMCI Gold Tot Ret	6	↑	0	2.31	-	0.30	0.28	-	N
IAUF[A]	iShares Gold Strategy	5		0	0.29	-	0.25	-	-	N
JJM	iPath Series B Industrial Metals Tot Ret	5	↑	0	0.45	-	0.45	0.00	-	N
JJP	iPath Series B Precious Metals Tot Ret	5	↑	0	0.29	-	0.45	0.00	-	N
JJT	iPath Series B BBG Tin Subidx Tot Ret	5		0	0.47	-	0.45	0.00	-	N
RJZ	ELEMENTS Rogers Intl Comm. Idx- Metals	4	↓	0	0.42	-	0.75	-	-	N
JJU	iPath Series B BBG Aluminum Tot Ret	4		0	0.65	-	0.45	0.01	-	N
PLTM	GraniteShares Platinum Trust	4		0	0.97	-	0.50	0.00	-	N
PGM	iPath Series B BBG Plat Tot Ret	4		0	0.32	-	0.45	0.00	-	N
USV	ETRACS CMCI Silver Tot Ret	4	↑	0		-	0.40	0.84	-	N
LD	iPath BBG Lead Subidx Tot Ret	0	↑	-		-	0.70	1.54	-	N
	Soft Commodities									
DBA	Invesco DB Agriculture Fund	437	↓	7	0.06	-	0.89	0.09	-	L
JO	iPath Series B BBG Coffee Subidx Tot Ret	82	↑	2	0.20	-	0.45	0.02	-	L
RJA	Rogers Intl Comm Idx - Agri Tot Ret	79		0	0.35	-	0.75	-	-	L
CORN	Teucrium Corn Fund	60		1	0.16	-	1.75	0.04	-	L
WEAT	Teucrium Wheat Fund	53		1	0.23	-	1.74	0.07	-	L
SGG	iPath Series B BBG Sugar Tot Ret	25	↑	0	0.28	-	0.45	0.00	-	L
SOYB	Teucrium Soybean Fund	24	↑	1	0.26	-	1.74	0.08	-	L
NIB	iPath BBG Cocoa Tot Ret	19	↓	1	0.17	-	0.70	2.86	-	L
JJG	iPath Series B BBG Grains Tot Ret	19	↑	0	0.23	-	0.45	0.00	-	L
CANE	Teucrium Sugar Fund	12		0	0.27	-	1.68	0.08	-	L
COW	iPath Series B BBG Livestock Tot Ret	9	↑	0	0.23	-	0.45	0.01	-	L
BAL	iPath Series B BBG Cotton Tot Ret	9	↑	0	0.22	-	0.45	0.01	-	L

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			Commodity Funds						
Soft Commodities (Continued)									
JJA	iPath Series B BBG Agriculture Tot Ret	7	0	0.20	-	0.45	0.00	-	N
JJS	iPath Series B BBG Softs Tot Ret	4	0	0.37	-	0.45	0.00	-	N
FUD	ETRACS CMCI Food Tot Ret	3	0	1.04	-	0.65	1.11	-	N
GRU	ELEMENTS MLCX Grains Idx Tot Ret	3	0	2.20	-	0.75	-	-	L
UAG	ETRACS CMCI Agriculture Tot Ret	3	0	2.69	-	0.65	1.16	-	N
TAGS	Teucrium Agricultural Fund	1	0	1.20	-	0.48	0.18	-	N

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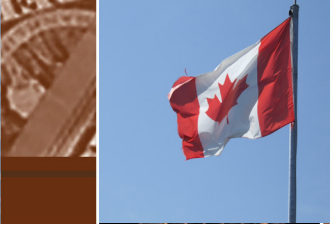

J.P.Morgan

Canada & Latin America Listed ETFs

Canada Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Broad										
Large Cap										
XIU CN	iShares S&P/TSX 60 Idx	6,159	↓	239	0.05	60	0.18	0.04	-	M
ZCN CN	BMO S&P/TSX Capd Comp Idx	2,979		14	0.07	-	0.06	0.06	-	L
HXT CN	Horizon S&P/TSX 60 Idx	1,425		32	0.04	60	0.03	0.03	-	L
VCE CN	Vanguard FTSE Canada Idx	479		2	0.05	57	0.06	0.05	-	N
QCE CN	Mackenzie Canadian Large Cap Equity Idx	55	↓	1	0.06	58	0.06	0.06	-	N
HXD CN[C]	BetaPro S&P/TSX 60 -2x Daily	43	↑	2	0.25	60	1.52	-	-2x	L
FST CN[A]	First Trust Canadian Capital Strength	32		0	0.10	-	0.66	3.17	-	N
INOC CN	Horizons Inovestor Canadian Equity Idx	26	↑	0	0.31	-	0.66	0.56	-	N
HXU CN[C]	BetaPro S&P/TSX 60 2x Daily Bull	25	↓	9	0.07	60	1.53	-	+2x	L
TTP CN	TD Canadian Equity Idx	14	↑	0	0.12	282	0.07	0.45	-	N
HIX CN[C]	BetaPro S&P/TSX 60 Daily Inverse	13		0	0.25	60	1.42	-	-1x	N
CSY CN[A]	CI First Asset Core Canadian Equity Income Cl	12	↓	0	0.76	-	1.31	-	-	N
HEW CN[C]	Horizons S&P/TSX 60 Eq Wgt Idx	8	↑	0	0.21	60	0.61	0.08	-	N
CED CN[A]	First Asset Core Canadian Equity	4	↓	0	0.55	-	0.15	-	-	N
Mid Cap										
XMD CN	iShares S&P/TSX Completion Idx	144		2	0.15	182	0.61	0.06	-	N
Small Cap										
XCS CN	iShares S&P/TSX SmallCap Idx	84		1	0.29	200	0.60	0.07	-	N
Multi Cap										
XIC CN	iShares Core S&P/TSX Capd Comp Idx	4,194		30	0.06	242	0.06	0.04	-	L
VCN CN	Vanguard FTSE Canada All Cap Idx	1,441	↑	6	0.06	205	0.06	0.05	-	N
FLCD CN	Franklin FTSE Canada All Cap Idx	201		-	0.13	205	-	-	-	N
QXM CN	First Asset MrngStr National Bank Quebec Idx	52		0	0.11	-	0.58	-	-	N
QCN CN	Mackenzie Canadian Equity Idx	26	↑	0	0.08	282	0.06	0.05	-	N
RCE CN	RBC Quant Canadian Equity Leaders	11		0	0.11	242	0.44	1.47	-	N
Sector										
Energy										
XEG CN	iShares S&P/TSX Capd Energy Idx	526		27	0.13	32	0.62	0.08	-	L
ZEO CN	BMO Eq Wgt Oil & Gas Idx	115		3	0.07	-	0.61	0.09	-	L
HXE CN	Horizons S&P/TSX Capd Energy Idx	43	↑	0	0.19	32	0.30	0.02	-	N
ZJO CN	BMO Junior Oil Idx	34	↓	0	0.35	-	0.60	1.21	-	N
ZJN CN	BMO Junior Gas Idx	18		0	0.90	-	0.58	1.16	-	N
HEE CN[C A]	Horizons Enhanced Income Energy	14		0	0.48	-	0.84	6.02	-	N
HOG CN	Horizons Canadian Midstream Oil & Gas Idx	8	↑	0	0.31	13	0.64	0.32	-	N
HEU CN[C]	BetaPro S&P/TSX Capd Energy 2x Daily Bull	8	↓	0	0.41	32	1.53	-	+2x	N
HED CN[C]	BetaPro S&P/TSX Capd Energy -2x Daily Bear	3	↓	0	0.32	32	1.53	-	-2x	N
Financials / REITs										
ZWB CN	BMO Covered Call Canadian Banks	1,438		5	0.11	6	0.72	0.99	-	N
ZEB CN	BMO Eq Wgt Banks Idx	1,007		27	0.05	-	0.62	0.05	-	L
XRE CN	iShares S&P/TSX Capd REIT Idx	980		6	0.09	-	0.61	0.08	-	L
XFN CN	iShares S&P/TSX Capd Fin Idx	784		26	0.04	26	0.61	0.04	-	L
ZRE CN	BMO Eq Wgt REITs Idx	431		3	0.11	-	0.61	0.11	-	N
RIT CN[C A]	CI First Asset Canadian REIT	357	↑	1	0.19	-	0.90	-	-	N
VRE CN	Vanguard FTSE Canadian Capd REIT Idx	154		0	0.11	-	0.39	0.25	-	N
FLI CN[A]	First Asset US & Canada Lifeco Income	120		0	0.42	-	0.92	-	-	N
CIC CN[A]	CI First Asset CanBanc Income Class	119		0	0.22	-	0.84	-	-	N
CEW CN[A]	iShares Eq Wgt Banc & Lifeco	118		0	0.13	-	0.60	-	-	N
RBNK CN	RBC Canadian Bank Yield Idx	48	↑	2	0.07	-	0.33	-	-	N
HXF CN	Horizons S&P/TSX Capd Fin Idx	36	↑	1	0.09	26	0.28	0.29	-	N
HFU CN[C]	BetaPro S&P/TSX Capd Fin 2x Daily Bull	15		0	0.15	26	1.52	-	+2x	N
BFIN CN[C A]	Brompton NA Financials Div	15		0	0.41	-	0.95	-	-	N
HEWB CN	Horizons Equal Wgt Canada Banks Idx	14		-	0.14	-	0.45	-	-	N
REIT CN[C]	Invesco S&P/TSX REIT Income Idx	13		0	0.14	-	0.50	0.80	-	N
HEF CN[C A]	Horizons Enhanced Income Financials	12		0	0.40	-	0.83	2.54	-	N
HCRE CN	Horizons Equal Wgt Canada Reit Idx	10		-	0.21	-	0.50	-	-	N
HCB CN	Hamilton Capital Canadian Bank Variable-Weig	9		0	0.23	6	0.55	-	-	N
HFD CN[C]	BetaPro S&P/TSX Capd Fin -2x Daily Bear	7	↓	0	0.38	26	1.53	-	-2x	N
HCBB CN[C A]	Harvest Banks & Buildings Income	2	↑	0	0.24	-	0.85	-	-	N
BNC CN[C A]	Purpose Canadian Fin Income Fund	2	↓	0	0.23	-	0.68	-	-	N
Other Sectors										
ZWU CN[A]	BMO Covered Call Utilities	603		2	0.28	-	0.71	-	-	N
TXF CN[C A]	First Asset Tech Giants Covered Call	208		1	0.29	-	0.72	-	-	N
ZUT CN	BMO Eq Wgt Utilities Idx	177		1	0.11	-	0.61	0.07	-	L
XIT CN	iShares S&P/TSX Capd IT Idx	146	↑	1	0.14	16	0.61	0.53	-	N
XUT CN	iShares S&P/TSX Capd Utilities Idx	83		1	0.09	16	0.62	0.05	-	N
XST CN	iShares S&P/TSX Capd Con Stap Idx	74		1	0.06	-	0.61	0.04	-	N
XMA CN	iShares S&P/TSX Capd Materials Idx	72	↓	0	0.14	49	0.61	0.29	-	L
ZGD CN	BMO Eq Wgt Global Gold Idx	65	↑	0	0.22	34	0.61	2.56	-	N
ZJG CN	BMO Junior Gold Idx	51		0	0.23	-	0.60	0.17	-	N
LS CN	Middlefield Healthcare & Life Sciences Div Fur	51	↓	0	0.43	-	-	-	-	N
ZIN CN	BMO S&P/TSX Eq Wgt Industrials Idx	42	↓	1	0.15	-	0.62	0.10	-	N
FAI CN[A]	First Asset Active Utility & Infrastructure	18		0	0.27	-	0.65	-	-	N
MXF CN	First Asset Can-Materials Covered Call	13	↑	0	0.40	49	0.74	5.35	-	N

Canada Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Style										
Growth										
XCG CN	iShares Canadian Gw th Idx	26	↓	0	0.08	-	0.55	0.39	-	N
Value										
FXM CN	First Asset MrngStr Canada Value Idx	61	↓	0	0.20	-	0.67	0.22	-	N
XCV CN	iShares Canadian Value Idx	40	↓	0	0.08	-	0.55	0.37	-	N
ZVC CN	BMO MSCI Canada Value Idx	5	↑	0	0.09	-	0.40	0.05	-	N
Dividend										
XDV CN	iShares Canadian Select Div Idx	1,039		4	0.06	30	0.55	0.06	-	L
CDZ CN	iShares S&P/TSX Canadian Div Arstocks Idx	648		2	0.10	82	0.66	0.17	-	N
PDC CN	Invesco Canadian Dividend Idx	499	↑	1	0.07	-	0.55	0.06	-	N
XEI CN	iShares S&P/TSX Comp High Div Idx	440		2	0.07	75	0.22	0.06	-	N
VDY CN	Vanguard FTSE Canadian High Div Yield Idx	386		5	0.05	-	0.22	0.06	-	N
ZWC CN[A]	BMO Canadian High Div Covered Call	348	↑	2	0.12	-	0.72	-	-	N
ZDV CN[A]	BMO Canadian Div	343	↓	2	0.08	-	0.39	-	-	L
PDF CN[C A]	Purpose Core Div Fund	220		1	0.11	-	0.67	-	-	N
HXH CN	Horizons Cdn High Div Idx	149	↓	0	0.12	-	0.11	0.00	-	N
RCD CN[A]	RBC Quant Canadian Div Leaders	97		0	0.12	-	0.43	-	-	N
FCCD CN	Fidelity Canadian High Div Idx	63		0	0.10	53	-	-	-	N
FDV CN[A]	First Asset Active Canadian Div	29		0	-	-	0.94	6.72	-	N
HAL CN[C A]	Horizons Active Canadian Div	28	↑	0	0.19	-	0.80	-	-	N
DXC CN[A]	Dynamic iShares Active Canadian Div	20	↑	0	0.15	-	0.75	-	-	N
DXM CN	First Asset MrngStr Canada Div Tgt 30 Idx	11	↓	0	0.19	-	0.60	0.26	-	N
BGC CN[A]	Bristol Gate Concentrated Canadian Equity	6	↑	0	0.14	-	0.70	5.26	-	N
RDE CN[A]	Purpose Core Equity Income Fund	3	↑	0	0.16	-	0.88	3.50	-	N
Low Vol										
ZLB CN[A]	BMO Low Vol Canadian Equity	1,040		4	0.07	-	0.39	-	-	L
TLV CN	Invesco S&P/TSX Composite Low Vol Idx	269		1	0.11	-	0.34	0.14	-	N
XMV CN	iShares Edge MSCI Min Vol Canada Idx	72	↑	0	0.09	-	0.33	0.04	-	N
HEX CN[C A]	Horizons Enhanced Income Equity	28		0	0.42	-	0.84	-	-	N
XMY CN[C]	iShares Edge Msci Min Vol Gbl Idx Cad-Hdgd	17	↑	0	0.23	-	0.48	1.73	-	N
FLRM CN[A]	Franklin Liberty Risk Managed Canadian Equity	11		0	0.22	-	0.33	3.67	-	N
RWC CN	First Asset MSCI Canada Low Risk Wgtd	6		0	0.16	91	0.68	1.28	-	N
FCCL CN	Fidelity Canadian Low Vol Idx	6		-	0.09	53	-	-	-	N
Volatility										
HUV CN[C]	BetaPro SPX VIX ST Futures	11	↑	1	0.39	-	1.00	5.58	-	N
Momentum										
WXM CN	First Asset MrngStr Canada Momentum Idx	489	↑	3	0.14	-	0.67	0.39	-	N
Quality										
FQC CN	First Asset MSCI Canada Quality Idx Class	124	↑	1	0.12	25	0.60	0.46	-	N
FCCQ CN	Fidelity Canadian High Quality Idx	5		-	0.12	53	-	-	-	N
Multi-factor										
PXC CN	Invesco FTSE RAFI Canadian Fundamental Idx	229	↑	1	0.08	90	0.51	0.08	-	N
DGRC CN	WisdomTree Canada Quality Div Gw th Idx	133	↑	1	0.12	50	0.24	0.08	-	N
CRQ CN	iShares Canadian Fundamental Idx	118		0	0.12	90	0.72	0.04	-	N
XDIV CN	iShares Core MSCI Canadian Quality Div Idx	95	↑	1	0.09	20	0.11	0.18	-	N
QCD CN[A]	AGFiQ Enhanced Core Canadian Equity	73	↑	0	0.09	-	0.45	2.25	-	N
XFC CN	iShares Edge MSCI Multifactor Canada Idx	71	↑	1	0.16	83	0.51	0.14	-	N
DFC CN	Desjardins Canada Multifactor-Controlled Vol	36		0	0.23	-	0.59	0.17	-	N
MCLC CN	Manulife Multifactor Canadian Large Cap Idx	28	↑	0	0.16	-	0.42	-	-	N
CMCE CN	CIBC Multifactor Canadian Equity	16		-	0.19	-	-	-	-	N
MCSM CN	Manulife Multifactor Canadian Smid Cap Idx	4		0	0.22	132	0.68	0.09	-	N
PZC CN	Invesco FTSE RAFI Canadian Small-Mid Idx	3	↑	0	0.21	-	0.67	0.31	-	N
SCAD CN	Scotia Strategic Canadian Equity Portfolio	2		0	0.29	242	-	-	-	N
Theme										
HMMJ CN	Horizons Marijuana Life Sciences Idx	697		18	0.10	-	0.86	8.18	-	L
XEN CN	iShares Jantzi Social Idx	105	↑	0	0.08	50	0.55	0.06	-	N
MJJ CN[A]	Purpose Marijuana Opportunities Fund	15		0	0.44	-	0.98	-	-	N
SEED CN[A]	Evolve Marijuana	10	↑	0	0.47	-	1.13	-	-	N
HMJR CN	Horizons Emerging Marijuana Grow ers Idx	9		0	2.40	51	0.99	1.92	-	N
FBE CN	First Asset Canadian Buyback Idx	9		0	0.12	-	0.60	0.04	-	N
NFAM CN	NBI Canadian Family Business	-		-	0.22	-	-	-	-	N
Alpha										
MKC CN	Mackenzie Maximum Diversification Canada Id	220		1	0.12	54	0.67	-	-	N
ZFN CN[C A]	BMO SIA Focused NA Equity Fund Series	52		-	0.16	-	0.90	-	-	N
DANC CN[A]	Desjardins Alt Long/Short Equity Market Neutr	24		-	-	-	-	-	-	N
ZFC CN[C A]	BMO SIA Focused Canadian Equity Fund Serie	18		-	0.19	242	0.84	-	-	N
NALT CN[A]	NBI Liquid Alternatives	8		-	0.36	-	-	-	-	N
HII CN	Horizons Cdn Insider Idx	7	↓	0	0.42	50	0.74	0.22	-	N
Preferred/ Convertible										
ZPR CN	BMO Laddered Preferred Share Idx	1,443		12	0.17	186	0.50	0.13	-	L
HPR CN[C A]	Horizons Active Preferred Share	1,112		9	0.30	-	0.63	1.84	-	L
CPD CN	iShares S&P/TSX Canadian Preferred Share Ic	1,008		8	0.16	246	0.49	0.10	-	N
RPF CN[A]	RBC Canadian Preferred Share	592		4	0.38	-	0.59	-	-	N
DXP CN[C A]	Dynamic iShares Active Preferred Shares	410	↑	3	0.33	-	0.58	-	-	N
DIVS CN[C A]	Evolve Active Canadian Preferred Share	192	↑	2	0.63	-	0.90	-	-	N
PPS CN	Invesco Canadian Preferred Share Idx	131		0	0.49	-	0.50	0.41	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[U] Advisor units also exist for the fund
[A] Actively managed ETFs
[C] Currency hedged ETFs
[H] Currency hedged and unhedged versions available

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Canada & Latin America Listed ETFs

Canada Listed ETFs

Style

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Preferred/ Convertible (Continued)										
CVD CN	iShares Convertible Bond Idx	84		0	1.51	-	0.50	0.65	-	N
HFP CN[A]	Horizons Active Floating Rate Preferred Share	83		0	0.77	-	0.62	2.38	-	N
RPS CN[A]	Purpose Canadian Preferred Share Fund	78		0	0.40	-	0.99	4.14	-	N
PR CN[A]	Lysander-Slater Preferred Share ActivETF	77		0	0.70	-	1.03	-	-	N
FPR CN[A]	First Asset Preferred Share	48		0	0.55	-	0.86	2.04	-	N
TPRF CN[A]	TD Active Preferred Share	42		-	0.59	-	-	-	-	N
CXF CN	First Asset Canadian Convertible Bond	41	↑	0	1.52	-	0.73	-	-	N
HLPR CN	Horizons Laddered Canadian Preferred Share	17		-	0.51	186	0.40	-	-	N
NPRF CN[A]	NBI Active Canadian Preferred Shares	17		-	0.40	-	-	-	-	N
DCP CN	Desjardins Canadian Preferred Share	9	↑	0	0.45	-	0.53	0.16	-	N
Socially Resposible										
RLDR CN	RBC Vision Women's Leadership MSCI Canad	122	↓	0	0.08	-	0.28	0.03	-	N
DRFC CN	Desjardins RI Canada Multifactor - Low CO2	5		0	0.13	-	0.57	-	-	N
XESG CN	iShares ESG MSCI Canada Idx	2		-	0.13	135	0.20	-	-	N
HERS CN[H]	Evolve NA Gender Diversity Idx	2	↓	0	-	-	0.62	0.50	-	N
WOMN CN[C A]	BMO Women In Leadership Fund	2		0	1.86	-	0.39	-	-	N
DRMC CN	Desjardins RI Canada - Low CO2 Idx	2		0	0.16	-	-	-	-	N

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
North America										
ZSP CN	BMO SPX Idx	4,571		16	0.06	505	0.09	1.25	-	M
XSP CN[C]	iShares Core SPX Idx CAD- Hdgd	3,541		37	0.05	-	0.11	0.36	-	L
VFV CN	Vanguard SPX Idx	1,743	↑	11	0.03	-	0.08	0.40	-	L
XUS CN	iShares Core SPX Idx	1,408	↑	7	0.05	505	0.10	1.31	-	N
VUN CN	Vanguard US Total Mkt Idx	1,390	↑	5	0.04	-	0.16	0.48	-	L
ZUE CN[C]	BMO SPX Hdgd to CAD Idx	1,288	↑	6	0.07	-	0.10	0.12	-	L
XUU CN	iShares Core S&P US Total Mkt Idx	1,123		2	0.08	-	0.07	0.40	-	N
ZDY CN[A]	BMO US Div	1,058		2	0.07	-	0.34	-	-	N
HXS CN	Horizons SPX Idx	704	↑	5	0.07	505	0.11	1.24	-	N
ZLU CN[A]	BMO Low Vol US Equity	677		3	0.07	-	0.33	-	-	L
VSP CN[C]	Vanguard SPX Idx CAD-hdgd	652	↑	5	0.06	-	0.08	0.41	-	N
VUS CN[C]	Vanguard US Total Mkt Idx CAD Hdgd	593		3	0.06	-	0.16	5.58	-	N
ZWH CN[A]	BMO US High Div Covered Call	535		2	0.16	-	0.71	-	-	N
ZQQ CN[C]	BMO Nasdaq 100 Equity Hdgd To CAD Idx	472		6	0.07	-	0.39	0.12	-	L
CUD CN[C]	iShares US Div Growers Idx CAD-Hdgd	416		1	0.13	111	0.66	0.07	-	N
VGG CN	Vanguard US Div Appreciation Idx	394	↑	1	0.06	-	0.30	0.29	-	N
XQQ CN[C]	iShares NASDAQ 100 Idx CAD-Hdgd	342	↑	6	0.06	-	0.39	0.05	-	N
RUD CN[A]	RBC Quant US Div Leaders	306		1	0.18	-	0.43	-	-	N
XMU CN	iShares Edge MSCI Min Vol USA Idx	283	↑	1	0.12	-	0.34	0.06	-	N
FLAM CN	Franklin FTSE US Idx	241		-	0.24	622	-	-	-	N
FLUS CN	Franklin Libertyqt US Equity Idx	221		1	0.14	977	0.28	0.03	-	N
XSU CN[C]	iShares US Small Cap Idx CAD-Hdgd	221		3	0.06	-	0.36	0.58	-	L
ZUQ CN	BMO MSCI USA High Quality Idx	216		1	2.56	125	0.34	1.66	-	N
ZWA CN[C A]	BMO Covered Call DJIA Hdgd to CAD	197		1	0.16	-	0.71	-	-	N
ULV/F CN[C]	Invesco S&P 500 Low Volatility Idx	187		1	0.09	-	0.36	0.47	-	N
VGH CN[C]	Vanguard US Div Appreciation Idx CAD-Hdgd	179		1	0.09	-	0.30	0.37	-	N
DXU CN[C A]	Dynamic iShares Active US Div	177	↑	1	0.12	-	0.75	-	-	N
XHD CN[C]	iShares US High Div Equity Idx CAD-Hdgd	162		0	0.11	-	0.33	0.29	-	N
XPF CN[C]	iShares S&P/TSX NA Preferred Stock Idx CAD	152		1	0.41	-	0.47	0.63	-	N
QUU CN	Mackenzie US Large Cap Equity Idx	143		1	0.15	507	0.09	0.32	-	N
ZDJ CN[C]	BMO DJIA Hdgd to CAD Idx	135	↓	3	0.06	-	0.26	0.13	-	N
ZPW CN	BMO US Put Write	115	↓	1	0.19	-	0.73	-	-	N
QUS CN[A]	AGFiQ Enhanced Core US Equity	114		1	0.11	-	0.45	2.04	-	N
MUS CN	Mackenzie Maximum Diversification US Idx	106	↑	0	0.19	-	0.67	-	-	N
ZUD CN[C A]	BMO US Div Hdgd to CAD	106		0	0.10	-	0.34	-	-	N
PYF CN[H A]	Purpose Premium Yield Fund	105	↑	0	0.32	-	0.73	-	-	N
CLU CN[C]	iShares US Fundamental Idx	102		0	0.27	-	0.72	0.13	-	N
QQC/F CN[C]	Invesco QQQ Idx	99		2	0.06	-	0.33	0.45	-	N
PXU/F CN[C]	Invesco FTSE RAFI US Idx	89		1	0.11	-	0.57	0.36	-	N
HSH CN[C]	Horizons SPX CAD Hdgd Idx	89	↑	1	0.06	-	0.11	0.00	-	N
EQL CN[H]	Invesco S&P 500 Equal Wgtd Idx	81		1	0.12	-	0.26	-	-	N
QTIP CN[C]	Mackenzie US TIPS Idx CAD-Hdgd	79	↑	1	0.20	-	0.23	0.15	-	N
RUDH CN[C]	RBC Quant US Div Leaders CAD Hdgd	79		0	0.28	-	0.43	-	-	N
FCUD CN	Fidelity US High Div Idx	79		1	0.19	98	-	-	-	N
XUH CN[C]	iShares Core S&PUS Total Mkt Idx Cad-Hdgd	78	↑	1	0.16	-	0.07	1.92	-	N
XFS CN	iShares Edge MSCI Multifactor USA Idx	67	↓	1	0.19	156	0.51	0.10	-	N
XMH CN[C]	iShares S&P US Mid-Cap Idx CAD-Hdgd	66		0	0.17	400	0.16	0.41	-	N
FCUQ CN	Fidelity US High Quality Idx	64		-	0.21	88	-	-	-	N
HQU CN[C]	BetaPro NASDAQ-100 2x Daily Bull	60		16	0.06	103	1.52	-	+2x	N
XMC CN	iShares S&P US Mid-Cap Idx	59	↓	0	0.14	400	0.16	0.39	-	N
FCRR CN	Fidelity US Div For Rising Rates Idx	56		0	0.53	102	-	-	-	N
HXQ CN	Horizons NASDAQ 100 Idx	55	↑	1	0.09	103	0.28	1.25	-	N
XDU CN	iShares Core MSCI US Quality Div Idx	45	↑	0	0.17	128	0.16	1.31	-	N
ZUP CN	BMO US Preferred Share Idx	44	↑	0	-	-	0.48	0.59	-	N

Canada Listed ETFs

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
North America (Continued)										
HSU CN[C]	BetaPro SPX 2x Daily Bull	42		14	0.06	505	1.52	-	+2x	N
ZNQ CN	BMO NASDAQ 100 Equity Idx	42		-	1.77	103	0.39	-	-	N
ZWS CN[C]	BMO US High Div Covered Call Hdgd to Cad	40	↑	0	0.30	-	0.73	-	-	N
ZLH CN[C]	BMO Low Vol US Equity Hdgd to Cad	40		0	0.12	-	0.33	-	-	N
SID CN[C]	First Asset US Trendleaders Idx	40		0	0.32	-	0.95	5.71	-	N
RPU CN[C A]	Purpose US Preferred Share Fund	38	↑	0	0.48	-	1.17	5.53	-	N
BKL/C CN	Invesco Senior Loan Idx	38	↑	-	0.20	-	0.82	5.59	-	N
HSD CN[C]	BetaPro SPX -2x Daily Bear	36	↑	6	0.09	505	1.52	-	-2x	N
XMS CN[C]	iShares Edge Msci Min Vol USA Idx Cad-Hdgd	33	↑	0	0.18	310	0.34	2.51	-	N
UXM CN[C]	First Asset MrngStr US Div Tgt 50 Idx	33	↓	0	0.20	-	0.60	5.58	-	N
XFA CN[C]	iShares Edge MSCI Multifactor USA Idx CAD-H	31	↓	0	0.23	147	0.51	4.11	-	N
HEA CN[A]	Horizons Enhanced Income US Equity USD	30		0	0.40	-	0.83	-	-	N
XHU CN	iShares US High Div Equity Idx	27		0	0.15	-	0.32	0.06	-	N
PXS CN	Invesco FTSE RAFI US Idx II	27		0	0.32	1,007	0.57	1.35	-	N
DQD CN[C]	WisdomTree US Quality Div Gw th VariablyHdg	26		0	0.14	300	0.48	0.12	-	N
BGU CN[H A]	Bristol Gate Concentrated US Equity	24	↑	0	0.18	-	0.70	5.52	-	N
RUE CN	RBC Quant US Equity Leaders	24	↓	0	2.65	-	0.44	-	-	N
FBU CN[C]	First Asset US Buyback Idx	23	↑	0	0.23	-	0.60	5.61	-	N
TPU CN	TD US Equity Idx	22	↑	0	0.14	507	0.11	1.16	-	N
FCRH CN	Fidelity US Div For Rising Rates Currency Neu	19		0	0.14	102	-	-	-	N
DFU CN	Desjardins USA Multifactor-Controlled Vol	19		0	0.54	-	0.59	0.37	-	N
ZPH CN[C A]	BMO US Put Write Hdgd to CAD	18		1	0.39	-	0.73	-	-	N
XXM CN[C]	First Asset MrngStr US Value Idx	18	↓	0	0.58	-	0.68	5.62	-	N
DGR CN[C]	WisdomTree US Quality Div Gw th Idx	18		0	0.13	300	0.43	0.08	-	N
HIU CN[C]	BetaPro SPX Daily Inverse	18		0	0.12	505	1.42	-	-1x	N
CMUE CN[H]	CIBC Multifactor US Equity	18		-	0.62	-	-	-	-	N
FCUH CN	Fidelity US High Div Currency Neutral Idx	16		0	0.15	98	-	-	-	N
FUD CN[C A]	First Trust Value Line Div Idx CAD Hdgd	15	↑	0	-	-	0.67	7.69	-	N
HQD CN[C]	BetaPro NASDAQ-100 -2x Daily Bear	14	↑	3	0.26	103	1.52	-	-2x	N
YXM CN[C]	First Asset MrngStr US Momentum Idx	13	↓	0	0.42	-	0.69	5.61	-	N
ZEUS CN	BMO Shiller Select US Idx	12		0	2.97	-	0.73	0.17	-	N
UMI CN[C]	WisdomTree US Midcap Div Idx	12	↓	0	0.27	401	0.41	0.08	-	N
FCUL CN	Fidelity US Low Vol Idx	12		-	0.20	89	-	-	-	N
PDIV CN[C A]	Purpose Enhanced Div Fund	11		0	0.32	-	0.86	-	-	N
RWU CN[C]	First Asset MSCI USA Low Risk Weighted	10	↑	0	0.42	-	0.60	0.23	-	N
XDUH CN[C]	iShares Core MSCI US Quality Div Idx CAD-Hd	10	↑	0	0.21	-	0.16	3.37	-	N
PBI CN[C A]	Purpose Best Ideas Fund	10		0	0.13	-	0.79	-	-	N
ZHP CN[C]	BMO US Preferred Share Hdgd to CAD Idx	10	↓	0	0.90	-	0.51	0.45	-	N
RUEH CN[C]	RBC Quant US Equity Leaders Cad Hdgd	10	↓	0	0.17	505	0.44	5.80	-	N
PHE CN[C A]	Purpose Tactical Hdgd Equity Fund	8	↓	0	0.24	-	0.95	-	-	N
MUMC CN	Manulife Multifactor US Mid Cap Idx	8	↑	0	0.33	700	0.55	5.53	-	N
ZVU CN	BMO MSCI USA Value Idx	7		0	-	-	0.34	1.65	-	N
FCQH CN[C]	Fidelity US High Quality Currency Neutral Idx	6		-	0.18	88	-	-	-	N
HUL CN[C A]	Harvest US Equity Plus Income	6	↓	0	0.42	-	0.75	-	-	N
MULC CN	Manulife Multifactor US Large Cap Idx	6	↑	0	0.20	774	0.42	5.54	-	N
FUT CN[C]	First Asset US Tactical Sector Allocation Idx	6	↓	0	0.15	-	0.60	5.59	-	N
FCLH CN[C]	Fidelity US Low Vol Currency Neutral Idx	5		-	0.21	-	-	-	-	N
HAU CN[A]	Horizons Active US Div	5		0	0.24	-	0.81	4.80	-	N
THU CN[C]	TD US Equity CAD Hdgd Idx	5	↓	0	2.36	-	0.11	0.39	-	N
QAH CN[C]	Mackenzie US Large Cap Equity Idx CAD-Hdg	5		0	0.15	-	0.10	0.63	-	N
PUD CN[C A]	Purpose US Div Fund	4	↓	0	0.25	-	0.68	-	-	N
DXZ CN[A]	Dynamic iShares Active US Mid Cap	4		0	0.52	-	0.75	-	-	N
CES CN[C A]	First Asset Core US Equity	4		0	0.62	-	0.15	-	-	N
MUSC CN[C]	Manulife Multifactor US Small Cap Idx	4		-	0.32	450	0.62	0.20	-	N
UHD CN	Invesco SPX High Dividend Low Vol Idx	4		0	0.24	-	0.40	0.09	-	N
CAPS CN[C A]	Evolve Active US Core Equity	3		0	0.36	-	0.96	-	-	N
PEU CN[C A]	Purpose Enhanced US Equity Fund	3		0	-	-	1.43	-	-	N
HID CN[C]	WisdomTree US High Div Idx	2	↓	0	0.18	-	0.40	0.12	-	N
SUSA CN	Scotia Strategic US Equity Portfolio	2		0	0.27	505	-	-	-	N
Global										
XEF CN	iShares Core MSCI EAFE IMI Idx	2,021	↑	6	0.14	3,249	0.22	0.09	-	N
ZEA CN	BMO MSCI EAFE Idx	2,016		4	0.15	-	0.22	3.18	-	L
XIN CN[C]	iShares MSCI EAFE Idx CAD-Hdgd	970		4	0.08	921	0.49	3.89	-	L
XAW CN	iShares Core MSCI All Country World ex Cana	763	↑	4	0.07	-	0.22	1.75	-	N
VIU CN	Vanguard FTSE Dvlpd All Cap ex-NA Idx	647	↑	2	0.27	3,679	0.23	0.10	-	N
VXC CN	Vanguard FTSE Gbl All Cap ex Canada Idx	637		2	0.08	-	0.27	2.19	-	N
XWD CN	iShares MSCI World Idx	510		8	0.05	1,636	0.47	2.04	-	N
ZDM CN[C]	BMO MSCI EAFE Hdgd to CAD Idx	462		1	0.15	921	0.23	2.79	-	L
ZDI CN[A]	BMO Intl Div	321		1	0.50	-	0.44	-	-	N
VDU CN	Vanguard FTSE Dvlpd All Cap Ex US Idx	304		1	0.09	3,884	0.21	3.73	-	N
ZLI CN	BMO Low Vol Intl Equity	273		1	0.50	-	0.45	-	-	N
RID CN[A]	RBC Quant EAFE Div Leaders	237	↓	1	0.58	-	0.54	-	-	N
DXG CN[A]	Dynamic iShares Active Gbl Div	219	↑	1	0.28	-	0.75	-	-	N
MWD CN	Mackenzie Maximum Diversification AW Dvlpd	217	↑	0	0.60	-	0.66	-	-	N
XFH CN[C]	iShares Core MSCI EAFE IMI Idx CAD-Hdgd	194	↑	1	0.56	-	0.22	3.84	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[U] Advisor units also exist for the fund
[A] Actively managed ETFs
[C] Currency hedged ETFs
[H] Currency hedged and unhedged versions available

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Canada & Latin America Listed ETFs

Canada Listed ETFs

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Global (Continued)										
XMI CN	iShares Edge MSCI Min Vol EAFE Idx	193		0	0.13	-	0.37	3.21	-	N
HAZ CN[C A]	Horizons Active Gbl Div	138	↓	0	0.32	-	0.95	4.71	-	N
CIE CN	iShares Intl Fundamental Idx	137		0	0.52	-	0.72	0.11	-	N
CYH CN[C]	iShares Gbl Monthly Div Idx CAD-Hdgd	129		0	0.82	-	0.65	0.17	-	N
VI CN[C]	Vanguard FTSE Dvlpd All Cap ex NA Idx CAD	117		0	0.47	3,679	0.23	3.99	-	N
PID CN[A]	Purpose Intl Div Fund	109		0	0.43	-	0.68	-	-	N
XMW CN	iShares Edge MSCI Min Vol Gbl Idx	108	↑	1	0.09	-	0.48	1.76	-	N
ZDH CN[C]	BMO Intl Div Hdgd to CAD	104		0	0.55	-	0.44	-	-	N
HBF CN[C A]	Harvest Brand Leaders Plus Income	103	↑	0	0.27	-	0.75	-	-	N
HXDM CN	Horizons Intl DM Equity Idx	96	↑	1	0.12	-	0.23	-	-	N
XFI CN	iShares Edge MSCI Multifactor EAFE Idx	70	↓	0	0.42	198	0.50	0.09	-	N
MXU CN	Mackenzie Maximum Diversification AW Dvlpd	67		0	0.73	-	0.67	-	-	N
VVL CN[A]	Vanguard Gbl Value Factor	64	↑	0	0.35	-	0.40	5.90	-	N
RIDH CN[C]	RBC Quant EAFE Div Leaders CAD Hdgd	61	↓	0	0.66	-	0.54	-	-	N
XDG CN	iShares Core MSCI Gbl Quality Div Idx	59	↑	0	0.46	294	0.22	1.30	-	N
ZLD CN[C]	BMO Low Vol Intl Equity Hdgd to Cad	55	↑	0	0.50	-	0.45	-	-	N
FCID CN	Fidelity Intl High Div Idx	53		1	0.32	105	-	-	-	N
RWW CN[C]	First Asset MSCI World Low Risk Weighted	51		0	0.44	-	0.66	0.36	-	N
ZGQ CN	BMO MSCI All Country World High Quality Idx	50	↓	0	1.60	498	0.50	1.77	-	N
VEQT CN	Vanguard All-Equity Portfolio	48		-	0.18	-	-	-	-	N
HBG CN[A]	Hamilton Capital Gbl Bank	46	↓	0	0.55	-	0.85	-	-	N
VVO CN[C A]	Vanguard Gbl Minimum Vol	38	↑	0	0.39	-	0.35	5.67	-	N
BDIV CN[C A]	Brompton Gbl Div Growth	37		-	0.26	-	0.95	-	-	N
ZXM CN[C]	First Asset MrngStr Intl Momentum Idx	36		0	0.62	-	0.73	-	-	N
XFF CN[C]	iShares Edge MSCI Multifactor EAFE Idx CAD-	36	↓	0	0.45	623	0.51	4.32	-	N
ONEQ CN[A]	ONE Gbl Equity	36	↓	0	0.37	-	0.92	-	-	N
QIE CN[A]	AGFiQ Enhanced Core Intl Equity	35		0	0.30	-	0.45	4.52	-	N
VXM CN[C]	First Asset MrngStr Intl Value Idx	31	↓	0	0.76	-	0.60	5.26	-	N
XML CN[C]	iShares Edge Msci Min Vol Eafe Idx Cad-Hdgd	29		0	0.13	-	0.37	3.23	-	N
IQD CN[C]	WisdomTree Intl Quality Div Growth	26	↑	0	0.56	294	0.65	0.19	-	N
ZZZD CN[A]	BMO Tactical Div Fund Serie	26		-	0.19	242	0.78	-	-	N
ILV CN	Invesco S&P Intl Dvlpd Low Vol Idx	25		0	0.43	199	0.42	3.26	-	N
VMO CN[A]	Vanguard Gbl Momentum Factor	25	↑	0	0.32	-	0.35	5.39	-	N
MINT CN	Manulife Multifactor Dvlpd Intl Idx	21	↓	0	0.49	745	0.62	5.42	-	N
DFD CN	Desjardins Dvlpd ex-USA ex-Canada Multifact	20		0	0.91	-	0.71	0.23	-	N
ETP CN	First Trust Gbl Risk Managed Income Idx	20	↓	0	0.34	-	1.01	0.07	-	N
XDGH CN[C]	iShares Core MSCI Gbl Quality Div Idx CAD-Hc	18	↑	0	0.53	-	0.22	3.42	-	N
RIG CN	RBC Quant Gbl Infrastructure Leaders	16		0	0.87	-	0.62	-	-	N
DQI CN[C]	WisdomTree Intl Quality Div Growth VariablyHdg	16	↑	0	0.51	294	0.71	0.17	-	N
RIE CN	RBC Quant Eafe Equity Leaders	16	↓	0	0.65	921	0.56	5.08	-	N
VLQ CN[A]	Vanguard Gbl Liquidity Factor	15		0	0.69	-	0.35	3.11	-	N
TPE CN	TD Intl Equity Idx	15		0	1.73	965	0.20	0.33	-	N
HEJ CN[C A]	Horizons Enhanced Income Intl Equity	14	↓	0	0.55	-	0.84	-	-	N
QDX CN	Mackenzie Intl Equity Idx	13	↑	0	0.25	965	0.23	0.17	-	N
DWG CN	Invesco DWA Global Momentum Idx	12		0	0.82	-	0.79	0.76	-	N
PHW CN[A]	Purpose Intl Tactical Hdgd Equity Fund	11		0	0.62	-	0.96	-	-	N
MIVG CN[A]	Mackenzie Ivy Gbl Equity	10	↑	0	0.26	1,636	0.75	6.06	-	N
FLDM CN	Franklin Libertyqt Intl Equity Idx	9	↑	0	0.56	-	0.44	0.17	-	N
MIND CN[A]	Horizons Active AI Gbl Equity	9	↓	0	0.22	-	0.90	-	-	N
RLD CN	RBC Strategic Gbl Div Leaders	8		0	0.80	-	0.61	-	-	N
PXG CN	Invesco FTSE RAFI Global+ Idx	8	↓	0	0.40	3,053	0.62	2.63	-	N
PZW CN	Invesco FTSE RAFI Global Small	8	↓	0	0.54	4,318	0.62	3.23	-	N
FLGD CN	Franklin LibertyQT Gbl Div Idx	8	↑	0	0.36	-	0.49	0.36	-	N
HRES CN[A]	Harvest Gbl Resource Leaders	8		0	0.98	129	0.75	-	-	N
VIDY CN	Vanguard Ftse Dvlpd EX NA High Div Yield Idx	8		0	0.44	420	-	-	-	N
RWX CN[C]	First Asset Msci Intl Low Risk Wgtd	6	↑	0	0.46	-	0.83	0.52	-	N
RIEH CN[C]	RBC Quant Eafe Equity Leaders Cad Hdgd	5	↓	0	0.61	921	0.56	1.68	-	N
FCIQ CN	Fidelity Intl High Quality Idx	4		-	0.25	88	-	-	-	N
FCIL CN	Fidelity Intl Low Vol Idx	4		-	0.26	90	-	-	-	N
GHD CN	Invesco S&P Global ex. Canada High Div Low	4		0	0.73	-	0.62	1.40	-	N
ZVI CN	BMO MSCI EAFE Value Idx	3	↓	0	2.21	-	0.45	3.12	-	N
RLE CN	RBC Strategic Gbl Equity Leaders	3		0	1.95	-	0.63	-	-	N
QGL CN[A]	AGFiQ Gbl Equity Rotation	3		0	0.18	-	0.80	2.28	-	N
THE CN[C]	TD Intl Equity Cad Hdgd Idx	3	↓	0	1.53	965	0.20	0.45	-	N
PSY CN[A]	Invesco Global Shareholder Yield	2		0	0.46	-	0.77	-	-	N
QDXH CN[C]	Mackenzie Intl Equity Idx CAD-Hdgd	1	↑	0	0.23	965	0.25	4.10	-	N
SINT CN	Scotia Strategic Intl Equity Portfolio	1		0	0.52	921	-	-	-	N
FINT CN	First Trust Intl Capital Strength	1		0	1.51	-	0.75	-	-	N
Emerging Markets										
VEE CN	Vanguard FTSE EM All Cap Idx	770		4	0.07	4,025	0.24	5.06	-	N
ZEM CN	BMO MSCI EM Idx	689	↑	4	0.17	1,137	0.27	3.69	-	N
XEC CN	iShares Core MSCI EM IMI Idx	538	↑	3	0.09	2,708	0.26	7.06	-	N
XEM CN	iShares MSCI EM Idx	218		1	0.12	1,137	0.82	6.20	-	N
DFE CN	Desjardins EM Multifactor-Controlled Vol	133		0	1.00	-	0.77	0.57	-	N
ZLE CN	BMO Low Volatilty EM Equity	109		0	-	-	0.51	-	-	N

Canada Listed ETFs

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Emerging Markets (Continued)										
MEE CN	Mackenzie Maximum Diversification EM Idx	87		1	0.83	-	0.67	-	-	N
XMM CN	iShares Edge MSCI Min Vol EM Idx	70		0	0.47	-	0.80	4.39	-	N
QEM CN[A]	AGFiQ Enhanced Core EM Equity	53		0	0.51	-	0.45	3.50	-	N
RXD CN	RBC Quant EM Div Leaders	40	↑	0	0.87	-	0.76	-	-	N
CWO CN	iShares EM Fundamental Idx	39		0	0.48	360	0.71	1.61	-	N
FLEM CN	Franklin LibertyQT EM Idx	20	↑	0	0.93	-	0.59	0.20	-	N
ELV CN	Invesco S&P EM Low Vol Idx	18	↑	0	0.64	200	0.46	5.29	-	N
EMV/B CN	WisdomTree EM Div Idx	14	↑	0	0.47	1,689	0.43	0.37	-	N
SHZ CN[C]	Sphere FTSE EM Sustainable Yield Idx	14	↓	0	0.85	150	0.54	1.93	-	N
HAJ CN[C A]	Horizons Active EM Div	10		0	0.54	-	0.95	-	-	N
REM CN	Purpose EM Div Fund	7	↑	0	0.80	-	1.76	-	-	N
RXE CN	RBC Quant EM Equity Leaders	7	↓	0	0.58	-	0.44	-	-	N
MEME/B CN	Manulife Multifactor EM Idx	6		-	0.69	641	0.65	-	-	N
FDE CN[C A]	First Trust AlphaDEX Emerging Mkt Div	2	↓	0	0.66	-	0.71	-	-	N
Regional										
ZWP CN	BMO Europe High Div Covered Call	786		1	0.39	-	0.73	-	-	N
ZWE CN[C]	BMO Europe High Div Covered Call Hdgd to CA	682		3	0.30	-	0.72	-	-	N
VEF CN[C]	Vanguard FTSE Dvlpd All Cap Ex US Idx CAD	371		1	0.17	-	0.22	3.68	-	N
XEU CN	iShares MSCI Europe IMI Idx	227	↓	0	0.52	1,431	0.28	0.09	-	N
ZEQ CN[C]	BMO MSCI Europe High Quality Hdgd To CAD I	182	↓	1	0.33	-	0.45	1.49	-	L
VE CN	Vanguard FTSE Dvlpd Europe All Cap Idx	172	↓	1	0.32	1,326	0.22	0.14	-	N
XEH CN[C]	iShares MSCI Europe IMI Idx CAD-Hdgd	129	↓	1	0.52	-	0.27	3.50	-	N
FLUR CN	Franklin FTSE Europe EX UK Idx	120		-	-	451	-	-	-	N
VA CN	Vanguard FTSE Dvlpd Apac All Cap Idx	79	↓	0	0.37	2,297	0.22	0.09	-	N
RPD CN	RBC Quant European Div Leaders	62	↓	0	0.72	-	0.54	-	-	N
HXX CN	Horizons Euro Stoxx 50 R Idx	50	↓	0	0.18	-	0.19	-	-	N
MEU CN	Mackenzie Maximum Diversification Dvlpd Eur	43	↓	1	0.90	-	0.65	-	-	N
RWE CN[C]	First Asset MSCI Europe Low Risk Wgtd	40		0	0.47	-	0.60	0.44	-	N
RPDH CN[C]	RBC Quant European Div Leaders CAD Hdgd	37	↓	0	0.61	-	0.54	-	-	N
EDGF CN[A]	Brompton European Div Gro	31		0	1.05	-	0.95	-	-	N
EHE CN[C]	WisdomTree Europe Hdgd Equity Idx	29	↓	0	0.55	139	0.65	0.11	-	N
EQE CN[H]	Invesco S&P Europe 350 Equal Wgt Idx	27		0	0.87	-	0.34	-	-	N
VAH CN[C]	Vanguard FTSE Dvlpd Apac All Cap Idx CAD-I	24	↓	0	0.47	-	0.23	7.16	-	N
VEH CN[C]	Vanguard Ftse Dvlpd Europe All Cap Idx Cad-I	22	↓	0	0.43	-	0.23	3.05	-	N
EUR CN[C]	First Trust AlphaDEX European Div Idx CAD-H	11	↓	0	2.60	38	0.67	5.37	-	N
Country										
ZID CN	BMO India Equity Idx	145	↓	2	0.61	-	0.73	1.75	-	N
FLJA CN	Franklin FTSE Japan Idx	88		-	0.32	512	-	-	-	N
XID CN	iShares India Idx	56		0	0.15	50	1.00	5.23	-	N
ZCH CN	BMO China Equity Idx	55	↓	1	0.17	-	0.71	1.68	-	N
CJP CN[C]	iShares Japan Fundamental Idx CAD-Hdgd	53	↓	0	0.62	-	0.72	0.32	-	N
XCH CN	iShares China Idx	43	↑	0	0.14	50	0.86	8.09	-	N
HFA CN[A]	Hamilton Capital Australian Financials Yield	11		-	0.44	-	-	-	-	N
HCN CN	Horizons China High Div Yield Idx	7	↑	0	0.63	-	1.19	5.48	-	N
JAPN CN[H]	WisdomTree Japan Equity Idx	3		0	0.51	501	0.51	-	-	N
CHINA/B CN	WisdomTree ICBCCS S&P China 500 Idx	2		0	0.60	-	0.55	-	-	N
QCH CN	Mackenzie China A-Shares CSI 300 Idx	2	↑	0	0.57	300	0.81	5.70	-	N
Sector / Theme										
ZBK CN	BMO Eq Wgt US Banks Idx	619	↓	3	0.10	19	0.39	0.45	-	N
XGD CN	iShares S&P/TSX Gbl Gold Idx	504		10	0.13	35	0.61	0.12	-	L
ZUB CN[C]	BMO Eq Wgt US Banks Hdgd to CAD Idx	386		4	0.10	19	0.39	0.28	-	L
ZUH CN[C]	BMO Eq Wgt US Health Care Hdgd to CAD Idx	264		2	0.11	-	0.39	0.34	-	N
HHL CN[C A]	Harvest Healthcare Leaders Income	228	↑	1	0.26	-	0.85	-	-	N
QIF CN[A]	AGFiQ Enhanced Gbl Infrastructure	220	↑	0	0.37	-	0.45	3.66	-	N
XHC CN[C]	iShares Gbl Healthcare Idx CAD-Hdgd	208		1	0.13	-	0.65	5.69	-	N
COW CN	iShares Gbl Agriculture Idx	187		0	0.25	-	0.72	1.28	-	N
ZGI CN	BMO Gbl Infrastructure Idx	183		1	0.09	44	0.61	1.25	-	N
FSF CN[C A]	CI First Asset Global Financial Sector	172	↑	1	0.54	-	1.11	-	-	N
FHI CN[H A]	First Asset Health Care Giants Covered Call	128		0	0.96	-	0.75	-	-	N
CWW CN	iShares Gbl Water Idx	113		0	0.50	50	0.66	0.13	-	N
CGR CN	iShares Gbl Real Estate Idx	97		0	0.74	-	0.70	1.19	-	N
HFMU CN[A]	Hamilton Capital US Mid-Cap Financials	73		0	0.26	-	0.85	-	-	N
PHR CN[C A]	Purpose Duration Hdgd Real Estate Fund	73	↑	0	0.20	-	0.78	-	-	N
XBM CN	iShares S&P/TSX Gbl Base Metals Idx	65		1	0.27	-	0.61	0.14	-	N
IDR CN[A]	Middlefield REIT IdxPLUS	64	↑	0	0.27	-	-	-	-	N
HGU CN[C]	BetaPro Canadian Gold Miners 2x Daily Bull	63		8	1.00	35	1.36	-	+2x	L
HTA CN[H]	Harvest Tech Achievers Growth & Income	50	↑	0	0.26	-	1.53	-	-	N
HFY CN[A]	Hamilton Capital Gbl Fin Yield	46		0	0.52	-	0.85	-	-	N
CYBR CN[H]	Evolve Cyber Security Idx	46	↑	0	0.32	-	0.67	0.44	-	N
CIF CN	iShares Gbl Infrastructure Idx	46		0	0.24	60	0.72	1.49	-	N
QEF CN[A]	AGFiQ Enhanced Gbl ESG Factors	45	↑	0	0.55	-	0.45	2.31	-	N
HEP CN[C A]	Horizons Enhanced Income Gold Producers	39		0	0.27	-	0.83	-	-	N
RBOT CN	Horizons Robotics and Automation Idx	38	↓	0	0.48	36	0.68	6.16	-	N
HIG CN[C A]	Brompton Global Healthcare Income & Growth	37		0	0.69	-	0.95	6.74	-	N
XCD CN[C]	iShares S&P Gbl Con Disc Idx CAD-Hdgd	34	↓	0	0.64	1,218	0.65	5.68	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[U] Advisor units also exist for the fund
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Canada & Latin America Listed ETFs

Canada Listed ETFs

International

Sector / Theme (Continued)

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
XGI CN[C]	iShares S&P Gbl Industrials Idx CAD-Hdgd	31	↓	0	0.95	1,218	0.65	6.01	-	N
FHQ CN	First Trust AlphaDEX US Tech Sector Idx	30		0	-	90	0.77	1.25	-	N
TLF CN[C A]	Brompton Tech Leaders Income	28		0	0.50	-	0.95	6.25	-	N
ZMT CN[C]	BMO Eq Wgt Gbl Base Metals Hdgd to CAD Id	21	↓	0	0.31	-	0.62	1.14	-	N
STPL CN[C]	BMO Gbl Con Stap Hdgd to CAD Idx	21	↑	0	0.63	156	0.41	-	-	N
FHB CN[A]	First Asset European Bank	19	↓	0	1.34	-	1.32	-	-	N
NXF CN[C A]	First Asset Energy Giants Covered Call	17	↑	0	0.50	-	0.72	-	-	N
COMM CN	BMO Gbl Communications Idx	17		0	-	-	0.40	-	-	N
HMUS CN	Horizons US Marijuana Idx	15		-	-	32	0.85	-	-	N
HPF CN[C A]	Harvest Energy Leaders Plus Income	15		0	0.58	-	0.85	-	-	N
DISC CN[C]	BMO Gbl Con Disc Hdgd to CAD Idx	14		0	2.06	366	0.41	-	-	N
PFG CN[A]	Purpose Gbl Financials Income Fund	13	↓	0	1.13	-	1.54	-	-	N
EDGE CN[C]	Evolve Innovation Idx	12		0	0.39	-	-	-	-	N
RUBY CN[H]	RBC US Banks Yield Idx	12		0	0.34	-	0.33	-	-	N
ZWK CN	BMO Covered Call US Banks	12		-	0.21	-	0.73	-	-	N
HGD CN[C]	BetaPro Canadian Gold Miners -2x Daily Bear	10		3	0.28	35	1.52	-	-2x	L
DXF CN[A]	Dynamic iShares Active Gbl Fin Services	9	↑	0	0.65	-	0.75	-	-	N
FHH CN	First Trust AlphaDEX US Health Care Sector Id	9	↑	0	0.26	73	0.78	1.25	-	N
INSR CN[C]	BMO Gbl Insurance Hdgd to CAD Idx	9	↓	0	0.52	91	0.37	-	-	N
ETHI CN[C]	Horizons Gbl Sustainability Leaders Idx	9		-	0.33	-	0.65	-	-	N
HBLK CN	Blockchain Technologies	7		0	0.65	-	0.65	6.28	-	N
BANK CN[C]	BMO Gbl Bank Hdgd to CAD Idx	6		0	1.17	121	0.40	-	-	N
FHF CN	First Trust AlphaDEX US Fin Sector Idx	6	↑	0	0.41	185	0.77	1.23	-	N
HUTL CN[C A]	Harvest Equal Wgt Gbl Utilities Income	6		-	0.26	79	0.50	-	-	N
CARS CN[H]	Evolve Automobile Innovation Idx	5	↑	0	0.34	-	0.63	0.68	-	N
MWMN CN[A]	Mackenzie Gbl Leadership Impact	5		0	0.28	1,636	0.68	2.65	-	N
FOUR CN[C]	Horizons Industry 4 0 Idx	5		-	0.34	-	0.65	-	-	N
DRFU CN	Desjardins RI USA Multifactor - Low CO2	5		-	-	-	0.57	-	-	N
XSEA CN	iShares ESG MSCI EAFE Idx	5		-	0.42	475	0.30	-	-	N
DRMU CN	Desjardins RI USA - Low CO2 Idx	5		0	0.46	-	0.29	-	-	N
FHG CN	First Trust AlphaDEX US Industrials Sector Idx	5		0	-	95	0.78	1.26	-	N
FHD CN	First Trust AlphaDEX US Con Disc Sector Idx	4		0	-	109	0.76	1.27	-	N
BLCK CN	First Trust Indxx Innovative Transaction and F	4	↑	0	0.95	-	0.15	6.78	-	N
GOGO CN	US Gbl GO GOLD and Precious Metal Miners	4		0	0.62	28	0.66	1.36	-	N
DRFD CN	Desjardins RI Dvlpd ex-USA ex-Canada Multif	4		-	-	-	0.68	-	-	N
RGRE CN	RBC Quant Gbl Real Estate Leaders	4		0	-	-	0.64	-	-	N
BKCH CN	Horizons Blockchain Tech & Hardware Idx	4		0	0.49	-	-	-	-	N
HGR CN[C A]	Harvest Gbl REIT Leaders Income	4		0	-	-	0.85	-	-	N
HGGG CN[C A]	Harvest Gbl Gold Giants Idx	4		-	0.36	-	0.40	-	-	N
BHAV CN[A]	Purpose Behavioural Opportunities Fund	4	↑	0	-	-	1.16	-	-	N
ZHU CN	BMO Equal Wgt US Health Care Idx	3		-	-	-	0.39	-	-	N
DRFG CN	Desjardins RI Gbl Multifactor - Fossil Fuel Res	3		-	1.94	-	-	-	-	N
HUBL CN[H A]	Harvest US Bank Leaders Income	3	↑	0	0.26	505	0.75	-	-	N
USMJ CN[C A]	Evolve US Marijuana	3		-	-	-	-	-	-	N
FSR CN[C]	First Trust Dorsey Wright US Sector Rotation	3	↓	0	-	-	1.10	9.06	-	N
SCGR CN[A]	Starlight Gbl Real Estate Fund	3		0	1.43	-	0.90	-	-	N
LIFE CN[H]	Evolve Gbl Healthcare Enhanced Yield	2	↑	0	0.29	-	0.69	1.48	-	N
SCGI CN[A]	Starlight Gbl Infrastructure Fund	2		0	1.34	-	0.90	-	-	N
LDGR CN	Coincapital Stoxx Blockchain Patents Innovati	2		0	0.35	-	-	-	-	N
DRFE CN	Desjardins RI EM Multifactor - Low CO2	2		-	-	-	-	-	-	N
THNK CN	Coincapital Stoxx BR AI N Idx Fund	2		0	-	-	-	-	-	N
FHU CN	First Trust AlphaDEX US Utilities Sector Idx	2	↑	0	-	34	0.79	1.26	-	N
FHM CN	First Trust AlphaDEX US Materials Sector Idx	2	↓	0	0.36	50	0.78	1.24	-	N
FHC CN[C]	First Trust AlphaDEX US Con Stap Sector Idx	2		0	-	34	0.82	2.55	-	N
FHE CN	First Trust AlphaDEX US Energy Sector Idx	2	↓	0	0.36	41	0.79	1.28	-	N
PINV CN[A]	Purpose Global Innovators Fund	2		0	2.52	505	1.64	8.86	-	N
XSUS CN	iShares ESG MSCI USA Idx	2		-	0.22	326	0.25	-	-	N
CALL CN[H]	Evolve US Banks Enhanced Yield	1	↓	0	0.40	19	0.68	1.81	-	N
RUBH CN[C]	RBC US Banks Yield Cad Hdgd Idx	1		0	0.20	-	0.33	-	-	N
FBCN CN[A]	FBC Distributed Ledger Tech Adopters	1		0	-	-	-	-	-	N
XSEM CN	iShares ESG MSCI EM Idx	1		-	0.47	307	0.35	-	-	N
NREA CN[A]	NBI Gbl Real Assets Income	-		-	0.34	-	-	-	-	N

Asset Allocation Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
VGRO CN	Vanguard Gw th Portfolio	575	↑	3	0.07	-	0.25	-	-	N
FIE CN[A]	iShares Canadian Fin Monthly Income	490		3	0.20	-	0.97	-	-	N
XTR CN	iShares Diversified Monthly Income	456		1	0.14	26	0.62	7.49	-	N
VBAL CN	Vanguard Balanced Portfolio	433	↑	3	0.09	-	0.25	-	-	N
HAC CN[C A]	Horizons Seasonal Rotation	198		1	0.23	-	0.75	-	-	N
VCNS CN	Vanguard Conservative Portfolio	141	↑	1	0.14	-	0.25	-	-	N
PINC CN[A]	Purpose Multi-Asset Income Fund	97	↑	0	0.69	-	0.99	-	-	N
XGRO CN	iShares Core Gw th Portfolio	94	↑	1	0.12	-	0.84	5.81	-	N
ZMI CN[A]	BMO Monthly Income	84		0	0.22	-	0.61	-	-	N
XBAL CN	iShares Core Balanced Portfolio	82	↑	1	0.25	-	0.75	5.38	-	N

Canada Listed ETFs

Asset Allocation Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
PLV CN[A]	Invesco Low Vol Portfolio	37	↑	0	0.33	-	0.60	-	-	N
PMM CN[A]	Purpose Multi-Strategy Mkt Neutral Fund-ETF	28	↑	0	0.39	-	1.05	-	-	N
HGM CN[C A]	Horizons Managed Gbl Opportunities	25	↑	0	0.47	-	1.42	-	-	N
VCIP CN	Vanguard Conservative Income Portfolio	23		-	0.11	-	-	-	-	N
HHF CN[C A]	Horizons MrngStr Hdg Fund Idx	23	↓	0	0.55	-	1.22	7.86	-	N
HRA CN[C A]	Horizons Gbl Risk Parity	19	↓	0	0.31	-	1.30	-	-	N
HBAL CN[C]	Horizons Balanced TRI Portfolio	15		0	0.37	-	-	-	-	N
ZGRO CN	BMO Gw th	13		-	0.10	-	0.20	-	-	N
ZBAL CN	BMO Balanced	11		-	0.11	-	0.20	-	-	N
ZCON CN	BMO Conservative	10		-	0.12	-	0.20	-	-	N
SBEA CN[A]	SmartBe Gbl Value Momentum Trend Idx	9		-	0.22	-	0.86	-	-	N
RTA CN[A]	Purpose Tactical Asset Allocation Fund/	8	↑	0	0.13	-	0.89	-	-	N
EGIF CN[A]	Exemplar Gw th and Income Fund	7		0	0.62	-	-	-	-	N
PRA CN[C A]	Purpose Diversified Real Asset Fund	7	↑	0	1.21	-	0.73	-	-	N
PIN CN[C A]	Purpose Monthly Income Fund	7	↓	0	0.34	-	0.72	-	-	N
HCON CN[C]	Horizons Conservative TRI Portfolio	6		0	0.38	-	-	-	-	N
MPCF CN[C A]	Mackenzie Portfolio Completion	5	↑	0	0.24	1,636	0.83	6.70	-	N
FLBA CN[A]	Franklin Liberty Core Balanced	5		0	0.28	-	0.48	6.46	-	N
PRP CN[C A]	Purpose Conservative Income Fund	5	↑	0	-	-	0.71	-	-	N
QMA CN[A]	AGFiQ MultiAsset Allocation	2		0	0.18	-	0.80	-	-	N
QMY CN[A]	AGFiQ MultiAsset Income Allocation	2		0	0.24	-	0.81	7.06	-	N

Fixed Income Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
ZAG CN	BMO Aggregate Bond Idx	3,208		11	0.09	1,483	0.09	0.06	-	L
XBB CN	iShares Core CanadianUniverse Bond Idx	1,995	↑	13	0.06	-	0.10	0.15	-	N
XSB CN	iShares Core Canadian ST Bond Idx	1,568		10	0.05	-	0.17	0.06	-	L
VAB CN	Vanguard Canadian Aggregate Bond Idx	1,477		6	0.07	971	0.13	0.27	-	L
XCB CN	iShares Canadian Corp Bond Idx	1,202		5	0.11	981	0.44	0.06	-	L
PSA CN	Purpose High Interest Savings	1,177	↑	28	0.03	-	0.15	-	-	N
ZCS CN	BMO Short Corp Bond Idx	1,042		5	0.12	408	0.11	0.04	-	N
ZIC CN	BMO Mid-Term US IG Corp Bond Idx	990		7	0.40	550	0.28	1.76	-	N
ZMU CN[C]	BMO Mid-Term US IG Corp Bond Hdgd to CAD	833	↑	6	0.40	-	0.28	0.65	-	N
VSC CN	Vanguard Canadian ST Corp Bond Idx	825		3	0.09	303	0.11	0.19	-	L
ZCM CN	BMO Mid Corp Bond Idx	808		2	0.15	200	0.34	0.06	-	L
PMIF CN[C A]	PIMCO Monthly Income Fund	799	↑	5	0.08	-	0.87	2.32	-	N
CBO CN	iShares 1-5 Year Laddered Corp Bond Idx	797	↓	2	0.10	-	0.28	0.05	-	N
ZFS CN	BMO Short Federal Bond Idx	767		2	0.12	55	0.23	0.03	-	N
VSB CN	Vanguard Canadian ST Bond Idx	751		3	0.07	415	0.11	0.10	-	L
XSH CN	iShares Core Canadian ST Corp + Maple Bond	737		3	0.12	-	0.11	0.04	-	N
ZJK CN	BMO HY US Corp Bond Idx	719		5	1.62	815	0.62	1.77	-	N
ZHY CN[C]	BMO HY US Corp Bond Hdgd to CAD Idx	658	↑	8	0.29	815	0.62	0.36	-	L
PSB CN	Invesco 1-5 Year Laddered IG Corp Bond Idx	569		3	0.15	45	0.28	0.09	-	N
XFR CN	iShares Floating Rate Idx	539	↑	3	0.09	39	0.23	0.04	-	N
ZFM CN	BMO Mid Federal Bond Idx	527	↑	2	0.15	24	0.22	0.07	-	N
HFR CN[C A]	Horizons Active Floating Rate Bond	526		2	0.15	-	0.46	-	-	N
CLF CN	iShares 1-5 Year Laddered Govt Bond Idx	511		3	0.08	-	0.17	0.04	-	N
MFT CN[A]	Mackenzie Floating Rate Income	499	↑	3	0.31	-	0.73	-	-	N
ZDB CN	BMO Discount Bond Idx	494		1	0.20	-	0.10	-	-	N
FIG CN[C A]	CI First Asset Investment Grade Bond	487	↑	2	0.24	-	0.78	-	-	N
ZMP CN	BMO Mid Provincial Bond Idx	477		2	0.18	78	0.28	0.05	-	N
XGB CN	iShares Canadian Govt Bond Idx	450	↑	2	0.15	502	0.39	0.04	-	N
ZST CN[A]	BMO Ultra ST Bond	442	↑	4	0.07	-	0.17	-	-	N
ZPL CN	BMO Long Provincial Bond Idx	433		1	0.30	161	0.28	0.07	-	N
XLB CN	iShares Core Canadian LT Bond Idx	424	↑	3	0.26	594	0.20	0.07	-	N
HAB CN[C A]	Horizons Active Corp Bond	414		1	0.30	-	0.59	-	-	N
ZCPB CN[C A]	BMO Core Plus Bond Fund	407		3	0.28	-	0.56	-	-	N
ZFL CN	BMO Long Federal Bond Idx	365	↑	2	0.43	18	0.22	0.20	-	L
ZPS CN	BMO Short Provincial Bond Idx	361		1	0.16	71	0.28	0.05	-	N
XHB CN	iShares Canadian HYBrid Corp Bond Idx	351		1	0.39	-	0.51	1.35	-	N
XQB CN	iShares High Quality Canadian Bond Idx	340	↓	1	0.19	-	0.13	0.04	-	N
PGL CN	Invesco Long Term Govt Bond Idx	338		3	0.25	67	0.28	0.07	-	N
MUB CN[A]	Mackenzie Unconstrained Bond	317	↑	2	2.18	-	0.61	-	-	N
XHY CN[C]	iShares US HY Bond Idx CAD-Hdgd	311	↓	2	0.30	947	0.67	5.56	-	N
FLGA CN[C A]	Franklin Liberty Gbl Aggregate Bond Cad-Hdg	309		1	0.32	-	0.39	-	-	N
XRB CN	iShares Canadian Real Return Bond Idx	301		1	0.43	14	0.39	0.19	-	N
VBU CN[C]	Vanguard US Aggregate Bond Idx Cad Hdgd	288	↑	1	0.14	10,398	0.22	0.63	-	N
ZLC CN	BMO Long Corp Bond Idx	282		1	0.37	373	0.34	0.28	-	N
HBB CN	Horizons Cdn Select Universe Bond	273	↑	1	0.17	-	0.09	0.17	-	N
FGO CN[H A]	First Asset Enhanced Govt Bond	265		2	0.30	-	0.97	-	-	N
CMR CN	iShares Premium Money Market	239	↑	5	0.03	-	0.28	-	-	N
QUIG CN[C]	Mackenzie US IG Corp Bond Idx CAD-Hdgd	227	↑	2	0.78	-	0.28	0.22	-	N
CLG CN	iShares 1-10 Year Laddered Govt Bond Idx	210		1	0.16	-	0.17	0.04	-	N
CBH CN	iShares 1-10 Year Laddered Corp Bond Idx	209		1	0.24	-	0.28	0.05	-	N
RLB CN	RBC 1-5 Year Laddered Canadian Bond	204		1	0.17	-	0.25	-	-	N
ZEF CN[C]	BMO EM Bond Hdgd to CAD Idx	172		0	0.55	-	0.56	0.94	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
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Canada & Latin America Listed ETFs

Canada Listed ETFs

Fixed Income Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
VBG CN[C]	Vanguard Gbl ex-US Aggregate Bond Idx CAI	171	↑	1	0.19	10,562	0.38	0.74	-	N
FSB CN[CA]	First Asset Enhanced Short Duration Bond	167		1	0.19	-	0.77	-	-	N
XSE CN[CA]	iShares Conservative Strategic Fixed Income	166		1	0.21	-	0.55	-	-	N
ZFH CN[A]	BMO Floating Rate HY	145	↓	2	0.31	-	0.45	-	-	N
RQH CN	RBC Tgt 2020 Corp Bond Idx	140	↑	0	0.13	-	0.28	-	-	N
RBO CN	RBC 1-5 Year Laddered Corp Bond	140	↓	1	0.52	-	0.28	-	-	N
MHYB CN[CA]	Mackenzie Gbl HY Fixed Income	131		0	0.59	-	0.72	-	-	N
PSU/U CN[C]	Purpose US Cash	123	↑	3	0.13	-	0.15	-	-	N
QGB CN[CA]	AGFiQ Enhanced Core Gbl Multi-Sector Bond	122		1	0.60	-	0.45	-	-	N
ZSU CN[C]	BMO ST US IG Corp Bond Hdgd To CAD Idx	119		0	0.35	-	0.28	0.29	-	N
MGB CN[A]	Mackenzie Core Plus Gbl Fixed Income	116		0	1.37	-	0.67	-	-	N
BXF CN	First Asset 1-5 Year Laddered Govt Strip Bor	113		1	0.34	-	0.23	-	-	N
CHB CN[C]	iShares US HY Fixed Income Idx CAD-Hdgd	110		0	0.65	-	0.55	5.35	-	N
DXB CN[CA]	Dynamic iShares Active Tactical Bond	102		0	0.40	-	0.50	-	-	N
XSC CN[CA]	iShares Conservative ST Strategic Fixed Inco	100	↓	0	0.20	-	0.45	-	-	N
CAGG CN	WisdomTree Yield Enhanced Canada Aggreg	100	↑	1	0.24	1,137	0.20	0.08	-	N
MKB CN[A]	Mackenzie Core Plus Canadian Fixed Income	100	↑	0	0.43	-	0.61	-	-	N
XSI CN[CA]	iShares ST Strategic Fixed Income	95	↓	1	0.25	-	0.56	-	-	N
PTB CN[CA]	Invesco Tactical Bond	90	↓	0	0.28	-	0.54	-	-	N
RQI CN	RBC Tgt 2021 Corp Bond Idx	87		0	0.17	-	0.28	-	-	N
XSQ CN	iShares ST High Quality Canadian Bond Idx	86		0	0.17	-	0.13	0.04	-	N
FLOT CN[HA]	Purpose Floating Rate Income Fund	81	↑	0	0.56	-	1.67	-	-	N
HYI CN[CA]	Horizons Active HY Bond	80		1	0.49	-	0.70	-	-	N
ONEB CN[A]	ONE NA Core Plus Bond	77		0	0.37	-	0.55	-	-	N
RQJ CN	RBC Tgt 2022 Corp Bond Idx	75		0	0.22	-	0.28	-	-	N
XIG CN[C]	iShares US IG Corp Bond Idx CAD-Hdgd	75	↓	1	0.14	1,910	0.32	5.83	-	N
XEB CN[C]	iShares JPM USD EM Bond Idx CAD-Hdgd	75	↑	1	0.17	-	0.53	1.99	-	N
CAGS CN	WisdomTree Yield Enhanced Canada ST Aggr	74		0	0.18	410	0.20	0.04	-	N
CSD CN[CA]	iShares Short Duration High Income CAD-Hdg	73	↓	0	0.73	-	0.61	-	-	N
HMP CN[A]	Horizons Active Cdn Municipal Bond	70	↓	0	0.94	-	0.37	-	-	N
PFL CN	Invesco 1-3 Yr Laddered Floating Rate Note Ic	68	↑	1	0.15	12	0.23	0.09	-	N
HTH CN[C]	Horizons US 7-10 Year Trsry Bond CAD Hdgc	68	↑	0	0.14	-	0.15	1.80	-	N
RQK CN	RBC Tgt 2023 Corp Bond Idx	65		0	0.27	-	0.29	-	-	N
RQL CN	RBC Target 2024 Corp Bond Idx	60		0	0.25	-	0.29	-	-	N
PFH/F CN[C]	Invesco Fundamental High Yield Corporate Bo	60	↑	1	0.57	-	0.66	1.22	-	N
FSL CN[CA]	First Trust Senior Loan CAD Hdgd	58	↓	0	0.49	-	0.95	5.28	-	N
PMNT CN[A]	PIMCO Global Short Maturity Fund Canada	57		-	0.22	-	-	-	-	N
QBB CN	Mackenzie Canadian Aggregate Bond Idx	55	↑	1	0.15	-	0.10	0.33	-	N
ZRR CN	BMO Real Return Bond Idx	54		0	0.55	-	0.27	-	-	N
HTB CN	Horizons US 7-10 Year Trsry Bond	51	↑	0	0.17	-	0.15	1.23	-	N
HSL CN[CA]	Horizons Active Floating Rate Senior Loan	47		0	0.69	-	0.99	-	-	N
PBD CN[CA]	Purpose Total Return Bond Fund	46		0	0.35	-	0.72	-	-	N
FLCI CN[A]	Franklin Liberty Canadian IG Corp	44	↑	0	0.39	-	0.42	0.52	-	N
FLB CN[CA]	First Asset Long Duration Fixed Income	42		0	0.98	-	0.51	-	-	N
HAD CN[CA]	Horizons Active Cdn Bond	41	↑	0	0.63	-	0.49	-	-	N
FGB CN	First Asset ST Govt Bond Idx Class	38	↑	0	0.16	-	0.25	0.17	-	N
CACB CN[A]	CIBC Active IG Corp Bond	38		-	0.22	981	-	-	-	N
BND CN[CA]	Purpose Gbl Bond Fund	38		1	0.61	-	0.48	-	-	N
HAF CN[CA]	Horizons Active Gbl Fixed Income	34	↓	0	1.08	-	0.86	-	-	N
RPSB CN[A]	RBC PH&N Short Term Canadian Bond	31	↑	1	0.20	-	0.39	-	-	N
SYLD CN[A]	Purpose Strategic Yield Fund	29	↑	0	0.55	-	1.22	-	-	N
HUF CN[A]	Horizons Active US Floating Rate Bond USD	29	↓	0	0.51	-	0.48	-	-	N
QHY CN[C]	Mackenzie US HY Bond Idx CAD-Hdgd	29	↑	0	0.62	-	0.56	1.73	-	N
IGCF CN[CA]	PIMCO IG Credit Fund	29		0	0.27	-	0.85	0.88	-	N
ZTS CN	BMO ST US Trsry Bond Idx	25	↑	0	0.11	153	0.24	1.27	-	N
DXV CN[A]	Dynamic iShares Active IG Floating Rate	24	↑	0	0.22	-	0.30	-	-	N
DRCU CN[A]	Desjardins RI Active Canadian Bond - Low C(	23		0	0.50	1,483	0.40	-	-	N
RQG CN	RBC Tgt 2019 Corp Bond Idx	23	↓	1	0.13	-	0.28	-	-	N
ZCB CN	BMO Corp Bond Idx	22	↑	0	0.23	880	0.17	0.25	-	N
FIXD CN[A]	Evolve Active Core Fixed Income	22	↑	0	0.29	-	0.60	-	-	N
HEMB CN[CA]	Horizons Active EM Bond	19		0	0.89	-	0.55	-	-	N
ZGB CN[C]	BMO Govt Bond Idx	19	↑	0	0.13	473	0.17	0.22	-	N
ZTL CN	BMO LT US Trsry Bond Idx	19	↑	0	0.11	49	0.23	1.74	-	N
DXO CN[CA]	Dynamic iShares Active Crossover Bond	19	↑	0	0.34	-	0.50	-	-	N
USB CN	Invesco LadderRite US 0-5 Yr Corp Bond Idx	18	↓	0	1.44	-	0.28	1.30	-	N
FAO CN[CA]	First Asset Active Credit	17	↓	0	0.77	-	0.85	-	-	N
ZSB CN	BMO ST Bond Idx	17	↑	0	0.09	534	0.10	0.11	-	N
DCG CN	Desjardins 1-5 year Laddered Canadian Govt	17	↑	0	0.29	-	0.20	0.04	-	N
VSG CN	Vanguard Canadian ST Govt Bond Idx	17	↑	0	0.17	112	0.20	0.09	-	N
VCB CN	Vanguard Canadian Corp Bond Idx	16	↑	0	0.33	597	0.26	0.27	-	N
EARN CN[CA]	Evolve Active Gbl Fixed Income	16		-	0.30	-	-	-	-	N
VGV CN	Vanguard Canadian Govt Bond Idx	15	↑	0	0.21	373	0.28	0.30	-	N
ZTM CN	BMO Mid-Term US Trsry Bond Idx	15	↑	0	0.15	56	0.23	1.35	-	N
PIB CN	Invesco 1-10 Year Laddered IG Corp Bond Id	15		0	0.35	90	0.28	0.03	-	N
XGGB CN[C]	iShares Global Govt Bond	14	↓	0	-	-	-	0.79	-	N
ZUS/U CN[A]	BMO Ultra ST US Bond	14		-	0.37	-	0.17	-	-	N

Canada Listed ETFs

Fixed Income Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
FTB CN	First Trust Tactical Bond Idx	14	↓	0	0.39	-	1.09	0.90	-	N
PCF CN	Purpose Energy Credit Fund	14	↑	0	1.83	-	2.22	-	+0.25x	N
VLB CN	Vanguard Canadian LT Bond Idx	14	↑	0	0.29	317	0.19	0.63	-	N
ZGSB CN[CA]	BMO Gbl Strategic Bond Fund	13		0	0.39	-	0.82	-	-	N
TCSB CN[CA]	TD Select ST Corp Bond Ladder	13		-	0.44	-	0.28	-	-	N
RBDI CN[CA]	RBC Bluebay Gbl Diversified Income CAD Hdg	11	↓	0	-	-	0.71	-	-	N
QCB CN	Mackenzie Canadian All Corp Bond Idx	11	↑	0	0.26	-	0.34	0.33	-	N
TDB CN	TD Canadian Aggregate Bond Idx	10		0	0.30	-	0.11	0.35	-	N
DCS CN	Desjardins Canadian ST Bond Idx	10	↓	0	0.59	-	0.12	0.03	-	N
CAFR CN[A]	CIBC Active IG Floating Rate Bond	10		-	0.28	12	-	-	-	N
MCSB CN[CA]	Mackenzie Canadian ST Fixed Income	9	↑	0	0.43	-	0.56	0.58	-	N
XSAB CN	iShares ESG Canadian Aggregate Bond Idx	9		-	0.54	-	0.18	-	-	N
XSTB CN	iShares ESG Canadian Short Term Bond Idx	9		-	0.90	205	0.18	-	-	N
IGB CN[A]	Purpose Managed Duration IG Bond Fund	9		0	0.25	-	1.69	-	-	N
FLSL CN[CA]	Franklin Liberty Senior Loan Cad-Hdgd	9		0	-	-	0.50	-	-	N
ICPB CN[CA]	IA Clarington Core Plus Bond Fund -	9		0	1.69	-	-	-	-	N
DCC CN	Desjardins 1-5 year Laddered Canadian Corp	7		0	0.34	-	0.30	0.04	-	N
RUSB CN[A]	RBC ST US Corp Bond	6		0	1.62	-	0.40	-	-	N
FLUI CN[CA]	Franklin Liberty US IG Corp Cad-Hdgd	6		0	0.59	-	0.40	-	-	N
CORP CN[A]	Exemplar IG Fund	6	↑	0	0.35	-	0.80	-	-	N
BPRF CN[CA]	Brompton Flaherty & Crumrine IG Preferred	5		0	0.51	-	0.95	-	-	N
TIME CN[HA]	Evolve Active Short Duration Bond	4	↑	0	0.48	-	0.96	-	-	N
ZMSB CN[CA]	BMO Gbl Multi-Sector Bond Fund	4		0	0.44	-	0.67	-	-	N
PLDI CN[CA]	PIMCO Low Duration Monthly Income Fund Ca	4		-	0.13	13	0.75	-	-	N
PGB CN	Invesco 1-5 Yr Laddered All Govt Bond Idx	4	↑	0	0.45	-	0.17	0.03	-	N
FSD CN[CA]	First Trust Short Duration HY Bond CAD-Hdgd	3	↓	0	-	-	0.95	-	-	N
RMBO CN[A]	RBC 6-10 Year Laddered Canadian Corp Bon	3	↓	0	0.39	-	0.29	-	-	N
QSB CN	Mackenzie Canadian ST Bond Idx	3	↓	0	0.09	-	0.10	0.10	-	N
IGLB CN[CA]	IA Clarington Gbl Bond Fund -	2		0	0.82	-	-	-	-	N
RQN CN	RBC Target 2025 Corp Bond Idx	2		-	0.28	-	-	-	-	N
SFIX CN	Scotia Strategic Fixed Income Portfolio	2		0	0.44	1,483	-	-	-	N
DCU CN	Desjardins Canadian Universe Bond Idx	1	↓	0	0.49	-	0.13	0.08	-	N
TUSB CN[HA]	TD Select U.S. ST Corp Bond Ladder	1		-	0.44	-	0.28	-	-	N
IEMB CN[CA]	IA Clarington EM Bond Fund -	1		0	0.61	-	-	-	-	N

Currency Funds

DLR CN	Horizons US Dollar Currency	46	↓	6	0.09	-	0.56	-	-	N
HARC CN[CA]	Horizons Absolute Return Gbl Currency	7		0	0.33	-	1.09	-	-	N
CAN CN	Horizons Canadian Dollar Currency	5		0	0.35	-	0.57	-	-	N

Commodity Funds

MNT CN	Royal Canadian Mint - Canadian Gold Reserve	341		0	0.75	-	0.35	-	-	N
CGL CN[C]	iShares Gold Bullion	251		1	0.33	-	0.55	5.56	-	N
HOU CN[C]	BetaPro Crude Oil 2x Daily Bul	118	↑	41	0.17	-	1.33	-	+2x	L
HNU CN[C]	BetaPro Natural Gas 2x Daily B	90	↑	13	0.16	-	1.36	-	+2x	L
HOD CN[C]	BetaPro Crude Oil -2x Daily Be	51	↓	18	0.27	-	1.43	-	-2x	L
MNS CN	Royal Canadian Mint - Canadian Silver Reserv	38		0	1.40	-	0.45	-	-	N
SVR CN[C]	iShares Silver Bullion	33		0	1.97	-	0.67	-	-	N
HND CN[C]	BetaPro Natural Gas -2x Daily	28	↑	26	0.20	-	1.47	-	-2x	L
HZU CN[C]	BetaPro Silver 2x Daily Bull	19	↑	0	0.19	-	1.52	-	+2x	N
HGY CN[CA]	Horizons Gold Yield	16		0	0.98	-	1.14	-	-	N
HUC CN[C]	Horizons Crude Oil	14		0	0.31	-	0.87	9.47	-	N
HBU CN[C]	BetaPro Gold Bullion 2x Daily Bull	8	↓	0	0.21	-	1.52	-	+2x	N
HUG CN[C]	Horizons Gold	7		0	0.15	-	0.76	5.57	-	N
CCX CN	Auspice Canadian Crude Oil Idx	7	↓	0	2.23	-	0.65	-	-	N
KILO CN[H]	Purpose Gold Bullion Fund	7		0	0.54	-	0.28	-	-	N
HUZ CN[C]	Horizons Silver	5	↓	0	0.23	-	0.76	5.58	-	N
HNY CN[CA]	Horizons Natural Gas Yield	5	↓	0	0.63	-	2.14	-	-	N
HUN CN[C]	Horizons Natural Gas	4	↓	0	0.53	-	0.87	-	-	N
HBD CN[C]	BetaPro Gold Bullion -2x Daily	1	↓	0	0.17	-	1.53	-	-2x	N
SBT CN[C]	Purpose Silver Bullion Fund	1		0	1.36	-	0.61	-	-	N
HZD CN[C]	BetaPro Silver -2x Daily Bear	1	↓	0	0.28	-	1.53	-	-2x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[U] Advisor units also exist for the fund
[A] Actively managed ETFs
[C] Currency hedged ETFs
[H] Currency hedged and unhedged versions available

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Canada & Latin America Listed ETFs

Mexico Listed ETFs

Broad

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Large Cap										
NAFTRAC MM	iShares NAFTRAC ISHRS	3,142	↑	54	0.07	35	0.25	0.12	-	L
MEXTRAC MM	MEXTRAC 09	392		3	0.29	20	-	0.03	-	L
ILCTRAC MM	iShares IPC Large Cap Total Return TRAC	24		0	0.24	17	0.38	0.03	-	N
DIABLOI MM	DIABLOI 10	16	↓	1	1.29	-	-	-	-1x	N
ANGELD MM	ANGELD 10	10	↓	0	1.19	-	-	-	+2x	N
SMARTRC MM	SMARTRC 14	8		0	0.96	30	0.65	0.44	-	N

Style

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Low Vol										
MEXRISK MM	iShares MSCI Mexico Risk TRAC	6	↓	0	0.31	25	0.25	0.09	-	N
Momentum										
MEXMTUM MM	iShares MSCI Mexico Momentum TRAC	1		0	1.34	25	0.25	0.07	-	N
Multi-factor										
QVGMEX MM	QVGMEX 18	14		0	0.48	23	0.40	-	-	N

Sector Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
FIBRATC MM	BBVA - BMV FIBRAS TRAC	5	↓	0	0.70	10	-	1.36	-	N
ENLACE MM	ENLACE 10	0	↓	0	0.62	12	-	0.51	-	N

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Global										
VEA* MM	Vanguard FTSE DM	72,611		0	-	3,884	0.07	-	-	N
EFA* MM	iShares MSCI EAFE	63,357		0	-	921	0.31	-	-	N
VEU* MM	Vanguard FTSE All-World ex-US	23,692		0	-	2,626	0.09	-	-	N
VT* MM	Vanguard Total World Stock	12,748		2	0.60	-	0.09	-	-	N
ACWI* MM	iShares MSCI ACWI	10,772		2	-	2,773	0.31	-	-	N
IDV* MM	iShares Intl Select Div	4,377		0	-	-	0.50	-	-	N
Emerging Markets										
VWO* MM	Vanguard FTSE EM	65,325		1	1.74	4,025	0.12	-	-	N
EEM* MM	iShares MSCI EM	35,419		2	-	1,137	0.67	-	-	N
DGS* MM	WisdomTree EM SmallCap Div Fund	1,470		0	-	1,017	0.63	-	-	N
GMF* MM	SPDR S&P Emerging Apac	513		0	-	2,353	0.49	-	-	N
EDC* MM	Direxion Daily EM Bull 3X Shares	240		1	1.82	1,137	1.47	-	+3x	N
BKF* MM	iShares MSCI BRIC	203		0	-	623	0.67	-	-	N
EDZ* MM	Direxion Daily EM Bear 3X Shares	65		1	0.57	1,137	1.09	-	-3x	N
Regional										
VGK* MM	Vanguard FTSE Europe	13,926		2	0.35	1,326	0.09	-	-	N
EZU* MM	iShares MSCI Eurozone	7,079		1	-	246	0.47	-	-	N
AAXJ* MM	iShares MSCI All Country Asia ex Japan	4,585		1	-	956	0.67	-	-	N
EUE MM	iShares Core EURO STOXX 50 UCITS EUR Dis	4,363		0	-	50	0.10	-	-	N
VPL* MM	Vanguard FTSE Pacific	4,084		0	0.23	2,297	0.09	-	-	N
EPP* MM	iShares MSCI Pacific ex Japan	2,543		0	-	1,032	0.48	-	-	N
FEZ* MM	SPDR EURO STOXX 50	2,284		1	2.00	50	0.29	-	-	N
IEV* MM	iShares Europe	1,924		0	-	-	0.60	-	-	N
ILF* MM	iShares Latin America 40	1,857		0	-	-	0.48	-	-	N
Country										
SPY* MM	SPDR SPX Trust	282,461		2	1.66	505	0.09	-	-	N
VTI* MM	Vanguard Total Stock Market	115,231		0	2.12	3,557	0.04	-	-	N
VOO* MM	Vanguard SPX	113,277		5	0.40	505	0.04	-	-	N
QQQ* MM	Invesco QQQ Trust Series 1	76,072		2	2.32	103	0.20	-	-	N
IJH* MM	iShares Core S&P Mid-Cap	50,612		0	-	400	0.07	-	-	N
VTV* MM	Vanguard Value	48,267		0	-	337	0.05	-	-	N
IJR* MM	iShares Core S&P Small-Cap	44,983		0	-	601	0.07	-	-	N
IWM* MM	iShares Russell 2000	43,040		1	2.93	1,990	0.19	-	-	N
VUG* MM	Vanguard Gw th	40,206		0	-	-	0.05	-	-	N
VIG* MM	Vanguard Div Appreciation	34,299		0	-	183	0.08	-	-	N
VB* MM	Vanguard Small-Cap	25,465		0	-	1,362	0.05	-	-	N
VYM* MM	Vanguard High Div Yield	23,900		0	-	-	0.06	-	-	N
IVW* MM	iShares SPX Gw th	23,419		0	-	295	0.18	-	-	N
DIA* MM	SPDR DJIA Trust	22,461		2	2.50	30	0.17	-	-	N
ITOT* MM	iShares Core S&P Total US Stock Market	19,995		0	-	-	0.03	-	-	N
DVY* MM	iShares Select Div	17,586		0	-	100	0.39	-	-	N
IVE* MM	iShares SPX Value	15,684		0	-	383	0.18	-	-	N
PFF* MM	iShares Preferred & Income Securities	14,857		0	-	288	0.46	-	-	N
EWJ* MM	iShares MSCI Japan	14,273		3	0.55	322	0.47	-	-	N
VBR* MM	Vanguard Small-Cap Value	13,622		0	-	-	0.07	-	-	N
EWZ* MM	iShares MSCI Brazil	8,596		3	-	-	0.59	-	-	N
IJK* MM	iShares S&P Mid-Cap 400 Gw th	7,704		0	-	243	0.25	-	-	N
FXI* MM	iShares China Large-Cap	6,299		0	-	50	0.74	-	-	N
IJT* MM	iShares S&P Small-Cap 600 Gw th	5,707		0	-	335	0.25	-	-	N
OEF* MM	iShares S&P 100	5,044		0	-	101	0.20	-	-	N
EWY* MM	iShares MSCI South Korea	4,921		2	1.91	-	0.59	-	-	N

Mexico Listed ETFs

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Country (Continued)										
MCHI* MM	iShares MSCI China	4,870		3	-	469	0.59	-	-	N
EWT* MM	iShares MSCI Taiw an	3,480		1	-	-	0.59	-	-	N
EWH* MM	iShares MSCI Hong Kong	2,832		0	-	47	0.48	-	-	N
EWC* MM	iShares MSCI Canada	2,639		1	1.13	91	0.47	-	-	N
EWG* MM	iShares MSCI Germany	2,587		0	-	64	0.47	-	-	N
EWU* MM	iShares MSCI United Kingdom	2,407		1	-	96	0.47	-	-	N
QLD* MM	ProShares Ultra QQQ	2,059		0	-	103	0.95	0.96	+2x	N
GXC* MM	SPDR S&P China	1,574		1	-	672	0.59	-	-	N
FEX* MM	First Trust Large Cap Core AlphaDEX Fund	1,433		0	-	-	0.61	-	-	N
FXH* MM	First Trust Health Care AlphaDEX Fund	1,421		0	-	73	0.63	-	-	N
RSX* MM	VanEck Vectors Russia	1,409		0	-	26	0.62	-	-	N
EPI* MM	WisdomTree India Earnings Fund	1,347		0	-	417	0.84	-	-	N
EWA* MM	iShares MSCI Australia	1,258		0	-	69	0.47	-	-	N
IYY* MM	iShares DJ US	1,241		0	-	1,224	0.20	-	-	N
EWL* MM	iShares MSCI Sw itzerland	1,039		0	-	-	0.47	-	-	N
EWP* MM	iShares MSCI Spain	910		0	-	21	0.47	-	-	N
EWQ* MM	iShares MSCI France	881		0	-	79	0.47	-	-	N
INDY* MM	iShares India 50	832		0	-	-	0.92	-	-	N
EIDO* MM	iShares MSCI Indonesia	649		0	-	71	0.59	-	-	N
ERUS* MM	iShares MSCI Russia	615		0	-	23	0.59	-	-	N
EWS* MM	iShares MSCI Singapore	607		0	-	25	0.47	-	-	N
IYT* MM	iShares Transportation Average	575		0	-	20	0.43	-	-	N
EWM* MM	iShares MSCI Malaysia	536		0	-	-	0.47	-	-	N
SW2CHBN MM	UBS MSCI Sw itzerland 20/35 UCITS	521	↓	-	-	-	0.20	5.10	-	N
EZA* MM	iShares MSCI South Africa	507		0	-	50	0.59	-	-	N
THD* MM	iShares MSCI Thailand	447		0	-	-	0.59	-	-	N
VNM* MM	VanEck Vectors Vietnam	430		0	-	25	0.66	-	-	N
PSQ* MM	ProShares Short QQQ	416		0	-	103	0.95	1.11	-1x	N
ECH* MM	iShares MSCI Chile	389		1	-	-	0.59	-	-	N
DDM* MM	ProShares Ultra Dow 30	377		0	1.42	30	0.95	-	+2x	N
TUR* MM	iShares MSCI Turkey	340		0	-	52	0.59	-	-	N
EWI* MM	iShares MSCI Italy	307		0	-	-	0.47	-	-	N
EPOL* MM	iShares MSCI Poland	289		0	-	-	0.63	-	-	N
EPHE* MM	iShares MSCI Philippines	263		0	-	40	0.59	-	-	N
EWD* MM	iShares MSCI Sw eden	221		0	-	32	0.53	-	-	N
PGJ* MM	Invesco Golden Dragon China	217		0	-	64	0.70	-	-	N
UWM* MM	ProShares Ultra Russell2000	212		0	1.22	1,990	0.95	-	-	N
DOG* MM	ProShares Short Dow 30	208		0	-	30	0.95	-	-1x	N
EWN* MM	iShares MSCI Netherlands	191		0	-	451	0.47	-	-	N
EPU* MM	iShares MSCI Peru	184		0	-	24	0.59	-	-	N
CHNTRAC MM	CHNTRAC 11	167	↑	2	0.24	20	0.50	0.90	-	N
EIS* MM	iShares MSCI Israel	138		0	-	-	0.59	-	-	N
DXD* MM	ProShares UltraShort Dow 30	138		0	2.89	30	0.95	-	-2x	N
GXG* MM	Gbl X MSCI Colombia	82		0	-	-	0.61	-	-	N
TWM* MM	ProShares UltraShort Russell2000	79		0	2.91	1,990	0.95	2.26	-2x	N
EWO* MM	iShares MSCI Austria	70		0	-	-	0.47	-	-	N
IVVPESO MM[C]	iShares SPX Peso Hdgd Trac	11	↓	0	0.14	-	0.49	5.13	-	N
Sector / Theme										
VNQ* MM	Vanguard Real Estate	33,868		0	-	-	0.12	-	-	N
XLF* MM	Financial Select Sector SPDR Fund	25,742		2	1.51	67	0.13	-	-	N
VGT* MM	Vanguard Information Tech	21,094		0	-	313	0.10	-	-	N
XLK* MM	Tech Select Sector SPDR Fund	20,761		1	-	68	0.13	-	-	N
XLV* MM	Health Care Select Sector SPDR Fund	18,179		1	-	62	0.13	-	-	N
XLY* MM	Con Disc Select Sector SPDR Fund	13,847		1	-	64	0.13	-	-	N
XLE* MM	Energy Select Sector SPDR Fund	13,505		1	-	29	0.13	-	-	N
XLP* MM	Con Stap Select Sector SPDR Fund	11,116		2	-	33	0.13	-	-	N
XLI* MM	Industrial Select Sector SPDR Fund	10,784		1	-	70	0.13	-	-	N
GDX* MM	VanEck Vectors Gold Miners	9,179		0	-	46	0.53	-	-	N
XLU* MM	Utilities Select Sector SPDR Fund	9,162		1	-	28	0.13	-	-	N
VHT* MM	Vanguard Health Care	9,005		0	-	358	0.10	-	-	N
VFH* MM	Vanguard Financials	7,667		0	-	402	0.10	-	-	N
IBB* MM	iShares Nasdaq BioTech	7,594		0	-	221	0.47	-	-	N
ITA* MM	iShares US Aerospace & Defense	5,245		0	-	34	0.43	-	-	N
VDC* MM	Vanguard Con Stap	4,889		0	-	91	0.10	-	-	N
IYR* MM	iShares US Real Estate	4,334		0	-	114	0.43	-	-	N
IYW* MM	iShares US Tech	4,271		0	-	150	0.43	-	-	N
XLB* MM	Materials Select Sector SPDR Fund	4,049		0	-	26	0.13	-	-	N
VPU* MM	Vanguard Utilities	3,665		0	-	68	0.10	-	-	N
VDE* MM	Vanguard Energy	3,645		0	-	134	0.10	-	-	N
GDXJ* MM	VanEck Vectors Junior Gold Miners	3,633		0	-	67	0.54	-	-	N
VIS* MM	Vanguard Industrials	3,536		0	-	345	0.10	-	-	N
VCR* MM	Vanguard Con Disc	3,058		0	-	294	0.10	-	-	N
IGF* MM	iShares Gbl Infrastructure	2,845		0	-	75	0.47	-	-	N
IXN* MM	iShares Gbl Tech	2,574		0	-	116	0.47	-	-	N
XOP* MM	SPDR S&P Oil & Gas Exploration & Production	2,181		0	-	64	0.35	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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[A] Actively managed ETFs
[C] Currency hedged ETFs
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J.P.Morgan

Canada & Latin America Listed ETFs

Mexico Listed ETFs

International

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Sector / Theme (Continued)										
IYH* MM	iShares US Healthcare	2,098		0	-	129	0.43	-	-	N
IXJ* MM	iShares Gbl Healthcare	2,055		0	-	103	0.47	-	-	N
VAW* MM	Vanguard Materials	2,044		0	-	118	0.10	-	-	N
IYF* MM	iShares US Financials	1,694		0	-	283	0.43	-	-	N
FAS* MM	Direxion Daily Fin Bull 3X Shares	1,583		1	1.41	252	1.00	1.58	+3x	N
SX7EEXN MM	iShares EURO STOXX Banks 30-15 UCITS DE	1,484		0	-	26	0.51	-	-	N
IYG* MM	iShares US Fin Services	1,436		0	-	120	0.43	-	-	N
ITB* MM	iShares US Home Construction	1,249		0	-	46	0.43	-	-	N
FXO* MM	First Trust Fin AlphaDEX Fund	997		0	-	185	0.63	-	-	N
IXC* MM	iShares Gbl Energy	983		0	-	68	0.47	-	-	N
IYJ* MM	iShares US Industrials	942		0	-	216	0.43	-	-	N
IYC* MM	iShares US Consumer Services	934		0	-	168	0.43	-	-	N
UYG* MM	ProShares Ultra Financials	831		0	-	283	0.95	0.71	+2x	N
IYE* MM	iShares US Energy	789		0	-	67	0.43	-	-	N
IAT* MM	iShares US Regional Banks	555		0	-	58	0.43	-	-	N
IYZ* MM	iShares US Telecommunications	496		0	-	42	0.43	-	-	N
IFGL* MM	iShares Intl Dvlpd Real Estate	477		0	-	210	0.48	-	-	N
MXI* MM	iShares Gbl Materials	324		0	-	105	0.47	-	-	N
SIL* MM	Gbl X Silver Miners	314		0	-	23	0.65	-	-	N
IEO* MM	iShares US Oil & Gas Exploration & Productior	276		0	-	60	0.43	-	-	N
IAI* MM	iShares US Broker-Dealers & Securities Exch:	236		0	-	26	0.43	-	-	N
ICLN* MM	iShares Gbl Clean Energy	223		0	-	-	0.47	-	-	N
FAZ* MM	Direxion Daily Fin Bear 3X Shares	170		0	1.23	252	1.07	3.01	-3x	N
DIG* MM	ProShares Ultra Oil & Gas	94		0	-	67	0.95	1.96	+2x	N
GEX* MM	VanEck Vectors Gbl Alternative Energry	94		0	-	-	0.62	-	-	N
DUG* MM	ProShares UltraShort Oil & Gas	15		0	-	67	0.95	3.20	-2x	N

Fixed Income Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
AGG* MM	iShares Core US Aggregate Bond	59,983		2	-	10,398	0.05	-	-	N
LQD* MM	iShares iBoxx $ IG Corp Bond	32,213		2	-	1,910	0.15	-	-	N
VCSH* MM	Vanguard ST Corp Bond	23,738		1	1.03	2,241	0.07	-	-	N
BSV* MM	Vanguard ST Bond	22,468		0	-	2,909	0.07	-	-	N
TIP* MM	iShares TIPS Bond	20,072		0	-	40	0.19	-	-	N
SHV* MM	iShares Short Trsry Bond	19,997		64	0.07	-	0.15	-	-	N
SHY* MM	iShares 1-3 Year Trsry Bond	19,633		8	0.22	-	0.15	-	-	N
HYG* MM	iShares iBoxx HY Corp Bond	16,699		3	1.75	947	0.49	-	-	N
MBB* MM	iShares MBS	16,224		1	-	327	0.09	-	-	N
EMB* MM[C]	iShares JPM USD EM Bond	15,609		1	-	-	0.39	-	-	N
IEF* MM	iShares 7-10 Year Trsry Bond	13,433		3	-	-	0.15	-	-	N
TLT* MM	iShares 20+ Year Trsry Bond	13,091		0	1.12	-	0.15	-	-	N
BIV* MM	Vanguard Intermediate-Term Bond	11,630		0	-	1,941	0.07	-	-	N
IGSB* MM	iShares ST Corp Bond	11,238		2	-	1,355	0.06	-	-	N
JNK* MM	SPDR Bloomberg Barclays HY Bond	10,032		0	0.78	815	0.40	-	-	N
BIL* MM	SPDR Bloomberg Barclays 1-3 Month T-Bill	7,748		11	0.19	12	0.14	-	-	N
IEI* MM	iShares 3-7 Year Trsry Bond	6,820		3	-	-	0.15	-	-	N
IBTSN MM	iShares USD Trsry Bond 1-3yr UCITS	6,626		2	-	-	0.20	-	-	N
IGIB* MM	iShares Intermediate Corp Bond	6,046		1	-	4,416	0.06	-	-	N
IBGSN MM	iShares EUR Govt Bond 1-3yr UCITS	1,589		0	-	-	0.20	-	-	N
TLH* MM	iShares 10-20 Year Trsry Bond	990		0	-	-	0.15	-	-	N
UDITRAC MM	iShares S&P Valmer Mexico UDITRAC	52	↑	0	-	-	0.30	0.11	-	N
CORPTRC MM	iShares Mexico Corp Bond TRAC	36		0	1.49	-	0.30	0.17	-	N
M10TRAC MM	iShares S&P VALMER Mexico M10TRAC	31	↑	0	-	-	0.30	0.05	-	N
CETETRC MM	iShares S&P VALMER Mexico CETETRAC	24	↑	0	0.10	-	0.30	0.01	-	N
UT7USN MM	UBS - Bbg Barclays US 7-10 Yr Trsry Bond U	21	↑	0	-	20	0.12	0.04	-	N
M5TRAC MM	iShares S&P VALMER Mexico M5TRAC	3	↓	0	-	-	0.30	0.03	-	N

Currency Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
UUP* MM	Invesco DB US Dollar Idx Bullish Fund	387		0	-	-	0.79	-	-	N
FXE* MM	Invesco CurrencyShares Euro Currency Trus	219		0	-	-	0.40	-	-	N
FXY* MM	Invesco CurrencyShares Japanese Yen Trus	184		0	-	-	0.40	-	-	N
DLRTRAC MM	Dolar Trac	152	↓	2	0.15	-	1.90	-	-	N
FXB* MM	Invesco CurrencyShares British Pound Sterlin	126		0	-	-	0.40	-	-	N
FXC* MM	Invesco CurrencyShares Canadian Dollar Tru:	121		0	-	-	0.40	-	-	N
PSOTRAC MM[C]	Peso Trac	8	↑	1	0.37	-	1.90	2.48	-	N

Commodity Funds

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
GLD* MM	SPDR Gold Shares	30,774		0	-	-	-	-	-	N
IAU* MM	iShares Gold Trust	12,173		1	2.58	-	0.25	-	-	N
SLV* MM	iShares Silver Trust	4,673		0	2.78	-	0.50	-	-	N
DBC* MM	Invesco DB Commodity Idx Tracking Fund	1,754		0	-	-	-	-	-	N
GSG* MM	iShares S&P GSCI Commodity Idxed Trust	1,170		0	-	-	0.75	-	-	N
PPLT* MM	Aberdeen Standard Physical Platinum Shares	588		0	-	-	0.60	-	-	N
DBA* MM	Invesco DB Agriculture Fund	437		0	-	-	0.89	-	-	N
DBO* MM	Invesco DB Oil Fund	309		0	-	-	0.78	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[U] Advisor units also exist for the fund
[A] Actively managed ETFs
[C] Currency hedged ETFs
[H] Currency hedged and unhedged versions available

Other Latin American Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Brazil										
BOVA11 BZ	iShares Ibovespa	1,706	↑	101	0.03	65	0.54	0.11	-	M
BOVV11 BZ	It Now Ibovespa Fundo de Indice	1,484	↑	15	0.05	65	0.30	0.11	-	L
PIBB11 BZ	It Now PIBB IBrX-50 Fundo de Indice	333		2	0.15	50	0.06	0.11	-	L
SMAL11 BZ	iShares BM&FBovespa Small Cap	107	↑	2	0.18	77	0.69	0.15	-	L
IVVB11 BZ	iShares SPX FIC FI Investimento no Exterior	91	↑	2	0.12	-	0.24	0.41	-	L
SPXI11 BZ	It Now S&P500 TRN Fundo de Indice	58	↑	1	0.71	505	0.27	2.96	-	L
DIVO11 BZ	It Now IDIV Fundo de Indice	26	↑	0	0.15	32	0.50	0.21	-	N
BRAX11 BZ	iShares Bovespa IBrX Fundo de Indice	14	↑	0	0.14	101	0.20	0.17	-	L
ECOO11 BZ	iShares Indice Carbono Eficiente ICO2 Brasil F	13	↓	0	0.20	29	0.38	0.22	-	N
XBOV11 BZ	Caixa Ibovespa Fundo de Indice	12		0	0.10	65	-	0.23	-	L
MATB11 BZ	It Now IMAT Fundo de Indice	9		0	0.19	12	0.50	0.22	-	N
BBSD11 BZ	BB S&P Divos Brasil Fundo de Indice	8		0	0.34	30	-	0.44	-	N
FIND11 BZ	It Now IFNC Fundo de Indice	7		0	0.19	17	0.60	0.23	-	N
ISUS11 BZ	It Now ISE Fundo de Indice	5	↓	0	0.19	-	0.40	4.45	-	N
FIXA11 BZ	Mirae Asset Renda Fixa Pre Fundo de Indice	-		0	0.16	-	-	-	-	N
Chile										
IVV CI	iShares Core SPX	178,937		0	-	505	0.04	-	-	N
EFA CI	iShares MSCI EAFE	63,357		0	-	921	0.31	-	-	N
IWM CI	iShares Russell 2000	43,040		0	-	1,990	0.19	-	-	N
EEM CI	iShares MSCI EM	35,419		0	-	1,137	0.67	-	-	N
LQD CI	iShares iBoxx $ IG Corp Bond	32,213		0	-	1,910	0.15	-	-	N
IVW CI	iShares SPX Gw th	23,419		0	-	295	0.18	-	-	N
SHY CI	iShares 1-3 Year Trsry Bond	19,633		0	-	-	0.15	-	-	N
IWR CI	iShares Russell Mid-Cap	19,231		0	-	782	0.20	-	-	N
EWJ CI	iShares MSCI Japan	14,273		0	-	322	0.47	-	-	N
IAU CI	iShares Gold Trust	12,173		0	-	-	0.25	-	-	N
EWZ CI	iShares MSCI Brazil	8,596		0	-	-	0.59	-	-	N
EZU CI	iShares MSCI Eurozone	7,079		0	-	246	0.47	-	-	N
FXI CI	iShares China Large-Cap	6,299		0	-	50	0.74	-	-	N
EWY CI	iShares MSCI South Korea	4,921		0	-	-	0.59	-	-	N
SLV CI	iShares Silver Trust	4,673		0	-	-	0.50	-	-	N
AAXJ CI	iShares MSCI All Country Asia ex Japan	4,585		0	-	956	0.67	-	-	N
EWT CI	iShares MSCI Taiw an	3,480		0	-	-	0.59	-	-	N
EWH CI	iShares MSCI Hong Kong	2,832		0	-	47	0.48	-	-	N
EWG CI	iShares MSCI Germany	2,587		0	-	64	0.47	-	-	N
EPP CI	iShares MSCI Pacific ex Japan	2,543		0	-	1,032	0.48	-	-	N
EWU CI	iShares MSCI United Kingdom	2,407		0	-	96	0.47	-	-	N
IEV CI	iShares Europe	1,924		0	-	-	0.60	-	-	N
ILF CI	iShares Latin America 40	1,857		0	-	-	0.48	-	-	N
EWA CI	iShares MSCI Australia	1,258		0	-	69	0.47	-	-	N
EWW CI	iShares MSCI Mexico	1,123		0	-	-	0.47	-	-	N
INDY CI	iShares India 50	832		0	-	-	0.92	-	-	N
EIDO CI	iShares MSCI Indonesia	649		0	-	71	0.59	-	-	N
EWS CI	iShares MSCI Singapore	607		0	-	25	0.47	-	-	N
ECH CI	iShares MSCI Chile	389		0	-	-	0.59	-	-	N
BKF CI	iShares MSCI BRIC	203		0	-	623	0.67	-	-	N
EPU CI	iShares MSCI Peru	184		0	-	24	0.59	-	-	N
CFMITNIP CI	ETF IT NOWS&P/CLX IPSA	172	↑	2	0.46	30	0.59	0.67	-	N
ECNS CI	iShares MSCI China Small-Cap	23		0	-	233	0.59	-	-	N
CFMDIVO CI	ETF IT NOW S&P/CLX Chile Div Ind	16		-	0.51	31	0.56	-	-	N
CFIETFCC CI[A]	Fondo de Inversion Singular Chile Corporativo	10		-	-	-	-	-	-	N
CFIETFGE CI[A]	Fondo de Inversion Singular Gbl Equities	4		-	0.27	-	0.25	-	-	N
INDICE CI	Fondo Mutuo Credicorp Capital Indice Chile	3		-	-	-	-	2.19	-	L
EASCCHI CI	Fondo Mutuo EuroAmerica MSCI Small Cap Ch	1		0	-	-	-	-	-	N
Colombia										
ICOLCAP CB	iShares COLCAP	1,608	↑	3	0.42	25	0.49	0.24	-	N
HCOLSEL CB	Horizons Colombia Select	346	↑	1	0.43	15	0.50	0.08	-	N
ICOLRISK CB	Fondo Bursatil iShares MSCI Colombia Risk We	16		0	0.75	-	0.63	0.06	-	N
Peru										
QQQ PE	Invesco QQQ Trust Series 1	76,072		0	-	103	0.20	-	-	N
DIA PE	SPDR DJIA Trust	22,461		0	-	30	0.17	-	-	N

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Broad Based										
Large Cap										
SX5EEX GY	iShares EURO STOXX 50 UCITS ET	7,015		16.0	-	50	0.10	0.19	-	N
MSE EU	Lyxor EURO STOXX 50 DR UCITS E	5,999		32.6	-	50	0.20	-	-	N
IMEU NA	iShares Core MSCI Europe UCITS	5,124		5.0	-	440	0.12	0.07	-	L
Main X-listings: IMEU LN (GBp), IMEU SW (CHF), ISEU LN (USD)										
EUN2 GY	iShares Core EURO STOXX 50 UCI	3,881	↓	6.4	-	50	0.10	0.17	-	L
Main X-listings: EUE LN (GBp), EUNE SW (CHF), EUE MM (MXN)										
CSSX5E IM	iShares Core EURO STOXX 50 UCI	3,440		4.2	-	50	0.10	0.16	-	N
Main X-listings: CS51 LN (GBp), ISX5 LN (USD)										
XESC IM	Xtrackers Euro Stoxx 50 UCITS	2,932		2.4	-	50	0.09	0.16	-	N
Main X-listings: XESC LN (GBp), XESC SW (CHF), XESC SS (SEK)										
XESX LN	Xtrackers Euro Stoxx 50 UCITS	2,822		0.3	-	50	0.09	1.20	-	N
Main X-listings: XESX SW (CHF)										
CEU FP	Amundi Msci Europe UCITS ETF	2,337	↑	2.1	-	440	0.15	0.05	-	N
Main X-listings: CEUR LN (GBp), UCEU NA (USD)										
XMEU IM	Xtrackers MSCI Europe UCITS ET	2,254	↓	0.4	-	440	0.25	1.13	-	N
Main X-listings: XMEU SS (SEK), XMEU LN (GBp), XMEU SP (USD)										
CSEMU SW	iShares Core MSCI EMU UCITS ET	1,860		2.0	-	246	0.12	0.16	-	N
Main X-listings: CEU1 LN (GBp), IEMU LN (USD)										
MEU FP	Lyxor MSCI Europe DR UCITS ETF	1,852		1.7	-	440	0.25	0.07	-	N
Main X-listings: MEUU LN (USD)										
C50 FP	Amundi Euro Stoxx 50 UCITS DR	1,846	↓	3.6	-	50	0.15	0.17	-	N
VEUR LN	Vanguard FTSE Developed Europe	1,691		0.9	0.11	586	0.12	1.19	-	N
Main X-listings: VEUR IM (EUR), VEUD LN (USD), VGEU GR (EUR)										
EMUEUA SW	UBS ETF MSCI EMU UCITS ETF	1,612	↓	0.9	-	246	0.18	0.13	-	N
Main X-listings: EMUCHA SW (CHF), UIM4 NA (EUR)										
SXXEEX GY	iShares EURO STOXX UCITS ETF D	1,604		7.5	-	306	0.20	0.16	-	N
Main X-listings: SXXEEX SW (EUR)										
IEUX LN	iShares MSCI Europe ex-UK UCIT	1,515	↓	1.8	-	344	0.40	1.17	-	N
Main X-listings: IEUX NA (EUR), IEUX SW (CHF)										
SMEA LN	iShares Core MSCI Europe UCITS	1,436	↑	0.3	-	440	0.12	1.17	-	N
Main X-listings: IMEA EU (CHF), IMEA SW (CHF)										
EMUAA SW	UBS ETF MSCI EMU UCITS ETF	1,224		2.1	-	246	0.18	0.13	-	N
Main X-listings: EMUAA IM (EUR)										
CMU FP	Amundi Index MSCI EMU UCITS ET	1,163	↓	2.0	-	246	0.25	0.12	-	N
Main X-listings: CMU LN (GBp)										
ETFSX5E GY	Deka EURO STOXX 50 UCITS ETF	1,140		4.8	-	50	0.15	0.21	-	N
VERX LN	Vanguard FTSE Developed Europe	1,116		1.3	0.11	453	0.12	1.19	-	N
Main X-listings: VERX NA (EUR)										
XIEE SW	Xtrackers MSCI Europe UCITS ET	1,086	↑	0.0	-	440	0.12	1.13	-	N
Main X-listings: XIEE GR (EUR)										
XACTVINX SS	XACT Norden 30	1,065		1.6	0.34	30	0.15	0.23	-	N
EUUSBH SW [C]	UBS ETF - MSCI EMU hedged to U	987		1.4	0.11	-	0.28	0.12	-	N
EUCHBH SW [C]	UBS ETF - MSCI EMU hedged to C	788	↑	0.9	-	-	0.28	0.13	-	N
EUN1 GY	iShares STOXX Europe 50 UCITS	641		0.8	-	50	0.35	0.08	-	N
Main X-listings: EUN LN (GBp), EUN SW (CHF)										
ERO FP	SPDR MSCI Europe UCITS ETF	546		0.5	0.11	440	0.25	0.10	-	N
Main X-listings: EROX SW (CHF), ERO LN (GBP)										
ETBB FP	BNP Paribas Easy EURO STOXX 50	450	↓	1.0	0.12	50	0.18	0.15	-	N
Main X-listings: ETBB GR (EUR), ETBB SW (EUR)										
E50EUA IM	UBS ETF EURO STOXX 50 UCITS ET	440		0.7	-	50	0.15	0.17	-	N
Main X-listings: E50CHA SW (CHF), UIM1 NA (EUR)										
SMSEUR GY	Invesco MSCI Europe UCITS ETF	434		0.3	-	440	0.19	0.07	-	N
Main X-listings: SMSEUR IM (EUR), MXEU LN (GBp), MXEU SW (EUR), SMEU LN (USD)										
ETFEUAC GY	Deka MSCI Europe UCITS ETF	379	↑	0.8	0.14	440	0.30	1.15	-	N
ETDD FP	BNP Paribas Easy EURO STOXX 50	344	↓	1.4	0.12	50	0.18	0.15	-	N
Main X-listings: ETDD GR (EUR), ETDD SW (EUR)										
MFE FP	Lyxor Core MSCI EMU DR UCITS E	337		0.3	-	246	0.12	0.12	-	N
Main X-listings: MFEX LN (GBP)										
SX5S LN	Invesco EURO STOXX 50 UCITS ET	332		0.1	-	50	0.05	0.16	-	N
Main X-listings: SDJE50 GY (EUR), SDJE50 IM (EUR), SX5E SW (EUR)										
EUREUA SW	UBS ETF MSCI Europe UCITS ETF	295	↑	0.5	0.16	440	0.20	0.08	-	N
Main X-listings: UIMA NA (EUR)										
CN1 FP	Amundi Msci Nordic UCITS ETF	295		0.8	0.13	71	0.25	0.02	-	N
Main X-listings: CN1 LN (GBp)										
LGQG GR	Lyxor Core EURO STOXX 300 DR	290		0.0	-	306	0.07	0.11	-	N
XSSX IM	Xtrackers Euro Stoxx 50 Short	253	↑	0.7	-	-	0.40	-	-1x	N
Main X-listings: XSSX LN (GBp)										
CBSX5T GY	ComStage ETF EURO STOXX 50 NR	235	↓	0.4	0.17	50	0.08	0.18	-	N
Main X-listings: CBSX5E SW (CHF), PS5E PL (EUR)										
FEUZ LN	First Trust Eurozone AlphaDEX	230	↓	0.0	0.28	-	0.65	0.16	-	N
Main X-listings: FEUZ IM (EUR), FEUZ NA (EUR), FTEU LN (USD), FEUZ SW (CHF)										
C5E FP	Amundi ETF Stoxx Europe 50 UCI	220		1.8	0.18	50	0.15	0.07	-	N
CEUD IM	iShares Core MSCI EMU UCITS ET	217	↑	0.4	0.19	246	0.12	0.16	-	N
Main X-listings: ICEUD SW (CHF)										
EMUU LN [C]	iShares MSCI EMU USD Hedged UC	211	↓	0.5	0.16	-	0.38	0.13	-	N
Main X-listings: CEBP GR (EUR), EMUU SW (USD)										
CU9 FP	Amundi ETF MSCI Europe Ex Emu	187		1.1	0.12	194	0.30	0.05	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Broad Based										
Large Cap (Continued)										
XD5D SW [C]	Xtrackers MSCI EMU UCITS ETF	168		0	0.18	246	0.17	5.52	-	N
SX5PEX GY	iShares STOXX Europe 50 UCITS	164	↓	0	-	50	0.52	0.14	-	N
CEU2 IM	AMUNDI INDEX MSCI EUROPE UCITS	160	↑	0	0.20	440	0.15	0.09	-	N
Main X-listings: CEU2 FP (EUR), CEU2 NA (USD)										
BSX FP	Lyxor EURO STOXX 50 Daily -1x	157	↑	0	-	-	0.40	-	-1x	N
50E FP	HSBC EURO STOXX 50 UCITS ETF	147		0	0.11	50	0.05	0.17	-	N
Main X-listings: H50E LN (GBp), H50E IM (EUR)										
SYGEU SJ	Sygnia ITRIX EURO STOXX50	147		0	1.00	50	0.86	-	-	N
HMEU LN	HSBC MSCI EUROPE UCITS ETF	138	↓	0	0.21	440	0.20	0.07	-	N
Main X-listings: HMEU IM (EUR), HEU FP (EUR), HMEU SW (USD)										
MSED FP	Lyxor Core EURO STOXX 50 DR	133	↑	0	-	50	0.07	0.16	-	N
Main X-listings: MSED GR (EUR), MSED IM (EUR)										
EUXS LN [C]	iShares MSCI Europe ex-UK GBP	116	↓	1	0.32	-	0.40	0.34	-	N
Main X-listings: EUXS SW (GBP)										
XEOU LN [C]	Xtrackers MSCI Europe UCITS ET	109		0	0.18	440	0.30	5.34	-	N
LCXPEX GY	iShares STOXX Europe Large 200	109	↑	0	0.38	200	0.20	0.11	-	N
BBVAE SM	BBVA Accion Dow Jones Euro STO	106		0	0.11	50	0.15	0.21	-	N
EMUL IM	iShares MSCI EMU Large Cap UCI	104	↓	0	0.18	117	0.49	0.15	-	N
BXX FP	Lyxor EURO STOXX 50 Daily -2x	96	↑	1	-	50	0.60	-	-2x	N
LVE EU	Lyxor EURO STOXX 50 Daily 2x L	92		5	-	50	0.40	-	+2x	N
CD5 FP	Amundi Euro Stoxx 50 UCITS DR	89	↑	0	-	50	0.15	0.17	-	N
EUFM SW	UBS ETF - MSCI EMU Select Fact	87		0	0.27	-	0.34	-	-	N
Main X-listings: EUFM IM (EUR), EUFM LN (GBp), UIQN GR (EUR)										
EUGBPA SW [C]	UBS ETF MSCI EMU UCITS ETF	87		0	0.23	-	0.28	0.13	-	N
Main X-listings: UB0E LN (GBp)										
CEUG LN [C]	iShares Core MSCI EMU UCITS ET	80		0	0.34	246	0.12	-	-	N
Main X-listings: CEMP NA (GBP)										
C5S FP	Amundi ETF Short Euro Stoxx 50	65	↑	1	0.13	-	0.30	-	-1x	N
XD5S LN [C]	Xtrackers MSCI EMU UCITS ETF	63	↓	0	0.18	246	0.17	5.30	-	N
Main X-listings: XD5S SW (USD)										
SDJE5D GY	Invesco EURO STOXX 50 UCITS ET	48		0	-	50	0.05	0.16	-	N
Main X-listings: SX5D SW (EUR), SDJE5D IM (EUR)										
EXFN SW	iShares EURO STOXX 50 ex-Finan	42		0	0.17	40	0.20	0.85	-	N
Main X-listings: EXFN LN (EUR), IUSR GR (EUR)										
MSEU LN [C]	Lyxor EURO STOXX 50 DR UCITS E	41	↓	0	0.16	50	0.20	0.19	-	N
Main X-listings: MSEU SW (USD)										
HEDJ LN [C]	WisdomTree Europe Equity UCITS	41	↓	0	0.30	139	0.58	0.18	-	N
Main X-listings: HEDJ IM (EUR), HEDJ SW (USD), WTDH GR (EUR)										
ETFEULC GY	Deka MSCI Europe LC UCITS ETF	36		0	0.28	193	0.30	0.22	-	N
EMUC SW [C]	iShares MSCI EMU CHF Hedged UC	36	↑	0	0.27	-	0.38	0.13	-	N
E950 GR	ComStage 1 EURO STOXX 50 UCITS	35		0	-	50	0.15	0.20	-	N
Main X-listings: CB1E50 SW (CHF)										
STXH GR [C]	Lyxor Core STOXX Europe 600 DR	35	↑	0	0.28	600	0.15	0.15	-	N
ELF5 GR	Deka MSCI Europe ex EMU UCITS	33		0	0.27	194	0.30	0.12	-	N
10AI GR	AMUNDI INDEX MSCI EUROPE UCITS	33	↑	0	0.20	440	0.15	0.09	-	N
Main X-listings: CE2D LN (GBp)										
ETFSTX5 GY	Deka STOXX Europe 50 UCITS ETF	33		0	0.19	50	0.19	0.16	-	N
EUGBPD SW [C]	UBS ETF MSCI EMU UCITS ETF	29	↓	0	0.25	-	0.28	0.13	-	N
Main X-listings: UB0F LN (GBp)										
IEUR LN	iShares FTSEurofirst 80 UCITS	29		0	0.30	78	0.40	0.88	-	N
Main X-listings: IEUR SW (CHF)										
C054 GY	ComStage ETF FR EURO STOXX 50	28	↓	0	0.27	50	0.15	0.20	-	N
Main X-listings: CBSX5F SW (CHF)										
EUEUA SW [C]	UBS ETF MSCI Europe UCITS ETF	28	↑	0	0.48	-	0.30	0.10	-	N
Main X-listings: EUEUA IM (EUR), UIMF GR (EUR)										
IEUT LN	iShares FTSEurofirst 100 UCITS	27		0	0.34	96	0.40	0.88	-	N
Main X-listings: IEUT SW (CHF)										
VX5E GR	Vanguard Euro Stoxx 50 UCITS E	27	↑	0	0.13	50	0.10	0.16	-	N
Main X-listings: VX5E LN (GBP), VX5E SW (CHF)										
CS9 FP	Amundi Msci Europe Ex Switzerl	27		0	0.11	401	0.30	0.05	-	N
EMUUKD SW	UBS ETF MSCI EMU UCITS ETF	24	↓	0	0.19	246	0.18	0.13	-	N
SX5E3L IM	SG ETC EURO STOXX 50 +3x Daily	23		0	0.78	50	0.69	-	+3x	N
ELFA GR	Deka EURO STOXX 50 thesauriere	22	↑	0	-	50	0.15	0.19	-	N
EUUSAH SW [C]	UBS ETF - MSCI EMU hedged to U	19	↓	0	0.19	-	0.28	0.12	-	N
Main X-listings: UC89 LN (USD), UC89 LN (USD)										
CBSX5TS GY	ComStage ETF EURO STOXX 50 Dai	17	↑	0	0.81	-	0.35	-	-1x	N
Main X-listings: CBSX5S SW (CHF)										
XDUE SW [C]	Xtrackers MSCI EMU UCITS ETF	15	↓	0	0.21	246	0.17	4.59	-	N
C5L FP	Amundi ETF Leveraged Euro Stox	13		0	0.25	50	0.30	-	-	N
CBNDDUE1 GY	ComStage ETF MSCI Europe TRN U	13		0	0.36	440	0.25	0.08	-	N
Main X-listings: CBMEURUS SW (USD), CBMEUR SW (CHF)										
PCFC GR	Boost EURO STOXX 50 3x Short D	12		0	0.43	-	0.80	-	-3x	N
PCFD GR	Boost EURO STOXX 50 3x Leverag	11		0	0.59	50	0.75	-	+3x	N
3LES LN	Boost EURO STOXX 50 3x Short D	11	↑	0	1.19	-	0.80	-	-3x	N
MFDD FP	Lyxor Core EURO STOXX 300 DR	10	↑	0	-	306	0.07	0.11	-	N
Main X-listings: MFDD LN (GBP), MFDD IM (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Broad Based										
Large Cap (Continued)										
MSEX LN [C]	Lyxor EURO STOXX 50 DR UCITS E	10	↑	0.0	0.21	50	0.20	0.21	-	N
Main X-listings: MSEG SW (GBP)										
MXUK GR	Invesco MSCI Europe ex-UK UCIT	9	↑	0.0	-	344	0.20	0.10	-	N
MXUK LN	Invesco MSCI Europe ex-UK UCIT	9	↑	0.0	0.19	344	0.20	0.10	-	N
3LEU LN	Boost EURO STOXX 50 3x Leverag	8	↓	0.0	2.65	50	0.75	-	+3x	N
CBSX5EL GY	ComStage ETF EURO STOXX 50 Dai	7		0.0	0.47	-	0.35	-	+2x	N
Main X-listings: CBSX5L SW (CHF)										
AEXK FP	Amundi Msci Europe EX UK UCITS	7	↓	0.0	0.10	344	0.12	0.07	-	N
Main X-listings: AEXK LN (GBp)										
MSEC SW [C]	Lyxor EURO STOXX 50 DR UCITS E	7		0.0	0.15	50	0.20	0.20	-	N
EURCHA SW [C]	UBS ETF MSCI Europe UCITS ETF	6	↑	0.1	0.82	-	0.30	0.10	-	N
C50U FP	Amundi Euro Stoxx 50 UCITS DR	5	↓	0.0	0.38	50	0.15	1.14	-	N
Main X-listings: C50U SW (USD)										
EUL3 GR	ETFS 3x Daily Long EURO STOXX	4	↓	0.0	0.41	50	0.70	-	+3x	N
EU3L IM	ETFS 3x Daily Long EURO STOXX	4	↓	0.1	0.35	50	0.70	-	+3x	N
SX5E3S IM	SG ETC EURO STOXX 50 -3x Daily	3		0.0	0.64	-	0.69	-	-3x	N
C5HU FP [C]	Amundi Euro Stoxx 50 UCITS DR	3	↓	0.0	0.56	50	0.15	0.21	-	N
Main X-listings: C5HU SW (USD)										
PR1Z GR	AMUNDI PRIME EUROZONE UCITS ET	3		-	-	50	0.05	-	-	N
EUGBA SW [C]	UBS ETF MSCI Europe UCITS ETF	2	↑	0.0	1.05	-	0.30	0.08	-	N
Main X-listings: UBEU LN (GBp)										
EUSA SW [C]	UBS ETF MSCI Europe UCITS ETF	2		0.0	0.27	-	0.30	0.10	-	N
EU3S IM	ETFS 3x Daily Short EURO STOXX	2	↓	0.0	0.39	-	0.70	-	-3x	N
UES3 GR	ETFS 3x Daily Short EURO STOXX	2	↓	0.0	0.34	-	0.70	-	-3x	N
MFEC SW [C]	Lyxor Core MSCI EMU DR UCITS E	1		0.0	0.22	-	0.20	0.16	-	N
EMUP SW [C]	UBS ETF MSCI EMU UCITS ETF	1		0.0	0.60	-	0.28	0.12	-	N
IBC8 GR	iShares EURO STOXX 50 ex-Finan	0	↑	0.0	0.18	40	0.20	0.12	-	N
X0CF GY	Coba ETN 4x SX5EF Daily Long	0		0.0	0.22	-	-	-	+4x	N
X0CG GY	Coba ETN -3x SX5EF Daily Short	0		0.0	0.17	-	-	-	-3x	N
X0CH GY	Coba ETN -4x SX5EF Daily Short	0	↓	0.0	0.84	-	-	-	-4x	N
PSGF53 IT	Psagot ETF 4D EURO STOXX 50	-		-	-	-	0.50	-	-	N
X0CE GY	Coba ETN 3x SX5EF Daily Long	-		0.0	0.17	-	-	-	+3x	N
KSMSX5I IT	KSM EURO STOXX 50 PR ILS 40a	-		-	-	-	0.82	-	-	N
SG80 LN	SG DAX x5 DAILY LONG	-		0.0	0.33	-	3.74	-	-	N
SG74 LN	SG EURO STOXX x5 DAILY LONG	-		0.0	0.32	-	3.74	-	-	N
SG77 LN	SG DAX x5 DAILY SHORT	-		0.0	0.33	-	3.74	-	-5x	N
KSMF155 IT [C]	KSM ETF 4A Composite Euro STOX	-		-	0.52	55	-	-	-	N
SG82 LN	SG FTSE x2 DAILY LONG	-		0.0	0.13	-	0.45	-	+2x	N
SG86 LN	SG FTSE x5 DAILY LONG	-		0.0	0.32	-	3.23	-	+5x	N
KSMF125 IT [C]	KSM ETF 4A Composite Euro Equi	-		-	0.62	200	0.00	-	-	N
SG73 LN	SG EURO STOXX x5 DAILY SHORT	-		0.0	0.33	-	3.74	-	-5x	N
SG75 LN	SG EURO STOXX x5 DAILY SHORT	-		0.0	0.33	-	3.74	-	-	N
KSMF76 IT	KSM ETF 4D EURO STOXX 50	-		-	-	-	-	-	-	N
SG78 LN	SG DAX x3 DAILY LONG	-		0.0	0.20	-	0.70	-	+3x	N
SG76 LN	SG DAX x5 DAILY LONG	-		0.0	0.33	-	3.74	-	+5x	N
INCEU11 IT	Tachlit EuroStoxx 50 ILS 40a	-		-	-	-	0.82	-	-	N
SG72 LN	SG EURO STOXX x5 DAILY LONG	-		0.0	0.32	-	3.74	-	+5x	N
SG81 LN	SG DAX x5 DAILY SHORT	-		0.0	0.32	-	3.74	-	-	N
PSERO63 IT	Psagot Sal EURO STOXX 50 PR IL	-		-	-	-	0.45	-	-	N
SG87 LN	SG FTSE x5 DAILY SHORT	-		0.0	0.33	-	2.23	-	-5x	N
TCHF100 IT	Tachlit SAL 4D STOXX Europe 60	-		-	-	-	-	-	-	N
TCEUR50 IT	Tachlit EuroStoxx 50 4Da	-		-	-	-	0.02	-	-	N
SG71 LN	SG EURO STOXX x3 DAILY SHORT	-		0.0	0.20	-	0.75	-	-3x	N
SG79 LN	SG DAX x3 DAILY SHORT	-		0.0	0.20	-	0.75	-	-3x	N
SG70 LN	SG EURO STOXX x3 DAILY LONG	-		0.0	0.19	-	0.70	-	+3x	N
PSTX170 IT [C]	Psagot Sal STOXX EURO 600 ILS	-		-	-	600	-	9.78	-	N
SG83 LN	SG FTSE x2 DAILY SHORT	-		0.0	0.14	-	0.50	-	-2x	N
Mid Cap										
DJMC LN	iShares EURO STOXX Mid UCITS E	460	↓	0.2	-	98	0.40	1.19	-	N
Main X-listings: DJMC NA (EUR), DJMC SW (CHF)										
MCXPEX GY	iShares STOXX Europe Mid 200 U	301		0.5	0.12	200	0.20	0.11	-	N
SDJMID GY	Invesco STOXX Europe Mid 200 U	71	↓	0.0	0.21	200	0.35	0.00	-	L
Main X-listings: SDJMID IM (EUR)										
EUMD LN	iShares MSCI Europe Mid Cap UC	55	↓	0.4	0.20	247	0.15	0.09	-	N
XEUM GY	Xtrackers MSCI Europe Mid Cap	49		0.1	0.18	247	0.25	1.12	-	N
Main X-listings: XEUM LN (GBp)										
CEM FP	Amundi Msci Europe Low Size Fa	23	↓	0.1	0.14	247	0.23	0.04	-	N
CBMMDUEU GY	ComStage ETF MSCI Europe Mid C	17		0.0	0.51	247	0.35	0.08	-	N
Main X-listings: CBEUMCUS SW (USD), CBEUMC SW (CHF)										
IESZ LN	iShares Edge MSCI Europe Size	17		0.0	0.40	-	0.25	0.10	-	N
Main X-listings: IESZ SW (EUR), IEFS LN (GBp), IESZ IM (EUR), CEMT GR (EUR), IESZ IM (EUR), IESZ SW (EUR)										
EMID LN	iShares MSCI Europe Mid Cap UC	14	↓	0.1	0.35	247	0.15	0.10	-	N
PWD FP	Invesco FTSE RAFI Europe Mid-S	12		0.0	0.34	583	0.39	0.22	-	N
Main X-listings: PSES LN (GBp), PWD SW (CHF)										
ETFEUMC GY	Deka MSCI Europe MC UCITS ETF	11	↑	0.0	0.21	247	0.30	5.26	-	N
KSMF124 IT [C]	KSM ETF 4A STOXX Europe MID 20	-		-	0.66	200	0.90	-	-	N
KSMID31 IT	KSM STOXX MCXP Mid 200 PR 4Da	-		-	-	-	0.92	-	-1x	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Broad Based										
Small Cap										
XXSC LN	Xtrackers MSCI Europe Small Ca	900		1	0.13	991	0.30	1.47	-	N
Main X-listings: XXSC IM (EUR), XXSC SS (SEK), XXSC SW (CHF)										
CSEMUS SW	iShares MSCI EMU Small Cap UCI	716	↓	1	0.14	461	0.58	5.49	-	N
Main X-listings: CES1 LN (GBp)										
DJSC LN	iShares EURO STOXX Small UCITS	543	↓	0	0.11	99	0.40	1.18	-	N
Main X-listings: DJSC NA (EUR), DJSC SW (CHF)										
SCXPEX GY	iShares STOXX Europe Small 200	431		1	0.11	200	0.20	0.14	-	N
MMS FP	Lyxor MSCI EMU Small Cap DR UC	227	↓	0	0.21	461	0.40	0.08	-	N
UEFD GY	UBS ETF MSCI EMU Small Cap UCI	105	↓	0	0.34	461	0.33	0.13	-	N
Main X-listings: UEFD NA (EUR)										
SMC FP	SPDR MSCI Europe Small Cap UCI	93		0	0.29	991	0.30	0.11	-	N
Main X-listings: SMCX SW (CHF), EUSC LN (GBP)										
CBNCUDE1 GY	ComStage ETF MSCI Europe Small	43		0	1.06	991	0.35	0.08	-	N
Main X-listings: CMEUSCUS SW (USD), CMEUSC SW (CHF)										
ESM FP	Amundi ETF Euro Stoxx Small Ca	23	↓	0	0.21	99	0.30	0.00	-	N
Main X-listings: ESM LN (GBp)										
SDJSML GY	Invesco STOXX Europe Small 200	3	↓	0	0.35	200	0.35	0.00	-	N
Main X-listings: SDJSML IM (EUR)										
Multi Cap										
SXXPIEX GY	iShares STOXX Europe 600 UCITS	5,666	↓	15	-	600	0.20	0.11	-	L
Main X-listings: SXXPIEX SW (EUR)										
XSX6 IM	Xtrackers Stoxx Europe 600 UCI	1,336	↓	0	-	600	0.20	0.07	-	N
Main X-listings: XSX6 LN (GBp)										
ETZ FP	BNP Paribas Easy Stoxx Europe	1,024	↓	2	-	600	0.20	0.05	-	N
Main X-listings: ETZ SW (EUR)										
MEUD FP	Lyxor Core STOXX Europe 600 DR	897	↓	1	-	600	0.07	0.08	-	N
Main X-listings: MEUD IM (EUR), LYP6 GR (EUR)										
C6E FP	Amundi Stoxx Europe 600 UCITS	319	↓	1	-	600	0.18	0.05	-	N
EMUE FP	SPDR MSCI EMU UCITS ETF	305	↓	0	0.11	246	0.18	0.14	-	N
CBSXXR GY	ComStage ETF STOXX Europe 600	262		0	0.29	600	0.20	0.08	-	N
Main X-listings: CBEU6 SW (CHF)										
SDJ600 GY	Invesco STOXX Europe 600 UCITS	251	↓	1	-	600	0.19	0.09	-	N
Main X-listings: SDJ600 IM (EUR), S600 LN (GBp), S600 SW (EUR)										
S6EW IM	OSSIAM Stoxx Europe 600 Equal	203	↑	0	0.32	600	0.35	0.01	-	N
Main X-listings: L6EW LN (GBp)										
XUEK LN	Xtrackers S&P Europe ex UK UCI	180		-	0.22	381	0.09	-	-	N
Main X-listings: XUEK GR (EUR)										
LGEG LN	L&G Europe ex UK Equity UCITS	178		-	0.13	338	0.10	-	-	N
Main X-listings: LGEU IM (EUR), LGEU LN (EUR), LGEU NA (EUR)										
ETLN GR	L&G Europe ex UK Equity UCITS	178		-	0.27	338	0.10	-	-	N
ETZD FP	BNP Paribas Easy Stoxx Europe	125	↓	1	-	600	0.20	0.05	-	N
Main X-listings: ETZD SW (EUR)										
TEET NA	Think European Equity UCITS ET	45		0	0.13	-	0.20	0.30	-	N
Main X-listings: V3ET GR (EUR)										
XSXE GR [C]	Xtrackers Stoxx Europe 600 UCI	18		0	0.12	600	0.25	-	-	N
Main X-listings: XSXE SW (CHF)										
E960 GR	Comstage 1 STOXX Europe 600 UC	16		0	0.26	600	0.19	0.17	-	N
UBUP GR	UBS Irl ETF plc - MSCI EMU Def	7	↓	0	0.39	-	0.25	0.19	-	N
Main X-listings: EUDEF IM (EUR), EUDEF SW (EUR)										
PR1E GR	AMUNDI PRIME EUROPE UCITS ETF	7		-	-	447	0.05	-	-	N
UBUN GR	UBS Irl ETF plc - MSCI EMU Cyc	6	↓	0	0.33	-	0.25	0.16	-	N
Main X-listings: EUCYC SW (EUR), EUCYC IM (EUR)										
MFEG LN [C]	Lyxor Core EURO STOXX 300 DR	2	↓	0	0.23	-	0.15	0.23	-	N
PSGF75 IT	Psagot ETF 4D STOXX Europe 600	-		-	-	-	0.20	-	-	N
KSMF121 IT [C]	KSM ETF 4A STOXX Europe 600 Eu	-		-	0.52	600	1.00	-	-	N
KSMF122 IT	KSM ETF 4D STOXX Europe 600	-		-	-	-	0.60	-	-	N
PSGF67 IT	Psagot ETF 4D STOXX Europe 600	-		-	-	-	0.80	-	-	N
Country										
Austria										
ATXEX AV	iShares ATX UCITS ETF DE	101		0	0.45	20	0.32	0.12	-	N
CBATX GY	ComStage ETF ATX UCITS ETF	13	↓	0	0.48	20	0.25	0.49	-	N
Main X-listings: CBATX SW (CHF)										
Belgium										
BEL BB	Lyxor BEL 20 TR DR UCITS ETF	36		0	0.22	-	0.50	0.16	-	N
Denmark										
XACTC25 DC	XACT OMXC25 UCITS ETF	13		-	0.24	25	0.20	-	-	N
Finland										
H25ETF FH	Seligson & Co OMX Helsinki 25	256		1	0.29	24	0.16	0.06	-	N
France										
CAC FP	Lyxor CAC 40 DR UCITS ETF	4,258		9	-	40	0.25	0.04	-	N
Main X-listings: CACGBX B2 (GBp), CACX LN (GBp)										
C40 FP	Amundi Cac 40 UCITS ETF DR	1,245		4	-	40	0.25	0.30	-	N
E40 FP	BNP Paribas Easy CAC 40 UCITS	304	↑	0	0.12	40	0.25	0.03	-	N
C4D FP	Amundi Cac 40 UCITS ETF DR	280		0	0.14	40	0.25	0.13	-	N
BX4 FP	Lyxor CAC 40 Daily -2x Inverse	260	↑	7	-	-	0.60	-	-2x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Country									
France (Continued)										
LVC FP	Lyxor CAC 40 Daily 2x Leverage	142	↓	10.2	-	-	0.40	-	+2x	N
SHC FP	Lyxor CAC 40 Daily -1x Inverse	86	↑	0.8	-	-	0.40	-	-1x	N
CF1 FP	Amundi ETF MSCI France UCITS E	85		0.8	0.11	79	0.25	0.22	-	N
IFRE LN	iShares MSCI France UCITS ETF	62	↑	0.1	0.25	79	0.25	0.27	-	N
Main X-listings: ISFR LN (GBp), IFRE SW (CHF), IS3U GR (EUR)										
C4S FP	Amundi ETF Short CAC 40 Daily	32	↑	0.5	0.19	-	0.35	-	-1x	N
CACM FP	Lyxor CAC MID 60 DR UCITS ETF	27	↓	0.2	0.23	60	0.50	0.03	-	N
CL4 FP	Amundi ETF Leveraged CAC 40 Da	12	↓	0.3	0.23	40	0.30	-	+2x	N
Z40 FP	ComStage ETF CAC 40 UCITS ETF	11		0.0	0.17	40	0.20	0.21	-	N
Main X-listings: CBCAC SW (CHF), PC40 PL (EUR)										
FR3S IM	ETFS 3x Daily Short CAC 40	1	↑	0.0	0.32	-	0.70	-	-3x	N
FR3L IM	ETFS 3x Daily Long CAC 40	1	↓	0.1	0.32	-	0.70	-	+3x	N
CACC FP	Lyxor CAC 40 DR UCITS ETF	1		-	0.16	40	0.25	-	-	N
TBND186 IT	Tachlit France CAC 40 NTR NIS	-		-	-	-	0.82	-	-	N
MBCAC39 IT	Psagot Sal CAC	-		-	-	-	0.70	-	-	N
KCAC451 IT	KSM CAC 40 PR 4Da	-		-	-	-	0.82	-	-1x	N
Germany										
DAXEX GY	iShares Core DAX UCITS ETF DE	7,093		57.4	-	30	0.16	0.11	-	L
Main X-listings: DAXXF US (USD)										
XDAX GY	Xtrackers DAX UCITS ETF	3,864		7.9	-	30	0.09	0.15	-	N
Main X-listings: XDAX IM (EUR), XDAX SW (CHF), XDAX SS (SEK), XDAX LN (GBp)										
ETFDAX GY	Deka DAX UCITS ETF	2,089		6.2	-	30	0.15	0.11	-	N
MDAXEX GY	iShares MDAX UCITS ETF DE	1,754	↓	4.6	-	60	0.51	0.09	-	N
CBDAX GY	ComStage ETF DAX TR UCITS ETF	922		1.8	-	30	0.08	0.18	-	N
Main X-listings: CBDAX SW (CHF), PDAX PL (EUR)										
ETFDAXK GY	Deka DAX ausschuettend UCITS E	813		2.9	-	30	0.15	0.13	-	N
DAX FP	Lyxor DAX DR UCITS ETF	800	↓	3.0	-	30	0.15	0.14	-	N
Main X-listings: DAXX LN (GBp), LYXDAX PW (PLN)										
ELF1 GR	Deka MDAX UCITS ETF	548		0.1	-	60	0.30	0.07	-	N
XSDX GY	Xtrackers ShortDAX Daily Swap	389	↑	2.7	-	-	0.40	-	-1x	N
Main X-listings: XSDX LN (GBp), XSDX SW (CHF)										
C007 GR	ComStage MDAX TR UCITS ETF	185		0.1	0.11	60	0.30	0.11	-	N
Main X-listings: CBMDAXEU SW (EUR), CBMDAX SW (CHF)										
DAXLEV IM	Lyxor Daily LevDAX UCITS ETF	170		1.1	-	30	0.40	-	+2x	N
DEAM GR	Invesco MDAX UCITS ETF	136		-	0.16	60	0.19	-	-	N
XLDX IM	Xtrackers LevDAX Daily Swap UC	134	↑	0.7	0.10	30	0.35	-	+2x	N
Main X-listings: XLDX LN (GBp), XLDX SW (CHF)										
C005 GY	ComStage ETF SDAX TR UCITS ETF	119		0.3	0.48	70	0.70	0.07	-	N
Main X-listings: CBSDAX SW (CHF)										
DBPD GY	Xtrackers ShortDAX x2 Daily Sw	96		2.1	-	-	0.60	-	-2x	N
E907 GR	ComStage 1 MDAX UCITS ETF	94	↑	0.0	0.16	60	0.30	0.16	-	N
Main X-listings: CB1MDX SW (CHF)										
XDGM LN	Xtrackers Germany Mittelstand	91	↓	0.0	0.24	68	0.40	1.19	-	N
E901 GR	ComStage 1 Dax UCITS ETF	90		0.1	-	30	0.15	0.15	-	N
C006 GY	ComStage ETF FAZ Index UCITS E	72		0.1	0.52	97	0.15	0.24	-	N
Main X-listings: CBFAZ SW (EUR)										
C002 GY	ComStage ETF FR DAX UCITS ETF	69		0.1	0.12	30	0.15	0.26	-	N
Main X-listings: CBFDAX SW (CHF)										
DS2P LN	L&G DAX Daily 2x Short UCITS E	61		0.1	0.24	-	0.60	-	-2x	N
Main X-listings: DEL2 GY (EUR)										
HEDS LN [C]	WisdomTree Europe Equity UCITS	61	↑	0.0	0.42	139	0.58	0.18	-	N
Main X-listings: HEDK LN (USD), HEDK SW (USD)										
DAX2S IM	Lyxor Daily ShortDAX x2 UCITS	55	↓	0.3	-	-	0.60	-	-2x	N
C004 GY	ComStage ETF ShortDAX TR UCITS	54	↓	0.7	0.41	-	0.30	-	-1x	N
Main X-listings: CBDAXS SW (CHF), PDXS PL (EUR)										
MD4X GR	Lyxor German Mid-Cap MDAX UCIT	50	↓	0.0	-	60	0.20	0.03	-	N
CG1 FP	Amundi ETF DAX UCITS ETF DR	49		2.1	-	30	0.10	0.24	-	N
Main X-listings: CG1 LN (GBp)										
DEL2 GY	L&G DAX Daily 2x Long UCITS ET	42		1.1	0.11	30	0.40	-	+2x	N
DL2P LN	L&G DAX Daily 2x Long UCITS ET	38		0.2	0.23	30	0.40	-	+2x	N
Main X-listings: DEL2 LN (EUR)										
ELF0 GR	Deka DAX ex Financials 30 UCIT	38	↑	0.0	-	30	0.30	0.16	-	N
DAX3L IM	SG ETC DAX +3X Daily Leveraged	27		0.0	0.61	-	0.69	-	+3x	N
GY3L GR	ETFS 3x Daily Long DAX 30	18	↓	0.7	0.20	-	0.70	-	+3x	N
Main X-listings: GE3L IM (EUR)										
E043 GR	ComStage LevDAX x2 UCITS ETF	17		0.0	0.30	30	0.30	-	+2x	N
Main X-listings: E043 GR (EUR)										
GY3S GR	ETFS 3x Daily Short DAX 30	14		0.4	0.24	30	0.70	-	-3x	N
E044 GR	ComStage ShortMDAX UCITS ETF	14		0.1	0.13	30	0.45	-	-1x	N
Main X-listings: E044 GR (EUR)										
3DEL GR	Boost LevDAX 3x Daily ETP	13		0.0	0.16	-	0.75	-	+3x	N
XDCH SW [C]	Xtrackers DAX Income UCITS ETF	11	↓	0.1	0.18	30	0.19	4.59	-	N
VDXX LN	Vanguard DAX UCITS ETF	10		0.1	0.13	30	0.10	-	-	N
Main X-listings: VDXX GR (EUR), VDXX SW (CHF)										
E905 GR	ComStage 1 SDAX UCITS ETF	10		0.0	0.44	70	0.70	0.63	-	N
Main X-listings: CB1SX SW (CHF)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Country									
Germany (Continued)										
HEDG LN	WisdomTree Europe Equity UCITS	9	↓	0	0.45	-	0.32	0.17	-	N
Main X-listings: HEDF LN (EUR), HEDF IM (EUR), HEDF SW (EUR)										
DXGP LN [C]	WisdomTree Germany Equity UCIT	5	↓	0	0.29	-	0.35	0.34	-	N
Main X-listings: DXGP SW (GBP)										
HEDP LN [C]	WisdomTree Europe Equity UCITS	5	↑	0	0.42	-	0.35	0.18	-	N
Main X-listings: HEDP SW (GBP)										
DXGZ LN	WisdomTree Germany Equity UCIT	4		0	0.26	-	0.32	0.34	-	N
Main X-listings: DXGY IM (EUR), DXGY LN (EUR), DXGY SW (EUR), WTEZ GR (EUR)										
DAX3S IM	SG ETC DAX -3x Daily Short Col	3		0.0	0.75	30	0.69	-	-3x	N
XDUD SW [C]	Xtrackers DAX Income UCITS ETF	3	↓	0.2	0.28	30	0.19	5.54	-	N
3DES GR	Boost ShortDAX 3x Daily ETP	3		0.0	0.15	30	0.80	-	-3x	N
DXGG LN [C]	WisdomTree Germany Equity UCIT	1	↑	0.0	0.26	-	0.48	0.33	-	N
Main X-listings: DXGE LN (USD), DXGE SW (USD)										
FTGG GR	First Trust Germany AlphaDEX U	1		0.0	0.41	-	0.65	0.20	-	N
X00H GY	Coba ETN -4x DAXF Daily Short	1	↑	0.0	0.81	-	-	-	-4x	N
DXGD SW [C]	WisdomTree Germany Equity UCIT	1		0.0	0.23	-	0.35	0.34	-	N
HEDD SW [C]	WisdomTree Europe Equity UCITS	0	↓	0.0	0.37	139	0.35	0.17	-	N
X00L GY	Coba ETN 4x MDAXF Daily Long	0		0.0	0.36	-	-	-	+4x	N
X00Q GY	Coba ETN -4x MDAXF Daily Short	0	↓	0.0	1.39	-	-	-	-4x	N
X00K GY	Coba ETN 3x MDAXF Daily Long	0		0.0	0.28	-	-	-	+3x	N
X00P GY	Coba ETN -3x MDAXF Daily Short	0	↑	0.0	0.52	-	-	-	-3x	N
PSMC189 IT [C]	Psagot Sal MidCap MDAX ILS 40a	-		-	-	60	-	-	-	N
PSGT304 IT [C]	Psagot Sal Europe WisdomTree E	-		-	-	-	0.50	-	-	N
KSMF140 IT [C]	KSM ETF 4A Composite MidCap Eq	-		-	0.50	60	-	-	-	N
PSGT305 IT [C]	Psagot Sal Germany WisdomTree	-		-	-	-	0.50	-	-	N
TCST77 IT	Tachlit Composite Europe Equit	-		-	-	-	0.22	-	-	N
PSGF54 IT	Psagot ETF 4D DAX 30	-		-	-	-	0.50	-	-	N
TCMKD86 IT [C]	Tachlit Germany Mid-Cap MDAX I	-		0.1	0.37	60	0.37	-	-	N
TCHF113 IT	Tachlit SAL 4D DAX 30	-		-	-	-	-	-	-	N
KSMF113 IT	KSM ETF 6D Leveraged DAX 30 x3	-		-	-	-	2.75	-	+3x	N
KSMF128 IT	KSM ETF 4D MDAX	-		-	-	-	0.80	-	-	N
KSMF53 IT	KSM ETF 4D DAX 30	-		-	-	-	-	-	-	N
KSMF129 IT [C]	KSM ETF 4A MDAX Currency Hedge	-		-	0.64	60	0.98	-	-	N
KSMF92 IT	KSM ETF 4A DAX 30 Currency Hed	-		-	-	-	-	-	-	N
PSDAX68 IT [C]	Psagot Sal DAX NIS	-		-	-	30	0.80	-	-	N
KSMF116 IT	KSM ETF 6D Short Leveraged DAX	-		-	-	-	2.75	-	-3x	N
Greece										
GRE FP	Lyxor MSCI Greece UCITS ETF	170		0.3	0.42	-	0.45	1.81	-	N
AETF GA	ALPHA ETF FTSE Athex Large Cap	13		0.0	0.86	25	1.15	0.77	-	N
GRX BU	Expat Greece ASE UCITS ETF	0		0.0	-	60	1.38	3.06	-	N
Ireland										
ISEQ LN	WisdomTree ISEQ 20 UCITS ETF	19		0	0.90	-	0.49	0.32	-	N
Main X-listings: ISQE LN (EUR), WTIE ID (EUR)										
Italy										
ETFMIB IM	Lyxor FTSE MIB UCITS ETF	481	↓	7	-	40	0.35	0.07	-	N
Main X-listings: MIBX LN (GBp)										
ITAMID IM	Lyxor FTSE Italia Mid Cap PIR	264	↓	1	0.20	60	0.40	0.08	-	N
LEVMIB IM	Lyxor FTSE MIB Daily 2x Levera	145		4	-	-	0.60	-	+2x	N
IMIB IM	iShares FTSE MIB UCITS ETF EUR	106	↓	1	-	40	0.35	0.22	-	N
Main X-listings: IMIB LN (GBp), IMIB SW (CHF)										
XBRMIB IM	Lyxor FTSE MIB Daily -2x Inver	104		4	-	-	0.60	-	-2x	N
CSMIB SW	iShares FTSE MIB UCITS ETF EUR	98		0	0.15	40	0.33	0.23	-	N
Main X-listings: CSMIB IM (EUR), CMB1 LN (GBp)										
BERMIB IM	Lyxor FTSE MIB Daily -1x Inver	65	↑	1	-	-	0.60	-	-1x	N
XMIB IM	Xtrackers FTSE MIB UCITS ETF	60	↓	0	0.11	40	0.30	0.11	-	N
3ITL LN	Boost FTSE MIB 3x Leverage Dai	33		0	0.38	40	0.75	-	+3x	N
3ITS LN	Boost FTSE MIB 3x Short Daily	25		0	0.39	40	0.80	-	-3x	N
FMI FP	AMUNDI FTSE MIB UCITS ETF	22	↓	0	0.16	40	0.18	0.17	-	N
IT3S IM	ETFS 3x Daily Short FTSE MIB	21	↑	1	0.18	40	0.70	-	-3x	N
CI1 LN	Amundi ETF MSCI Italy UCITS ET	21	↓	0	0.26	23	0.25	1.22	-	N
Main X-listings: CI1 IM (EUR), GCI1 GR (EUR)										
IT3L IM	ETFS 3x Daily Long FTSE MIB	16	↑	2	0.17	40	0.70	-	+3x	N
MIB3L IM	SG ETC FTSE MIB +3x Daily Leve	15		0	0.45	40	0.69	-	+3x	N
ITAPIR IM	Lyxor Italia Equity PIR DR UCI	13	↓	0	0.33	100	0.35	0.05	-	N
IPIR IM	iShares FTSE Italia Mid-Small	11		0	0.35	180	0.33	0.21	-	N
ITALI FP	Amundi ETF FTSE Italia PIR UCI	10	↓	0	0.22	114	0.35	0.08	-	N
Main X-listings: ITALI IM (EUR)										
MIB3S IM	SG ETC FTSE MIB -3X Daily Shor	2		0	0.47	40	0.69	-	-3x	N
C032 GR	ComStage MSCI Italy TRN UCITS	2		0	0.48	23	0.25	0.11	-	N
Main X-listings: C032 GR (EUR), CBITAEU SW (EUR), CBITA SW (CHF)										
TCFTS87 IT	Tachlit Italy FTSE MIB ILS 40a	-		-	-	-	0.82	-	-	N
Main X-listings: TCFTS87 IT (ILs)										
Netherlands										
IAEX NA	iShares AEX UCITS ETF	370		3	-	24	0.30	0.12	-	N
Main X-listings: IAEX LN (GBp), IAEX SW (EUR)										
XDN0 GR	Xtrackers MSCI Nordic UCITS ET	266		0	-	71	0.30	0.33	-	N
Main X-listings: XDN0 SW (CHF)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
Netherlands (Continued)										
TDT NA	Think AEX UCITS ETF	180		1.7	-	24	0.30	0.41	-	N
TMX NA	Think AMX UCITS ETF	24	↓	0.1	0.28	25	0.35	0.62	-	N
CH1 FP	Amundi MSCI Netherlands UCITS	11		0.1	0.20	20	0.25	0.00	-	N
Norway										
BULLOBX3 NO	BULL OBX X3 HA	1,588		0.0	0.14	26	0.60	-	+3x	N
XACTOBX NO	Xact OBX UCITS ETF	189		0.1	0.28	26	0.30	0.03	-	N
XACTBEAR NC	Xact OBX BEAR UCITS ETF	43		3.3	0.19	26	0.80	-	-2x	N
XACTBULL NO	Xact OBX Bull UCITS ETF	37		2.3	0.15	26	0.80	-	+2x	N
BEAROBX3 NC	BEAR OBX X3 HA	3		0.0	2.73	26	-	-	-3x	N
SHORTOBX NC	DNB ETN - SHORT OBX DNM	1	↑	0.0	0.14	26	0.60	-	-1x	N
BEAROBX5 NC	DNB - BEAR OBX X5 DNM	0	↑	0.0	0.44	26	0.60	-	-5x	N
BULLOBX5 NO	DNB - BULL OBX X5 DNM	0	↓	0.1	0.46	26	0.60	-	+5x	N
BULLOBX4 NO	DNB - ETN Bull OBX X4	0		0.0	0.39	26	0.60	-	+4x	N
BEAROBX4 NC	DNB - ETN Bear OBX X4	0	↓	0.0	0.35	26	0.60	-	-4x	N
Portugal										
PPP PL	ComStage ETF PSI 20 UCITS ETF	32	↓	0.0	0.49	18	0.35	0.23	-	N
Main X-listings: CBPSIEU SW (EUR), CBPSI SW (CHF)										
PP2 PL	ComStage ETF PSI 20 Leverage U	5	↓	0.0	1.28	-	0.35	-	+2x	N
Russia										
RUS FP	Lyxor MSCI Russia UCITS ETF	355	↓	0.5	0.16	-	0.65	1.55	-	N
Main X-listings: LYRUS SE (USD)										
CRU1 LN	iShares MSCI Russia ADR/GDR UC	223	↓	0.1	0.21	-	0.65	1.49	-	N
Main X-listings: CSRU SW (USD), CSRU IM (EUR)										
XMRC LN	Xtrackers MSCI Russia Capped S	114	↓	0.1	0.23	-	0.65	1.45	-	N
Main X-listings: XMRD LN (USD), XMRC IM (EUR), XMRC SS (SEK)										
HRUB LN	HSBC MSCI RUSSIA CAPPED UCITS	62	↓	0.1	0.28	-	0.60	0.12	-	N
Main X-listings: HRUB IM (EUR), HRUB SW (USD)										
PRUS FP	Lyxor PEA MSCI Russia IMI Sele	25	↓	0.1	0.23	-	0.65	1.55	-	N
CBMRUC30 GY	ComStage Dow Jones Russia GDR	18		0.0	0.46	11	0.60	0.11	-	N
Main X-listings: CBRUS SW (CHF), CBRUSUS SW (USD)										
RDXS LN	Invesco RDX UCITS ETF	14	↓	0.1	0.34	15	0.65	0.39	-	N
Main X-listings: RDXS IM (EUR)										
FXRL RM	FinEx Russian RTS Equity UCITS	10		0.1	0.21	-	0.90	0.51	-	N
RUSE RM	ITI Funds RTS Equity UCITS ETF	6		0.1	0.17	41	0.65	1.84	-	N
Main X-listings: RUSE LN (USD)										
RUSL LN	Lyxor MSCI Russia UCITS ETF	3	↓	0.0	0.22	-	0.65	3.59	-	N
KSMF65 IT	KSM ETF 4D Russian Depositary	-		-	-	-	-	-	-	N
TCRDX42 IT	Tachlit Russia RDXUSD 4Da	-		-	-	-	0.50	-	-	N
South Africa										
STX40 SJ	Satrix 40	551		1.4	0.24	42	0.10	-	-	N
IRSA LN	iShares MSCI South Africa UCIT	169		0.2	0.28	50	0.65	0.09	-	N
Main X-listings: SRSA LN (GBp), IBC4 GY (EUR), IRSA IM (EUR), SRSA SW (USD)										
STANSX SJ	STANLIB SWIX 40 Fund	129		0.0	1.21	42	0.30	0.08	-	N
STXRAF SJ	Satrix RAFI 40 Index Portfolio	66		0.1	0.90	-	0.49	7.70	-	N
STAN40 SJ	STANLIB Top 40 Fund	45		0.0	0.56	42	0.26	0.11	-	N
STXSWX SJ	Satrix SWIX	27		0.2	0.70	42	0.45	-	-	N
SAFRI IM	Lyxor MSCI South Africa UCITS	20	↓	0.0	0.40	50	0.65	5.37	-	N
SYGSW4 SJ	Sygnia ltrix Swix 40 ETF	14		0.0	-	42	0.15	0.18	-	N
SYGT40 SJ	Sygnia ltrix Top 40 ETF	14		0.0	2.31	-	0.16	0.25	-	N
CSEW40 SJ	CoreShares EW40	8		0.0	0.72	42	0.39	0.81	-	N
GIVISA SJ	New Funds S&P GIVI SA Top 50 In	5		0.0	0.38	52	0.29	-	-	N
HZAD LN	HSBC MSCI South Africa Capped	4	↑	0.0	0.41	50	0.60	0.09	-	N
Main X-listings: HZAR IM (EUR), HZAR FP (EUR), HZAR LN (GBp)										
NEWFSA SJ	New funds New SA Index Exchange	2		0.0	0.32	42	0.54	-	-	N
Spain										
LYXIB SM	Lyxor IBEX 35 DR UCITS ETF	625	↓	4.2	0.12	35	0.30	0.14	-	N
BBVA I SM	Accion Ibex 35 ETF FI Cotizado	209		0.9	0.13	35	0.33	0.07	-	N
XESP SW	Xtrackers Spain UCITS ETF	144	↓	-	-	40	0.30	0.84	-	N
IBEXA SM	Lyxor IBEX 35 Doble Apalancado	90	↓	1.8	0.19	35	0.40	-	+2x	N
CS1 FP	Amundi ETF MSCI Spain UCITS ET	58	↓	0.2	0.11	-	0.25	0.04	-	N
Main X-listings: CS1 LN (GBp)										
2INVE SM	Lyxor IBEX 35 Doble Inverso Di	24	↑	1.1	0.24	35	0.60	-	-2x	N
INVEX SM	Lyxor IBEX 35 Inverso Diario U	7	↓	0.1	0.15	-	0.40	-	-1x	N
C033 GR	ComStage MSCI Spain TRN UCITS	6		0.0	0.13	-	0.25	0.05	-	N
Main X-listings: C033 GR (EUR), CBESPEU SW (EUR), CBESP SW (CHF)										
TBND185 IT	Tachlit Spain MSCI NTR NIS 40a	-		-	-	-	0.82	-	-	N
KSMF71 IT	KSM ETF 4D MSCI Spain	-		-	-	-	-	-	-	N
Sweden										
BULLOMX3 SS	BULL OMX X3 H	1,308		0.0	0.35	30	0.00	-	+3x	N
XACTOMX SS	XACT OMXS30	962		23.3	-	30	0.10	0.28	-	L
OMXS LN	iShares OMX Stockholm Capped U	440		0.0	0.56	-	0.10	1.58	-	N
XACTSBX SS	XACT Sverige UCITS ETF	326	↑	2.0	0.22	-	0.15	2.03	-	N
XACTSMAC SS	XACT Svenska Smabolag UCITS ET	153	↓	0.7	0.34	268	0.30	1.28	-	N
XABEAR2 SS	XACT Bear 2	63	↑	4.0	-	30	0.60	-	-2x	N
XACBEAR EU	XACT Bear	46		2.1	-	30	0.60	-	-1.5x	N
XABULL2 SS	XACT Bull 2	46	↓	4.2	-	30	0.60	-	+2x	N
XACBULL EU	XACT Bull	29		1.2	-	30	0.60	-	+1.5x	N

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		Country								
Sweden (Continued)										
BEAROMX3 SS	Bear OMX X3 H	2		0	-	30	0.00	-	-3x	N
KSMF20 IT	KSM ETF 4D OMX 30	-		-	-	-	0.80	-	-	N
Switzerland										
CSSMI SW	iShares SMI ETF CH	1,766		6.6	-	20	0.35	0.01	-	L
SMICHA SW	UBS ETF CH-SMI	1,520		3.4	-	20	0.20	0.01	-	N
CHSPI SW	iShares Core SPI ETF CH	1,249		3.3	-	215	0.10	0.02	-	N
CSSMIM SW	iShares SMIM ETF CH	1,155		5.1	-	30	0.45	0.04	-	N
SMIMCHA SW	UBS ETF CH-SMIM	773	↑	2.8	0.14	30	0.25	0.03	-	N
SPICHA SW	UBS ETF CH-SPI	643	↑	1.8	0.12	215	0.15	0.02	-	N
XSMI SW	Xtrackers Switzerland UCITS ET	612		1	-	-	0.30	0.02	-	N
Main X-listings: XSMI IM (EUR)										
SWICHA SW	UBS ETF CH - MSCI Switzerland	545		1	0.15	39	0.20	0.43	-	N
SW2CHB SW	UBS ETF MSCI Switzerland 20/35	491	↓	1	0.12	-	0.20	5.10	-	N
Main X-listings: SW2CHBN MM (MXN)										
CSSLI SW	iShares SLI ETF CH	343	↓	1	-	30	0.35	0.01	-	N
S2EUBH SW[C]	UBS ETF - MSCI Switzerland 20/	296		1	0.11	-	0.30	0.04	-	N
S2USBH SW[C]	UBS ETF - MSCI Switzerland 20/	292	↑	0	0.20	-	0.30	0.10	-	N
SLICHA SW	UBS ETF CH-SLI	292		1	0.13	30	0.20	0.01	-	N
SMIEX SW	iShares SLI UCITS ETF DE	248		0	-	30	0.52	0.23	-	N
Main X-listings: SMIEX GY (EUR)										
SPMICHA SW	UBS ETF CH-SPI Mid	165	↑	0	0.15	80	0.25	0.05	-	N
CSW FP	Amundi Msci Switzerland UCITS	139	↑	0	0.12	39	0.25	0.01	-	N
Main X-listings: CSWE SW (EUR)										
SWUSAH SW[C]	UBS ETF CH - MSCI Switzerland	52	↓	0	0.17	-	0.30	0.42	-	N
CSWCHF SW	Amundi Msci Switzerland UCITS	52		0	0.27	39	0.25	0.83	-	N
Main X-listings: CSWC FP (CHF), CSWU LN (USD), CSWG LN (GBp)										
LYSSL SW	Lyxor SMI Daily -2x Inverse UC	48	↑	1	0.16	-	0.60	-	-2x	N
CBCH30 SW	ComStage Dow Jones Switzerland	40		0	0.18	34	0.25	0.04	-	N
Main X-listings: C030 GR (EUR)										
XSLI SW	Xtrackers SLI UCITS ETF	39		0	0.19	30	0.35	0.28	-	N
Main X-listings: XSLI GY (EUR)										
UC93 LN[C]	UBS ETF MSCI Switzerland 20/35	28	↑	0	0.41	-	0.30	0.06	-	N
Main X-listings: S2HGBA SW (GBP)										
SWEUAH SW[C]	UBS ETF CH - MSCI Switzerland	23	↓	0	0.21	-	0.30	0.42	-	N
SW2UKD SW	UBS ETF MSCI Switzerland 20/35	21	↓	0	0.22	-	0.20	5.10	-	N
CBSPI SW	ComStage ETF SPI TR UCITS ETF	10		0	0.20	215	0.40	0.09	-	N
Main X-listings: C029 GY (EUR)										
UC94 LN[C]	UBS ETF MSCI Switzerland 20/35	6	↓	0	0.30	-	0.30	0.06	-	N
Main X-listings: S2HGBD SW (GBP)										
S2USAH SW[C]	UBS ETF - MSCI Switzerland 20/	5	↓	0	0.22	-	0.30	0.10	-	N
S2EUAH SW[C]	UBS ETF - MSCI Switzerland 20/	3	↓	0	0.26	-	0.30	0.04	-	N
FTSZ SW	First Trust Switzerland AlphaD	2	↓	0	0.57	-	0.65	0.16	-	N
S2HSGA SW[C]	UBS ETF MSCI Switzerland 20/35	1		0	0.53	-	0.30	0.08	-	N
KSMF135 IT	KSM ETF 4D Swiss Market	-		-	-	-	0.80	-	-	N
Turkey										
ITKY NA	iShares MSCI Turkey UCITS ETF	190	↑	0	0.44	18	0.74	1.07	-	N
Main X-listings: ITKY LN (GBp), ITKY SW (USD)										
TUR FP	Lyxor MSCI Turkey UCITS ETF	81	↑	0	0.57	18	0.65	2.32	-	N
HTR FP	HSBC MSCI TURKEY UCITS ETF	8	↑	0	0.57	18	0.60	0.29	-	N
Main X-listings: HTRY LN (GBp), HTRD LN (USD)										
ETUR FP	Lyxor PEA MSCI Turkey UCITS ET	5		0	0.66	18	0.45	2.32	-	N
ISY30 TI	Is Asset Management BIST30 ETF	3		0	0.50	30	0.70	2.08	-	N
DJIST TI	DOW JONES ISTANBUL 20	2		0	0.33	21	0.73	0.39	-	N
UK										
ISF LN	iShares Core FTSE 100 UCITS ET	7,589		35	-	101	0.07	0.03	-	L
Main X-listings: ISF IM (EUR), ISF SW (CHF), IUSZ GR (EUR), ISFU LN (USD)										
VUKE IM	Vanguard FTSE 100 UCITS ETF	3,157		-	0.21	101	0.09	-	-	N
VMID LN	Vanguard FTSE 250 UCITS ETF	1,477	↑	4	0.13	250	0.10	0.08	-	N
MIDD LN	iShares FTSE 250 UCITS ETF	1,153	↑	8	0.11	-	0.40	0.07	-	L
CUKX LN	iShares Core FTSE 100 UCITS ET	580		2	0.10	101	0.07	0.03	-	N
FTAL LN	SPDR FTSE UK All Share UCITS E	571		1	0.19	-	0.20	0.05	-	N
Main X-listings: SPYF GR (EUR), FTAL SW (CHF)										
UKUSBH SW[C]	UBS ETF - MSCI United Kingdom	534	↓	1	0.20	-	0.30	0.10	-	N
UKEUBH SW[C]	UBS ETF - MSCI United Kingdom	473	↓	1	0.18	-	0.30	0.06	-	N
UKGBPB SW	UBS ETF MSCI United Kingdom UC	458	↓	1	0.12	96	0.20	0.08	-	N
Main X-listings: UKGBPB IM (EUR)										
UKCHBH SW[C]	UBS ETF - MSCI United Kingdom	428	↓	1	0.15	-	0.30	0.09	-	N
L100 LN	Lyxor FTSE 100 UCITS ETF	311		1	-	101	0.15	0.01	-	N
Main X-listings: L100 FP (EUR)										
HUKX LN	HSBC FTSE 100 UCITS ETF	229	↑	1	0.15	101	0.07	0.04	-	N
Main X-listings: HUKX SW (USD), UKX FP (EUR)										
CSUKS SW	iShares MSCI UK Small Cap UCIT	202	↑	0	0.58	267	0.58	0.11	-	N
CSUK SW	iShares MSCI UK UCITS ETF	137		0	0.19	96	0.33	0.03	-	N
Main X-listings: CSUK IM (EUR)										
XUKX LN	Xtrackers FTSE 100 Income UCIT	95	↓	0	0.15	101	0.09	0.05	-	N
Main X-listings: XUKX GY (EUR)										
100H FP[C]	Lyxor FTSE 100 UCITS ETF	90		0	0.12	-	0.30	0.03	-	N

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		Country								
UK (Continued)										
CU1 FP	Amundi ETF MSCI UK UCITS ETF	81	↓	0.3	0.13	96	0.25	0.01	-	N
Main X-listings: CUK LN (GBp)										
100GBA SW	UBS ETF FTSE 100 UCITS ETF	80		0.2	0.18	101	0.20	0.06	-	N
Main X-listings: 100CHA SW (CHF), 100EUA GY (EUR), 100EUA IM (EUR)										
XASX LN	Xtrackers FTSE All-Share UCITS	77		0.2	0.23	-	0.20	0.04	-	N
Main X-listings: XASX GY (EUR)										
SYGUK SJ	Sygnia ITRIX FTSE 100 ETF	59		0.1	1.39	101	0.86	-	-	N
XMCX LN	Xtrackers FTSE 250 UCITS ETF	52		0.1	0.28	-	0.15	0.05	-	N
Main X-listings: XMCX GY (EUR)										
HMCX LN	HSBC FTSE 250 UCITS ETF	46		0.1	0.24	-	0.35	0.05	-	N
S250 LN	Invesco FTSE 250 UCITS ETF	42	↑	0.1	0.30	-	0.25	0.00	-	N
XUKS LN	Xtrackers FTSE 100 Short Daily	41	↑	0.7	-	-	0.50	-	-1x	N
FKU LN	First Trust United Kingdom Alp	31		0.1	0.44	-	0.65	1.46	-	N
UKUKD SW	UBS ETF MSCI United Kingdom UC	27	↑	0.0	0.34	96	0.20	0.08	-	N
LCUK LN	Lyxor Core Morningstar UK NT D	25	↑	0.1	0.19	-	0.04	0.06	-	N
Main X-listings: LCUK IM (EUR), LCUK GR (EUR)										
XFEW LN	Xtrackers FTSE 100 Equal Weigh	19	↓	0.1	0.22	101	0.25	0.06	-	N
FTAD LN	SPDR FTSE UK All Share UCITS E	16	↑	0.0	0.64	-	0.20	-	-	N
Main X-listings: FTAD LN (GBP), FTAD SW (CHF), ZPRD GR (GBP)										
C1U FP	AMUNDI FTSE 100	16	↓	0.1	0.24	101	0.25	1.18	-	N
SUK2 LN	L&G FTSE 100 Super Short Strat	15		2.0	-	101	0.60	-	-2x	N
ISFD LN [C]	iShares Core FTSE 100 UCITS ET	14	↑	0.1	0.30	101	0.20	6.85	-	N
Main X-listings: ISFD SW (USD)										
LGUK LN	L&G UK Equity UCITS ETF	11		-	0.12	107	0.05	-	-	N
UK3S LN	ETFS 3x Daily Short FTSE 100	10		0.5	0.35	-	0.70	-	-3x	N
Main X-listings: UK3S IM (EUR)										
FT1K LN	AMUNDI FTSE 100	10	↑	0.0	0.54	101	0.24	0.02	-	N
S100 LN	Invesco FTSE 100 UCITS ETF	9	↓	0.0	0.16	101	0.20	0.00	-	N
LUK2 LN	L&G FTSE 100 Leveraged Daily 2	7	↓	1.1	0.13	-	0.50	-	+2x	N
UKUSAH SW [C]	UBS ETF - MSCI United Kingdom	6	↓	0.0	0.39	-	0.30	0.10	-	N
UK3L LN	ETFS 3x Daily Long FTSE 100	5		0.4	0.81	-	0.70	-	+3x	N
Main X-listings: UK3L IM (EUR)										
8H81 GY	ComStage ETF FTSE 100 TR UCITS	4		0.0	0.47	101	0.09	0.03	-	N
Main X-listings: CBGB10 SW (CHF)										
UKEUAH SW [C]	UBS ETF - MSCI United Kingdom	4		0.0	0.31	-	0.30	0.07	-	N
100UKD SW	UBS ETF FTSE 100 UCITS ETF	3		0.0	0.22	101	0.20	0.06	-	N
100H LN [C]	Lyxor FTSE 100 UCITS ETF	3	↓	0.0	0.22	-	0.30	0.03	-	N
FKUD LN	First Trust United Kingdom Alp	2	↑	0.0	0.77	-	0.65	1.47	-	N
UKSGD SW [C]	UBS ETF MSCI United Kingdom UC	1		0.0	0.31	-	0.30	0.09	-	N
IF10048 IT	Tachlit FTSE 100 ILS 40a	-		-	-	-	0.82	-	-	N
KSMFTSE IT	KSM FTSE 100 PR 4Da	-		-	-	-	1.00	-	-	N
PSFT191 IT [C]	Psagot Sal FTSE 250 MidCap ILS	-		-	-	250	-	-	-	N
TCFT102 IT [C]	Tachlit FTSE 250 Midcap ILS	-		0.0	0.34	250	0.37	-	-	N
KSMF136 IT [C]	KSM ETF 4A FTSE 250 Currency H	-		-	0.67	250	0.70	-	-	N
KSMF138 IT [C]	KSM ETF 4A FTSE 100 Currency H	-		-	0.69	101	-	-	-	N
Eastern Europe										
IEER LN	iShares MSCI Eastern Europe Ca	226		0.1	0.25	-	0.74	1.50	-	N
Main X-listings: IDEE LN (USD)										
CEC FP	Lyxor MSCI Eastern Europe EX R	161	↓	0.1	0.34	26	0.50	3.31	-	N
Main X-listings: CECGBX EU (GBp)										
IBCJ GY	iShares MSCI Poland UCITS ETF	68		0.3	0.20	20	0.74	1.10	-	N
Main X-listings: IPOL LN (USD), SPOL SW (USD), SPOL LN (GBp)										
CE9 FP	Amundi Msci Eastern Europe EX	32		0.1	0.36	26	0.20	0.02	-	N
Main X-listings: CE9E SW (EUR)										
ETFW20L PW	Lyxor WIG 20 UCITS ETF	27	↓	0.1	0.45	20	0.45	0.15	-	N
Main X-listings: WIG FP (EUR)										
BGX BU	Expat Bulgaria SOFIX UCITS ETF	13		0.0	-	15	1.00	2.21	-	N
Main X-listings: BGX LN (EUR)										
CBNDUEEM GY	ComStage MSCI EM Eastern Europ	11		0.0	0.95	-	0.60	0.13	-	N
Main X-listings: CBMEE SW (CHF), CBMEEUS SW (USD)										
MPEU SV	Alta Europe	8		-	-	-	1.38	-	-	L
BUXETF HB	OTP BUX Index Tracking Exchang	5		0.0	0.90	16	-	0.64	-	N
BETAW20T PW	Beta ETF WIG20TR Portfolio Clo	5		-	0.16	20	0.40	-	-	N
CE9USD SW	Amundi Msci Eastern Europe EX	3	↓	0.0	0.51	26	0.20	1.12	-	N
Main X-listings: CE9G LN (GBp)										
SLQX BU	Expat Slovenia SBI TOP UCITS E	2	↑	0.0	-	11	1.38	9.36	-	N
ECDC BU	Expat Croatia CROBEX UCITS ETF	2	↑	0.0	-	14	1.38	8.29	-	N
PCEC FP	Lyxor PEA MSCI Eastern Europe	1	↓	0.0	0.28	26	0.50	3.31	-	N
ROX BU	Expat Romania BET UCITS ETF	0		0.0	-	16	1.38	2.60	-	N
CZX BU	Expat Czech PX UCITS ETF	0	↑	-	-	12	1.38	2.84	-	N
PLX BU	Expat Poland WIG20 UCITS ETF	0		0.0	-	20	1.38	3.63	-	N
MKK1 BU	Expat Macedonia MBI10 UCITS ET	0		0.0	-	-	1.38	-	-	N
HUBE BU	Expat Hungary BUX UCITS ETF	0	↑	0.0	-	16	1.38	9.88	-	N
ESNB BU	Expat Serbia BELEX15 UCITS ETF	0		0.0	-	11	1.38	9.49	-	N
SK9A BU	Expat Slovakia SAX UCITS ETF	0		0.0	-	364	1.38	-	-	N
KSMF61 IT	KSM ETF 4D CECE	-		-	-	-	-	-	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
Middle East & Africa										
MSAU LN	Invesco MSCI Saudi Arabia UCIT	647		0	0.44	-	0.50	-	-	N
Main X-listings: MSAP LN (GBp), MSAU SW (USD)										
QATR QD	Al Rayan Qatar ETF	137		0	-	19	0.50	0.44	-	N
QETF QD	QE Index ETF	90	↑	0	-	20	0.50	0.16	-	N
LAFRI IM	Lyxor Pan Africa UCITS ETF	54		0	0.66	-	0.85	0.03	-	N
XGLF GR	Xtrackers MSCI GCC Select Swap	26		0	0.55	76	0.65	1.13	-	N
Main X-listings: XGLF LN (USD), XGLF GR (EUR), XGLF SW (CHF)										
XMKA GY	Xtrackers MSCI Africa TOP 50	23	↓	0	0.49	-	0.65	1.12	-	N
Main X-listings: XMAF LN (USD)										
PAFS FP	Lyxor PEA MSCI South Africa UC	20		0	0.32	50	0.45	5.37	-	N
TASE LN	iShares TA-35 Israel UCITS ETF	19	↑	0	0.58	35	0.60	0.09	-	N
Main X-listings: ISRL LN (GBp), QDVM GR (EUR), TASE SW (USD)										
FALCOM30 AB	FALCOM - Saudi Equity ETF	7		2	1.08	30	0.00	-	-	N
VETGRIF3 NL	VETIVA GRIFFIN 30 EXCHANGE TRA	5		0	-	32	0.77	-	-	N
FXKZ RM	FinEx FFIN Kazakhstan Equity E	5		0	0.37	7	1.39	-	-	N
EGX30ETF EY	EGX 30 IndexETF	3		0	2.44	30	1.00	-	-	N
AMIB50 SJ	AMI Big50 ex-SA ETF	1		0	-	-	0.75	-	-	N
KSMF74 IT	KSM ETF 4A TA-125	-		-	-	-	-	-	-	N
PBLS301 IT	Psagot Sal EQ Israely related	-		-	-	-	0.80	-	-	N
KSMF55 IT	KSM ETF 4A TA-SME60	-		-	-	-	-	-	-	N
KSMF96 IT	KSM ETF 6A Short TA-35	-		-	-	-	-	-	-	N
PSGF36 IT	Psagot ETF 4A TA-90	-		-	-	-	0.50	-	-	N
KSMF13 IT	KSM ETF 4A Tel-Div	-		-	-	-	0.50	-	-	N
PBLS303 IT	Psagot Sal EQ Israely related	-		-	-	-	0.80	-	-	N
PSGF42 IT	Psagot ETF 4A TA-125	-		-	-	-	0.15	-	-	N
KSMF72 IT	KSM ETF 4A TA-90	-		-	-	-	-	-	-	N
KSMF27 IT	KSM ETF 6A Short Leveraged TA-	-		-	-	-	2.75	-	-2x	N
KSMF46 IT	KSM ETF 6A Leveraged TA-35 x3	-		-	-	-	2.75	-	+3x	N
KSMF59 IT	KSM ETF 4A TA-35	-		-	-	-	-	-	-	N
KSMF93 IT	KSM ETF 6A Short TA-90 1470.4	-		-	-	-	1.00	-	-	N
PSGF41 IT	Psagot ETF 4A TA-35	-		-	-	-	0.10	-	-	N
PSGF44 IT	Psagot ETF 4A TA-SME60	-		-	-	-	0.95	-	-	N
TCHF120 IT	Tachlit SAL 60 Short TA 35	-		-	-	-	-	-	-	N
KSMF21 IT	KSM ETF 4A TA-Growth	-		-	-	-	1.00	-	-	N
KSMF162 IT	KSM ETF 4D Bluestar Israel Glo	-		-	-	-	-	-	-	N
PSGF46 IT	Psagot ETF 4A TA-SME150	-		-	-	-	0.50	-	-	N
KSMF169 IT	KSM ETF 6A Short TA-SME60	-		-	-	-	-	-	-	N
PSGF40 IT	Psagot ETF 4A TA-Growth	-		-	-	-	0.80	-	-	N
KSMF75 IT	KSM ETF 4A TA Global-BlueTech	-		-	-	-	-	-	-	N
PSGF38 IT	Psagot ETF 4A TA Global-BlueTe	-		-	-	-	0.50	-	-	N
PSGF47 IT	Psagot ETF 4A TA Sector-Balanc	-		-	-	-	0.00	-	-	N
PSGF164 IT	Psagot ETF 6A Short TA-35	-		-	-	-	0.50	-	-	N
		Style								
Growth										
RUSG LN	Lyxor Russell 1000 Growth UCIT	87	↓	0	0.45	545	0.19	0.03	-	N
Main X-listings: RSGL LN (GBp)										
IDJG LN	iShares Euro Total Market Grow	81		0	0.16	649	0.40	1.18	-	N
Main X-listings: IDJG SW (CHF)										
ETFSG2P GY	Deka STOXX Europe Strong Growt	52	↑	0	0.33	-	0.65	0.12	-	N
GWT IM	Lyxor MSCI EMU Growth DR UCITS	41		0	0.21	144	0.40	0.11	-	N
CG9 FP	Amundi Msci Europe Growth UCIT	22		0	0.17	262	0.35	0.01	-	N
Value										
IWVL LN	iShares Edge MSCI World Value	1,661	↑	1	0.17	393	0.30	0.14	-	N
Main X-listings: IWFV LN (GBp), IWVL SW (USD), IWVL IM (EUR), IS3S GR (EUR), ISMVF US (USD)										
CAPU LN	OSSIAM SHILLER BARCLAYS CAPE U	992		0	0.26	-	0.65	0.05	-	N
Main X-listings: UCAPN MM (MXN), UCAP LN (USD), UCAP SW (USD)										
IEVL LN	iShares Edge MSCI Europe Value	955	↓	1	-	-	0.25	0.11	-	N
Main X-listings: IEVL SW (EUR), IEFV LN (GBp), IEVL IM (EUR), CEMS GR (EUR), IEVL SW (EUR), IEVL IM (EUR)										
IUVF LN	iShares Edge MSCI USA Value Fa	646	↓	0	0.16	147	0.20	1.45	-	N
Main X-listings: IUVLN MM (MXN), IUVL SW (USD), IUVL LN (USD), QDVI GR (EUR)										
CAPU FP	OSSIAM SHILLER BARCLAYS CAPE U	486	↑	0	0.16	-	0.65	1.12	-	N
Main X-listings: CAPU IM (EUR), CAPU SW (EUR), USCP GR (EUR)										
XDEV GR	Xtrackers MSCI World Value UCI	472	↑	0	-	393	0.25	1.12	-	N
Main X-listings: XDEV LN (GBp), XDEV IM (EUR)										
USVEUY IM	UBS Irl ETF plc - MSCI USA Val	432		0	0.33	368	0.20	0.07	-	N
CV9 FP	Amundi MSCI Europe Value Facto	295	↓	0	-	218	0.23	0.01	-	N
Main X-listings: VCEU IM (EUR)										
VVAL LN [A]	Vanguard Global Value Factor U	190	↑	0	0.18	-	0.22	6.05	-	N
Main X-listings: VVAL IM (EUR), VDVA LN (USD), VVAL NA (EUR), VVAL SW (CHF)										
EMVEUA SW	UBS ETF-MSCI EMU Value UCITS E	140	↓	0	0.21	125	0.25	0.16	-	N
EVAE FP	BNP PARIBAS EASY Equity Value	126	↑	0	0.12	-	0.30	0.01	-	N
Main X-listings: VALU GR (EUR), EVAE SW (EUR), EVAE IM (EUR)										
VAL FP	Lyxor MSCI EMU Value DR UCITS	120	↓	0	0.19	125	0.40	0.15	-	N
MOAT SW	VanEck Vectors Morningstar US	94	↑	0	0.29	46	0.49	0.06	-	N
Main X-listings: GMVM GR (EUR), MOAT LN (USD), MOAT IM (EUR), MOGB LN (GBP)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Value (Continued)										
EMVL LN	iShares Edge MSCI EM Value Fac	88		-	0.26	-	0.40	-	-	N
Main X-listings: 5MVL GR (EUR)										
CAPE FP	Ossiam Shiller Barclays Cape E	74		0.0	0.53	-	0.65	0.03	-	N
Main X-listings: CAPE LN (EUR), CAPE IM (EUR), EUPE GR (EUR), CAPE SW (EUR)										
IDJV LN	iShares Euro Total Market Valu	52		0.1	0.26	1,461	0.40	1.19	-	N
Main X-listings: IDJV NA (EUR), IDJV SW (CHF)										
UD03 LN	UBS ETF-Factor MSCI EMU Prime	42		0.0	0.69	-	0.28	0.22	-	N
Main X-listings: EPVLD IM (EUR), EPVLDF SW (CHF), EPVLD SW (EUR), UIMZ GR (EUR), UIMZ NA (EUR)										
ZPRV GR	SPDR MSCI USA Small Cap Value	33	↓	0.0	0.20	-	0.30	0.46	-	N
Main X-listings: USSC LN (USD), USSC LN (USD), ZPRV GR (EUR)										
ZPRU GR	SPDR MSCI USA Value UCITS ETF	32	↑	0.0	0.14	-	0.25	1.51	-	N
Main X-listings: USVL LN (USD), UVAL LN (GBP), UVAL LN (GBP), USVL LN (USD), UVAL SW (CHF), ZPRU GR (EUR)										
ETFSV2P GY	Deka STOXX Europe Strong Value	25		0.0	0.28	20	0.65	0.55	-	N
ZPRX GR	SPDR MSCI Europe Small Cap Val	25	↓	0.0	0.24	-	0.30	0.32	-	N
Main X-listings: EUSV LN (GBP), EUSV LN (GBP), ZPRX GR (EUR)										
RUSV LN	Lyxor Russell 1000 Value UCITS	15	↓	0.1	0.41	-	0.19	0.01	-	N
Main X-listings: RSVL LN (GBp)										
IWVU LN	iShares Edge MSCI World Value	14	↑	0.0	0.20	393	0.30	0.14	-	N
Main X-listings: IWVG LN (GBP)										
EVUS FP	BNP Paribas Easy Equity Value	13		0.0	0.25	-	0.30	1.13	-	N
Main X-listings: EVUS GR (EUR), EVUS SW (EUR)										
UC96 LN	UBS Irl ETF Plc - Factor MSCI	13		0.0	0.68	-	0.25	0.08	-	N
Main X-listings: UPVLD IM (EUR), UPVLDF SW (CHF), UBUS GR (EUR), UPVLD SW (USD), UBUS NA (EUR)										
D5BL GY	Xtrackers MSCI Europe Value UC	13	↓	0.0	0.22	-	0.25	0.10	-	N
IUVD LN	iShares Edge MSCI USA Value Fa	13	↑	0.1	0.25	147	0.20	0.06	-	N
UPVLH SW [C]	UBS Irl ETF Plc - Factor MSCI	8	↑	0.0	1.67	-	0.35	0.17	-	N
Main X-listings: UPVL LN (GBp)										
UPVLS SW [C]	UBS Irl ETF Plc - Factor MSCI	4	↓	0.0	0.74	-	0.35	0.12	-	N
EPVLU SW [C]	UBS ETF-Factor MSCI EMU Prime	4	↓	0.0	0.40	-	0.38	0.21	-	N
EPVLS SW [C]	UBS ETF-Factor MSCI EMU Prime	4	↓	0.0	0.97	-	0.38	0.23	-	N
ZPRW GR	SPDR MSCI Europe Value UCITS E	3		0.0	0.25	-	0.25	0.68	-	N
Main X-listings: EVAL LN (GBP), EVAL LN (GBP), EVAL SW (CHF), ZPRW GR (EUR)										
UPVLE SW [C]	UBS Irl ETF Plc - Factor MSCI	3	↓	0.0	0.87	-	0.35	0.11	-	N
Main X-listings: UBUW GR (EUR), UBUW NA (EUR)										
PFTV GR	Invesco Tradable European Valu	2		0.0	0.12	50	0.30	0.00	-	N
EPVLH SW [C]	UBS ETF-Factor MSCI EMU Prime	2		0.0	0.76	-	0.38	0.22	-	N
Main X-listings: EPVL LN (GBp)										
VALD FP	BNP PARIBAS EASY Equity Value	1	↑	0.0	0.16	-	0.30	0.01	-	N
Main X-listings: VALD SW (EUR), VALD GR (EUR)										
IEDL LN	iShares Edge MSCI Europe Value	1	↓	0.0	0.37	-	0.25	0.11	-	N
NFEVAL SJ	NF Equity Value ETF	-		0.0	0.98	-	0.50	-	-	N
Dividend										
UDVD LN	SPDR S&P US Dividend Aristocra	2,562		2.2	0.13	111	0.35	0.04	-	N
Main X-listings: USDV LN (GBP), SPYD GY (EUR), USDV SW (CHF)										
EUDV LN	SPDR S&P Euro Dividend Aristoc	1,485		0.2	0.11	-	0.30	0.22	-	N
Main X-listings: SPYW GR (EUR), EUDV FP (EUR)										
SDGPEX GY	iShares STOXX Global Select Di	1,190		2.1	0.18	100	0.46	0.14	-	N
Main X-listings: SDGPEX SW (EUR)										
IDVY NA [C]	iShares Euro Dividend UCITS ET	901		0.9	-	30	0.40	0.24	-	N
Main X-listings: IDVY LN (GBp), IDVY SW (CHF)										
IUKD LN	iShares UK Dividend UCITS ETF	769		2.1	0.14	-	0.40	0.17	-	N
Main X-listings: IUKD IM (EUR), IUKD SW (CHF)										
SD3EEX GY	iShares EURO STOXX Select Divi	713		1.0	-	30	0.31	0.28	-	N
VHYD LN	Vanguard FTSE All-World High D	698		0.3	0.24	1,482	0.29	0.06	-	N
Main X-listings: VHYL IM (EUR)										
DDAXKEX GY	iShares DivDAX UCITS ETF DE	590		0.7	-	15	0.31	0.26	-	N
SD3PEX GY	iShares STOXX Europe Select Di	560		0.7	-	30	0.31	0.29	-	N
IEDY LN	iShares EM Dividend UCITS ETF	539	↑	0.3	0.26	-	0.65	0.35	-	N
Main X-listings: SEDY LN (GBp)										
IAPD LN	iShares Asia Pacific Dividend	435		0.2	0.15	30	0.59	1.46	-	N
Main X-listings: IAPD IM (EUR), IDAP LN (USD)										
ETFDXMD GY	Deka DAXplus Maximum Dividend	428		0.5	0.29	-	0.30	0.39	-	N
XGDD LN	Xtrackers Stoxx Global Select	416		0.0	0.23	100	0.50	1.15	-	N
Main X-listings: XGSD IM (EUR), XGSD LN (GBp), XGSD SW (CHF)										
CHDVD SW	iShares Swiss Dividend ETF CH	394	↑	1.0	-	20	0.15	0.11	-	N
HDIQ LN	iShares MSCI USA Quality Divid	363	↑	0.1	0.16	128	0.35	1.45	-	N
Main X-listings: QDIV LN (USD), QDIV SW (USD), QDVD GR (EUR), QDIV IX (USD)										
XD3E IM	Xtrackers Euro Stoxx Quality D	281	↑	0.1	0.17	30	0.30	4.32	-	N
Main X-listings: XD3E LN (GBp), XD3E SS (SEK)										
DJDVPEX GY	iShares Dow Jones U.S. Select	276		0.5	0.16	100	0.31	0.15	-	N
ELFC GR	Deka EURO iSTOXX ex Fin Divide	274		0.0	-	-	0.30	0.19	-	N
ETFSD3E GY	Deka EURO STOXX Select Dividen	247	↑	0.5	0.13	30	0.30	0.31	-	N
APSDEX GY	iShares Dow Jones Asia Pacific	213		0.3	0.26	30	0.31	0.18	-	N
CD8 FP	Amundi ETF MSCI Emu High Divid	173	↑	0.4	0.11	-	0.30	0.12	-	N
SPYV GY	SPDR S&P Emerging Markets Divi	156		0.2	0.20	-	0.55	0.69	-	N
Main X-listings: EMDV LN (GBP), EDVD LN (USD), EMDV SW (CHF)										
SEL FP	Lyxor STOXX Europe Select Divi	148		0.1	0.21	30	0.30	0.15	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Dividend (Continued)										
ZPRA GR	SPDR S&P Pan Asia Dividend Ari	140	↑	0	0.28	100	0.55	0.25	-	N
STXDIV SJ	Satrix Dividend Plus ETF	106		0	1.11	30	0.38	-	-	N
UKDV LN	SPDR S&P UK Dividend Aristocra	102		0	0.45	40	0.30	0.28	-	N
Main X-listings: SPYG GR (EUR)										
CBSD3T GY	ComStage ETF EURO STOXX Select	79		0	0.16	30	0.25	0.21	-	N
UINC LN	First Trust US Equity Income U	69		0	0.36	-	0.55	0.08	-	N
C003 GY	ComStage ETF DivDAX TR UCITS E	69		0	0.39	15	0.25	0.24	-	N
Main X-listings: CBDDAX SW (CHF)										
XDND GR	Xtrackers MSCI North America H	60	↓	0	0.15	147	0.39	1.12	-	N
Main X-listings: XDND LN (GBp), XDND SS (SEK), XDND SW (CHF)										
WTES GR	WisdomTree Europe SmallCap Div	43		0	0.42	477	0.38	0.15	-	N
CD9 FP	Amundi MSCI Europe High Divide	42	↑	0	0.12	57	0.23	0.08	-	N
DFE LN	WisdomTree Europe SmallCap Div	41	↓	0	0.48	477	0.38	0.15	-	N
Main X-listings: DFEE LN (EUR), DFE IM (EUR), DFE SW (CHF)										
WQDV LN	iShares MSCI World Quality Div	36	↑	0	0.19	294	0.38	0.07	-	N
Main X-listings: QDVW GR (EUR), WQDS LN (GBp)										
WTEI GR	WisdomTree Emerging Markets Eq	32		0	0.50	605	0.46	0.24	-	N
WTEE GR	WisdomTree Europe Equity Incom	32		0	0.24	139	0.29	0.17	-	N
E903 GR	ComStage 1 DivDAX UCITS ETF	32	↑	0	0.16	15	0.25	0.32	-	N
EEI LN	WisdomTree Europe Equity Incom	31	↓	0	0.30	139	0.29	0.17	-	N
Main X-listings: EEIE LN (EUR), EEI IM (EUR), EEI SW (CHF), EEI SW (CHF)										
F751 GR [A]	ComStage Alpha Deutschland Div	30	↑	0	0.41	-	0.68	-	-	N
DGSE LN	WisdomTree Emerging Markets Sm	28	↑	0	1.14	1,017	0.54	0.33	-	N
Main X-listings: DGSD LN (USD), DGSE SW (CHF), DGSE IM (EUR), DGSE SW (CHF)										
ZILE LN	BMO MSCI Europe ex-UK Income L	28		0	0.15	85	0.25	1.17	-	N
DHS LN	WisdomTree US Equity Income UC	26		0	0.37	-	0.29	0.16	-	N
Main X-listings: DHSD LN (USD), DHS SW (CHF), DHS IM (EUR), DHS SW (CHF)										
WTEU GR	WisdomTree US Equity Income UC	26		0	0.31	-	0.29	0.85	-	N
TDIV NA	THINK Morningstar High Dividen	26		0	0.31	-	0.38	0.25	-	N
Main X-listings: VDIV GR (EUR)										
WTED GR	WisdomTree Emerging Markets Sm	24		0	0.60	1,017	0.54	0.33	-	N
DGRA IM	WisdomTree US Quality Dividend	23	↑	0	0.42	300	0.33	0.09	-	N
Main X-listings: DGRA LN (USD), DGRG LN (GBp)										
GLODIV SJ	CoreShares GlobalDivTrax ETF	21	↑	0	0.74	100	0.60	7.96	-	N
DIVTRX SJ	CoreShares DivTrax	19		0	0.86	29	0.47	0.25	-	N
EQDV LN	iShares MSCI Europe Quality Di	18	↑	0	0.23	57	0.28	0.21	-	N
Main X-listings: EQDS LN (GBp), QDVX GR (EUR)										
EDEU FP	BNP Paribas Easy Equity Divide	17		0	0.17	-	0.30	0.02	-	N
Main X-listings: EDEU SW (EUR), EDEU GR (EUR)										
WTDM GR	WisdomTree US Quality Dividend	15		0	0.31	300	0.33	0.09	-	N
GINC LN	First Trust Global Equity Inco	14	↑	0	0.84	-	0.60	0.42	-	N
WTIM GR	WisdomTree Eurozone Quality Di	13		0	0.26	100	0.29	0.10	-	N
EGRA IM	WisdomTree Eurozone Quality Di	13		0	0.27	100	0.29	0.10	-	N
Main X-listings: EGRA LN (EUR), EGRG LN (GBp)										
GGRA LN	WisdomTree Global Quality Divi	12	↑	0	0.54	595	0.38	0.16	-	N
Main X-listings: GGRA IM (EUR), GGRG LN (GBp)										
WTEM GR	WisdomTree Global Quality Divi	12		0	0.39	595	0.38	0.16	-	N
DIUS FP	BNP Paribas Easy Equity Divide	12		0	0.23	-	0.30	1.13	-	N
Main X-listings: DIUS GR (EUR), DIUS SW (EUR)										
WTD7 GR	WisdomTree Europe SmallCap Div	11		0	0.45	477	0.38	0.15	-	N
DESE LN	WisdomTree US SmallCap Dividen	10		0	0.32	-	0.38	0.25	-	N
Main X-listings: DESD LN (USD), DESE SW (CHF), DESE IM (EUR), DESE SW (CHF)										
WTEC GR	WisdomTree US SmallCap Dividen	10		0	0.27	-	0.38	0.80	-	N
FRXD LN	Franklin LibertyQ European Div	7	↑	0	0.43	50	0.25	0.24	-	N
Main X-listings: FLXD SW (EUR), FLXD LN (GBP), FLXD IM (EUR), FLXD GR (EUR)										
UTSYE SW [C]	UBS Irl ETF plc - Factor MSCI	7		-	0.51	-	0.35	0.09	-	N
Main X-listings: UTSYE IM (EUR), UE26 NA (EUR)										
UTSYS SW [C]	UBS Irl ETF plc - Factor MSCI	7	↓	-	0.63	-	0.35	0.11	-	N
WUKD LN	WisdomTree UK Equity Income UC	7	↑	0	0.58	97	0.29	0.16	-	N
DFEP LN	WisdomTree Europe SmallCap Div	7	↓	0	0.59	477	0.38	0.15	-	N
Main X-listings: DFEA LN (EUR), DFEA SW (EUR), DFEA IM (EUR)										
UD05 LN	UBS ETF-Factor MSCI EMU Total	7		0	0.76	-	0.28	0.18	-	N
Main X-listings: ETSYD IM (EUR), ETSYDF SW (CHF), ETSYD SW (EUR), UIM8 GR (EUR), UIM8 NA (EUR)										
DHSP LN	WisdomTree US Equity Income UC	6	↑	0	0.41	-	0.29	0.16	-	N
Main X-listings: DHSA SW (USD), DHSA LN (USD), DHSA IM (EUR)										
WTD9 GR	WisdomTree US Equity Income UC	5		0	0.37	-	0.29	0.16	-	N
XDWY LN	Xtrackers MSCI World High Divi	5		0	0.26	294	0.29	0.06	-	N
Main X-listings: XDWY GR (EUR), XDWY SW (USD)										
FRGD LN	Franklin LibertyQ Global Divid	5		0	0.33	101	0.45	0.15	-	N
Main X-listings: FLXX SW (USD), FLXX LN (GBP), FLXX IM (EUR), FLXX GR (EUR)										
EGRP LN	WisdomTree Eurozone Quality Di	4		0	0.34	100	0.29	0.10	-	N
Main X-listings: EGRW LN (EUR)										
UD01 LN	UBS Irl ETF plc - Factor MSCI	3	↓	0	0.74	-	0.25	0.05	-	N
Main X-listings: UTSYDF SW (CHF), UTSYD IM (EUR), UBUU GR (EUR), UTSYD SW (USD), UBUU NA (EUR)										
DHSG LN [C]	WisdomTree US Equity Income UC	3	↑	0	0.37	-	0.35	0.18	-	N
Main X-listings: DHSG SW (GBP)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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		Style								
Dividend (Continued)										
DEMS LN	WisdomTree Emerging Markets Eq	2		0.0	0.69	605	0.46	0.24	-	N
Main X-listings: DEMR SW (USD), DEMR LN (USD), DEMR IM (EUR)										
WTD8 GR	WisdomTree Emerging Markets Eq	2		0.0	0.47	605	0.46	0.24	-	N
ETSYU SW [C]	UBS ETF-Factor MSCI EMU Total	1		0.0	0.85	-	0.38	0.18	-	N
ETSYS SW [C]	UBS ETF-Factor MSCI EMU Total	1		0.0	1.59	-	0.38	0.19	-	N
GGRP LN	WisdomTree Global Quality Divi	1	↓	0.0	0.51	595	0.38	0.16	-	N
Main X-listings: GGRW LN (USD)										
UTSY LN [C]	UBS Irl ETF plc - Factor MSCI	1		0.0	0.78	-	0.35	0.07	-	N
Main X-listings: UTSYH SW (GBP)										
EEIP LN	WisdomTree Europe Equity Incom	1	↑	0.0	0.33	139	0.29	0.17	-	N
Main X-listings: EEIA LN (EUR), EEIA SW (EUR), EEIA IM (EUR)										
DGRP LN	WisdomTree US Quality Dividend	1	↑	0.0	0.34	300	0.33	0.09	-	N
Main X-listings: DGRW LN (USD)										
ETSYH SW [C]	UBS ETF-Factor MSCI EMU Total	0		0.0	1.42	-	0.38	0.18	-	N
Main X-listings: ETSY LN (GBp)										
WTDY GR [C]	WisdomTree US Equity Income UC	0		0.0	-	-	0.35	0.18	-	N
DHSF SW [C]	WisdomTree US Equity Income UC	0	↓	0.0	0.38	-	0.35	0.18	-	N
Main X-listings: DHSF IM (EUR)										
TCSP113 IT [C]	Tachlit S&P UK High Yield Divi	-		0.0	0.37	40	1.12	-	-	N
TLSDGV9 IT	Psagot Sal STOXX Global Select	-		-	-	-	1.00	-	-	N
TCAR116 IT [C]	Tachlit Composite 3 S&P Divide	-		0.0	0.57	-	0.52	-	-	N
KSMF28 IT	KSM ETF 4D DJ US Dividend	-		-	-	-	1.00	-	-	N
TCAR118 IT	Tachlit S&P 500 Dividend Arist	-		-	-	-	0.92	-	-	N
TSD3E12 IT	Psagot Sal Euro Stoxx Div	-		-	-	-	0.80	-	-	N
PSGF48 IT	Psagot ETF 4D DJ US Dividend	-		-	-	-	1.20	-	-	N
TLSD2G4 IT	Psagot Sal STOXX Nordic Select	-		-	-	-	1.10	-	-	N
TLDJAS3 IT	Psagot Sal Asia Div	-		-	-	-	1.25	-	-	N
KSMF145 IT	KSM ETF 4A DJ US Dividend Curr	-		-	-	-	-	-	-	N
TDJSD13 IT	Psagot Sal Japan Div	-		-	-	-	1.20	-	-	N
KSMF146 IT [C]	KSM ETF 4A EURO STOXX Dividend	-		-	0.40	30	-	-	-	N
PSGT257 IT [C]	Psagot Sal Europe Dividend Sto	-		-	-	30	0.80	-	-	N
KSMSDGL IT	KSM STOXX Global Select Divide	-		-	-	-	1.02	-	-	N
KSMSD3E IT	KSM EURO STOXX Select Dividend	-		-	-	-	0.82	-	-	N
TCSP112 IT [C]	Tachlit S&P Euro High Yield Di	-		0.1	0.46	-	1.02	-	-	N
HRNTR94 IT	Harel DJNTR 94	-		-	-	-	-	-	-	N
PSGF39 IT	Psagot ETF 4A Tel-Div	-		-	-	-	0.50	-	-	N
Low Vol										
MVOL IM	iShares Edge MSCI World Minimu	2,840	↑	2.0	-	356	0.30	1.13	-	N
MVUS IM	iShares Edge S&P 500 Minimum V	1,577	↑	0.3	0.11	112	0.20	1.13	-	N
MVEU IM	iShares Edge MSCI Europe Minim	1,157	↑	0.5	-	183	0.25	0.16	-	N
Main X-listings: IMVU LN (USD)										
EMV IM	iShares Edge MSCI EM Minimum V	885	↑	0.3	0.22	309	0.40	1.19	-	N
XACTHDIV SS	XACT Nordic High Dividend Low	717	↑	4.6	0.14	-	0.30	1.22	-	N
EVOE FP	BNP PARIBAS EASY Equity Low Vo	535	↑	0.9	0.11	-	0.30	0.01	-	N
Main X-listings: VLEU GR (EUR), EVOE SW (EUR), EVOE IM (EUR)										
MIVO FP	Amundi Msci Europe Minimum Vol	472	↑	0.2	-	183	0.23	0.00	-	N
Main X-listings: MIVO IM (EUR), MIVO LN (GBp)										
EUMV FP	OSSIAM ETF EUROPE MINIMUM VARI	269	↑	0.1	0.15	78	0.65	0.07	-	N
Main X-listings: LEMV LN (GBp)										
ELOW LN	SPDR EURO STOXX Low Volatility	177	↑	0.0	0.31	-	0.30	0.19	-	N
Main X-listings: ZPRL GR (EUR), LOWE LN (GBP), ELOW IM (EUR), ELOW FP (EUR)										
XMVE IM	Xtrackers MSCI EMU Minimum Vol	161	↑	0.1	0.19	142	0.25	0.11	-	N
Main X-listings: XMVE GR (EUR)										
MIVU FP	Amundi MSCI USA Minimum Volati	134	↑	0.7	0.22	213	0.17	1.13	-	N
Main X-listings: MIVU GR (EUR), MIVU NA (USD)										
IS31 GR [C]	iShares Edge S&P 500 Minimum V	134		0.0	0.21	112	0.25	5.54	-	N
SGVB LN	Lyxor SG Global Value Beta UCI	132	↓	0.0	0.48	200	0.40	1.12	-	N
Main X-listings: SGVB FP (EUR), SGVL LN (GBp)										
XDEB GR	Xtrackers MSCI World Minimum V	121	↑	0.0	-	356	0.25	1.13	-	N
Main X-listings: XDEB LN (GBp), XDEB IM (EUR)										
EMMV FP	OSSIAM ETF EMERGING MARKETS MI	120	↑	0.0	0.34	-	0.75	1.14	-	N
Main X-listings: LMMV LN (GBp), DEMV LN (USD)										
MVAU FP	Lyxor FTSE USA Minimum Varianc	88		0.0	0.15	442	0.20	1.13	-	N
Main X-listings: MVUX LN (GBp), MVAU LN (USD), MVAU IM (EUR)										
SXR0 SW [C]	iShares Edge MSCI World Minimu	82	↑	0.0	-	356	0.35	4.81	-	N
Main X-listings: SXR0 GR (EUR)										
MVMU FP	Lyxor FTSE EMU Minimum Varianc	70	↑	0.0	0.43	-	0.20	0.01	-	N
UD02 LN	UBS ETF-Factor MSCI EMU Low Vo	66	↑	0.0	0.58	-	0.28	0.20	-	N
Main X-listings: ELOVDF SW (CHF), ELOVD SW (EUR), ELOVD IM (EUR), UIMY GR (EUR), UIMY NA (EUR)										
MVEX LN	Lyxor FTSE Europe Minimum Vari	56	↓	0.0	0.33	-	0.20	1.18	-	N
Main X-listings: MVAE FP (EUR), MVAE LN (USD), MVAE IM (EUR)										
EMHD LN	Invesco FTSE Emerging Markets	36	↑	0.0	0.36	-	0.49	1.41	-	N
Main X-listings: EMHD SW (USD), EMHD IM (EUR), EMHD FP (EUR), EHDL GR (EUR), HDEM LN (GBp)										
ELOVS SW [C]	UBS ETF-Factor MSCI EMU Low Vo	33	↑	0.0	0.60	-	0.38	0.21	-	N
SPMD LN	iShares Edge S&P 500 Minimum V	27	↑	0.0	0.16	112	0.20	0.04	-	N
UC95 LN	UBS Irl ETF plc - Factor MSCI	22		0.0	0.76	-	0.25	0.05	-	N
Main X-listings: ULOVDF SW (CHF), ULOVD IM (EUR), UBUR GR (EUR), ULOVD SW (USD), UBUR NA (EUR)										

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		Style								
Low Vol (Continued)										
VMVL LN [A C]	Vanguard Global Minimum Volati	21	↑	0	0.20	-	0.22	5.99	-	N
Main X-listings: VMVL IM (EUR), VDMV LN (USD), VMVL NA (EUR), VMVL SW (CHF)										
ULOVS SW [C]	UBS Irl ETF plc - Factor MSCI	17	↑	0	0.86	-	0.35	0.11	-	N
MVMX LN	Lyxor FTSE Emerging Minimum Va	17		0	0.44	-	0.40	1.44	-	N
Main X-listings: MVAM FP (EUR), MVAM LN (USD), MVAM IM (EUR)										
JPMV FP	OSSIAM JAPAN MINIMUM VARIANCE	15		0	0.39	-	0.65	1.45	-	N
ULOVE SW [C]	UBS Irl ETF plc - Factor MSCI	14	↓	0	0.72	-	0.35	0.10	-	N
Main X-listings: UBUV GR (EUR), UBUV NA (EUR)										
WOMV SW	Ossiam ETF World MINIMUM VARIA	14		0	0.43	-	0.65	1.14	-	N
MVAW FP	Lyxor FTSE All World Minimum V	13	↓	0	0.47	-	0.30	1.13	-	N
Main X-listings: MVAW LN (USD), MVAW IM (EUR)										
XMVU IM	Xtrackers MSCI USA Minimum Vol	9		0	0.14	-	0.20	1.13	-	N
Main X-listings: XMVU LN (USD)										
MVED LN	iShares Edge MSCI Europe Minim	8	↓	0	0.18	183	0.25	0.16	-	N
MVSH SW [C]	iShares Edge MSCI World Minimu	8	↑	0	0.38	356	0.35	4.23	-	N
UKMV LN	OSSIAM ETF FTSE 100 MINIMUM VA	7	↑	0	0.44	-	0.45	0.22	-	N
EVOU FP	BNP PARIBAS EASY Equity Low Vo	7	↓	0	0.18	-	0.30	1.13	-	N
Main X-listings: EVOU SW (EUR), VLUS GR (EUR), EVOU IM (EUR)										
LOVG GR	BNP Paribas Easy Equity Low Vo	6	↓	0	0.10	-	0.30	0.02	-	N
WMVG LN [C]	iShares Edge MSCI World Minimu	4		-	0.21	356	0.35	-	-	N
DEMV LN	OSSIAM ETF EMERGING MARKETS MI	4	↓	0	0.90	-	0.75	0.07	-	N
Main X-listings: LMMV LN (GBp)										
VLED GR	BNP PARIBAS EASY Equity Low Vo	4	↑	0	0.12	-	0.30	0.01	-	N
Main X-listings: VLED SW (EUR), VLED FP (EUR)										
ELOVU SW [C]	UBS ETF-Factor MSCI EMU Low Vo	3		0	1.31	-	0.38	0.20	-	N
ELOVH SW [C]	UBS ETF-Factor MSCI EMU Low Vo	2	↑	0	0.70	-	0.38	0.21	-	N
Main X-listings: ELOV LN (GBp)										
VLUD FP	BNP PARIBAS EASY Equity Low Vo	2	↑	0	0.23	-	0.30	1.13	-	N
Main X-listings: VLUD SW (EUR), VLUD GR (EUR), VLUU SW (USD)										
ULOVH SW [C]	UBS Irl ETF plc - Factor MSCI	1	↓	0	0.98	-	0.35	0.23	-	N
Main X-listings: ULOV LN (GBp)										
NFEVOL SJ	New Funds Low Volatility Equity	-		0	0.86	-	0.50	-	-	N
KSMF142 IT	KSM ETF 4D S&P 500 Low Volatil	-		-	-	-	-	-	-	N
KSMF166 IT [C]	KSM ETF 4A S&P 500 Low Volatil	-		-	0.41	50	-	-	-	N
TCSX140 IT	Tachlit S&P 500 Low Volatility	-		-	-	-	-	-	-	N
PSGF90 IT	Psagot ETF 4D S&P 500 Low Vola	-		-	-	-	0.50	-	-	N
PSGT320 IT	Psagot Sal S&P 500 Low Volatil	-		-	-	-	0.02	-	-	N
Volatility										
LVX BB	Lyxor S&P 500 VIX Futures Enha	55	↑	0	0.78	-	0.60	0.06	-	N
TVOL LN	Tabula JPM Credit Vol ETF	53		-	1.50	-	0.50	-	-	N
VIXL IM	Boost S&P 500 VIX Short-Term F	18	↑	0	0.81	-	0.99	-	+2.25x	N
Main X-listings: VIXL LN (USD), VILX LN (GBp)										
VIXL GR	Boost S&P 500 VIX Short-Term F	8		0	1.97	-	0.99	-	+2.25x	N
Momentum										
IWMO LN	iShares Edge MSCI World Moment	995		2	0.15	346	0.30	0.06	-	N
Main X-listings: IWFM LN (GBp), IWMO SW (USD), IWMO IM (EUR), IS3R GR (EUR)										
IEMO LN	iShares Edge MSCI Europe Momen	778	↑	0	0.30	124	0.25	0.19	-	N
Main X-listings: IEMO SW (EUR), IEFM LN (GBp), IEMO IM (EUR), CEMR GR (EUR), IEMO SW (EUR), IEMO IM (EUR)										
IUMF LN	iShares Edge MSCI USA Momentum	227	↑	0	0.17	125	0.20	1.47	-	N
Main X-listings: IUMON MM (MXN), IUMO SW (USD), IUMO LN (USD), QDVA GR (EUR)										
XDEM GR	Xtrackers MSCI World Momentum	115	↑	0	0.33	346	0.25	1.13	-	N
Main X-listings: XDEM LN (GBp), XDEM IM (EUR)										
MCEU FP	Amundi Msci Europe Momentum Fa	41	↓	0	0.19	124	0.23	0.01	-	N
Main X-listings: MCEU IM (EUR), MJMT GR (EUR)										
IEMD LN	iShares Edge MSCI Europe Momen	40	↑	0	0.40	124	0.25	0.19	-	N
VMOM LN [A]	Vanguard Global Momentum Facto	39	↑	0	0.19	-	0.22	5.40	-	N
Main X-listings: VMOM IM (EUR), VDMO LN (USD), VMOM NA (EUR), VMOM SW (CHF)										
EMOM FP	BNP PARIBAS EASY Equity Moment	11	↓	0	0.13	-	0.30	0.02	-	N
Main X-listings: MOEU GR (EUR), EMOM SW (EUR), EMOM IM (EUR)										
NFEMOM SJ	New Funds Equity Momentum ETF	5		0	0.51	20	0.44	-	-	N
PFTE GR	Invesco Tradable European Earn	4		0	0.22	50	0.30	0.00	-	N
PFTP GR	Invesco Tradable European Pric	3		0	0.21	50	0.30	0.00	-	N
MOED FP	BNP PARIBAS EASY Equity Moment	2	↑	0	0.18	-	0.30	0.02	-	N
Main X-listings: MOED SW (EUR), MOED GR (EUR)										
STXMMT SJ	Satrix Momentum Portfolio	1		-	1.19	-	0.40	-	-	N
IUMD LN	iShares Edge MSCI USA Momentum	1	↓	0	0.29	125	0.20	0.10	-	N
PSGF77 IT	Psagot ETF 4D S&P 1500 Positiv	-		-	-	-	0.30	-	-	N
Quality										
FUSU SW [C]	Fidelity US Quality Income UCI	4,746		0	0.26	114	0.35	-	-	N
Main X-listings: FUSU GR (EUR)										
IWQU LN	iShares Edge MSCI World Qualit	1,364	↑	1	0.13	299	0.30	0.04	-	N
Main X-listings: IWFQ LN (GBp), IWQU SW (USD), IWQU IM (EUR), IS3Q GR (EUR)										
SGQX LN [C]	Lyxor SG Global Quality Income	1,210		0	0.30	78	0.45	0.02	-	N
IUQF LN	iShares Edge MSCI USA Quality	942	↑	0	0.18	125	0.20	1.46	-	N
Main X-listings: IUQAN MM (MXN), IUSZ SW (USD), IUSZ LN (USD), QDVB GR (EUR)										
FUQA LN	Fidelity US Quality Income UCI	636	↑	0	0.17	114	0.30	0.04	-	N
Main X-listings: FUSA GR (EUR), FUSA LN (USD), FUSA SW (USD), FUSACHF SW (CHF)										

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	Style									
Quality (Continued)										
XDEQ GR	Xtrackers MSCI World Quality U	259	↑	0.0	0.12	299	0.25	1.13	-	N
Main X-listings: XDEQ LN (GBp), XDEQ IM (EUR)										
QCEU FP	Amundi Msci Europe Quality Fac	190	↑	0.1	0.13	-	0.23	0.00	-	N
Main X-listings: AMEQ GR (EUR), QCEU IM (EUR)										
UC99 LN	UBS Irl ETF plc - Factor MSCI	177	↑	0.0	0.72	125	0.25	0.03	-	N
Main X-listings: UQLTD IM (EUR), UQLTDF SW (CHF), UBUT GR (EUR), UQLTD SW (USD), UBUT NA (EUR)										
UD04 LN	UBS ETF-Factor MSCI EMU Qualit	128	↑	0.0	0.74	-	0.28	0.10	-	N
Main X-listings: EQLTD SW (EUR), EQLTDF SW (CHF), EQLTD IM (EUR), UIM2 GR (EUR), UIM2 NA (EUR)										
FGQI LN	Fidelity Global Quality Income	94	↑	0.0	0.22	263	0.40	0.10	-	N
Main X-listings: FGEQ GR (EUR), FGQD LN (GBp)										
IUQD LN	iShares Edge MSCI USA Quality	93	↑	0.1	0.24	125	0.20	0.04	-	N
IEQU LN	iShares Edge MSCI Europe Quali	90	↑	0.1	0.28	-	0.25	0.11	-	N
Main X-listings: IEQU SW (EUR), IEFQ LN (GBp), IEQU IM (EUR), CEMQ GR (EUR)										
EQUA FP	BNP PARIBAS EASY Equity Qualit	84	↑	0.5	0.15	-	0.30	0.14	-	N
Main X-listings: QUEU GR (EUR), EQUA SW (EUR), EQUA IM (EUR)										
FUSD LN	Fidelity US Quality Income UCI	83	↑	0.1	0.14	114	0.30	0.04	-	N
Main X-listings: FUSD SW (USD), FUSD GR (EUR), FUSI LN (GBp)										
EQLTS SW [C]	UBS ETF-Factor MSCI EMU Qualit	19		0.0	0.53	-	0.38	0.12	-	N
UQLTE SW [C]	UBS Irl ETF plc - Factor MSCI	19	↓	0.0	0.60	-	0.35	0.09	-	N
Main X-listings: UQLTE IM (EUR), UBUX GR (EUR), UBUX NA (EUR)										
STXQUA SJ	Satrix Quality South Africa Po	9		0.0	1.32	27	0.40	-	-	N
FEQD LN	Fidelity Europe Quality Income	9		0.0	0.25	95	0.30	0.16	-	N
Main X-listings: FEUQ GR (EUR)										
EQLTU SW [C]	UBS ETF-Factor MSCI EMU Qualit	8	↑	0.0	0.53	-	0.38	0.11	-	N
UQLTS SW [C]	UBS Irl ETF plc - Factor MSCI	8	↑	0.0	0.66	-	0.35	0.10	-	N
UQLT LN [C]	UBS Irl ETF plc - Factor MSCI	8		0.0	1.23	-	0.35	0.17	-	N
Main X-listings: UQLTH SW (GBP)										
WTD0 GR	WisdomTree India Quality UCITS	4		0.0	1.00	141	0.73	1.26	-	N
PFTQ GR	Invesco Tradable European Qual	3	↑	0.0	0.11	50	0.30	0.00	-	N
EPIE LN	WisdomTree India Quality UCITS	3		0.0	1.09	141	0.73	1.26	-	N
Main X-listings: EPIE IM (EUR)										
WTDZ GR	WisdomTree India Quality UCITS	2		0.0	0.97	141	0.73	1.26	-	N
FUSP LN [C]	Fidelity US Quality Income UCI	2	↑	0.0	0.25	114	0.35	6.86	-	N
Main X-listings: FUSP SW (GBP)										
FGQP LN [C]	Fidelity Global Quality Income	2	↑	0.0	0.34	263	0.45	5.94	-	N
EPIQ LN	WisdomTree India Quality UCITS	1	↓	0.0	1.02	141	0.73	1.26	-	N
FGEU GR [C]	Fidelity Global Quality Income	1	↑	0.0	0.29	263	0.45	4.21	-	N
SGQJ FP	Lyxor SG Japan Quality Income	1	↓	0.0	0.49	60	0.45	1.44	-	N
Main X-listings: SGQJ SW (JPY), SGQJ LN (USD)										
QUED FP	BNP PARIBAS EASY Equity Qualit	1	↑	0.0	0.19	-	0.30	0.14	-	N
Main X-listings: QUED GR (EUR), QUED SW (EUR)										
EQLTH SW [C]	UBS ETF-Factor MSCI EMU Qualit	1		0.0	1.48	-	0.38	0.10	-	N
Main X-listings: EQLT LN (GBp)										
IEQD LN	iShares Edge MSCI Europe Quali	0	↓	0.0	0.33	-	0.25	0.11	-	N
FEQP LN [C]	Fidelity Europe Quality Income	0		0.0	0.28	95	0.35	4.10	-	N
Multi-factor										
EFIW LN	Invesco Goldman Sachs Equity F	577		0.1	0.19	-	0.55	0.01	-	N
Main X-listings: EFIW IM (EUR), EFIS LN (GBp), EFIW SW (USD)										
SMLW GR	Invesco Goldman Sachs Equity F	576		0.0	-	-	0.55	0.01	-	N
FSWD LN	iShares Edge MSCI World Multif	494	↑	0.2	0.18	348	0.50	1.46	-	N
Main X-listings: IFSW LN (USD), IBCZ GR (EUR), IFSW SW (USD), IFSW IM (EUR)										
USFMD SW	UBS Irl ETF plc - MSCI USA Sel	467	↓	0.6	0.24	2,234	0.30	0.04	-	N
Main X-listings: USFM LN (GBp), USFMD IM (EUR), USFMDC SW (CHF)										
USHF LN	SciBeta HFE US Equity 6F EW UC	467		0.1	0.61	-	0.30	0.03	-	N
SMLU GR	Invesco Goldman Sachs Equity F	379		0.0	0.11	-	0.45	0.01	-	N
EFIE LN	Invesco Goldman Sachs Equity F	351	↓	0.0	0.26	-	0.45	0.01	-	N
Main X-listings: EFIE SW (EUR), EFIE IM (EUR)										
SMRE FP	Amundi Europe Equity Multi Sma	342		0.2	0.18	-	0.40	0.00	-	N
Main X-listings: SMRE GR (EUR), SMRE IM (EUR)										
FSEU LN	iShares Edge MSCI Europe Multi	339		0.1	0.29	119	0.45	1.19	-	N
Main X-listings: IFSEN MM (MXN), IFSE LN (EUR), IFSE SW (EUR), IBC0 GR (EUR), IEEU LN (USD), IFSE IM (EUR)										
MKTN FP [C]	Amundi ETF iSTOXX Europe Multi	337	↓	0.1	0.23	-	0.55	0.00	-	N
Main X-listings: MKTN IM (EUR), SMRN GR (EUR)										
H41J GR [A]	HSBC Multi Factor Worldw ide Eq	307		0.0	0.31	2,773	0.25	-	-	N
PSRF LN	Invesco FTSE RAFI US 1000 UCIT	304		0.2	0.20	1,007	0.39	1.45	-	N
Main X-listings: PFT IM (EUR), PFT SW (USD), PRUS LN (USD)										
HDLG LN	Invesco S&P 500 High Dividend	267		0.1	0.13	50	0.30	1.45	-	N
Main X-listings: HDLV FP (EUR), HDLV IM (EUR), HDLV GR (EUR), HDLV LN (USD), HDLV SW (USD)										
SMRT FP	Amundi Index Eq Global Multi S	206	↓	0.1	0.33	-	0.40	0.09	-	N
Main X-listings: SMRT IM (EUR), SM8T GR (EUR)										
EHEF LN	SciBeta HFE Europe Equity 6F E	152	↑	0.0	0.42	-	0.30	0.03	-	N
USMUFS SW [C]	UBS Irl ETF plc - MSCI USA Sel	133	↓	0.2	0.28	-	0.40	0.10	-	N
FSUS LN	iShares Edge MSCI USA Multifac	110		0.0	0.19	152	0.35	1.46	-	N
Main X-listings: IFSU LN (USD), IBCY GR (EUR), IFSU SW (USD), IFSU IM (EUR)										
FEX LN	First Trust US Large Cap Core	106		0.1	0.29	-	0.65	0.06	-	N
USMUFE SW [C]	UBS Irl ETF plc - MSCI USA Sel	92	↓	0.2	0.33	-	0.40	0.09	-	N
Main X-listings: USMUFE IM (EUR)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Multi-factor (Continued)										
EMHF LN	SciBeta HFE EM Equity 6F EW UC	66		0	0.85	-	0.30	0.04	-	N
PSRW LN	Invesco FTSE RAFI All World 30	55	↑	0	0.33	3,053	0.39	1.73	-	N
Main X-listings: PSRW IM (EUR), PSWD GR (EUR), PSRW FP (EUR), PSRW SW (USD)										
IS07 GR [C]	iShares Edge MSCI World Multif	47		0	0.21	348	0.55	4.59	-	N
Main X-listings: IS07 SW (CHF)										
LYX5 GR	Lyxor J.P. Morgan Multi-Factor	46	↓	0	0.71	162	0.40	0.03	-	N
Main X-listings: LYX5 LN (GBp), LYX5 SW (CHF)										
USEF LN	MS Scientific Beta US Equity F	46		0	0.48	-	0.40	0.02	-	N
ZILS LN	BMO MSCI USA Income Leaders UC	27		0	0.18	147	0.25	1.45	-	N
LYXW LN	Lyxor J.P. Morgan Multi-Factor	25		0	0.98	-	0.40	1.46	-	N
Main X-listings: LYT3 GR (EUR), LYXW SW (CHF)										
PWC IM	Invesco Dynamic US Market UCIT	23	↑	0	0.51	-	0.75	1.15	-	N
Main X-listings: PSWC LN (GBp), PSWU LN (USD)										
PSRM LN	Invesco FTSE RAFI Emerging Mar	19		0	0.31	360	0.49	1.88	-	N
ETFSS4P GY	Deka STOXX Europe Strong Style	15		0	0.39	-	0.65	0.14	-	N
SMTU FP	Amundi USA Equity Multi Smart	14	↑	0	0.22	-	0.33	1.13	-	N
Main X-listings: SMTU GR (EUR), SMTU IM (EUR)										
FRUE LN	Franklin LibertyQ U.S. Equity	14		0	0.36	977	0.25	0.08	-	N
Main X-listings: FLXU SW (USD), FLXU LN (GBP), FLXU IM (EUR), FLXU GR (EUR)										
EUHD IM	Invesco EURO STOXX High Divide	14		0	0.23	-	0.30	0.13	-	N
Main X-listings: EUHD SW (CHF), EHDV GR (EUR), EUHD LN (GBp), HDEU LN (EUR)										
PSRU LN	Invesco FTSE RAFI UK 100 UCITS	12		0	0.22	-	0.39	0.09	-	N
EDMF GR	iShares Edge MSCI EMU Multifac	12	↑	0	0.20	75	0.40	0.17	-	N
Main X-listings: EDMF SW (EUR)										
PQVM IM	Invesco S&P 500 QVM UCITS ETF	11	↑	0	0.39	99	0.35	1.14	-	N
Main X-listings: PQVG LN (GBp), PQVM FP (EUR), PQVM LN (USD), PQVM SW (CHF), QVMP GR (EUR)										
SMRU FP	Amundi Index Eq Global Multi S	10	↓	0	0.43	-	0.40	1.14	-	N
Main X-listings: SMRU LN (USD), SMRG LN(GBp)										
PSRE LN	Invesco FTSE RAFI Europe UCITS	7	↓	0	0.21	484	0.39	1.25	-	N
Main X-listings: PEF IM (EUR), PEF SW (CHF)										
FVUE GR	Franklin LibertyQ European Equ	5		0	0.39	109	0.25	-	-	N
Main X-listings: FLEQ IM (EUR), FLEQ LN (EUR), FLEQ SW (EUR), FREQ LN (GBP)										
USMUFH SW [C]	UBS Irl ETF plc - MSCI USA Sel	5		0	1.54	-	0.40	0.17	-	N
DMFC SW [C]	iShares Edge MSCI World Multif	5	↓	0	0.57	348	0.55	4.31	-	N
XMGD LN	Xtrackers Morningstar Global Q	5		0	0.25	-	0.45	0.07	-	N
Main X-listings: XMGD GR (EUR)										
ZIEG LN [C]	BMO MSCI Europe ex-UK Income L	4	↓	0	0.18	-	0.30	0.18	-	N
ZILK LN	BMO MSCI UK Income Leaders UCI	4	↓	0	0.27	24	0.25	0.15	-	N
PFTB GR	Invesco Tradable European Low	3		0	0.11	50	0.30	0.00	-	N
ZISG LN [C]	BMO MSCI USA Income Leaders GB	2	↓	0	0.21	-	0.30	0.10	-	N
DOSH LN	Lyxor FTSE UK Quality Low Vol	2	↓	0	0.74	292	0.19	0.24	-	N
UFSD LN	iShares Edge MSCI USA Multifac	1	↓	0	0.22	152	0.35	0.04	-	N
GEF LN	MS Scientific Beta Global Equi	1	↓	0	0.75	-	0.40	0.05	-	N
IFSD LN	iShares Edge MSCI Europe Multi	1	↓	0	0.37	119	0.45	0.11	-	N
FCTR IM	WisdomTree US Multifactor UCIT	0		0	0.45	198	0.30	-	-	N
Main X-listings: FCTR LN (USD)										
USMF LN	WisdomTree US Multifactor UCIT	0		0	0.46	198	0.30	-	-	N
Main X-listings: USMF IM (EUR)										
HDCH SW [C]	Invesco S&P 500 High Dividend	0		0	0.14	50	0.35	5.07	-	N
Socially Responsible										
UIMM GY	UBS ETF-MSCI World Socially Re	844	↑	1	0.14	-	0.25	0.04	-	N
Main X-listings: WSREUA IM (EUR), UIMM NA (EUR)										
UIMP GY	UBS ETF - MSCI USA Socially Re	725		0	0.23	-	0.33	0.06	-	N
Main X-listings: ASREUA IM (EUR), UIMP NA (EUR)										
SUUS LN	iShares MSCI USA SRI UCITS ETF	648	↑	0	0.19	150	0.30	1.46	-	N
Main X-listings: SUAS SW (USD), SUAS LN (USD), QDVR GR (EUR)										
IESE LN	iShares MSCI Europe SRI UCITS	591	↑	0	0.17	-	0.30	0.11	-	N
Main X-listings: IESG LN (GBp), IESE SW (EUR)										
ECN FP	BNP Paribas Easy Low Carbon 10	587	↑	1	0.14	-	0.30	0.12	-	N
Main X-listings: LCEU SW (EUR), LCEU GR (EUR)										
UIMR GY	UBS ETF - MSCI EMU Socially Re	580		1	0.13	-	0.28	0.18	-	N
Main X-listings: ESREUA IM (EUR), UIMR NA (EUR)										
ESGE FP	Lyxor MSCI Europe ESG Leaders	575		-	0.22	-	0.20	-	-	N
MSRUSA SW	UBS ETF - MSCI Emerging Market	564	↑	0	0.38	-	0.35	0.27	-	N
Main X-listings: UC79 LN (GBp), UEF5 GR (EUR), UEF5 NA (EUR), MSRUSA IM (EUR)										
SUSE LN	iShares EUR Corp Bond SRI 0-3y	562		0	0.13	596	0.25	0.05	-	N
Main X-listings: SUSS LN (GBp), QDVL GR (EUR), SUSE SW (EUR)										
SUSW LN	iShares MSCI World SRI UCITS E	315	↑	0	0.17	-	0.30	0.05	-	N
Main X-listings: 2B7K GR (EUR), SUSW SW (EUR)										
SUES LN	iShares MSCI EM SRI UCITS ETF	293	↑	0	0.33	-	0.35	1.42	-	N
Main X-listings: SUSM SW (USD), SUSM LN (USD), QDVS GR (EUR)										
JPSR LN	UBS ETF - MSCI Japan Socially	264	↑	0	0.64	-	0.40	0.04	-	N
Main X-listings: FRCJ GR (EUR), JPSR SW (JPY), JPSR NA (EUR), JPSR IM (EUR)										
SRIE FP	BNP Paribas Easy MSCI Europe S	259	↑	0	0.15	-	0.30	0.11	-	N
Main X-listings: ZSRI GR (EUR)										
EMUSRI SW	UBS ETF - MSCI EMU Socially Re	243	↑	0	0.34	-	0.28	0.18	-	N
ECRP IM	Amundi Index Euro Agg Corporat	208	↑	0	0.11	2,200	0.16	0.08	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)	Style	Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Socially Responsible (Continued)										
UCRP IM	Amundi Index US Corp SRI UCITS	205		0.0	0.22	4,799	0.16	-	-	N
Main X-listings: UCRP FP (USD)										
SUBEEX GY	iShares Dow Jones Eurozone Sus	202	↑	0.5	0.12	-	0.41	0.28	-	N
Main X-listings: SUBEEX SW (EUR)										
UIMC GR	UBS ETF - Bloomberg Barclays M	197	↑	0.0	0.57	573	0.20	0.06	-	N
Main X-listings: CBSE NA (EUR), CBSEU IM (EUR), CBSE LN (GBp), CBSEU SW (EUR)										
EMSA NA	iShares JP Morgan ESG USD EM B	187		0.0	0.30	-	0.45	-	-	N
Main X-listings: EMSA LN (USD)										
XB4F GY	Xtrackers II ESG EUR Corporate	177	↑	0.3	0.14	1,666	0.16	0.06	-	N
Main X-listings: XB4F GY (EUR), XB4F IM (EUR), XB4F SW (CHF)										
IGSG LN	iShares Dow Jones Global Susta	176	↑	0.1	0.16	-	0.60	1.46	-	N
Main X-listings: IGSG NA (EUR), IGSU LN (USD), IGSG SW (USD)										
PSREUA IM	UBS ETF-MSCI Pacific Socially	175	↑	0.0	0.36	-	0.40	0.06	-	N
Main X-listings: UIMT GY (EUR), UIMT NA (EUR)										
EEMU FP	BNP Paribas Easy MSCI EMU ex C	175	↓	0.6	-	-	0.25	0.12	-	N
Main X-listings: EMUX GR (EUR), EEMU IM (EUR)										
INRG LN	iShares Global Clean Energy UC	162		0.1	0.21	-	0.65	1.50	-	N
Main X-listings: INRG IM (EUR)										
IQEE FP	IndexIQ Factors Sustainable Eu	156		0.0	0.11	291	0.25	0.12	-	N
Main X-listings: IQEE IM (EUR)										
TSWE NA	THINK Sustainable World UCITS	146		0.3	0.18	-	0.30	0.14	-	N
Main X-listings: TSWE GR (EUR)										
UKSR LN	UBS Irl ETF plc - MSCI United	143	↑	0.2	0.44	-	0.28	0.07	-	N
Main X-listings: UKSR SW (GBP), UKSRF SW (CHF), UKSR NA (EUR)										
MVUS FP	OSSIAM US MINIMUM VARIANCE ESG	142	↓	0.1	0.27	-	0.65	0.55	-	N
Main X-listings: LUMV LN (GBp)										
EMSR FP	BNP Paribas Easy - MSCI Emergi	141	↑	0.5	0.18	-	0.45	0.05	-	N
SPMV FP	OSSIAM US MINIMUM VARIANCE ESG	137	↑	0.1	0.25	-	0.65	1.30	-	N
EJAP FP	BNP Paribas Easy MSCI Japan ex	136		0.4	0.15	-	0.25	0.05	-	N
Main X-listings: EJAP GR (EUR)										
AWSRIS SW[C]	UBS Irl ETF plc - MSCI ACWI So	133	↑	0.5	0.28	-	0.48	0.12	-	N
AW1R GR[C]	UBS Irl ETF plc - MSCI ACWI So	130	↑	0.0	0.32	-	0.48	0.13	-	N
Main X-listings: AWSR NA (EUR), AWSRIE IM (EUR), AWSRIE SW (EUR)										
SEAC GR	UBS ETF-MSCI World Socially Re	130	↑	0.0	0.19	-	0.25	0.04	-	N
Main X-listings: WSRUS SW (USD)										
SUOE LN	iShares Euro Corp Bond SRI UCI	127		0.1	0.23	1,771	0.18	-	-	N
Main X-listings: OM3F GR (EUR)										
ISDW LN	iShares MSCI World Islamic UCI	106		0.3	0.20	512	0.60	0.05	-	N
EESM FP	BNP Paribas Easy MSCI Europe S	105	↑	0.5	0.19	-	0.25	0.02	-	N
Main X-listings: EESM GR (EUR)										
AWESGW SW[C]	UBS Irl ETF Plc - MSCI ACWI ES	101	↑	0.3	0.59	-	0.48	0.12	-	N
AWSR LN[C]	UBS Irl ETF plc - MSCI ACWI So	98	↑	0.0	0.35	-	0.48	0.14	-	N
Main X-listings: AWSRIW SW (USD)										
AWESGS SW[C]	UBS Irl ETF Plc - MSCI ACWI ES	89	↑	0.2	0.60	-	0.48	0.13	-	N
IQMU FP	IndexIQ Factors Sustainable EM	87	↑	0.0	0.12	161	0.25	0.14	-	N
Main X-listings: IQMU IM (EUR)										
EEMK FP	BNP Paribas Easy MSCI Emerging	87		0.0	0.21	1,131	0.35	1.12	-	N
Main X-listings: EMKX GR (EUR), EEMK IM (EUR)										
SUJP LN	iShares MSCI Japan SRI UCITS E	79	↑	0.1	0.27	66	0.30	0.04	-	N
Main X-listings: SXR6 GR (EUR), SUJA LN (GBp), SUJP SW (USD)										
EKUS FP	BNP Paribas Easy - MSCI KLD 40	77	↑	0.0	0.22	403	0.30	1.12	-	N
Main X-listings: EKUS GR (EUR), EKUS IM (EUR)										
XAMB GR	Amundi Index MSCI World SRI UC	76		-	1.20	403	0.18	-	-	N
Main X-listings: WSRI FP (EUR), WSRI IM (EUR)										
ISED SW	iShares MSCI Europe SRI UCITS	74		-	0.31	-	0.30	-	-	N
Main X-listings: 36B3 GR (EUR), ISED NA (EUR)										
ISDU LN	iShares MSCI USA Islamic UCITS	67	↑	0.0	0.22	-	0.50	0.05	-	N
Main X-listings: ISUS LN (GBp)										
USRI IM	Amundi Index MSCI USA SRI UCIT	65		-	0.29	150	0.18	-	-	N
Main X-listings: GNAR GR (EUR), USRI FP (EUR)										
IQEC FP	IndexIQ Factors Sustainable Co	65		0.0	0.21	-	0.30	0.11	-	N
Main X-listings: IQEC IM (EUR)										
EISR FP	BNP Paribas Easy - MSCI Emergi	61		0.1	0.27	-	0.45	1.13	-	N
Main X-listings: EISR IM (EUR), EISR GR (EUR)										
LWCR FP	Amundi Index Equity Global Low	59	↓	0.1	0.41	1,290	0.25	0.13	-	N
Main X-listings: LWCR IM (EUR)										
USSRF SW[C]	UBS ETF - MSCI USA Socially Re	58	↑	0.0	0.44	-	0.43	0.10	-	N
Main X-listings: UE33 NA (EUR), USSRF IM (EUR), UET1 GR (EUR)										
XZW0 LN	Xtrackers ESG MSCI World UCITS	58	↑	0.0	0.26	-	0.20	0.03	-	N
Main X-listings: XZW0 GR (EUR), XZW0 IM (EUR), XZW0 SW (USD)										
EPEJ IM	BNP Paribas Easy MSCI Pacific	56		0.0	0.47	-	0.25	0.06	-	N
Main X-listings: PAC GR (EUR)										
IQEG FP	IndexIQ Factors Sustainable So	56		0.0	0.11	-	0.20	0.13	-	N
Main X-listings: IQEG IM (EUR)										
IQJP IM	IndexIQ Factors Sustainable Ja	55		0.0	0.13	150	0.30	-	-	N
Main X-listings: IQJP FP (EUR)										

Ticker	ETF Name	Total Assets (€M)	Style	Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Socially Responsible (Continued)										
EJAH FP[C]	BNP Paribas Easy MSCI Japan ex	53	↓	0	0.14	-	0.25	8.02	-	N
Main X-listings: EJAH GR (EUR), EJAH IM (EUR)										
SUSJ LN[C]	iShares MSCI Japan SRI EUR Hed	52		0	0.18	-	0.35	0.11	-	N
Main X-listings: QDVN GR (EUR), SUJS LN (GBp)										
SUWS LN	iShares MSCI World SRI UCITS E	52	↑	0	0.20	-	0.30	0.05	-	N
Main X-listings: 2B7J GR (EUR), SUWS SW (USD)										
EMIS FP	BNP Paribas Easy - MSCI Emergi	52		0	0.24	-	0.45	-	-	N
AWESGE SW[C]	UBS Irl ETF Plc - MSCI ACWI ES	52	↑	0	0.56	-	0.48	0.13	-	N
GENDEE IM[C]	UBS Irl ETF plc - Global Gende	50	↑	0	0.35	-	0.30	0.12	-	N
Main X-listings: GENDEE SW (EUR)										
AWSG LN[C]	UBS Irl ETF plc - MSCI ACWI So	50	↑	0	0.36	-	0.48	0.12	-	N
Main X-listings: AWSRIH SW (GBP)										
SLMC SW	iShares MSCI Europe ESG Screen	48		-	0.29	411	0.12	-	-	N
Main X-listings: SAEU LN (GBP), SLMC GR (EUR)										
SLMA SW	iShares MSCI EMU ESG Screened	47		-	0.19	232	0.12	-	-	N
Main X-listings: SAUM LN (GBP), SLMA GR (EUR)										
3SUR GR[C]	iShares MSCI USA SRI UCITS ETF	46		0	0.48	150	0.33	-	-	N
EEUX GR	BNP Paribas Easy MSCI Europe e	42	↓	0	-	-	0.25	0.09	-	N
Main X-listings: EEUE IM (EUR)										
ISDE LN	iShares MSCI EM Islamic UCITS	41		0	0.31	286	0.85	0.10	-	N
MIVB GR	Amundi Index MSCI Europe SRI U	40		-	1.14	-	0.18	-	-	N
Main X-listings: EUSRI FP (EUR), EUSRI IM (EUR)										
ICFP IM	Invesco MSCI Europe ESG Leader	38		-	0.57	-	0.30	-	-	N
Main X-listings: ICFP GR (EUR)										
GENDES SW[C]	UBS Irl ETF plc - Global Gende	37	↑	0	0.38	-	0.30	0.12	-	N
SEMD SW	iShares MSCI EM SRI UCITS ETF	37		-	0.39	-	0.35	-	-	N
Main X-listings: 36B5 GR (EUR), SEMD NA (USD)										
ENAM FP	BNP Paribas Easy MSCI North Am	35		0	0.18	-	0.25	0.05	-	N
Main X-listings: ENOA GR (EUR), ENAM IM (EUR)										
ELFB GR	Deka Oekom Euro Nachhaltigkeit	34	↑	0	-	-	0.40	0.27	-	N
SRIL SW	iShares MSCI USA SRI UCITS ETF	34		-	0.22	150	0.30	-	-	N
Main X-listings: 36B6 GR (EUR), SRIL NA (USD)										
XZMJ LN	Xtrackers ESG MSCI Japan UCITS	31	↑	0	0.24	-	0.20	0.04	-	N
Main X-listings: XZMJ GR (EUR), XZMJ IM (EUR), XZMJ SW (USD)										
MDBUA SW	UBS ETF - Sustainable Developm	30		-	0.36	-	0.18	-	-	N
Main X-listings: MDBA GR (EUR)										
OWLU LN[A]	Ossiam World Esg Machine Learn	30		-	0.50	-	0.65	-	-	N
Main X-listings: OWLP LN (GBp), OWLU GR (USD)										
JGRE LN[A]	JPMorgan Global Research Enhan	28		0	0.19	-	0.25	-	-	N
Main X-listings: JREG GR (EUR), JREG IM (EUR), JREG LN (USD), JREG SW (USD)										
GENDEW SW[C]	UBS Irl ETF plc - Global Gende	27	↑	0	0.40	-	0.30	0.09	-	N
CLIM LN	Lyxor Green Bond DR UCITS ETF	27	↓	0	0.28	-	0.25	1.19	-	N
Main X-listings: LYXGREEN SS (SEK), CLIM FP (EUR)										
SUSU LN	iShares USD Corp Bond SRI 0-3y	25		-	0.33	916	0.15	-	-	N
Main X-listings: SNAV GR (EUR)										
UC98 LN	UBS ETF - Bloomberg Barclays M	25	↑	0	0.51	179	0.20	0.07	-	N
Main X-listings: CBSUS IM (EUR), CBSUS SW (USD), UC97 LN (USD), UE25 NA (EUR)										
5HEE GR[A]	Ossiam ESG Low Carbon Shiller	25		0	0.26	-	0.85	-	-	N
Main X-listings: 5HEE IM (EUR)										
XZMU IM	Xtrackers ESG MSCI USA UCITS E	25		0	0.10	-	0.15	-	-	N
Main X-listings: XZMU GR (EUR), XZMU LN (USD), XZMU SW (USD)										
CHSRI SW	UBS ETF CH - MSCI Switzerland	24	↑	0	0.32	35	0.28	0.31	-	N
EWRD FP	BNP Paribas Easy MSCI World ex	22	↑	0	0.16	1,625	0.25	0.08	-	N
MESG LN	Lyxor MSCI EM ESG Trend Leader	21	↑	0	0.30	-	0.30	0.03	-	N
Main X-listings: MESG IM (EUR), LESG GR (EUR)										
SAEM SW	iShares MSCI EM IMI ESG Screen	21		-	0.29	2,589	0.18	-	-	N
Main X-listings: AYEM GR (EUR), SAEM LN (USD)										
ECBI GR	UC MSCI European Green Bond EU	21		-	0.33	151	0.35	-	-	N
JPSRE IM[C]	UBS ETF - MSCI Japan Socially	19	↑	0	0.67	-	0.50	0.11	-	N
Main X-listings: JPSRE SW (EUR), U1FB GR (EUR)										
XGOSBEZI SS	Nordea SmartBeta Eurozone Equi	18		-	2.14	-	0.40	-	-	N
ELLE FP	Lyxor Global Gender Equality D	17	↓	0	0.26	-	0.20	1.13	-	N
Main X-listings: ELLE LN (USD), GEND LN (GBP)										
5HED LN[A]	Ossiam ESG Low Carbon Shiller	16		0	0.38	-	0.85	-	-	N
USSRT SW[C]	UBS ETF - MSCI USA Socially Re	14	↓	0	0.41	-	0.43	0.11	-	N
JREU GR[A]	JPMorgan US Research Enhanced	14		0	0.14	-	0.25	-	-	N
Main X-listings: JREU IM (EUR), JREU LN (USD), JREU SW (USD), JURE LN (GBp)										
USSRS SW[C]	UBS ETF - MSCI USA Socially Re	13		0	0.41	-	0.43	0.11	-	N
SMUD LN	iShares MSCI EMU ESG Screened	13		0	0.46	232	0.12	-	-	N
Main X-listings: SLMB GR (EUR), SLMB SW (EUR)										
XZEU IM	Xtrackers ESG MSCI Europe UCIT	13		0	0.24	-	0.20	-	-	N
Main X-listings: XZEU GR (EUR), XZEU LN (GBp), XZEU SW (CHF)										
JERE LN[A]	JPMorgan Europe Research Enhan	12		0	0.19	-	0.25	-	-	N
Main X-listings: JREE GR (EUR), JREE IM (EUR), JREE LN (EUR), JREE SW (EUR)										
EUSRS SW[C]	UBS ETF - MSCI EMU Socially Re	12		0	0.59	-	0.38	0.19	-	N
SGAS GR	iShares MSCI USA ESG Screened	11		0	0.23	581	0.07	-	-	N
Main X-listings: SASU LN (USD), SASU SW (USD)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Style								
Socially Responsible (Continued)										
EMES LN	iShares JP Morgan ESG USD EM B	10		0.0	0.31	-	0.45	-	-	N
Main X-listings: 36B1 GR (EUR)										
SRIJ FP	BNP Paribas Easy MSCI Japan SR	10	↑	0.1	0.24	66	0.30	1.13	-	N
Main X-listings: JSRI GR (EUR)										
JMRE LN [A]	JPMorgan Global Emerging Marke	10		-	0.32	-	0.30	-	-	N
Main X-listings: JREM GR (EUR), JREM IM (EUR), JREM LN (USD), JREM SW (USD)										
LESW GR	Lyxor MSCI World ESG Trend Lea	10		0.0	0.22	-	0.30	1.14	-	N
Main X-listings: LESW GR (EUR), WESG IM (EUR), WESG LN (USD)										
EEWD LN	iShares MSCI World ESG Enhance	9		-	0.32	1,521	0.20	-	-	N
AWSRIT SW [C]	UBS Irl ETF plc - MSCI ACWI So	9		0.1	0.45	-	0.48	0.12	-	N
SDWD SW	iShares MSCI World ESG Screene	9		-	0.37	1,524	0.20	-	-	N
Main X-listings: S6DW GR (EUR), SDWD LN (USD)										
GENDET SW [C]	UBS Irl ETF plc - Global Gende	9	↑	0.0	0.42	-	0.30	0.13	-	N
AWESGT SW [C]	UBS Irl ETF Plc - MSCI ACWI ES	8	↓	0.0	1.04	-	0.48	0.13	-	N
EUSRT SW [C]	UBS ETF - MSCI EMU Socially Re	8	↓	0.0	0.51	-	0.38	0.19	-	N
SUJD SW	iShares MSCI Japan SRI UCITS E	8		-	0.31	66	0.30	-	-	N
Main X-listings: 36B4 GR (EUR), SUJD NA (USD)										
IU0E GR [C]	iShares USD Corp Bond SRI 0-3y	8		-	0.25	916	0.17	-	-	N
AWESGJ SW [C]	UBS Irl ETF Plc - MSCI ACWI ES	8		0.0	0.95	-	0.48	0.16	-	N
UESG LN	Lyxor MSCI USA ESG Trend Leade	8	↑	0.0	0.46	-	0.25	0.06	-	N
Main X-listings: UESG IM (EUR), LESU GR (EUR)										
SODJ GR	iShares MSCI Japan ESG Screene	7		0.0	0.27	309	0.20	-	-	N
Main X-listings: SDJP LN (USD), SDJP SW (USD)										
EESG IM	Lyxor MSCI EMU ESG Trend Leade	6	↑	0.0	0.32	-	0.20	0.13	-	N
Main X-listings: EESG IM (EUR), EESG LN (GBP), LESE GR (EUR)										
SLUS GR	iShares MSCI USA ESG Screened	6		0.0	0.18	581	0.07	-	-	N
Main X-listings: SDUS LN (USD), SDUS SW (USD)										
AWESGG SW [C]	UBS Irl ETF Plc - MSCI ACWI ES	6		0.0	0.42	-	0.48	-	-	N
EMWE FP	BNP Paribas Easy MSCI World ex	6	↑	0.0	0.19	1,625	0.25	1.12	-	N
Main X-listings: EMWE GR (EUR)										
UKSRT SW [C]	UBS Irl ETF plc - MSCI United	6	↑	0.0	0.58	-	0.38	0.09	-	N
MDBU SW	UBS ETF - Sustainable Developm	6		-	0.40	-	0.18	-	-	N
Main X-listings: MDBU GR (EUR), MDBU LN (GBp)										
FRGE LN	Franklin LibertyQ Global Equit	5		0.0	0.35	231	0.40	0.17	-	N
Main X-listings: FLXG GR (EUR), FLXG SW (USD), FLXG LN (GBP), FLXG IM (EUR)										
JPSRT SW [C]	UBS ETF - MSCI Japan Socially	5	↓	0.1	0.72	-	0.50	0.11	-	N
SNAW GR	iShares MSCI World ESG Screene	5		0.0	0.19	1,524	0.20	-	-	N
Main X-listings: SAWD LN (USD), SAWD SW (USD)										
EUSRU SW [C]	UBS ETF - MSCI EMU Socially Re	5	↑	0.0	1.45	-	0.38	0.18	-	N
EEJD LN	iShares MSCI Japan ESG Enhance	5		-	0.40	308	0.20	-	-	N
SLMD SW	iShares MSCI Europe ESG Screen	4		-	0.34	411	0.12	-	-	N
Main X-listings: SDUE LN (GBP), SLMD GR (EUR)										
KLMH GR [C]	Lyxor Green Bond DR UCITS ETF	4	↑	0.0	0.30	-	0.30	0.22	-	N
SEDM SW	iShares MSCI EM IMI ESG Screen	4		-	0.29	2,589	0.18	-	-	N
Main X-listings: OM3Y GR (EUR), SEDM LN (USD)										
GENDER SW	UBS Irl ETF plc - Global Gende	3	↑	0.0	0.43	99	0.20	0.09	-	N
Main X-listings: GENE LN (GBp)										
NFSH40 SJ	New Funds Shariah Top 40 Index	3		0.0	1.63	-	0.29	-	-	N
LWCU FP	Amundi Index Equity Global Low	3		0.0	0.45	1,290	0.25	1.14	-	N
GENG LN [C]	UBS Irl ETF plc - Global Gende	3		0.0	0.95	-	0.30	-	-	N
Main X-listings: GENDEG SW (GBP)										
UKSRU SW [C]	UBS Irl ETF plc - MSCI United	3	↑	0.0	0.65	-	0.38	0.09	-	N
EEUD LN	iShares MSCI Europe ESG Enhanc	3		-	0.38	410	0.15	-	-	N
PNRJ FP	Lyxor PEA New Energy UCITS ETF	2	↓	0.0	0.27	-	0.60	0.03	-	N
EEXU FP	BNP Paribas Easy MSCI Europe e	2	↑	0.0	0.15	-	0.25	0.10	-	N
Main X-listings: EEXU GR (EUR)										
UKSRE SW [C]	UBS Irl ETF plc - MSCI United	2	↓	0.0	0.77	-	0.38	0.07	-	N
OPEN LN	iShares Thomson Reuters Inclus	2		0.0	0.24	-	0.25	-	-	N
Main X-listings: OPEN GR (EUR)										
SGAJ GR	iShares MSCI Japan ESG Screene	2		0.0	0.26	309	0.20	-	-	N
Main X-listings: SAJP LN (USD), SAJP SW (USD)										
EMUD LN	iShares MSCI EMU ESG Enhanced	2		-	0.35	231	0.15	-	-	N
EEDS LN	iShares MSCI USA ESG Enhanced	1		-	0.26	580	0.10	-	-	N
DECR GR	Amundi Index Euro Agg Corporat	1		0.0	-	2,200	0.16	0.08	-	N
ELLH GR [C]	Lyxor Global Gender Equality D	1		0.0	0.24	-	0.30	0.18	-	N
JPSRU SW [C]	UBS ETF - MSCI Japan Socially	1	↓	0.0	0.79	-	0.50	0.16	-	N
SRIC FP	BNP Paribas Easy EUR Corp Bond	0		-	0.72	-	0.20	-	-	N
SHORTSTB NO	DNB - ETN Storebrand Short	0		-	0.22	-	0.75	-	-1x	N
KSMF73 IT	KSM ETF 4A TA-Maala	-		-	-	-	-	-	-	N
KSMF10 IT	KSM ETF 4D ISE Clean Edge Wate	-		-	-	-	1.00	-	-	N
KSMFK2 IT	KSM ETF 00 Kosher Tel Bond-She	-		-	-	-	-	-	-	N
KSMFK3 IT	KSM ETF 4A Kosher TA-125	-		-	-	-	-	-	-	N
KSMCLNT IT	KSM Cleantech World CTIUS PR 4	-		-	-	-	1.02	-	-	N
KSMFK1 IT	KSM ETF 00 Kosher Tel Bond-60	-		-	-	-	-	-	-	N
PSGF50 IT	Psagot ETF 4D Wilderhill Clean	-		-	-	-	0.80	-	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Style								
Theme										
RBOT LN	iShares Automation & Robotics	1,895		1	0.13	-	0.40	0.18	-	N
Main X-listings: RBOT SW (USD), RBOT IM (EUR), 2B76 GR (EUR), RBTX LN (GBp)										
IROB GR	L&G ROBO Global Robotics and A	954		0	0.13	89	0.80	1.12	-	N
ROBO LN	L&G ROBO Global Robotics and A	924		1	0.21	89	0.80	0.29	-	N
Main X-listings: ROBE LN (EUR), ROBG LN (GBp), ROBO NA (EUR)										
ISPY LN	L&G Cyber Security UCITS ETF	820	↑	1	0.23	45	0.75	1.43	-	N
Main X-listings: USPY LN (USD), ISPY IM (EUR), ISPY NA (EUR)										
USPY GR	L&G Cyber Security UCITS ETF	796		0	0.15	45	0.75	1.17	-	N
WAT FP	Lyxor World Water UCITS ETF	630		0	0.14	-	0.60	0.02	-	N
IH2O LN	iShares Global Water UCITS ETF	597		0	0.19	50	0.65	1.46	-	N
Main X-listings: IH2O IM (EUR)										
IAUP LN	iShares Gold Producers UCITS E	572	↑	1	0.27	-	0.55	0.25	-	N
Main X-listings: SPGP LN (GBp)										
GIN LN	SPDR Morningstar Multi-Asset G	454	↑	0	0.47	-	0.40	0.24	-	N
Main X-listings: MAGI SW (CHF), ZPRI GR (EUR), MAGI LN (USD)										
DGIT LN	iShares Digitalisation UCITS E	435	↑	0	0.19	-	0.40	1.46	-	N
Main X-listings: 2B79 GR (EUR), DGTL IM (EUR), DGTL LN (USD), DGTL SW (USD)										
IPRV LN	iShares Listed Private Equity	324	↓	0	0.21	59	0.75	1.47	-	N
Main X-listings: IPRV NA (EUR), IPRV SW (USD)										
AGED LN	iShares Ageing Population UCIT	245	↑	0	0.16	-	0.40	0.16	-	N
Main X-listings: AGED SW (USD), AGED IM (EUR), 2B77 GR (EUR), AGES LN (GBp)										
XSGI IM	Xtrackers S&P Global Infrastru	220	↓	0	0.26	75	0.60	1.12	-	N
Main X-listings: XSGI LN (GBp), XGID LN (USD)										
AUCO IM	L&G Gold Mining UCITS ETF	161		0	0.36	-	0.65	1.13	-	N
Main X-listings: AUCO LN (USD), AUCP LN (GBp), AUCO SW (CHF)										
GOAI FP	Amundi STOXX Global Artificial	146		0	0.33	-	0.35	-	-	N
Main X-listings: GOAI GR (EUR), GOAI IM (EUR), GOAI NA (USD), GOAI SW (USD)										
XLPE GY	Xtrackers LPX Private Equity S	124		0	0.25	-	0.70	0.18	-	N
Main X-listings: XLPE LN (GBp)										
ROAI LN	Lyxor Robotics & AI UCITS ETF	92		0	0.28	-	0.40	-	-	N
Main X-listings: ROAI GR (EUR), ROAI IM (EUR)										
BUYB LN	Invesco Global Buyback Achieve	88	↓	0	0.41	-	0.39	0.05	-	N
Main X-listings: BUYB IM (EUR), BUYB FP (EUR), BBCK GR (EUR), SBUY LN (GBp)										
BBEU FP	AMUNDI ETF MSCI EUROPE BUYBACK	76		0	0.11	-	0.30	0.02	-	N
Main X-listings: AMEB GR (EUR), BBEU IM (EUR)										
RBOD LN	iShares Automation & Robotics	60	↑	0	0.20	-	0.40	0.18	-	N
Main X-listings: 2B7F GR (EUR), RBOD SW (USD)										
BYBE FP	Amundi S&P 500 Buyback UCITS E	51		0	0.20	100	0.15	1.13	-	N
Main X-listings: BYBE FP (EUR), B500 IM (EUR), B500 GR (EUR)										
COINETHE SS	XBT PROVIDER ETHEREUM ETN - EU	50	↑	1	0.71	-	2.50	-	-	N
FTEK LN	Invesco KBW NASDAQ Fintech UCI	49	↑	0	0.20	-	0.49	0.02	-	N
WTDB GR	WisdomTree CBOE S&P 500 PutWri	39		0	0.23	-	0.38	-	-	N
BATG LN	L&G Battery Value-Chain UCITS	38	↑	0	0.41	30	0.75	1.53	-	N
Main X-listings: BATT IM (EUR), BATT LN (USD), BATT NA (EUR)										
SYG4IR SJ	Sygnia Itrix 4th Industrial Re	38	↑	0	2.22	368	0.63	3.66	-	N
SGQE FP	Lyxor SG European Quality Inco	36		0	0.29	51	0.45	0.01	-	N
BATE GR	L&G Battery Value-Chain UCITS	35		0	0.35	30	0.75	1.20	-	N
COINETH SS	XBT PROVIDER ETHEREUM ETN - SE	24	↑	1	0.66	-	2.50	-	-	N
PVX FP	Lyxor Privex UCITS ETF	23		0	0.77	-	0.70	1.11	-	N
LOCK LN	iShares Digital Security UCITS	20		0	0.22	84	0.40	-	-	N
Main X-listings: L0CK GR (EUR), LOCK SW (USD)										
BLOK IM	First Trust Indxx Innovative T	20		0	0.70	-	0.65	-	-	N
Main X-listings: BLOK IM (EUR), BLOK LN (GBp), LEGR LN (USD)										
BCHS LN	Invesco Elwood Global Blockcha	19		-	0.44	48	0.65	-	-	N
Main X-listings: BCHN LN (USD)										
FEUD LN	First Trust Eurozone AlphaDEX	16		0	0.45	-	0.65	-	-	N
VLIQ LN [A]	Vanguard Global Liquidity Fact	14		0	0.25	-	0.22	3.60	-	N
Main X-listings: VLIQ IM (EUR), VDLQ LN (USD)										
XAIX SW	Xtrackers Artificial Intellige	14		-	0.30	94	0.35	-	-	N
Main X-listings: XAIX GR (EUR)										
GLDU NA	Lyxor MSCI ACWI Gold UCITS ETF	11		0	0.49	-	0.50	0.03	-	N
Main X-listings: GLDU SW (USD)										
PEAP FP	Lyxor PEA PME DR UCITS ETF	10		0	0.36	40	0.50	0.14	-	N
WTAI LN	WisdomTree Artificial Intellig	10		-	0.97	52	0.40	-	-	N
Main X-listings: INTL LN (GBp), WTAI IM (EUR)										
SKYU LN	First Trust Cloud Computing UC	9		-	0.64	28	0.60	-	-	N
Main X-listings: FSKY LN (GBp), SKYE NA (EUR)										
ES5R GR [A]	Europe SectorTrend UCITS ETF -	9	↓	0	0.15	-	0.95	4.48	-	N
IEVD GR	iShares Electric Vehicles & Dr	7		-	0.19	-	0.40	-	-	N
Main X-listings: ECAR LN (USD)										
WTI2 GR	WisdomTree Artificial Intellig	6		-	0.53	52	0.40	-	-	N
SHLD SW	iShares Digital Security UCITS	6		-	0.34	84	0.40	-	-	N
Main X-listings: IS4S GR (EUR), SHLD LN (USD)										
AWAT FP	Lyxor PEA World Water UCITS ET	5		0	0.24	-	0.60	0.03	-	N
BYBU FP	Amundi S&P 500 Buyback UCITS E	3	↓	0	0.20	100	0.15	0.01	-	N
Main X-listings: BYBG LN (GBp), BYBU LN (USD), BYBU FP (USD)										
ETLH GR	L&G Ecommerce Logistics UCITS	3		0	0.25	34	0.75	1.14	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Theme (Continued)										
ECOM IM	L&G Ecommerce Logistics UCITS	3	↑	0.0	0.27	34	0.75	1.14	-	N
Main X-listings: ECOM LN (USD), ECOM NA (EUR)										
EZEX GR	Invesco STOXX Eurozone Exporte	3	↓	0.0	0.18	150	0.35	0.00	-	N
EMQQ LN	EMQQ Emerging Markets Internet	3		0.0	0.47	58	0.86	-	-	N
Main X-listings: EMQP LN (GBp), EMQQ IM (EUR)										
XMOV SW	Xtrackers Future Mobility UCIT	2		-	0.29	79	0.35	-	-	N
Main X-listings: XMOV GR (EUR)										
SKYY LN	HAN-GINS Cloud Technology UCIT	2		0.0	0.29	51	0.75	-	-	N
Main X-listings: SKYP LN (GBp), SKYY IM (EUR)										
ITEP LN	HAN-GINS Innovative Technologi	2		0.0	0.39	86	0.75	-	-	N
Main X-listings: ITEK IM (EUR), ITEK LN (USD)										
5XYE GR	HAN-GINS Cloud Technology UCIT	2		0.0	0.26	51	0.75	-	-	N
T3KE GR	HAN-GINS Innovative Technologi	2		0.0	0.36	86	0.75	-	-	N
EMQQ GR	EMQQ Emerging Markets Internet	2		0.0	0.44	58	0.86	-	-	N
HAP IM	VanEck Vectors Natural Resourc	2		0.0	0.43	-	0.50	-	-	N
Main X-listings: HAP LN (USD), HAP1 GR (EUR), HAGB LN (GBP), HAAP SW (CHF)										
PUTW LN	WisdomTree CBOE S&P 500 PutWri	1		0.0	1.89	-	0.38	-	-	N
Main X-listings: PUTW IM (EUR), PUTS LN (GBp)										
HRCY204 IT	HAREL SYBER 204	-		-	-	-	-	-	-	N
KSMF123 IT	KSM ETF 4D NASDAQ US BuyBack A	-		-	-	-	0.75	-	-	N
TCUSBYB IT	Tachlit US BuyBack ILS 40a	-		-	-	-	0.67	-	-	N
Main X-listings: TCUSBYB IT (ILs)										
KSMF120 IT[C]	KSM ETF 4A NASDAQ US BuyBack A	-		-	0.63	-	1.98	-	-	N
PSGF69 IT	Psagot ETF 4D NASDAQ US BuyBac	-		-	-	-	0.80	-	-	N
KSMF109 IT	KSM ETF 4D S&P Homebuilders	-		-	-	-	0.80	-	-	N
Alpha										
FFA SJ	Fortress REIT Ltd	1,422		3.1	0.27	-	-	-	-	N
FFB SJ	Fortress REIT Ltd	735		1.9	0.34	-	-	-	-	N
XQUI GY	Xtrackers Portfolio UCITS ETF	376		0.4	0.31	-	0.70	0.04	-	N
Main X-listings: XQUI SW (CHF), XQUI IM (EUR)										
INVOPTP DC	Investeringsforeningen Investi	145		0.2	0.55	-	-	6.06	-	N
ZWEU LN[A]	BMO Enhanced Income Euro Equit	80	↑	0.0	0.26	50	0.30	1.98	-	N
Main X-listings: ZWEE LN (EUR)										
JPMF IM[A]	JPMorgan Managed Futures UCITS	59		0.0	0.28	2	0.57	4.38	-	N
Main X-listings: JPGM GR (EUR), JPFM LN (GBp), JPMF LN (USD)										
F750 GR[A]	ComStage Alpha Dividende Plus	57		0.0	0.15	-	0.68	-	-	N
OSXM GR	OSSIAM GLOBAL MULTI-ASSET RISK	47	↓	0.0	0.51	-	0.55	0.12	-	N
ZWUK LN[A]	BMO Enhanced Income UK Equity	37	↑	0.0	0.30	101	0.30	1.66	-	N
XS7W IM	Xtrackers Portfolio Income UCI	36	↑	0.1	0.41	-	0.65	-	-	N
Main X-listings: XS7W GY (EUR), XS7W SW (CHF), XS7WEUR SW (EUR)										
HFEUAS SW[C]	UBS ETFs plc - HFRX Global Hed	30		0.0	-	-	0.32	0.00	-	N
NTM NA	Think Total Market UCITS ETF N	20		0.1	0.67	-	0.30	0.23	-	N
JELS IM[A]	JPMorgan Equity Long-Short UCI	15		0.0	0.17	2	0.67	4.70	-	N
Main X-listings: JELS LN (USD), JLES LN (GBp), JPQE GR (EUR), JELS SW (USD)										
HFCHAS SW[C]	UBS ETFs plc - HFRX Global Hed	13	↑	0.0	-	-	0.32	0.00	-	N
Main X-listings: HFGBAS SW (GBp), HFEUAS SW (EUR), HFUSAS SW (USD)										
TOF NA	Think Total Market UCITS ETF O	12		0.0	0.39	-	0.32	0.23	-	N
DTM NA	Think Total Market UCITS ETF D	9		0.0	0.46	-	0.28	0.23	-	N
JLSP LN[A C]	JPMorgan Equity Long-Short UCI	3		0.0	0.20	2	0.67	-	-	N
Main X-listings: JLSP SW (GBP)										
JLSE IM[A C]	JPMorgan Equity Long-Short UCI	3		0.0	0.27	2	0.67	-	-	N
Main X-listings: JLEE GR (EUR), JLSE LN (EUR), JLSE SW (EUR)										
JMFP LN[A C]	JPMorgan Managed Futures UCITS	2		0.0	0.30	2	0.57	-	-	N
Main X-listings: JMFP SW (GBP)										
JMFE IM[A C]	JPMorgan Managed Futures UCITS	2		0.0	0.24	2	0.57	-	-	N
Main X-listings: JMFE GR (EUR), JMFE LN (EUR), JMFE SW (EUR)										
FGBL LN	First Trust Global Equity Inco	1	↑	0.0	0.79	-	0.60	0.42	-	N
Main X-listings: FGBL FP (EUR)										
MFLS IM[C]	Lyxor Scientific Beta Develope	0	↓	0.0	0.27	-	0.55	0.01	-	N
Main X-listings: MFLS FP (EUR), GLMN GR (EUR)										
MFLS LN	Lyxor Scientific Beta Develope	0	↓	0.0	0.26	-	0.55	0.01	-	N
Main X-listings: MFLS SW (USD)										
KSMF118 IT	KSM ETF 4D Morningstar Wide Mo	-		-	-	-	0.50	-	-	N
	Sector									
Communication Services										
SXKPEX GY	iShares STOXX Europe 600 Telec	675	↑	2.4	-	19	0.46	0.30	-	N
Main X-listings: SXKPEX SW (EUR)										
XWTS LN	Xtrackers MSCI World Communica	91	↑	0.2	0.35	103	0.30	0.19	-	N
Main X-listings: XWTS IM (EUR), XWTS GR (EUR)										
TEL FP	Lyxor STOXX Europe 600 Telecom	70		0.3	-	19	0.30	0.12	-	N
TELEW EU	Lyxor MSCI World Communication	43		0.1	0.41	103	0.30	-	-	N
Main X-listings: TELW LN (USD), TELG LN (GBp)										
XKPS GY	Invesco STOXX Europe 600 Optim	33	↑	0.1	0.26	17	0.30	0.00	-	L
SXMPEX GY	iShares STOXX Europe 600 Media	32	↑	0.5	0.15	21	0.46	0.22	-	N
Main X-listings: SXMPEX SW (EUR)										

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	Sector									
Communication Services (Continued)										
CT5 FP	Amundi ETF MSCI Europe Communi	25		0	0.13	35	0.25	0.16	-	N
Main X-listings: CT5 LN (GBp)										
STT FP	SPDR MSCI Europe Communication	18	↑	0	0.28	35	0.30	0.23	-	N
Main X-listings: STTX SW (CHF), SPYT GY (EUR), TELE LN (EUR)										
WTEL LN	SPDR MSCI World Communications	13	↑	0	0.30	103	0.30	0.21	-	N
Main X-listings: WTEL NA (EUR), WTEL SW (USD)										
TELW LN	Lyxor MSCI World Communication	10	↓	0	0.43	103	0.30	0.03	-	N
Main X-listings: TELG LN (GBp)										
SXKEEX GY	iShares EURO STOXX Telecommuni	8		0	0.13	-	0.51	-	-	N
Main X-listings: SXKEEX SW (EUR)										
MDA FP	Lyxor STOXX Europe 600 Media U	6		0	0.16	21	0.30	0.13	-	N
CBSXKR GY	ComStage ETF STOXX Europe 600	5	↓	0	0.36	19	0.25	0.43	-	N
Main X-listings: CBTELE SW (CHF)										
CBSXMR GY	ComStage ETF STOXX Europe 600	4	↓	0	0.46	21	0.25	0.23	-	N
Main X-listings: CBTV SW (CHF)										
2FB LN	Leverage Shares 2x Facebook ET	0	↑	0	0.45	-	0.75	-	+2x	N
Main X-listings: FB2 LN (USD)										
2GOO LN	Leverage Shares 2x Alphabet ET	0	↑	0	0.52	-	0.75	-	+2x	N
Main X-listings: GOO2 LN (USD)										
BULLOPER NO	DNB - ETN Otello Bull	0		-	-	-	0.75	-	+2x	N
BULLSCHA NO	DNB - ETN Bull Schibsted	0		-	0.58	-	0.75	-	+2x	N
SHORTTEL NO	DNB - ETN Telenor Short	0		-	0.17	-	0.75	-	-1x	N
BEARSCHA NO	DNB - ETN Bear Schibsted	0	↓	0	1.82	-	0.75	-	-2x	N
Consumer Discretionary										
SXAPEX GY	iShares STOXX Europe 600 Autom	337	↑	3	-	16	0.46	0.15	-	N
Main X-listings: SXAPEX SW (EUR)										
SXPPEX GY	iShares STOXX Europe 600 Basic	228	↓	2	-	19	0.46	0.22	-	N
Main X-listings: SXPPEX SW (EUR)										
SXLC LN	SPDR S&P U.S. Communication Se	135		0	0.22	-	0.15	-	-	N
Main X-listings: GXLC LN (GBP), SXLC IM (EUR), SXLC NA (EUR), SXLC SW (USD), ZPDK GR (EUR)										
XDWC LN	Xtrackers MSCI World Consumer	135	↓	0	0.27	211	0.30	0.06	-	N
Main X-listings: XDWC SW (CHF), XDWC GR (EUR), XDWC IM (EUR)										
STR FP	SPDR MSCI Europe Consumer Disc	133	↓	1	0.13	54	0.30	0.15	-	N
Main X-listings: STRX SW (CHF), CDIS LN (EUR)										
SXQPEX GY	iShares STOXX Europe 600 Perso	119	↑	1	0.11	34	0.46	0.13	-	N
Main X-listings: SXQPEX SW (EUR)										
XLYS LN	Invesco Consumer Discretionary	115		0	0.35	85	0.14	0.03	-	N
Main X-listings: XLYS IM (EUR), XLYP LN (GBp)										
SXLY LN	SPDR S&P U.S. Consumer Discret	75		0	0.28	-	0.15	0.16	-	N
Main X-listings: SXLY NA (EUR), ZPDD GR (EUR), SXLY SW (USD), SXLY IM (EUR)										
ICDU LN	iShares S&P 500 Consumer Discr	72	↑	0	0.20	-	0.15	1.46	-	N
Main X-listings: IUCD LN (USD), QDVK GR (EUR), IUCD SW (USD)										
GLUX FP	Amundi S&P Global Luxury UCITS	56	↓	0	0.37	78	0.25	1.13	-	N
Main X-listings: GLUX SW (EUR)										
IUCM SW	iShares S&P 500 Communication	43		-	0.38	-	0.15	-	-	N
Main X-listings: IU5C GR (EUR), IUCM LN (USD)										
AUT FP	Lyxor STOXX Europe 600 Automob	43		1	0.12	16	0.30	0.16	-	N
DISW IM	Lyxor MSCI World Consumer Disc	36		0	0.47	211	0.30	1.13	-	N
Main X-listings: DISW LN (USD), DISG LN (GBp)										
XLCP LN	Invesco Communications S&P US	28		0	0.28	26	0.14	-	-	N
Main X-listings: XLCS IM (EUR), XLCS LN (USD), XLCS SW (USD)										
WCOD LN	SPDR MSCI World Consumer Discr	25		0	0.30	211	0.30	0.09	-	N
Main X-listings: WCOD NA (EUR), WCOD SW (USD)										
CBSXAR GY	ComStage ETF STOXX Europe 600	23		0	0.30	16	0.25	0.34	-	N
Main X-listings: CBAUTO SW (CHF)										
SXTPEX GY	iShares STOXX Europe 600 Trave	22		0	0.17	20	0.46	0.17	-	N
Main X-listings: SXTPEX SW (EUR)										
XAPS GY	Invesco STOXX Europe 600 Optim	20	↑	0	0.15	15	0.30	0.00	-	L
PHG FP	Lyxor STOXX Europe 600 Persona	19	↓	0	0.11	34	0.30	0.09	-	N
CBSXQR GY	ComStage ETF STOXX Europe 600	17		0	0.34	34	0.25	0.58	-	N
Main X-listings: CBPERS SW (CHF)										
CD6 FP	Amundi ETF MSCI Europe Consume	13	↓	0	0.14	54	0.25	0.03	-	N
Main X-listings: CD6 LN (GBp)										
TRV FP	Lyxor STOXX Europe 600 Travel	11	↓	0	0.19	20	0.30	0.09	-	N
XTPS GY	Invesco STOXX Europe 600 Optim	11	↑	0	0.23	19	0.30	0.00	-	N
XQPS GY	Invesco STOXX Europe 600 Optim	9	↓	0	0.18	32	0.30	0.00	-	N
XSKR LN	Xtrackers Stoxx Europe 600 Tel	8		0	0.18	19	0.30	1.18	-	N
Main X-listings: XSKR IM (EUR)										
XUCD LN	Xtrackers MSCI USA Consumer Dc	7		0	0.32	79	0.12	0.09	-	N
Main X-listings: XSCD LN (GBp), XUCD GR (EUR), XUCD SW (USD)										
CBSXTR GY	ComStage ETF STOXX Europe 600	7		0	0.42	20	0.25	0.46	-	N
Main X-listings: CBTRAV SW (CHF)										
DISW LN	Lyxor MSCI World Consumer Disc	6	↓	0	0.48	211	0.30	0.01	-	N
Main X-listings: DISG LN (GBp)										
XMPS GY	Invesco STOXX Europe 600 Optim	6		0	0.20	18	0.30	0.00	-	N
LUXU FP	Amundi S&P Global Luxury UCITS	2	↓	0	0.41	78	0.25	0.01	-	N
Main X-listings: LUXU SW (USD), LUXU LN(USD), LUXU LN(GBp), LUXG LN (GBp)										

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	Sector									
Consumer Discretionary (Continued)										
2AMZ LN	Leverage Shares 2x Amazon ETP	1	↑	0.0	0.29	-	0.75	-	+2x	N
Main X-listings: AMZ2 LN (USD)										
2NFL LN	Leverage Shares 2x Netflix ETP	1		0.0	0.41	-	0.75	-	+2x	N
Main X-listings: NFL2 LN (USD)										
PSGT281 IT	Psagot Sal S&P Select Sector C	-		-	-	-	0.70	-	-	N
3297B FP	EasyETN World Luxury ETN	-		0.0	-	-	-	-	-	N
PSGF81 IT	Psagot ETF 4D S&P Consumer Dis	-		-	-	-	0.70	-	-	N
HRIX200 IT	HAREL IXYNTR200	-		-	-	-	-	-	-	N
TCSX125 IT	Tachlit STOXX Europe 600 Autom	-		-	-	-	0.27	-	-	N
KSMF134 IT	KSM ETF 4D S&P Consumer Discre	-		-	-	-	-	-	-	N
KSMF131 IT	KSM ETF 4D STOXX Europe 600 Au	-		-	-	-	0.80	-	-	N
Consumer Staples										
STS FP	SPDR MSCI Europe Consumer Stap	388	↑	0.7	0.20	40	0.30	0.10	-	N
Main X-listings: STSX SW (CHF), CSTP LN (EUR)										
SX3PEX GY	iShares STOXX Europe 600 Food	261		1.5	-	24	0.46	0.20	-	N
Main X-listings: SX3PEX SW (EUR)										
XDWS LN	Xtrackers MSCI World Consumer	229	↑	0.1	0.31	120	0.30	0.05	-	N
Main X-listings: XDWS SW (CHF), XDWS GR (EUR), XDWS IM (EUR)										
SXLP LN	SPDR S&P U.S. Consumer Staples	154	↑	0.4	0.26	-	0.15	0.07	-	N
Main X-listings: SXLP NA (EUR), ZPDS GR (EUR), SXLP SW (USD), SXLP IM (EUR)										
FOO IM	Lyxor STOXX Europe 600 Food &	107	↓	0.1	-	24	0.30	0.14	-	N
XS3R GY	Xtrackers Stoxx Europe 600 Foo	81	↑	0.0	0.13	24	0.30	0.01	-	N
Main X-listings: XS3R LN (GBp)										
CS5 FP	Amundi ETF MSCI Europe Consume	67	↑	0.2	0.14	40	0.25	0.02	-	N
Main X-listings: CS5 LN (GBp)										
CBSX3R GY	ComStage ETF STOXX Europe 600	51		0.1	0.44	24	0.25	0.21	-	N
Main X-listings: CBFOOD SW (CHF)										
IUCS LN	iShares S&P 500 Consumer Stapl	50	↑	0.1	0.22	-	0.15	0.07	-	N
Main X-listings: ICSU LN (GBp), 2B7D GR (EUR), IUCS SW (USD)										
XLPS LN	Invesco Consumer Staples S&P U	50	↑	0.3	0.30	33	0.14	0.06	-	N
Main X-listings: XLPP LN (GBp), XLPS IM (EUR)										
SXRPEX GY	iShares STOXX Europe 600 Retai	42	↑	0.4	0.13	27	0.46	0.57	-	N
Main X-listings: SXRPEX SW (EUR)										
STAW EU	Lyxor MSCI World Consumer Stap	42		0.1	0.47	120	0.30	-	-	N
Main X-listings: STAG LN (GBp)										
STAW1 EU	Lyxor MSCI World Consumer Stap	42		0.2	0.40	120	0.30	-	-	N
Main X-listings: COSW FP (EUR)										
WCOS NA	SPDR MSCI World Consumer Stapl	37	↑	0.1	0.33	120	0.30	0.10	-	N
Main X-listings: WCOS SW (USD), WCOS LN (USD)										
XUCS LN	Xtrackers MSCI USA Consumer St	22	↑	0.0	0.32	35	0.12	0.07	-	N
Main X-listings: XSCS LN (GBp), XUCS GR (EUR), XUCS SW (USD)										
CEMG LN	iShares MSCI EM Consumer Grow t	16		0.0	0.37	-	0.60	0.10	-	N
Main X-listings: CEMG SW (USD), CEMG GR (EUR)										
X3PS GY	Invesco STOXX Europe 600 Optim	14	↓	0.1	0.23	23	0.30	0.00	-	N
XRPS GY	Invesco STOXX Europe 600 Optim	10	↑	0.1	0.25	24	0.30	0.00	-	N
RTA FP	Lyxor STOXX Europe 600 Retail	8	↓	0.0	0.15	27	0.30	0.09	-	N
CBSXRR GY	ComStage ETF STOXX Europe 600	3		0.0	0.42	27	0.25	0.52	-	N
Main X-listings: CBRETA SW (CHF)										
SEAFOOD NO	DNB - ETN Seafood	2	↑	0.0	0.15	9	0.60	0.01	-	N
BULLSEA3 NO	DNB - ETN Seafood X3 Bull	0	↑	0.0	0.45	9	0.60	-	+3x	N
BULLMHG3 NO	DNB - BULL MHG X3 DNM	0		0.0	0.51	-	0.75	-	+3x	N
BEARSEA3 NO	DNB - ETN Seafood X3 Bear	0	↑	0.0	1.45	9	0.60	-	-3x	N
BEARMHG3 NO	DNB - BEAR MHG X3 DNM	0	↓	0.0	1.96	-	0.75	-	-3x	N
SHORSEAF NO	DNB - ETN Seafood Short	0	↑	0.0	0.23	9	0.60	-	-1x	N
SHORTMHG NO	DNB - ETN Marine Harvest Short	0		0.0	0.24	-	0.75	-	-1x	N
HNTR102 IT	Harel SPNTR 102	-		-	-	-	-	-	-	N
KSMF159 IT	KSM ETF 4D S&P Consumer Staple	-		-	-	-	-	-	-	N
PSGF70 IT	Psagot ETF 4D S&P Retail	-		-	-	-	0.80	-	-	N
PSGF79 IT	Psagot ETF 4D S&P Consumer Sta	-		-	-	-	0.70	-	-	N
KSMF98 IT	KSM ETF 4A DJ Israel Consumer	-		-	-	-	0.60	-	-	N
PSGT295 IT	Psagot Sal Consumer Staples US	-		-	-	-	0.70	-	-	N
TCHF57 IT	Tachlit SAL 4D S&P Consumer St	-		-	-	-	-	-	-	N
Energy										
SXEPEX GY	iShares STOXX Europe 600 Oil &	573	↓	2.2	-	23	0.46	0.23	-	N
Main X-listings: SXEPEX SW (EUR)										
OIL FP	Lyxor STOXX Europe 600 Oil & G	413		1.0	-	23	0.30	0.17	-	N
SMLD GR	Invesco Markets plc - Invesco	330		0.0	0.15	25	0.50	0.04	-	N
MLPD LN	Invesco Markets plc - Invesco	307	↓	0.4	0.21	25	0.50	0.04	-	N
Main X-listings: MLPD IM (EUR)										
STN FP	SPDR MSCI Europe Energy UCITS	307	↑	0.2	0.27	-	0.30	0.17	-	N
Main X-listings: STNX SW (CHF), ENGY LN (EUR)										
WNRG LN	SPDR MSCI World Energy UCITS E	284		0.3	0.22	-	0.30	0.08	-	N
Main X-listings: WNRG IM (EUR), WNRG NA (EUR), WNRG SW (USD)										
XDW0 LN	Xtrackers MSCI World Energy UC	239	↓	0.4	0.23	78	0.30	0.08	-	N
Main X-listings: XDW0 IM (EUR), XDW0 GR (EUR), XDW0 SW (CHF)										
MLPS LN	Invesco Markets plc - Invesco	174	↑	0.2	0.20	25	0.50	0.00	-	N
Main X-listings: MLPS IM (EUR)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector									
Energy (Continued)										
IESU LN	iShares S&P 500 Energy Sector	166		0	0.22	-	0.15	1.45	-	N
Main X-listings: IUES LN (USD), QDVF GR (EUR), IUES SW (USD)										
XLES LN	Invesco Energy S&P US Select S	150	↓	0	0.28	43	0.14	0.09	-	N
Main X-listings: XLEP LN (GBp), XLES IM (EUR)										
SXLE NA	SPDR S&P U.S. Energy Select Se	146		0	0.22	-	0.15	-	-	N
Main X-listings: ZPDE GR (EUR), SXLE LN (USD), SXLE SW (USD), SXLE IM (EUR)										
SMLP GR	Invesco Markets plc - Invesco	115		0	0.16	25	0.50	0.00	-	N
IOGP LN	iShares Oil & Gas Exploration	108	↓	1	0.29	-	0.55	0.05	-	N
Main X-listings: SPOG LN (GBp)										
NRJ FP	Lyxor New Energy UCITS ETF	101	↑	0	0.44	-	0.60	0.03	-	N
NRGW EU	Lyxor MSCI World Energy TR UCI	93		0	0.48	78	0.30	-	-	N
Main X-listings: NRGG LN (GBp)										
CWE FP	Amundi MSCI World Energy UCITS	79	↓	0	0.36	78	0.35	1.12	-	N
Main X-listings: CWEE SW (EUR), CWEUSD SW (USD)										
ENERW IM	Lyxor MSCI World Energy TR UCI	51	↓	0	0.37	78	0.30	1.12	-	N
XSER LN	Xtrackers Stoxx Europe 600 Oil	40		0	0.18	23	0.30	1.17	-	N
Main X-listings: XSER IM (EUR)										
CBSXER GY	ComStage ETF STOXX Europe 600	32		0	0.33	23	0.25	0.45	-	N
Main X-listings: CBOIL SW (CHF)										
MLPI LN	L&G US Energy Infrastructure M	25		0	0.36	25	0.25	0.05	-	N
Main X-listings: MLPI IM (EUR), MLPX LN (GBp), MLPI SW (CHF)										
SYE FP	BNP Paribas Easy Stoxx Europe	24	↓	0	0.27	23	0.30	0.16	-	N
XMLP GR	L&G US Energy Infrastructure M	23		0	0.25	25	0.25	3.85	-	N
BULLELH SS	BULL EL H	19	↓	0	1.92	-	-	-	+2x	N
XEPS GY	Invesco STOXX Europe 600 Optim	19	↓	0	0.16	23	0.30	0.00	-	N
ANRJ FP	Amundi ETF MSCI Europe Energy	19	↓	0	0.20	-	0.25	0.11	-	N
Main X-listings: ANRJ LN (GBp)										
XUEN LN	Xtrackers MSCI USA Energy UCIT	7	↑	0	0.31	34	0.12	0.12	-	N
Main X-listings: XSEN LN (GBp), XUEN GR (EUR), XUEN SW (USD)										
CWEUSD SW	Amundi MSCI World Energy UCITS	3	↓	0	0.55	78	0.35	0.04	-	N
Main X-listings: CWEG LN (GBp), CWEU LN (USD)										
BULLDNO NO	DNB - ETN Bull DNO	1		0	0.57	-	0.75	-	+2x	N
BULLNHY3 NO	DNB - ETN Bull NHY X3	0	↑	0	0.45	-	0.75	-	+3x	N
SNRG LN	ETFS 1X Daily Short Energy	0		0	1.93	7	0.98	-	-1x	N
BULLAKBP NO	DNB - ETN BULL AKERBP	0	↓	0	0.36	-	0.75	-	+2x	N
BEARNHY3 NO	DNB - ETN Bear NHY X3	0		0	0.56	-	0.75	-	-3x	N
SHORTNHY NO	DNB - ETN Norsk Hydro Short	0		-	0.19	-	0.75	-	-1x	N
BEARAKBP NO	DNB - ETN BEAR AKERBP	0	↑	0	1.05	-	0.75	-	-2x	N
SHORTEQN NO	DNB - ETN Equinor Short	0		0	0.19	-	0.75	-	-1x	N
BULLFOE NO	DNB - ETN Bull Foe	0		0	-	-	0.75	-	+2x	N
BEARDNO NO	DNB - ETN Bear DNO	0	↓	-	-	-	0.75	-	-2x	N
KSMF103 IT	KSM ETF 4A TA-Oil&Gas	-		-	-	-	0.60	-	-	N
SHOOBOSX NO	DNB - ETN Oil Service Short	-		-	0.21	5	0.60	-	-1x	N
PSGF45 IT	Psagot ETF 4A TA-Oil & Gas	-		-	-	-	0.50	-	-	N
TCHF65 IT	Tachlit SAL 4D S&P Energy	-		-	-	-	-	-	-	N
KSMF12 IT	KSM ETF 4D S&P Energy	-		-	-	-	0.80	-	-	N
PSGF73 IT	Psagot ETF 4D S&P Energy	-		-	-	-	0.80	-	-	N
Financials										
SX7EEX GY	iShares EURO STOXX Banks 30-15	1,322	↓	7	-	26	0.51	0.47	-	L
Main X-listings: SX7EEX SW (EUR)										
UIFS LN	iShares S&P 500 Financials Sec	800	↓	0	0.16	-	0.15	1.46	-	N
Main X-listings: IUFS LN (USD), QDVH GR (EUR), IUFS SW (USD)										
STZ FP	SPDR MSCI Europe Financials UC	753	↓	2	0.10	80	0.30	0.18	-	N
Main X-listings: STZX SW (CHF), FNCL LN (EUR)										
SX7PEX GY	iShares STOXX Europe 600 Banks	503	↓	3	-	47	0.46	0.29	-	N
Main X-listings: SX7PEX SW (EUR)										
BNK FP	Lyxor STOXX Europe 600 Banks U	487	↓	2	-	47	0.30	0.14	-	N
BNKE FP	Lyxor EURO STOXX Banks DR UCIT	468	↓	4	0.11	26	0.30	0.38	-	N
Main X-listings: BNKE LD (GBp), BNKE IM (EUR)										
XLFS LN	Invesco Financials S&P US Sele	343	↓	1	0.26	67	0.14	0.04	-	N
Main X-listings: XLFS IM (EUR)										
XDWF LN	Xtrackers MSCI World Financial	232	↓	0	0.32	246	0.30	0.05	-	N
Main X-listings: XDWF IM (EUR), XDWF GR (EUR), XDWF SW (CHF)										
S7XE GY	Invesco EURO STOXX Optimised B	223	↓	1	0.15	-	0.30	0.00	-	N
Main X-listings: S7XE SW (EUR), S7XP LN (GBp)										
SXLF LN	SPDR S&P U.S. Financials Selec	186	↓	1	0.21	-	0.15	0.07	-	N
Main X-listings: SXLF NA (EUR), ZPDF GR (EUR), SXLF SW (USD), SXLF IM (EUR)										
SXIPEX GY	iShares STOXX Europe 600 Insur	172	↓	1	-	34	0.46	0.24	-	N
Main X-listings: SXIPEX SW (EUR)										
WFIN LN	SPDR MSCI World Financials UCI	165	↓	0	0.21	246	0.30	0.08	-	N
Main X-listings: WFIN IM (EUR), WFIN NA (EUR), WFIN SW (USD)										
CB5 FP	Amundi ETF MSCI Europe Banks U	123	↓	1	0.12	-	0.25	0.16	-	N
Main X-listings: CB5 LN (GBp)										
INS FP	Lyxor STOXX Europe 600 Insuran	95		0	-	34	0.30	0.20	-	N
X7PS GY	Invesco STOXX Europe 600 Optim	80		0	0.12	42	0.30	0.00	-	L
Main X-listings: X7PS IM (EUR), X7PS SW (EUR), X7PP LN (GBp)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector									
Financials (Continued)										
XS7R LN	Xtrackers Stoxx Europe 600 Ban	77	↓	0.2	0.11	47	0.30	1.18	-	N
Main X-listings: XS7R IM (EUR), XS7R SS (SEK)										
SYB FP	BNP Paribas Easy Stoxx Europe	73	↓	0.2	0.24	47	0.30	0.09	-	N
CWF FP	Amundi Msci World Financials U	53		0.0	0.42	246	0.35	1.13	-	N
Main X-listings: CWFE SW (EUR), CWFUSD SW (USD)										
STXFIN SJ	Satrix FINI	50		0.2	0.44	16	0.41	-	-	N
XUFN LN	Xtrackers MSCI USA Financials	35	↓	0.1	0.27	89	0.12	0.06	-	N
Main X-listings: XSFN LN (GBp), XUFN GR (EUR), XUFN SW (USD)										
FINSW IM	Lyxor MSCI World Financials TR	34		0.0	0.48	246	0.30	1.13	-	N
Main X-listings: FINW LN (USD), FING LN (GBp)										
SXFPEX GY	iShares STOXX Europe 600 Finan	27	↓	0.2	0.16	28	0.46	0.19	-	N
Main X-listings: SXFPEX SW (EUR)										
3BAL IM	Boost EURO STOXX Banks 3x Leve	24	↑	0.9	0.52	-	0.89	-	+3x	N
Main X-listings: 0LJI GR (EUR), 3BAL LN (GBp)										
FINS IM	Lyxor STOXX Europe 600 Financi	18	↓	0.0	0.15	28	0.30	0.10	-	N
FINW LN	Lyxor MSCI World Financials TR	15		0.0	0.43	246	0.30	0.03	-	N
Main X-listings: FING LN (GBp)										
CBSXIR GY	ComStage ETF STOXX Europe 600	15	↓	0.0	0.46	34	0.25	0.31	-	N
Main X-listings: CBINS SW (CHF)										
CBSX7R GY	ComStage ETF STOXX Europe 600	11	↓	0.0	0.33	47	0.25	0.60	-	N
Main X-listings: CBBANK SW (CHF)										
ITBL LN	BOOST FTSE MIB BANKS ETP	9	↑	0.0	0.37	7	0.35	0.47	-	N
Main X-listings: ITBL IM (EUR)										
XIPS GY	Invesco STOXX Europe 600 Optim	8		0.0	0.20	33	0.30	0.00	-	L
CWFU LN	Amundi Msci World Financials U	8	↓	0.0	0.58	246	0.35	0.01	-	N
Main X-listings: CWFUSD SW (USD), CWFG LN (GBp)										
CBSXFR GY	ComStage ETF STOXX Europe 600	7	↓	0.0	0.39	28	0.25	0.32	-	N
Main X-listings: CBFIN SW (CHF)										
BNKU IM	Lyxor S&P 500 Banks UCITS ETF	7		0.0	0.19	-	0.20	-	-	N
Main X-listings: BNKU LN (USD)										
3BAS IM	Boost EURO STOXX Banks 3x Shor	5		0.4	0.57	26	0.89	-	-3x	N
Main X-listings: 0LJJ GR (EUR), 3BAS LN (GBp)										
XFPS GY	Invesco STOXX Europe 600 Optim	4	↓	0.0	0.22	22	0.30	0.00	-	N
BNKS LN	iShares S&P US Banks UCITS ETF	4		0.1	0.21	-	0.35	-	-	N
Main X-listings: BNKS LN (USD), BNKS SW (CHF), IUS2 GR (EUR)										
GIVFIN SJ	New Funds S&P GIVI SA Financial	3		0.0	0.39	15	0.29	-	-	N
XUFB LN	Xtrackers MSCI USA Banks UCITS	2		-	0.22	-	0.12	-	-	N
2VIS LN	Leverage Shares 2x Visa ETP	0		0.0	0.56	-	0.75	-	+2x	N
Main X-listings: VIS2 LN (USD)										
2JPM LN	Leverage Shares 2x JPMorgan ET	0		0.0	0.62	-	0.75	-	+2x	N
Main X-listings: JPM2 LN (USD)										
2CIT LN	Leverage Shares 2x Citigroup E	0		0.0	0.43	-	0.75	-	+2x	N
Main X-listings: CIT2 LN (USD)										
2GS LN	Leverage Shares 2x Goldman Sac	0		0.0	0.59	-	0.75	-	+2x	N
Main X-listings: GS2 LN (USD)										
BEARNOFI NO	DNB - ETN BEAR NOFI	0	↑	0.0	0.84	-	0.75	-	-2x	N
BULLNOFI NO	DNB - ETN BULL NOFI	0	↑	-	0.84	-	0.75	-	+2x	N
SHORTGJF NO	DNB - ETN Gjensidige Short	0		-	0.22	-	0.75	-	-1x	N
HRSPF81 IT [C]	Harel Sal S&P IXM Financial Se	-		0.2	1.08	67	0.80	-	-	N
PSSP294 IT	Psagot Sal Regional Banks S&P	-		-	-	-	0.45	-	-	N
TCHF3 IT	Tachlit SAL 40 TA BANK 5	-		-	-	-	-	-	-	N
PSGF78 IT	Psagot ETF 4D S&P Regional Ban	-		-	-	-	0.80	-	-	N
PSGF74 IT	Psagot ETF 4D S&P Financial	-		-	-	-	0.80	-	-	N
PSSP213 IT	Psagot Sal Composite Financial	-		-	-	-	0.45	-	-	N
KSMF147 IT [C]	KSM ETF 4A EURO STOXX Banks Cu	-		-	0.54	26	-	-	-	N
PSGF43 IT	Psagot ETF 4A TA-Finance	-		-	-	-	0.50	-	-	N
KSMF127 IT [C]	KSM ETF 4A STOXX Europe 600 Ba	-		-	0.76	47	0.25	-	-	N
PSBN197 IT [C]	Psagot Sal STOXX EUROPE 600 Ba	-		-	-	47	-	-	-	N
TCS6071 IT [C]	Tachlit STOXX Europe 600 Banks	-		0.0	0.43	47	0.00	-	-	N
HRSMC84 IT [C]	Harel Sal MSCI Europe Financia	-		0.0	1.24	80	0.25	-	-	N
KSMF137 IT	KSM ETF 4D STOXX Europe 600 Ba	-		-	-	-	0.10	-	-	N
KSMDJBK IT	KSM DJ Bank Titans 30 PR 4Da	-		-	-	-	1.02	-	-	N
KSMF57 IT	KSM ETF 4A TA-Finance	-		-	-	-	-	-	-	N
KSMF156 IT	KSM ETF 4D Composite US S&P Se	-		-	-	-	-	-	-	N
TCFS101 IT	Tachlit Finances USA S&P IXMINT	-		-	-	-	0.22	-	-	N
KSMF34 IT	KSM ETF 4A Insurance Shares an	-		-	-	-	0.60	-	-	N
TCHF1 IT	Tachlit SAL 40 TA 35	-		-	-	-	-	-	-	N
KSMF163 IT	KSM ETF 4D S&P Regional Banks	-		-	-	-	-	-	-	N
TCHF43 IT	Tachlit SAL 4D S&P Regional Ba	-		-	-	-	-	-	-	N
PSGF35 IT	Psagot ETF 4A TA-Banks5	-		-	-	-	0.50	-	-	N
KSMF132 IT	KSM ETF 4D S&P Financial	-		-	-	-	0.90	-	-	N
PSSG205 IT [C]	Psagot Sal S&P IXM Financial S	-		-	-	67	0.70	-	-	N
KSMF77 IT	KSM ETF 4A TA-Banks5	-		-	-	-	-	-	-	N
Health Care										
IHCU LN	iShares S&P 500 Health Care Se	1,013	↑	0.2	0.17	-	0.15	1.45	-	N
Main X-listings: IUHC LN (USD), QDVG GR (EUR), IUHC SW (USD)										
SXDPEX GY	iShares STOXX Europe 600 Healt	478		2.1	-	55	0.46	0.23	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector									
Health Care (Continued)										
DRDR LN	iShares IV PLC-iShares Healthc	445	↑	0	0.17	-	0.40	1.45	-	N
Main X-listings: 2B78 GR (EUR), HEAL IM (EUR), HEAL LN (USD), HEAL LN (USD)										
XDWH LN	Xtrackers MSCI World Health Ca	358	↑	0	0.24	139	0.30	0.10	-	N
Main X-listings: XDWH SW (CHF), XDWH IM (EUR), XDWH GR (EUR)										
HLT FP	Lyxor STOXX Europe 600 Healthc	338	↑	1	-	55	0.30	0.07	-	N
SBIO LN	Invesco NASDAQ Biotech UCITS E	269	↓	1	0.24	221	0.40	0.00	-	N
Main X-listings: SBIO IM (EUR), SBIO SW (USD), SBIO NA (EUR)										
HLTW IM	Lyxor MSCI World Health Care T	257		0	0.28	139	0.30	1.13	-	N
XLVS LN	Invesco Health Care S&P US Sel	202	↑	0	0.27	56	0.14	0.03	-	N
Main X-listings: XLVS IM (EUR), XLVP LN (GBp)										
SXLV LN	SPDR S&P U.S. Health Care Sele	185	↑	1	0.27	-	0.15	0.06	-	N
Main X-listings: SXLV NA (EUR), ZPDH GR (EUR), SXLV SW (USD), SXLV IM (EUR)										
XSDR LN	Xtrackers Stoxx Europe 600 Hea	156		0	0.20	55	0.30	1.17	-	N
Main X-listings: XSDR IM (EUR)										
WHEA LN	SPDR MSCI World Health Care UC	96	↑	0	0.22	139	0.30	0.10	-	N
Main X-listings: WHEA IM (EUR), WHEA NA (EUR), WHEA SW (USD)										
STW FP	SPDR MSCI Europe Health Care U	75		0	0.15	34	0.30	0.13	-	N
Main X-listings: STWX SW (CHF), HLTH LN (EUR)										
XSHC LN	Xtrackers MSCI USA Health Care	66	↑	0	0.23	70	0.12	1.46	-	N
Main X-listings: XUHC LN (USD), XUHC GR (EUR), XUHC SW (USD)										
XDPS GY	Invesco STOXX Europe 600 Optim	65	↓	0	0.16	50	0.30	0.00	-	N
CBSXDR GY	ComStage ETF STOXX Europe 600	58		0	0.33	55	0.25	0.39	-	N
Main X-listings: CBHECA SW (CHF)										
HLTW LN	Lyxor MSCI World Health Care T	46		0	0.38	139	0.30	0.01	-	N
Main X-listings: HLTG LN (GBp)										
CH5 FP	Amundi ETF MSCI Europe Healthc	35		0	0.11	34	0.25	0.07	-	N
Main X-listings: CH5 LN (GBp)										
2B70 GR	iShares Nasdaq US Biotechnolog	23	↑	0	0.23	221	0.35	1.12	-	N
Main X-listings: BTEK LN (GBP), BTEC SW (USD), BTEC LN (USD)										
BIOT IM	L&G Pharma Breakthrough UCITS	7	↑	0	0.34	33	0.75	1.15	-	N
Main X-listings: BIOT LN (USD), BIOT NA (EUR)										
ETLI GR	L&G Pharma Breakthrough UCITS	6		0	0.31	33	0.75	1.15	-	N
SYH FP	BNP Paribas Easy Stoxx Europe	3		0	0.48	55	0.30	0.08	-	N
BTEE LN	iShares Nasdaq US Biotechnolog	1	↑	0	0.38	221	0.35	0.05	-	N
KSMDJHC IT	KSM DJ Health Care Titans 30 P	-		-	-	-	1.02	-	-	N
KSMF170 IT	KSM ETF 4D S&P Pharmaceuticals	-		-	-	-	-	-	-	N
KSMF152 IT	KSM ETF 4D S&P Health Care	-		-	-	-	-	-	-	N
KSMF168 IT [C]	KSM ETF 4A NASDAQ Biotechnolog	-		-	0.47	221	-	-	-	N
KSMF104 IT	KSM ETF 4A TA-Biomed	-		-	-	-	0.60	-	-	N
PSGT297 IT	PSAGOT SAL S&P Health Care Sel	-		-	-	-	0.70	-	-	N
Main X-listings: PSGT297 IT (ILs)										
TCSP100 IT	Tachlit S&P Health Care Select	-		-	-	-	0.52	-	-	N
TCSP115 IT	Tachlit Composite Health Care	-		-	-	-	0.52	-	-	N
HRBR93 IT [C]	Harel Sal S&P 500 Health Care	-		0	1.46	62	0.80	-	-	N
PSGF89 IT	Psagot ETF 4D S&P Pharmaceutic	-		-	-	-	0.70	-	-	N
KSMF130 IT	KSM ETF 4D STOXX Europe 600 He	-		-	-	-	0.80	-	-	N
KSMF167 IT	KSM ETF 4A S&P Health Care Cur	-		-	-	-	-	-	-	N
TCHF58 IT	Tachlit SAL 4D S&P Health Care	-		-	-	-	-	-	-	N
Industrials										
INFR LN	iShares Global Infrastructure	536	↓	0	0.16	227	0.65	1.46	-	N
Main X-listings: IDIN LN (USD), INFR IM (EUR)										
INDUEX GY	iShares Dow Jones Industrial A	341		1	-	30	0.31	0.03	-	N
SXNPEX GY	iShares STOXX Europe 600 Indus	162		2	-	101	0.46	0.17	-	N
Main X-listings: SXNPEX SW (EUR)										
XNPS GY	Invesco STOXX Europe 600 Optim	136	↑	0	0.19	95	0.30	0.00	-	L
STXIND SJ	Satrix INDI	123		0	0.64	76	0.42	-	-	N
CBINDU GY	ComStage ETF Dow Jones Industr	72		0	0.12	30	0.45	0.12	-	N
Main X-listings: CBDJI SW (CHF), CBDJIUS SW (USD), PDJI PL (EUR)										
XDWI LN	Xtrackers MSCI World Industria	69	↑	0	0.35	272	0.30	0.06	-	N
Main X-listings: XDWI IM (EUR), XDWI GR (EUR)										
XLIS LN	Invesco Industrials S&P US Sel	65	↓	0	0.28	70	0.14	0.04	-	N
Main X-listings: XLIP LN (GBp), XLIS IM (EUR)										
SXLI LN	SPDR S&P U.S. Industrials Sele	53	↓	0	0.27	-	0.15	0.07	-	N
Main X-listings: SXLI NA (EUR), ZPDI GR (EUR), SXLI SW (USD), SXLI IM (EUR)										
STQ FP	SPDR MSCI Europe Industrials U	38	↓	0	0.23	86	0.30	0.13	-	N
Main X-listings: STQX SW (CHF), NDUS LN (EUR)										
XSNR LN	Xtrackers Stoxx Europe 600 Ind	35	↓	0	0.20	101	0.30	1.18	-	N
Main X-listings: XSNR IM (EUR)										
WNDU LN	SPDR MSCI World Industrials UC	33		0	0.29	272	0.30	0.07	-	N
Main X-listings: WIND SW (USD), WIND NA (EUR)										
INDW FP	Lyxor MSCI World Industrials T	31	↓	0	0.37	272	0.30	1.13	-	N
Main X-listings: INDW LN (USD), INDWGBX EU (GBp)										
IND FP	Lyxor STOXX Europe 600 Industr	25	↓	0	0.12	101	0.30	0.06	-	N
IUIS LN	iShares S&P 500 Industrials Se	19	↑	0	0.23	-	0.15	0.10	-	N
Main X-listings: IISU LN (GBp), 2B7C GR (EUR), IUIS SW (USD)										
CIN FP	Amundi ETF MSCI Europe Industr	12	↓	0	0.17	86	0.25	0.08	-	N
Main X-listings: AIND LN (GBp)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector									
Industrials (Continued)										
CBSXNR GY	ComStage ETF STOXX Europe 600	10		0.0	0.54	101	0.25	0.23	-	N
Main X-listings: CBGOOD SW (CHF)										
INDW LN	Lyxor MSCI World Industrials T	8	↓	0.0	0.44	272	0.30	0.02	-	N
Main X-listings: INUG LN (GBp), INDWGBX EU (GBp)										
GIVIND SJ	New Funds S&P GIVI SA Industria	2		0.0	0.34	23	0.30	-	-	N
BULLGOGL NC	DNB - ETN Bull Gogl	1	↑	0.0	0.73	-	0.75	-	+2x	N
BULLBWLP NO	DNB - ETN Bull BWLPG	0		0.0	0.98	-	0.75	-	+2x	N
SHIPPING NO	DNB - ETN Shipping	0		0.0	0.71	-	0.60	-	-	N
TCSP104 IT	Tachlit S&P Industrials Select	-		-	-	-	0.52	-	-	N
KSMF78 IT	KSM ETF 4D DJ Industrial Avera	-		-	-	-	-	-	-	N
PSGF80 IT	Psagot ETF 4D S&P Industrial	-		-	-	-	0.70	-	-	N
KSMF133 IT	KSM ETF 4D S&P Industrial	-		-	-	-	0.80	-	-	N
PSGF66 IT	Psagot ETF 4D DJ Industrial Av	-		-	-	-	0.60	-	-	N
Information Technology										
IITU LN	iShares S&P 500 Information Te	1,368		0.4	0.19	-	0.15	1.46	-	N
Main X-listings: IUIT LN (USD), QDVE GR (EUR), IUIT SW (USD)										
TDXPEX GY	iShares TecDAX UCITS ETF DE	893		4.6	-	30	0.51	0.13	-	N
Main X-listings: TDXPEX SW (EUR)										
XDWT LN	Xtrackers MSCI World Informati	455	↑	0.3	0.22	154	0.30	0.03	-	N
Main X-listings: XDWT IM (EUR), XDWT GR (EUR), XDWT SW (CHF)										
XLKS LN	Invesco Technology S&P US Sele	387	↓	0.8	0.23	68	0.14	0.04	-	N
Main X-listings: XLKS IM (EUR)										
TNOW EU	Lyxor MSCI World Information T	281		0.1	0.34	154	0.30	-	-	N
Main X-listings: TNOG LN (GBp)										
TNOW IM	Lyxor MSCI World Information T	229	↑	0.3	0.30	154	0.30	1.13	-	N
Main X-listings: TNOW EU (USD), TNOG LN (GBp)										
WTEC LN	SPDR MSCI World Technology UCI	152	↑	0.1	0.24	154	0.30	0.16	-	N
Main X-listings: WTEC IM (EUR), WTCH NA (EUR), WTEC SW (USD)										
SXLK LN	SPDR S&P U.S. Technology Selec	140	↑	0.3	0.23	-	0.15	0.07	-	N
Main X-listings: SXLK NA (EUR), ZPDT GR (EUR), SXLK SW (USD), SXLK IM (EUR)										
SX8PEX GY	iShares STOXX Europe 600 Techn	95	↓	1.5	-	29	0.46	0.16	-	N
Main X-listings: SX8PEX SW (EUR)										
CB1TX SW	ComStage 1 TecDAX UCITS ETF	85	↑	0.0	0.27	30	0.40	0.09	-	N
Main X-listings: E908 GR (EUR)										
TNO FP	Lyxor STOXX Europe 600 Technol	54	↓	0.2	0.11	29	0.30	0.08	-	N
XS8R LN	Xtrackers Stoxx Europe 600 Tec	48	↓	0.0	0.19	29	0.30	1.17	-	N
Main X-listings: XS8R IM (EUR)										
SYQ FP	BNP Paribas Easy Stoxx Europe	36		0.0	0.24	29	0.30	0.08	-	N
CBSX8R GY	ComStage ETF STOXX Europe 600	26		0.1	0.19	29	0.25	0.12	-	N
Main X-listings: CBTECH SW (CHF)										
XUTC LN	Xtrackers MSCI USA Information	23	↑	0.0	0.25	92	0.12	0.04	-	N
Main X-listings: XSTC LN (GBp), XUTC GR (EUR), XUTC SW (USD)										
X8PS GY	Invesco STOXX Europe 600 Optim	20	↑	0.1	0.17	24	0.30	0.00	-	N
STK FP	SPDR MSCI Europe Technology UC	17	↓	0.1	0.19	18	0.30	0.13	-	N
Main X-listings: STKX SW (CHF), ITEC LN (EUR)										
FDNU LN	First Trust Dow Jones Internet	6		0.1	0.48	-	0.55	-	-	N
Main X-listings: FDNE NA (EUR), FDN LN (GBp)										
ETF5IT SJ	STANLIB S&P 500 IT ETF	4	↑	0.0	1.47	-	0.35	6.09	-	N
X00U GY	Coba ETN 4x TECDAXF Daily Long	1		0.0	0.43	-	-	-	+4x	N
2MSF LN	Leverage Shares 2x Microsoft E	1	↑	0.0	0.37	-	0.75	-	+2x	N
Main X-listings: MSF2 LN (USD)										
2NVD LN	Leverage Shares 2x NVIDIA ETP	0	↑	0.0	0.38	-	0.75	-	+2x	N
Main X-listings: NVD2 LN (USD)										
2AAP LN	Leverage Shares 2x Apple ETP	0	↑	0.0	0.32	-	0.75	-	+2x	N
Main X-listings: AAP2 LN (USD)										
2CRM LN	Leverage Shares 2x Salesforce.	0		0.0	1.06	-	0.75	-	+2x	N
Main X-listings: CRM2 LN (USD)										
X00T GY	Coba ETN 3x TECDAXF Daily Long	0		0.0	0.33	-	-	-	+3x	N
X00Z GR	Coba ETN -4x TECDAXF Daily Sho	0	↑	0.0	-	-	-	-	-4x	N
X00Y GY	Coba ETN -3x TECDAXF Daily Sho	0	↓	0.0	1.89	-	-	-	-3x	N
PSGF71 IT	Psagot ETF 4D S&P Technology	-		-	-	-	0.80	-	-	N
PSDJ204 IT [C]	Psagot Sal DJ Internet Composi	-		-	-	-	-	-	-	N
KSMF158 IT	KSM ETF 4D S&P Technology	-		-	-	-	-	-	-	N
KSMF44 IT	KSM ETF 4D STOXX Europe 600 Te	-		-	-	-	0.80	-	-	N
TCSP105 IT	Tachlit S&P Technology Select	-		-	-	-	0.32	-	-	N
HRSSE86 IT [C]	Harel Sal Technology US S&P IX	-		0.1	0.52	68	0.80	-	-	N
KSMF139 IT [C]	KSM ETF 4A DJ Internet Composi	-		-	0.48	-	-	-	-	N
PSGT296 IT	PSAGOT SAL US S&P Technology S	-		-	-	-	0.70	-	-	N
Main X-listings: PSGT296 IT (ILs)										
Materials										
CD91 GY	ComStage ETF NYSE Arca Gold BU	268	↑	1.0	0.26	16	0.65	0.62	-	N
Main X-listings: CBGOLD SW (CHF), CBGOLDUS SW (USD)										
BRE FP	Lyxor STOXX Europe 600 Basic R	200		0.8	-	19	0.30	0.07	-	N
GDX SW	VanEck Vectors Gold Miners UCI	142	↑	0.0	0.41	46	0.53	0.39	-	N
Main X-listings: GDX LN (USD), G2X GR (EUR), GDGB LN (GBP), GDX IM (EUR)										
SX4PEX GY	iShares STOXX Europe 600 Chemi	84		1.3	-	24	0.46	0.17	-	N
Main X-listings: SX4PEX SW (EUR)										

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	Sector									
Materials (Continued)										
GDXJ LN	VanEck Vectors Junior Gold Min	72		0	0.45	67	0.55	0.05	-	N
Main X-listings: G2XJ GR (EUR), GDXJ SW (CHF), GDXJ IM (EUR), GJGB LN (GBP)										
WOOD LN	iShares Global Timber & Forest	71	↓	0	0.19	25	0.65	1.46	-	N
XSPR LN	Xtrackers Stoxx Europe 600 Bas	44		0	0.18	19	0.30	1.18	-	N
Main X-listings: XSPR IM (EUR)										
SXOPEX GY	iShares STOXX Europe 600 Const	36	↓	0	-	22	0.46	0.21	-	N
Main X-listings: SXOPEX SW (EUR)										
XPPS GY	Invesco STOXX Europe 600 Optim	26		0	0.20	20	0.30	0.00	-	L
STXRES SJ	Satrix RESI	23		0	0.62	11	0.44	-	-	N
CBSXPR GY	ComStage ETF STOXX Europe 600	21		0	0.28	19	0.25	0.45	-	N
Main X-listings: CBBASI SW (CHF)										
MATW FP	Lyxor MSCI World Materials TR	19	↓	0	0.36	129	0.30	1.13	-	N
Main X-listings: MATW LN (USD), MATW1GBX EU (GBp)										
XDWM GR	Xtrackers MSCI World Materials	18	↓	0	0.20	129	0.30	1.12	-	N
Main X-listings: XDWM LN (USD), XDWM IM (EUR)										
CST FP	Lyxor STOXX Europe 600 Constru	15	↓	0	0.11	22	0.30	0.18	-	N
CBSX4R GY	ComStage ETF STOXX Europe 600	15		0	0.44	24	0.25	0.22	-	N
Main X-listings: CBCHEM SW (CHF)										
WMAT LN	SPDR MSCI World Materials UCIT	13	↓	0	0.32	129	0.30	0.21	-	N
Main X-listings: WMAT NA (EUR), WMAT SW (USD)										
C8M FP	Amundi ETF MSCI Europe Materia	13	↓	0	0.17	40	0.25	0.10	-	N
Main X-listings: C8M LN (GBp)										
STP FP	SPDR MSCI Europe Materials UCI	13		0	0.25	40	0.30	0.16	-	N
Main X-listings: STPX SW (CHF), MTRL LN (EUR)										
MATW LN	Lyxor MSCI World Materials TR	11	↓	0	0.43	129	0.30	0.02	-	N
Main X-listings: MATW LN (USD), MATG LN (GBp), MATW1GBX EU (GBp)										
CHM FP	Lyxor STOXX Europe 600 Chemica	10	↓	0	0.15	24	0.30	0.16	-	N
SXLB LN	SPDR S&P U.S. Materials Select	9	↓	0	0.29	-	0.15	0.11	-	N
Main X-listings: SXLB NA (EUR), ZPDM GR (EUR), SXLB SW (USD), SXLB IM (EUR)										
X4PS GY	Invesco STOXX Europe 600 Optim	8		0	0.21	22	0.30	0.00	-	N
CBSXOR GY	ComStage ETF STOXX Europe 600	7	↓	0	0.33	22	0.25	0.25	-	N
Main X-listings: CBCONS SW (CHF)										
XOPS GY	Invesco STOXX Europe 600 Optim	6	↑	0	0.19	20	0.30	0.00	-	L
GDIG LN	Vaneck Vectors Global Mining U	4	↑	0	0.40	-	0.50	0.28	-	N
Main X-listings: GDIG IM (EUR), GDIG SW (CHF), GIGB LN (GBP), WMIN GR (EUR)										
XLBS LN	Invesco Materials S&P US Selec	4	↓	0	0.36	29	0.14	0.05	-	N
Main X-listings: XLBP LN (GBp), XLBS IM (EUR)										
2B7B GR	iShares S&P 500 Materials Sect	3	↓	0	0.21	-	0.15	1.13	-	N
Main X-listings: IUMS LN (USD), IMSU LN (GBp), IUMS SW (USD)										
GIVRES SJ	New Funds S&P GIVI SA Resource	2		0	0.32	14	0.30	-	-	N
SHORTYAR NC	DNB - ETN Yara Short	0		-	0.18	-	0.75	-	-1x	N
Real Estate										
IWDP LN	iShares Developed Markets Prop	2,906		2	0.11	313	0.59	1.45	-	N
Main X-listings: IDWP LN (USD), IWDP NA (EUR)										
IPRP NA	iShares European Property Yiel	1,346		1	-	108	0.40	0.26	-	N
Main X-listings: IPRP LN (GBp), IPRP SW (CHF)										
IUKP LN	iShares UK Property UCITS ETF	816		2	0.17	40	0.40	0.12	-	N
Main X-listings: IUKP IM (EUR), IUKP SW (CHF)										
IDUP LN	iShares US Property Yield UCIT	650		1	0.20	121	0.40	0.66	-	N
Main X-listings: IDUPN MM (MXN), IUSP LN (GBp), IUSP IM (EUR)										
IASP LN	iShares Asia Property Yield UC	512	↑	0	0.25	76	0.59	1.43	-	N
Main X-listings: IASP NA (EUR), IDAR LN (USD)										
SRECHA SW	UBS ETF CH-SXI Real Estate Fun	469		1	0.38	34	0.25	0.04	-	N
D5BK GY	Xtrackers FTSE Developed Europ	398		1	0.19	108	0.33	0.14	-	N
Main X-listings: XDER LN (GBp), XDER SW (CHF)										
EEA IM [C]	BNP Paribas Easy FTSE EPRA/NAR	321	↓	0	0.17	47	0.40	0.15	-	N
Main X-listings: EEEA SW (EUR)										
EEE FP [C]	BNP Paribas Easy FTSE EPRA/NAR	301		1	0.11	47	0.40	0.15	-	N
Main X-listings: EEEG SW (EUR)										
TRET NA	Think Global Real Estate UCITS	214		0	0.20	-	0.25	0.44	-	N
Main X-listings: TRET GR (EUR)										
EEP FP	BNP Paribas Easy FTSE EPRA/NAR	201		1	0.19	108	0.40	0.12	-	N
Main X-listings: EEEP SW (EUR), EEP GR (EUR)										
DIA SJ	Dipula Income Fund Ltd	180		0	-	-	-	-	-	N
HPRD LN	HSBC FTSE EPRA/NAREIT Develope	121		0	0.20	336	0.40	0.29	-	N
Main X-listings: HPRO LN (GBp), HPRD IM (EUR), HPRD SW (USD)										
DIB SJ	Dipula Income Fund Ltd	115		0	-	-	-	-	-	N
EPRA IM	AMUNDI INDEX FTSE EPRA NAREIT	86	↑	0	0.71	336	0.24	0.36	-	N
Main X-listings: EPRA FP (EUR), EPRA LN (GBp), EPRU NA (USD)										
MWO FP	Lyxor FTSE EPRA/NAREIT Global	81		0	0.47	336	0.45	1.13	-	N
SREEEX GY	iShares STOXX Europe 600 Real	75	↓	1	0.15	28	0.46	0.28	-	N
Main X-listings: SXDPEX SW (EUR), SREEEX SW (EUR)										
EURL LN	SPDR FTSE EPRA Nareit Develope	67		0	0.38	68	0.30	0.27	-	N
Main X-listings: EURE LN (EUR), EURE IM (EUR), EURE SW (EUR)										
SRFCHA SW	UBS ETF CH-SXI Real Estate	55		0	0.61	49	0.25	0.03	-	N
EPRE FP	Amundi Ftse Epra Europe Real E	31		0	0.16	108	0.35	0.06	-	N
Main X-listings: EPRE LN (GBp), EPRE LN (GBp)										

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Sector										
Real Estate (Continued)										
DPYA LN	iShares Developed Markets Prop	21		0.4	0.11	313	0.59	-	-	N
CBSX86R GY	ComStage ETF STOXX Europe 600	20		0.1	0.46	28	0.25	0.33	-	N
Main X-listings: CBHOUS SW (CHF)										
XRES LN	Invesco Real Estate S&P US Sel	18		0.4	0.23	-	0.14	0.08	-	N
Main X-listings: XRES IM (EUR)										
SYGP SJ	Sygnia Itrix Global Property E	18	↓	0.1	0.99	40	0.23	3.75	-	N
XREA GR	Xtrackers FTSE Developed Europ	17	↓	0.0	0.14	68	0.33	0.21	-	N
XU61 GR	BNP Paribas Easy NMX 30 Infras	17		0.0	0.36	-	0.60	0.11	-	N
Main X-listings: ENG FP(EUR), EENG IM (EUR)										
PTXTEN SJ	CoreShares PropTrax Ten	16		0.0	0.73	21	0.54	3.02	-	N
IPRE GR	iShares European Property Yiel	16		-	0.12	108	0.40	-	-	N
STXPRO SJ	Satrix Property Portfolio	13	↑	0.1	0.81	24	0.33	6.40	-	N
DPYE LN [C]	iShares Developed Markets Prop	12		0.0	0.22	313	0.64	4.26	-	N
MUA FP	Lyxor FTSE EPRA/NAREIT United	11	↓	0.0	0.41	126	0.40	1.13	-	N
Main X-listings: LYMUE SW (CHF)										
DPYG LN [C]	iShares Developed Markets Prop	11	↑	0.1	0.18	313	0.64	6.01	-	N
MAKE LN	Lyxor FTSE Developed Europe In	11	↓	0.0	0.53	32	0.50	1.18	-	N
Main X-listings: MAKE FP (EUR)										
PTXSPY SJ	CoreShares PropTrax S	10		0.0	1.27	21	0.58	0.68	-	N
USPR LN	iShares MSCI Target US Real Es	9		0.0	0.30	-	0.40	1.47	-	N
Main X-listings: USRE SW (USD), USRE LN (USD), CEM1 GR (EUR)										
10AJ GR	AMUNDI INDEX FTSE EPRA NAREIT	6	↑	0.0	0.29	336	0.24	0.36	-	N
PMEH FP	Lyxor PEA FTSE EPRA/NAREIT Dev	6	↑	0.0	0.31	108	0.40	0.01	-	N
EEEH SW [C]	BNP Paribas Easy FTSE EPRA/NAR	3		-	0.49	108	0.40	-	-	N
Main X-listings: EEEH FP (EUR)										
AYEP GR	iShares Asia Property Yield UC	3		-	0.37	76	0.59	-	-	N
LYMUA SW	Lyxor FTSE EPRA/NAREIT United	2		0.0	0.43	126	0.40	0.02	-	N
BILD LN	Lyxor FTSE USA Infrastructure	1	↓	0.0	0.43	62	0.50	0.01	-	N
Main X-listings: BUIL FP (EUR), BUIL LN (GBP)										
ETFGRE SJ	STANLIB GLOBAL REIT ETF	1	↑	0.0	1.18	-	0.34	2.89	-	N
AMIRE SJ [C]	AMI RealEstate ex-SA ETF	0		0.0	-	-	0.75	-	-	N
KSMF15 IT	KSM ETF 6A Short TA-RealEstate	-		-	-	-	1.00	-	-1x	N
TEPRA15 IT	Psagot Sal Real Estate EPRA Eu	-		-	-	-	1.00	-	-	N
PSGF55 IT	Psagot ETF 4D DJ US Real Estat	-		-	-	-	0.90	-	-	N
KSMF56 IT	KSM ETF 4A TA-RealEstate	-		-	-	-	-	-	-	N
PSGF37 IT	Psagot ETF 4A TA-RealEstate	-		-	-	-	0.50	-	-	N
Technology										
TCIN100 IT [C]	Tachlit TA-125 series 2 40A	-		0.1	0.35	-	0.52	-	-	N
Utilities										
SX6PEX GY	iShares STOXX Europe 600 Utili	450		1.6	-	29	0.46	0.23	-	N
Main X-listings: SX6PEX SW (EUR)										
XDWU LN	Xtrackers MSCI World Utilities	78	↑	0.1	0.34	-	0.30	0.06	-	N
Main X-listings: XDWU GR (EUR), XDWU IM (EUR)										
UTIW IM	Lyxor MSCI World Utilities TR	48	↑	0.2	0.36	79	0.30	1.13	-	N
Main X-listings: UTIG LN (GBp)										
UTI FP	Lyxor STOXX Europe 600 Utiliti	39		0.1	0.11	29	0.30	0.15	-	N
XLUS LN	Invesco Utilities S&P US Selec	35	↑	0.3	0.29	28	0.14	0.09	-	N
Main X-listings: XLUP LN (GBp), XLUS IM (EUR)										
IUUS LN	iShares S&P 500 Utilities Sect	28	↑	0.2	0.22	-	0.15	0.09	-	L
Main X-listings: 2B7A GR (EUR), IUSU LN (GBp), IUUS SW (USD)										
WUTI LN	SPDR MSCI World Utilities UCIT	21	↑	0.0	0.29	-	0.30	0.09	-	N
Main X-listings: WUTI NA (EUR), WUTI SW (USD)										
XS6R IM	Xtrackers Stoxx Europe 600 Uti	18		0.0	0.16	29	0.30	0.01	-	N
Main X-listings: XS6R LN (GBp)										
SXLU NA	SPDR S&P U.S. Utilities Select	14		0.1	0.20	-	0.15	-	-	N
Main X-listings: ZPDU GR (EUR), SXLU LN (USD), SXLU SW (USD), SXLU IM (EUR)										
STU FP	SPDR MSCI Europe Utilities UCI	12	↓	0.3	0.21	23	0.30	0.25	-	N
Main X-listings: STUX SW (CHF), UTIL LN (EUR)										
CU5 FP	Amundi ETF MSCI Europe Utiliti	11	↓	0.1	0.13	23	0.25	0.10	-	N
Main X-listings: CU5 LN (GBp)										
CBSX6R GY	ComStage ETF STOXX Europe 600	10		0.0	0.51	29	0.25	0.43	-	N
Main X-listings: CBUTIL SW (CHF)										
UTIW LN	Lyxor MSCI World Utilities TR	8	↑	0.0	0.42	79	0.30	0.03	-	N
Main X-listings: UTIG LN (GBp)										
X6PS GY	Invesco STOXX Europe 600 Optim	6	↓	0.1	0.15	28	0.30	0.00	-	L
SYU FP	BNP Paribas Easy Stoxx Europe	5	↓	0.0	0.25	29	0.30	0.10	-	N
International										
Global										
IWDA LN	iShares Core MSCI World UCITS	15,732	↑	15.3	-	1,636	0.20	0.04	-	L
Main X-listings: IWDA NA (EUR), SWDA LN (GBp)										
IWRD NA	iShares MSCI World UCITS ETF	4,923		1.4	-	1,636	0.50	1.12	-	L
Main X-listings: IDWR LN (USD), IWRD LN (GBp)										
XDWD LN	Xtrackers MSCI World UCITS ETF	3,803	↑	0.3	-	1,636	0.19	0.03	-	N
Main X-listings: XWLD LN (GBp), XDWD GR (EUR), XDWD SW (USD), XDWD IM (EUR), XDWD SS (SEK)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Global (Continued)										
XMWD LN	Xtrackers MSCI World Swap UCIT	2,603		0	-	1,636	0.45	0.04	-	N
Main X-listings: XMWO IM (EUR), XMWO SS (SEK)										
VGWL GR	Vanguard FTSE All-World UCITS	2,313	↑	0	0.11	3,244	0.25	1.13	-	N
Main X-listings: VWRL IM (EUR)										
WLD FP	Lyxor MSCI World UCITS ETF	2,164	↑	1	-	1,636	0.30	1.13	-	N
Main X-listings: LYWLD SW (USD), WLDD LN (USD), WLDL LN (GBp)										
ACWIU SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	2,035	↑	2	0.15	2,773	0.21	0.02	-	N
ACWIE IM [C]	UBS ETFs PLC - MSCI ACWI SF UC	1,941	↑	6	0.10	-	0.21	0.01	-	N
Main X-listings: ACWIE SW (EUR)										
CBNDDUWI GY	ComStage ETF MSCI World UCITS	1,743		2	-	1,636	0.20	0.06	-	N
Main X-listings: CBMWORUS SW (USD), CBMWOR SW (CHF), PMSW PL (EUR)										
ACWIS SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	1,663	↑	1	0.15	-	0.21	0.02	-	N
IWDE LN [C]	iShares MSCI World EUR Hedged	1,602		2	-	1,636	0.55	0.09	-	N
IWDG LN [C]	iShares Core MSCI World UCITS	1,454	↑	2	0.11	1,636	0.30	5.93	-	N
Main X-listings: IWDG SW (GBP)										
ACWD LN	SPDR MSCI ACWI UCITS ETF	1,424	↑	2	0.10	2,773	0.40	0.08	-	N
Main X-listings: ACWE IM (EUR), ACWI LN (GBP), ACWI SW (CHF), ACWE FP (EUR)										
WRDUSA SW	UBS ETF MSCI World UCITS ETF	1,016		0	0.15	1,636	0.30	0.05	-	N
Main X-listings: WRDCHA SW (CHF), WRDEUA GY (EUR)										
TGET NA	Think Global Equity UCITS ETF	926	↑	0	0.17	-	0.17	0.16	-	N
Main X-listings: T6ET GR (EUR)										
CW8 FP	Amundi Msci World UCITS ETF	860		1	-	1,636	0.38	0.01	-	N
Main X-listings: CW8 FP (EUR), CW8 IM (EUR), CW8E SW (EUR)										
HMWD LN	HSBC MSCI WORLD UCITS ETF	852	↑	0	-	1,636	0.15	0.20	-	N
Main X-listings: HMWO LN (GBp), WRD FP (EUR), HMWD IM (EUR)										
MXWO LN	Invesco MSCI World UCITS ETF	763		0	-	1,636	0.19	0.02	-	N
Main X-listings: SMSWLD GY (EUR), SMSWLD IM (EUR), MXWO SW (USD), MXWS LN (GBp)										
ISAC LN	iShares MSCI ACWI UCITS ETF	757	↑	1	0.11	2,773	0.60	0.15	-	N
Main X-listings: SSAC LN (GBp), SSAC SW (USD)										
WSML LN	iShares III PLC - iShares Msci	720	↑	0	0.18	4,318	0.35	0.20	-	N
Main X-listings: WLDS LN (GBP), IUSN GR (EUR), WSML SW (CHF)										
XDWL SW	Xtrackers MSCI World UCITS ETF	667		0	-	1,636	0.19	1.01	-	N
Main X-listings: XDWL GR (EUR), XDWL LN (USD)										
IWDC SW [C]	iShares MSCI World CHF Hedged	567		1	0.14	1,636	0.55	0.09	-	N
IWSZ LN	iShares Edge MSCI World Size F	532	↑	0	0.16	897	0.30	0.05	-	N
Main X-listings: IWFS LN (GBp), IWSZ SW (USD), IWSZ IM (EUR), IS3T GR (EUR)										
SYGWD SJ	Sygnia Itrix MSCI World ETF	523		1	0.56	1,636	0.68	-	-	N
IGWD LN [C]	iShares MSCI World GBP Hedged	404	↑	1	0.11	1,636	0.55	0.06	-	N
ZPRG GR	SPDR S&P Global Dividend Arist	387		0	-	100	0.45	0.12	-	N
HEWD LN [A]	HSBC Economic Scale Worldwide	382		0	0.41	2,773	0.25	3.45	-	N
Main X-listings: HEWA LN (GBP)										
H41I GR [A]	HSBC Economic Scale Worldwide	379		0	0.50	-	0.25	-	-	N
ZPRS GR	SPDR MSCI World Small Cap UCIT	347	↑	0	0.19	4,318	0.45	0.23	-	N
HWWD LN [A]	HSBC Multi Factor Worldwide Eq	316	↑	0	0.40	2,773	0.25	1.81	-	N
Main X-listings: HWWA LN (GBP), HWWA IM (EUR), HWWD SW (USD)										
SPPW GR	SPDR MSCI World UCITS ETF	307		-	0.24	1,636	0.12	-	-	N
Main X-listings: SWLD LN (GBP), SWRD IM (EUR), SWRD LN (USD), SWRD NA (EUR)										
DJGTEEX GY	iShares Dow Jones Global Titan	301	↑	1	0.22	55	0.51	0.26	-	N
ACGUKD SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	297		0	0.23	-	0.21	0.02	-	N
VDEV LN	Vanguard FTSE Developed World	291	↑	0	0.18	2,175	0.18	0.04	-	N
Main X-listings: VEVE IM (EUR), VEVE NA (EUR), VEVE LN (GBP), VEVE SW (CHF)										
MWRD IM	AMUNDI INDEX MSCI WORLD UCITS	291	↑	0	-	1,636	0.18	0.13	-	N
Main X-listings: MWRD FP (EUR), MWRD LN (GBp), WRDU NA (USD)										
ACWI FP	Lyxor MSCI All Country World U	286	↑	0	0.12	2,773	0.45	1.13	-	N
WLDH FP [C]	Lyxor MSCI World UCITS ETF	264		0	0.11	1,636	0.30	0.01	-	N
Main X-listings: WLDHE SW (EUR)										
XMAW IM	Xtrackers MSCI AC World UCITS	245		0	0.19	2,773	0.40	0.16	-	N
Main X-listings: XMAW GR (EUR), XMAW LN (GBp), XMAWCHF SW (CHF)										
CM9 FP	Amundi ETF MSCI World Ex Emu U	241	↑	1	0.19	1,390	0.35	0.00	-	N
Main X-listings: CE8USD SW (USD)										
CE8 FP	Amundi MSCI World EX Europe UC	221	↑	0	0.18	1,196	0.35	0.01	-	N
Main X-listings: CE8E SW (EUR), CW8USD SW (USD)										
XWEH GR [C]	Xtrackers MSCI World Swap UCIT	210	↓	0	-	1,636	0.52	0.05	-	N
Main X-listings: XWEH IM (EUR), XWEH SW (CHF)										
LCWD IM	Lyxor Core MSCI World DR UCITS	184	↑	0	0.16	1,636	0.12	1.13	-	N
Main X-listings: LCWL LN (GBP), LCWD LN (USD), LCUW GR (EUR), LCWD FP (EUR)										
SGQI FP	Lyxor SG Global Quality Income	172	↑	0	0.37	78	0.45	0.01	-	N
Main X-listings: LYQI SW (USD), SGQP LN (GBp), SGQU NA (USD)										
XSFD LN	Xtrackers S&P Select Frontier	122		0	0.61	-	0.95	0.03	-	N
Main X-listings: XSFR IM (EUR), XSFR LN (GBp)										
IMIE FP	SPDR MSCI ACWI IMI UCITS ETF	116	↑	0	0.21	8,662	0.40	0.50	-	N
Main X-listings: IMID LN (USD)										
ACWU SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	102		0	0.39	-	0.21	0.02	-	N
WRDUSY SW	UBS Irl ETF plc - MSCI World U	93	↑	0	0.19	1,636	0.30	0.07	-	N
Main X-listings: UBU7 GR (EUR), WRDCHY SW (CHF), UBU7 NA (EUR)										
STXWDM SJ	Satrix MSCI World ETF	89	↑	1	0.50	1,636	0.33	9.50	-	N
WLDX IM	Lyxor MSCI World Ex EMU UCITS	71	↓	0	0.23	1,390	0.35	1.13	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

International

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Global (Continued)										
ELFW GR	Deka MSCI World UCITS ETF	64		0.1	0.11	1,636	0.30	-	-	N
MGT IM	Lyxor DJ Global Titans 50 UCIT	64		0.1	0.26	55	0.40	0.02	-	N
Main X-listings: MGT IM (EUR), MGTL LN (GBp), MGTU LN (USD)										
ALAU FP	Amundi Msci EM Latin America U	60	↓	0.0	0.38	107	0.20	0.02	-	N
Main X-listings: ALAU LN (USD), ALAG LN (GBp)										
10AH GR	AMUNDI INDEX MSCI WORLD UCITS	47	↑	0.0	0.14	1,636	0.18	0.13	-	N
WLDU LN [C]	Lyxor MSCI World UCITS ETF	42		0.0	-	-	0.30	0.01	-	N
Main X-listings: WLDHU SW (USD), WLDH FP (EUR)										
XDEX LN	Xtrackers FTSE All-World ex UK	36		0.1	0.26	3,111	0.40	0.20	-	N
ASHGEQ SJ	Ashburton Global 1200 Equity E	34	↑	0.1	1.35	1,218	1.83	5.38	-	N
ACEUKD SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	31		0.0	0.26	-	0.21	0.02	-	N
XDWG LN [C]	Xtrackers MSCI World UCITS ETF	29	↑	0.1	0.17	1,636	0.29	5.94	-	N
Main X-listings: XDWG SW (GBP)										
WOFM IM	UBS Irl ETF PLC - MSCI World S	27		0.0	0.41	-	0.46	-	-	N
Main X-listings: UIQM GR (EUR), WOFM LN (GBp), WOFM SW (USD)										
LGGG LN	L&G Global Equity UCITS ETF	24		-	0.59	1,615	0.10	-	-	N
Main X-listings: LGGL IM (EUR), LGGL LN (USD), LGGL NA (EUR)										
ETLQ GR	L&G Global Equity UCITS ETF	24		-	0.35	1,615	0.10	-	-	N
ACCUKD SW [C]	UBS ETFs PLC - MSCI ACWI SF UC	19		0.1	0.26	-	0.21	0.02	-	N
Main X-listings: ACUUKD SW (USD)										
GINF FP	Amundi Global Infrastructure U	18	↑	0.0	0.52	-	0.54	0.01	-	N
Main X-listings: GINF NA (USD)										
EWLD FP	Lyxor PEA MSCI World UCITS ETF	17	↑	0.1	-	1,636	0.45	1.13	-	N
ACWU LN	Lyxor MSCI All Country World U	16	↓	0.2	0.14	2,773	0.45	0.02	-	N
PR1W GR	AMUNDI PRIME GLOBAL UCITS ETF	13		-	0.22	-	0.05	-	-	N
ACWIA SW	UBS ETFs PLC - MSCI ACWI SF UC	11		-	0.22	2,773	0.21	-	-	N
Main X-listings: ACWIA IM (EUR)										
CW8U FP	Amundi Msci World UCITS ETF	9	↓	0.1	-	1,636	0.38	1.13	-	N
Main X-listings: CW8G LN (GBp)										
ETFWLD SJ	STANLIB MSCI WORLD ETF	4		0.0	1.15	1,636	0.40	2.99	-	N
CE8USD SW	Amundi MSCI World EX Europe UC	3	↓	0.0	0.46	1,196	0.35	1.13	-	N
TSPTR88 IT [C]	Tachlit Composite 3 LargeCap D	-		0.0	0.48	-	0.52	-	-	N
PD1A458 IT	PSAGOT SAL BRIC	-		-	-	-	0.90	-	-	N
TCMSC70 IT	Tachlit MSCI World NTR ILS 40a	-		-	-	-	0.30	-	-	N
TCST76 IT	Tachlit Composite 3 World Equi	-		-	-	-	0.22	-	-	N
KSMF143 IT [C]	KSM ETF 4A MSCI World Dollar H	-		-	0.48	1,636	-	-	-	N
KSMF67 IT	KSM ETF 4D MSCI World	-		-	-	-	-	-	-	N
PSSM220 IT [C]	Psagot Sal Composite 3 MidCap	-		-	-	-	-	-	-	N
KSMF89 IT	KSM ETF 4D MSCI AC World	-		-	-	-	-	-	-	N
HRWR205 IT	Harel World 205	-		-	-	-	-	-	-	N
KSMF171 IT [C]	KSM ETF 4A MSCI AC World Dolla	-		-	0.36	2,773	-	-	-	N
PMWD322 IT [C]	Psagot Sal MSCI AC World NTR I	-		-	-	2,773	0.52	9.23	-	N
HRMT72 IT	Harel Sal MSCI Emerging Market	-		-	-	-	1.00	-	-	N
MBIMS11 IT	Psagot Sal MSCI EAFE	-		-	-	-	-	-	-	N
Emerging										
EIMI SW	iShares Core MSCI EM IMI UCITS	11,843	↑	2.1	-	2,708	0.18	0.11	-	N
Main X-listings: EIMI LN (USD), EMIM LN (GBp), EMIM NA (EUR), EIMI IM (EUR), IS3N GR (EUR)										
IEEM LN	iShares MSCI EM UCITS ETF USD	4,592		2.7	-	1,137	0.75	1.46	-	N
Main X-listings: IDEM LN (USD), IEEM IM (EUR)										
AEEM FP	Amundi Msci Emerging Markets U	3,361		3.6	-	1,137	0.20	1.13	-	N
Main X-listings: AEEM FP (EUR), AEEM IM (EUR), AEEM SW (EUR)										
AUEM FP	Amundi Msci Emerging Markets U	2,844	↑	4.0	-	1,137	0.20	0.01	-	N
Main X-listings: AEEM FP (EUR), AUEG LN(GBp)										
AEME FP	Amundi Index MSCI Emerging Mar	1,812	↑	16.8	0.22	1,137	0.20	1.15	-	N
Main X-listings: AEME NA (USD)										
XMMS LN	Xtrackers MSCI Emerging Market	1,770		0.2	-	1,137	0.20	-	-	N
Main X-listings: XMME GR (EUR), XMME IM (EUR), XMME LN (USD), XMME SW (CHF)										
VFEM GR	Vanguard FTSE Emerging Markets	1,764	↑	0.2	-	1,069	0.25	1.16	-	N
Main X-listings: VFEM IM (EUR)										
XMEM LN	Xtrackers MSCI Emerging Market	1,682		0.5	-	1,137	0.49	1.45	-	N
Main X-listings: XMEM IM (EUR), XMEM SW (USD), XMEM SS (SEK)										
AASI FP	Amundi Msci EM Asia UCITS ETF	1,560		1.0	0.14	884	0.20	1.13	-	N
Main X-listings: AASU FP (USD)										
EGUSAS SW	UBS ETFs plc - MSCI Emerging M	1,530	↓	1.9	0.12	1,137	0.21	0.01	-	N
Main X-listings: EMGEAS IM (EUR)										
LEM FP	Lyxor MSCI Emerging Markets UC	1,360		2.7	-	1,137	0.55	1.13	-	N
Main X-listings: LEMC SW (CHF), LYLEM SW (USD)										
UIMI GY	UBS ETF-MSCI Emerging Markets	1,234		1.0	-	1,137	0.23	0.18	-	N
Main X-listings: EMMUSA SW (USD), EMMUSA SW (USD), EMMEUA IM (EUR), UIMI NA (EUR)										
EMMUSC SW	UBS ETF-MSCI Emerging Markets	1,067		1.4	0.16	1,137	0.23	-	-	N
Main X-listings: EMMUSC IM (EUR)										
IEMA LN	iShares MSCI EM UCITS ETF USD	757		0.6	0.11	1,137	0.68	0.08	-	N
Main X-listings: SEMA LN (GBp), IEMA NA (EUR)										
EMSM GY	Invesco MSCI Emerging Markets	724		0.0	0.17	1,137	0.29	0.00	-	N
MXFS LN	Invesco MSCI Emerging Markets	691		0.3	0.14	1,137	0.29	0.00	-	N
Main X-listings: MXFS IM (EUR), MXFP LN (GBp)										

International

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Emerging (Continued)										
AASU FP	Amundi Msci EM Asia UCITS ETF	633		1	0.23	884	0.20	0.00	-	N
Main X-listings: AASG LN (GBp)										
EMRG FP	SPDR MSCI Emerging Markets UCI	333		0	0.23	1,137	0.42	0.22	-	N
Main X-listings: EMRG LN (GBP), EMRD LN (USD), EMRG SW (CHF)										
E127 GY	ComStage ETF MSCI Emerging Mar	330	↑	0	0.34	1,137	0.25	0.07	-	N
Main X-listings: CBMEMCHF SW (CHF), CBMEM SW (USD), PMEM PL (EUR)										
BR50 IM	iShares BRIC 50 UCITS ETF	271		0	0.25	50	0.74	1.11	-	N
Main X-listings: BRIC LN (GBp), DBRC LN (USD)										
HMEF LN	HSBC MSCI EMERGING MARKETS UCI	230	↓	0	0.16	1,137	0.40	0.25	-	N
Main X-listings: HMEM LN (USD), HMEM IM (EUR)										
EIMU LN	iShares Core MSCI EM IMI UCITS	223	↑	0	0.11	2,708	0.18	0.11	-	N
Main X-listings: IBC3 GR (EUR)										
LYLEM SW	Lyxor MSCI Emerging Markets UC	208		0	0.13	1,137	0.55	0.02	-	N
FEEM GR	Invesco Goldman Sachs Equity F	201		-	0.22	-	0.65	-	-	N
EFIM LN	Invesco Goldman Sachs Equity F	188		0	0.20	-	0.65	-	-	N
Main X-listings: EFEP LN (GBp), EFIM IM (EUR), EFIM SW (USD)										
AEMD GR	Amundi Index MSCI Emerging Mar	96	↑	0	0.23	1,137	0.20	1.15	-	N
LCAS LN	Lyxor MSCI EM Asia UCITS ETF	75	↑	0	0.13	884	0.12	0.02	-	N
Main X-listings: LCAL LN (GBP), LCAS IM (EUR), LCUA GR (EUR)										
EMSM LN	SPDR MSCI Emerging Markets Sma	73		0	0.47	1,571	0.55	0.62	-	N
Main X-listings: EMSD LN (USD)										
FEM LN	First Trust Emerging Markets A	57		0	0.61	-	0.80	0.80	-	N
Main X-listings: FEMU LN (USD)										
FEMI LN	Fidelity Emerging Markets Qual	51	↑	0	0.63	158	0.50	0.28	-	N
Main X-listings: FEMQ LN (GBP), FYEM GR (EUR)										
FLXE GR	Franklin LibertyQ Emerging Mar	44	↑	0	0.22	198	0.55	0.33	-	N
Main X-listings: FLXE IM (EUR), FLXE LN (GBP), FLXE SW (USD), FREM LN (USD)										
ETFEMMA GY	Deka MSCI Emerging Markets UCI	42	↑	0	0.45	1,137	0.65	0.28	-	N
EMMUKD SW	UBS ETF-MSCI Emerging Markets	41	↑	0	0.21	1,137	0.23	0.18	-	N
DEM LN	WisdomTree Emerging Markets Eq	32		0	0.72	605	0.46	0.24	-	N
Main X-listings: DEMD LN (USD), DEM SW (CHF), DEM IM (EUR), DEM SW (CHF)										
STXEMG SJ	Satrix MSCI Emerging Markets E	31	↑	0	0.54	-	0.39	-	-	N
PLEM FP	Lyxor PEA MSCI Emerging Market	26		0	0.16	1,137	0.55	1.13	-	N
HMFE LN	HSBC MSCI EM FAR EAST UCITS ET	24	↓	0	0.42	805	0.60	0.37	-	N
Main X-listings: HMFE IM (EUR), HMFD EU (USD), HMFD LN (USD), MEM FP (EUR)										
C128 GY	ComStage ETF MSCI Emerging Mar	22	↓	0	1.20	-	0.75	-	+2x	N
4GXN GR	Global X MSCI Next Emerging &	15		0	-	202	-	-	-	N
EMSRI FP	Amundi Index MSCI Emerging Mar	14		-	0.23	-	0.25	-	-	N
ZIEM LN	BMO MSCI Emerging Markets Inco	13		0	0.25	280	0.38	1.62	-	N
LEMO FP	Lyxor MSCI Select OECD Emergin	11		0	0.31	-	0.55	1.12	-	N
3EML IM	Boost Emerging Markets 3x Leve	7	↑	0	1.46	-	0.99	-	+3x	N
Main X-listings: 3EML LN (USD), 3ELM LN (GBp)										
3E3M GR	Boost Emerging Markets 3x Leve	7		0	-	-	0.99	-	+3x	N
E129 GR	ComStage ETF S&P SMIT 40 Index	4		0	0.48	40	0.60	1.48	-	N
Main X-listings: CBSMIT SW (CHF), CBSMITE SW (EUR)										
3SEM LN	Boost Emerging Markets 3x Shor	1		0	1.42	-	0.99	-	-3x	N
Main X-listings: 3EMS LN (USD), 3EMS IM (EUR)										
3E3S GR	Boost Emerging Markets 3x Shor	1		0	1.43	-	0.99	-	-3x	N
KSMF68 IT	KSM ETF 4D MSCI Emerging Marke	-		-	-	-	-	-	-	N
TCHF128 IT	Tachlit SAL 4D MSCI Emerging M	-		-	-	-	-	-	-	N
KSMF95 IT [C]	KSM ETF 4A MSCI Emerging Marke	-		-	0.45	1,137	1.40	-	-	N
TGDAX9 IT	Tachlit Dax Global BRIC ILS 40	-		-	-	-	0.92	-	-	N
North America										
CSPX LN	iShares Core S&P 500 UCITS ETF	29,277		17	-	505	0.07	0.02	-	L
Main X-listings: CSP1 LN (GBp), CSSPX IM (EUR)										
VUSA IM	Vanguard S&P 500 UCITS ETF	20,391		-	-	505	0.07	-	-	N
IUSA LN	iShares Core S&P 500 UCITS ETF	7,951		5	-	505	0.07	1.46	-	N
Main X-listings: IDUS LN (USD), IUSA IM (EUR)										
LYPS EU	Lyxor S&P 500 UCITS ETF	7,309		12	-	505	0.15	-	-	N
Main X-listings: LYPS PW (PLN)										
XSPU LN	Xtrackers S&P 500 Swap UCITS E	4,972	↑	3	-	505	0.15	0.01	-	N
Main X-listings: XSPX LN (GBp), XSPX IM (EUR), XSPX SW (CHF)										
SPXS LN	Invesco S&P 500 UCITS ETF	4,705	↑	3	-	505	0.05	0.04	-	N
Main X-listings: SPXS IM (EUR), SPXP LN (GBp), SPXS NA (EUR)										
XD9U LN	Xtrackers MSCI USA UCITS ETF	4,335		3	-	624	0.07	0.03	-	N
Main X-listings: XDUS LN (GBp), XD9U IM (EUR), XD9U GR (EUR), XD9U SW (USD)										
P500 GY	Invesco S&P 500 UCITS ETF	4,270		1	-	505	0.05	0.04	-	N
IUSE LN [C]	iShares S&P 500 EUR Hedged UCI	3,447		3	-	505	0.20	0.08	-	N
SPY5 LN	SPDR S&P 500 UCITS ETF	3,432	↑	5	-	505	0.09	0.04	-	N
Main X-listings: SPX5 LN (GBP), SPY5 GR (EUR), SPY5 FP (EUR)										
CSNDX SW	iShares NASDAQ 100 UCITS ETF	2,931	↑	3	-	103	0.33	0.03	-	N
Main X-listings: CNX1 LN (GBp), CSNDX IM (EUR)										
HSPD LN	HSBC S&P 500 UCITS ETF	2,579		1	-	505	0.09	0.15	-	N
Main X-listings: HSPX LN (GBp), HHH FP (EUR), HSPD IM (EUR)										
500 FP	Amundi S&P 500 UCITS ETF	2,477	↑	1	-	505	0.15	1.13	-	N
Main X-listings: 500E SW (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

International

North America (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
XMUS SW	Xtrackers MSCI USA Swap UCITS	2,375		0.3	-	624	0.30	0.01	-	N
Main X-listings: XMUS IM (EUR), XMUS LN (GBp), XMUS SS (SEK)										
LSPU LN	Lyxor S&P 500 UCITS ETF	2,273		1.3	-	505	0.15	0.00	-	N
Main X-listings: LSPX LN (GBp)										
ESD FP	BNP Paribas Easy S&P 500 UCITS	1,945	↑	5.7	-	505	0.15	0.04	-	N
Main X-listings: ESD SW (USD)										
IDNA LN	iShares MSCI North America UCI	1,935		0.3	0.10	715	0.40	0.04	-	N
Main X-listings: INAA LN (GBp), INAA IM (EUR)										
EQQQ SW	Invesco EQQQ Nasdaq-100 UCITS	1,920		4.9	-	103	0.30	0.04	-	N
Main X-listings: EQQQ LN (GBp), EQQQ IM (EUR), EQQU LN (USD)										
500U FP	Amundi S&P 500 UCITS ETF	1,897	↑	0.7	-	505	0.15	0.01	-	N
Main X-listings: 500USD SW (USD), 500G LN (GBp)										
500H IM [C]	Amundi S&P 500 UCITS ETF	1,467	↑	1.4	-	505	0.28	0.01	-	N
Main X-listings: 500H FP (EUR)										
USJPY SW [C]	UBS Irl ETF plc - MSCI USA UCI	1,416		-	1.51	-	0.19	-	-	N
USEUWH SW [C]	UBS Irl ETF plc - MSCI USA hed	1,369		1.8	0.11	-	0.19	0.09	-	N
GSPX LN [C]	iShares Core S&P 500 UCITS ETF	1,047		0.6	-	505	0.10	-	-	N
Main X-listings: GSPX LN (GBP), GSPX NA (GBP), GSPX SW (CHF)										
CANCDA SW	UBS ETF-MSCI Canada UCITS ETF	1,044	↑	0.5	0.15	91	0.33	0.05	-	N
Main X-listings: CANEUA IM (EUR), UIM9 NA (EUR)										
NDXEX GY	iShares NASDAQ-100 UCITS ETF D	1,034		2.9	-	103	0.31	0.05	-	N
NRAM IM	AMUNDI INDEX MSCI NORTH AMERIC	994	↑	0.1	0.25	715	0.15	0.13	-	N
Main X-listings: NRAM FP (EUR), NAMU NA (USD), NRAM LN (GBp)										
XDPD SW [C]	Xtrackers S&P 500 UCITS ETF	937		-	0.13	505	0.20	-	-	N
Main X-listings: XDPD GR (EUR)										
ESE FP	BNP Paribas Easy S&P 500 UCITS	925		2.2	-	505	0.15	1.13	-	N
Main X-listings: ESE SW (EUR)										
USAUSW SW	UBS Irl ETF plc - MSCI USA UCI	895		1.0	0.13	624	0.14	0.04	-	N
Main X-listings: USAUSW IM (EUR)										
LYP7 GR	Lyxor S&P 500 UCITS ETF	863	↑	0.0	0.19	505	0.15	1.13	-	N
Main X-listings: SP5C FP (EUR), SP5C LN (USD), SP5L LN (GBP)										
CU2 FP	Amundi Msci USA UCITS ETF	859	↓	0.6	-	624	0.28	0.01	-	N
Main X-listings: CU2 IM (EUR)										
SPY4 LN	SPDR S&P 400 U.S. Mid Cap UCIT	816		1.5	0.17	400	0.30	0.03	-	N
Main X-listings: SPY4 GY (EUR), SPY4 FP (EUR)										
SP5H FP [C]	Lyxor S&P 500 UCITS ETF	805		1.0	-	505	0.15	0.01	-	N
USA FP	Lyxor MSCI USA UCITS ETF	794	↓	0.4	-	624	0.25	1.13	-	N
Main X-listings: LYUSA SW (USD), USAL LN (GBp), USAU LN (USD)										
IDP6 LN	iShares S&P Small Cap 600 UCIT	771		1.2	0.16	601	0.40	0.09	-	N
Main X-listings: ISP6 LN (GBp), IUS3 GY (EUR)										
XD9E GR [C]	Xtrackers MSCI USA UCITS ETF	742	↑	0.0	-	624	0.12	5.54	-	N
S500 IM	AMUNDI INDEX S&P 500 UCITS ETF	621	↑	0.1	0.12	505	0.15	1.12	-	N
Main X-listings: F500 GR (EUR), S500 FP (EUR), U500 NA (USD)										
USCHWH SW [C]	UBS Irl ETF plc - MSCI USA hed	590	↓	1.3	0.12	-	0.19	0.11	-	N
XDPE IM [C]	Xtrackers S&P 500 UCITS ETF	582		0.5	-	505	0.20	5.55	-	N
Main X-listings: XDPE GR (EUR), XDPECHF SW (CHF)										
CCAU LN	iShares MSCI Canada UCITS ETF	580	↓	0.2	0.24	91	0.48	0.23	-	N
Main X-listings: CSCA LN (GBp), CSCA SW (CAD), CSCA IM (EUR)										
XRSU LN	Xtrackers Russell 2000 UCITS E	545		0.4	-	1,990	0.30	0.05	-	N
Main X-listings: XRSG LN (GBp), XRS2 IM (EUR), XRS2 SW (USD), XRS2 GR (EUR), XRS2 SS (SEK)										
USAEUA IM	UBS ETF MSCI USA UCITS ETF	538		0.3	0.13	624	0.14	0.05	-	N
Main X-listings: USACHA SW (CHF), UC67 LN (USD)										
CSINDU SW	iShares Dow Jones Industrial A	508	↑	0.6	-	30	0.33	0.05	-	N
XDEW LN	Xtrackers S&P 500 Equal Weight	507		0.8	0.17	505	0.25	0.09	-	N
Main X-listings: XDWE LN (GBp), XDEW GR (EUR), XDEW SW (USD)										
CSUS SW	iShares MSCI USA UCITS ETF	495		0.3	-	624	0.33	0.04	-	N
Main X-listings: CSUS IM (EUR), CU1 LN (GBp)										
UST FP	Lyxor Nasdaq-100 UCITS ETF	490	↓	0.9	-	103	0.30	1.13	-	N
Main X-listings: UST FP (EUR), NASD LN (USD), NASL LN (GBp)										
R2US LN	SPDR Russell 2000 U.S. Small C	483		1.3	0.16	1,990	0.30	0.17	-	N
Main X-listings: R2SC LN (GBP), ZPRR GR (EUR), R2US IM (EUR), R2US FP (EUR)										
ESEH FP [C]	BNP Paribas Easy S&P 500 UCITS	477	↑	3.0	-	505	0.15	5.57	-	N
Main X-listings: ESEH GR (EUR), ESEH SW (EUR)										
CSUSS SW	iShares MSCI USA Small Cap UCI	451		0.3	0.24	1,781	0.43	0.06	-	N
Main X-listings: CSUSS IM (EUR), CUS1 LN (GBp)										
IGUS LN [C]	iShares S&P 500 GBP Hedged UCI	448	↑	1.5	-	505	0.20	0.05	-	N
CBNDX GY	ComStage ETF Nasdaq-100 UCITS	420		0.5	-	103	0.25	0.10	-	N
Main X-listings: CBNDXUS SW (USD), CBNDX SW (CHF), PNDX PL (EUR)										
ETFUSAC GY	Deka MSCI USA UCITS ETF	412		1.1	0.14	624	0.30	0.66	-	N
XD9C SW [C]	Xtrackers MSCI USA UCITS ETF	389	↑	0.4	-	624	0.12	5.07	-	N
ANX IM	Amundi Nasdaq-100 UCITS ETF	359	↑	0.6	-	103	0.23	1.13	-	N
Main X-listings: ANX FP (EUR)										
XDPG LN [C]	Xtrackers S&P 500 UCITS ETF	338	↓	1.1	-	505	0.09	6.88	-	N
Main X-listings: XDPG SW (GBP)										
SP5EUY IM	UBS Irl ETF plc - S&P 500 UCIT	328	↑	0.2	0.16	505	0.12	0.03	-	N
Main X-listings: UBU9 NA (EUR)										
SYGUS SJ	Sygnia Itrix MSCI USA ETF	325		0.3	0.69	624	0.86	-	-	N

International

North America (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
XSPS IM	Xtrackers S&P 500 Inverse Dail	259		1	-	-	0.50	-	-1x	N
Main X-listings: XSPD LN (USD), XSPS LN (GBp)										
CAHCHA SW [C]	UBS ETF-MSCI Canada UCITS ETF	259	↑	0	0.31	4	0.43	0.13	-	N
CAHUSA SW [C]	UBS ETF-MSCI Canada UCITS ETF	258	↑	0	0.32	-	0.43	0.07	-	N
Main X-listings: CAHUSA SW (USD)										
SPXD SW	Invesco S&P 500 UCITS ETF	257	↑	0	0.12	505	0.05	0.04	-	N
Main X-listings: SPXD IM (EUR)										
CANA SW	UBS ETF-MSCI Canada UCITS ETF	251	↑	0	0.30	91	0.33	0.05	-	N
Main X-listings: CANA IM (EUR)										
D500 GR	Invesco S&P 500 UCITS ETF	251		0	-	505	0.05	0.04	-	N
USAEUY IM	UBS Irl ETF plc - MSCI USA UCI	241		1	0.13	624	0.14	0.04	-	N
Main X-listings: UBU3 NA (EUR)										
XCAD LN	Xtrackers MSCI Canada UCITS ET	238		0	0.20	91	0.35	0.02	-	N
Main X-listings: XCAN IM (EUR), XCAN SW (CHF)										
DJE FP	Lyxor Dow Jones Industrial Ave	235		0	0.11	30	0.50	1.13	-	N
VDNR LN	Vanguard FTSE North America UC	235	↑	0	0.28	675	0.10	0.05	-	N
Main X-listings: VNRT NA (EUR), VNRT LN (GBP), VNRT SW (CHF)										
CBNDDUNA GY	ComStage ETF MSCI North Americ	227	↑	0	0.13	715	0.25	0.07	-	N
Main X-listings: CBMNAUS SW (USD), CBMNA SW (CHF)										
E500 GR [C]	Invesco S&P 500 UCITS ETF	223	↑	0	-	505	0.05	0.02	-	N
Main X-listings: E500 IM (EUR), E500 SW (EUR)										
MUUSAS SW	UBS ETFs plc - MSCI USA SF UCI	201		0	0.18	624	0.18	0.01	-	N
UB0A LN [C]	UBS Irl ETF plc - MSCI USA UCI	194	↑	1	0.37	-	0.19	0.07	-	N
Main X-listings: USGBPA SW (GBP)										
XRMU LN	Xtrackers Russell Midcap UCITS	181		0	-	-	0.35	0.11	-	N
Main X-listings: XRSS LN (GBp), XRSM IM (EUR), XRSM GR (EUR)										
C012 GY	ComStage ETF S&P 500 UCITS ETF	177	↓	0	0.10	505	0.12	0.09	-	N
Main X-listings: CBSP50US SW (USD), CBSP50 SW (CHF), PSPX PL (EUR)										
CU2U FP	Amundi Msci USA UCITS ETF	170	↑	0	-	624	0.28	1.13	-	N
Main X-listings: CU2G LN (GBp)										
NDXH IM [C]	Amundi Nasdaq-100 UCITS ETF	169		0	0.14	-	0.35	0.00	-	N
Main X-listings: NDXH FP (EUR), NDXH FP (EUR)										
RTYS LN	Invesco Russell 2000 UCITS ETF	166	↓	0	0.17	1,990	0.45	0.00	-	N
Main X-listings: SR2000 GY (EUR), SR2000 IM (EUR)										
IUSC SW [C]	iShares S&P 500 CHF Hedged UCI	160		1	0.10	505	0.20	0.09	-	N
ESDD FP	BNP Paribas Easy S&P 500 UCITS	158		0	-	505	0.15	0.04	-	N
Main X-listings: ESDD SW (USD)										
FTGU GR	First Trust US Large Cap Core	111		0	0.29	-	0.65	0.06	-	N
USFMA SW	UBS Irl ETF plc - MSCI USA Sel	100		0	0.54	2,234	0.30	-	-	N
S5USAS SW	UBS ETFs plc - S&P 500 SF UCIT	99	↓	0	0.15	505	0.20	0.00	-	N
C2U IM	Amundi ETF Short MSCI USA Dail	98	↓	0	0.17	-	0.35	-	-1x	N
Main X-listings: GC2U GR (EUR)										
EQGB LN [C]	Invesco EQQQ Nasdaq-100 UCITS	92	↑	0	0.17	103	0.35	6.85	-	N
Main X-listings: EQGB SW (GBP)										
USAC FP	Lyxor MSCI USA UCITS ETF	90	↓	0	0.11	624	0.25	1.13	-	N
Main X-listings: LUSAC SW (CHF)										
CL2 FP	Amundi ETF Leveraged MSCI Usa	89		0	0.23	-	0.35	-	+2x	N
LQQ FP	Lyxor PEA Nasdaq-100 Daily 2x	85		2	-	-	0.60	-	+2x	N
LGUG LN	L&G US Equity UCITS ETF	79		-	0.15	557	0.05	-	-	N
Main X-listings: LGUS IM (EUR), LGUS LN (USD), LGUS NA (EUR)										
ETLS GR	L&G US Equity UCITS ETF	78		-	0.11	557	0.05	-	-	N
QDVC GR	iShares Edge MSCI USA Size Fac	78	↑	0	0.14	324	0.20	1.13	-	N
Main X-listings: IUSZN MM (MXN), IUSZ SW (USD), IUSZ LN (USD)										
USEUYH SW [C]	UBS Irl ETF plc - MSCI USA hed	78		0	0.24	-	0.19	0.09	-	N
CBNCUDUS GY	ComStage S&P Small Cap 600 UCI	74		0	0.25	601	0.35	0.08	-	N
Main X-listings: CBUSAS SW (CHF), CBUSASUS SW (USD)										
CAPH SW [C]	OSSIAM SHILLER BARCLAYS CAPE U	74	↑	0	0.32	-	0.65	0.07	-	N
USAUK SW	UBS Irl ETF plc - MSCI USA UCI	72		0	0.18	624	0.14	0.04	-	N
XS2L IM	Xtrackers S&P 500 2x Leveraged	69	↓	1	-	-	0.60	-	+2x	N
Main X-listings: XS2D LN (USD)										
RS2K FP	Amundi Russell 2000 UCITS ETF	65	↓	0	-	1,990	0.35	1.13	-	N
Main X-listings: RS2K SW (EUR), RS2K GR (EUR)										
XT21 IM	Xtrackers S&P 500 2x Inverse D	64		1	0.12	-	0.70	-	-2x	N
Main X-listings: XT2D LN (USD)										
MXUS LN	Invesco MSCI USA UCITS ETF	62		0	0.16	624	0.19	0.04	-	N
Main X-listings: SMSUSA GY (EUR)										
SYG500 SJ	Sygnia Itrix S&P 500 ETF	60		0	2.97	505	0.16	3.65	-	N
LCUS LN	Lyxor Core Morningstar US DR U	49		0	0.13	808	0.04	1.46	-	N
Main X-listings: LCUS GR (EUR), LCUS IM (EUR), LCUD LN (USD), LCUS FP (EUR), LCUS IM (EUR)										
CBNDDUUS GY	ComStage ETF MSCI USA TRN UCIT	44	↓	0	0.13	624	0.10	0.07	-	N
Main X-listings: CBUSA SW (CHF), CBUSAUS SW (USD)										
ETFUSLC GY	Deka MSCI USA LC UCITS ETF	44		0	0.11	300	0.30	0.68	-	N
LYTSX SW	Lyxor MSCI Canada UCITS ETF	44		0	0.44	91	0.40	1.27	-	N
Main X-listings: LYPT EU (EUR), LCAU LN (USD), LCAN LN (GBp)										
RTWO LN	L&G Russell 2000 US Small Cap	43		0	0.15	1,990	0.45	0.04	-	N
Main X-listings: RTWP LN (GBp), RTWO IM (EUR)										
PDJE FP	Lyxor PEA Dow Jones Industrial	41	↑	0	0.11	30	0.50	1.13	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
North America (Continued)										
HMUD LN	HSBC MSCI USA UCITS ETF	41	↓	0.1	0.14	624	0.30	0.14	-	N
Main X-listings: HMUS LN (GBp), MUS FP (EUR)										
ANXU FP	Amundi Nasdaq-100 UCITS ETF	40	↓	0.2	-	103	0.23	0.05	-	N
Main X-listings: ANXG LN (GBp)										
LYSPH SW [C]	Lyxor S&P 500 UCITS ETF	40	↑	0.1	0.14	505	0.15	0.01	-	N
STX500 SJ	Satrix S&P 500 ETF	36	↑	0.2	0.57	505	0.24	-	-	N
3QQQ GR	Boost NASDAQ 100 3x Leverage D	36		0.0	0.39	-	0.75	-	+3x	N
EQEU GR [C]	Invesco EQQQ Nasdaq-100 UCITS	35		0.0	-	103	0.35	5.53	-	N
Main X-listings: EQEU IM (EUR), EQEU SW (EUR)										
PUST FP	Lyxor PEA NASDAQ-100 UCITS ETF	34	↑	0.2	-	103	0.30	1.13	-	N
US9S GR	Boost US S&P500 3x Short Daily	34		0.0	0.34	505	0.80	-	-3x	N
FEXD LN	First Trust US Large Cap Core	33		0.1	0.34	-	0.65	0.06	-	N
DSP5 FP	Lyxor S&P 500 Daily -2x Invers	30	↑	0.4	0.11	-	0.60	-	-2x	N
Main X-listings: SPX2S IM (EUR)										
QQQ3 IM	Boost NASDAQ 100 3x Leverage D	30		2.3	0.20	-	0.75	-	+3x	N
Main X-listings: LQQ3 LN (GBp)										
3USS IM	Boost US S&P500 3x Short Daily	28	↑	1.2	0.14	505	0.80	-	-3x	N
Main X-listings: 3ULS LN (GBp)										
HCAD LN	HSBC MSCI CANADA UCITS ETF	25		0.0	0.28	91	0.35	0.04	-	N
Main X-listings: HCAN LN (GBp), HCAN FP (EUR)										
ZWUS LN [A]	BMO Enhanced Income USA Equity	24	↑	0.0	0.29	-	0.30	2.05	-	N
Main X-listings: ZWUU LN (USD)										
RS2U FP	Amundi Russell 2000 UCITS ETF	24	↑	0.1	0.47	1,990	0.35	0.01	-	N
Main X-listings: RS2U SW (USD), RS2U LN (USD), RS2G LN(GBp)										
STXNDQ SJ	Satrix NASDAQ 100 Feeder Portf	23	↑	0.1	0.54	103	0.48	-	-	N
UC87 LN [C]	UBS ETF-MSCI Canada UCITS ETF	23	↑	0.0	0.74	-	0.43	0.06	-	N
Main X-listings: CAHGBA SW (GBP), UC87 LN (GBp), CAHGBA SW (GBP)										
QQQS IM	Boost NASDAQ 100 3x Short Dail	22	↑	0.8	0.23	-	0.80	-	-3x	N
Main X-listings: LQQS LN (GBp)										
SP500S SW [C]	UBS Irl ETF plc - S&P 500 UCIT	22	↑	0.1	0.15	505	0.22	0.10	-	N
CBMMDUUS G\	ComStage S&P MidCap 400 UCITS	21		0.0	0.21	400	0.35	0.09	-	N
Main X-listings: CBUSAMUS SW (USD), CBUSAM SW (CHF)										
PSP5 FP	Lyxor PEA S&P 500 UCITS ETF	19	↑	0.1	-	505	0.15	1.13	-	N
UEQD GR [C]	UBS Irl ETF plc - S&P 500 UCIT	18	↑	0.0	0.18	505	0.22	0.08	-	N
Main X-listings: SP500E SW (EUR)										
USPG LN [C]	UBS Irl ETF plc - S&P 500 UCIT	18	↓	0.3	0.37	505	0.22	0.28	-	N
Main X-listings: SP500H SW (GBp)										
3QSS GR	Boost NASDAQ 100 3x Short Dail	17		0.0	0.24	-	0.80	-	-3x	N
UNCA IM	First Trust US Equity Income U	17	↑	0.0	0.42	-	0.55	0.08	-	N
US9L GR	Boost US S&P 500 3x Leverage d	16		0.0	0.33	505	0.75	-	+3x	N
ETFUSMC GY	Deka MSCI USA MC UCITS ETF	16		0.0	0.15	324	0.30	0.74	-	N
3USL IM	Boost US S&P 500 3x Leverage d	15	↓	1.2	0.13	505	0.75	-	+3x	N
Main X-listings: 3LUS LN (GBp)										
SP5G LN [C]	Lyxor S&P 500 UCITS ETF	14		-	0.30	-	0.15	-	-	N
EQCH SW [C]	Invesco EQQQ Nasdaq-100 UCITS	14	↑	0.1	-	103	0.35	5.09	-	N
PR1U GR	AMUNDI PRIME USA UCITS ETF DR	11		-	0.18	-	0.05	-	-	N
USML LN	Invesco S&P SmallCap 600 UCITS	10		-	0.23	601	0.14	-	-	N
CAHGBD SW [C]	UBS ETF-MSCI Canada UCITS ETF	10	↑	0.0	0.55	-	0.43	0.06	-	N
Main X-listings: CAHGBD SW (GBP)										
SPXE SW [C]	SPDR S&P 500 UCITS ETF	9		-	0.16	-	0.12	-	-	N
Main X-listings: SPPE GR (EUR), SPXE IM (EUR)										
PUSA FP	Lyxor PEA MSCI USA UCITS ETF	7		0.0	-	624	0.30	1.13	-	N
USGBPD SW [C]	UBS Irl ETF plc - MSCI USA UCI	7	↑	0.0	0.19	-	0.19	0.23	-	N
Main X-listings: UB0B LN (GBp)										
RUS2 LN	Lyxor Russell 2000 UCITS ETF	6	↑	0.0	0.23	1,990	0.19	0.03	-	N
Main X-listings: RU2K FP (EUR)										
CANUKD SW	UBS ETF-MSCI Canada UCITS ETF	6	↑	0.0	0.30	91	0.33	0.05	-	N
XDPC SW [C]	Xtrackers S&P 500 UCITS ETF	6	↓	0.1	0.14	505	0.20	5.09	-	N
TNAE NA	THINK MORNINGSTAR NORTH AMERIC	6		0.0	0.34	-	0.20	0.21	-	N
Main X-listings: VMUS GR (EUR)										
NQSE GR [C]	iShares NASDAQ 100 UCITS ETF	5		0.0	-	103	0.36	-	-	N
XMDU LN	Xtrackers Morningstar US Quali	5		0.0	0.23	-	0.35	0.08	-	N
Main X-listings: XMDU GR (EUR)										
FPX LN	First Trust US Equity Opportun	5	↓	0.0	0.41	-	0.65	-	-	N
Main X-listings: FPXU FP (USD)										
SP500F SW [C]	UBS Irl ETF plc - S&P 500 UCIT	5	↓	0.0	0.15	505	0.22	0.09	-	N
Main X-listings: UEQ7 GR (EUR)										
EQAC SW	Invesco EQQQ Nasdaq-100 UCITS	5		0.0	0.11	103	0.30	-	-	N
SPVG LN	Invesco S&P 500 VEQTOR UCITS E	4		0.0	0.30	-	0.39	1.46	-	N
Main X-listings: SPVX FP (EUR), SPVX IM (EUR), PSVX GR (EUR), SPVX LN (USD), SPVX SW (USD)										
C014 GR [C]	ComStage S&P 500 Euro Daily He	3	↓	0.0	0.19	505	0.15	0.05	-	N
DNRA GR	AMUNDI INDEX MSCI NORTH AMERIC	1		0.0	-	715	0.15	0.13	-	N
FYX LN	First Trust US Small Cap Core	1		0.0	0.45	-	0.75	0.09	-	N
USAUKD SW	UBS ETF MSCI USA UCITS ETF	1	↓	0.0	0.18	624	0.14	0.04	-	N
ETF500 SJ	STANLIB S&P 500 ETF	1	↓	0.0	1.16	505	0.27	4.49	-	N
CAHSGA SW [C]	UBS ETF-MSCI Canada UCITS ETF	1		0.0	1.10	-	0.43	0.06	-	N
PSPH FP [C]	Lyxor PEA S&P 500 UCITS ETF	1		-	0.12	505	0.15	-	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
North America (Continued)										
TCBI105 IT [C]	Tachlit NASDAQ Biotechnology I	-		0	0.34	64	0.62	-	-	N
PSSP212 IT	Psagot Sal Composite 2 Consume	-		-	-	-	0.40	-	-	N
Main X-listings: PSSP212 IT (ILs)										
PSGT235 IT	Psagot Sal Composite 3 Equity	-		-	-	-	0.40	-	-	N
Main X-listings: PSGT235 IT (ILs)										
TCHF131 IT	Tachlit SAL 4D Russell 2000	-		-	-	-	-	-	-	N
KSMF82 IT [C]	KSM ETF 4A S&P 500 Currency He	-		-	0.26	505	-	-	-	N
SG92 LN	SG S&P x5 DAILY LONG	-		0	0.32	-	0.75	-	-	N
KSMF60 IT	KSM ETF 4D Russell 2000	-		-	-	-	-	-	-	N
PSGF60 IT	Psagot ETF 4D Russell 2000	-		-	-	-	0.60	-	-	N
TCIP110 IT [C]	TACHLIT IPOX 100 US ILS 40a	-		0	0.32	-	0.82	-	-	N
HRNQ206 IT	HARELNASQ50 206	-		-	-	-	-	-	-	N
TCSP114 IT	Tachlit Composite Consumer USA	-		-	-	-	0.42	-	-	N
KSMF150 IT	KSM ETF 4D Composite US Equity	-		-	-	-	-	-	-	N
KSMF5 IT	KSM ETF 4D S&P MidCap 400	-		-	-	-	-	-	-	N
KSMSPTSX IT	KSM S&P TSX 60 PR 4Da	-		-	-	-	0.62	-	-	N
INDX72 IT	Tachlit RUSSELL 2000 ILS 40a	-		-	-	-	0.82	-	-	N
KSMF52 IT	KSM ETF 4D NASDAQ 100	-		-	-	-	-	-	-	N
PSRTY66 IT [C]	Psagot Sal Russell 2000 ILS	-		-	-	1,990	0.80	9.49	-	N
KSMF119 IT [C]	KSM ETF 4A Composite US Equity	-		-	0.54	505	0.00	-	-	N
KSMF111 IT	KSM ETF 6D Leveraged S&P 500 x	-		-	-	-	2.75	-	+3x	N
SG93 LN	SG S&P x5 DAILY SHORT	-		0	0.32	-	0.75	-	-	N
SG89 LN	SG S&P x5 DAILY SHORT	-		0	0.32	-	0.75	-	-5x	N
HRZA95 IT	Harel Sal S&P 500 equal w eight	-		-	-	-	0.60	-	-	N
KSMF94 IT [C]	KSM ETF 4A Russell 2000 Curren	-		-	0.47	1,990	0.25	-	-	N
KSMF101 IT [C]	KSM ETF 4A S&P/TSX 60 Currency	-		-	0.81	-	0.80	-	-	N
KSMF115 IT	KSM ETF 6D Short Leveraged NAS	-		-	-	-	2.75	-	-3x	N
TCNS124 IT	Tachlit NASDAQ 100 series 3 PR	-		-	-	-	0.12	-	-	N
PSSP201 IT [C]	Psagot Sal S&P MidCap 400 ILS	-		-	-	400	-	8.88	-	N
TCSP111 IT [C]	Tachlit S&P Midcap 400 ILS	-		0	0.29	400	0.52	-	-	N
KSMF80 IT	KSM ETF 4D S&P 500	-		-	-	-	-	-	-	N
KSMF83 IT [C]	KSM ETF 4A NASDAQ 100 Currency	-		-	0.25	103	-	-	-	N
SG90 LN	SG S&P x3 DAILY LONG	-		0	0.19	-	0.70	-	+3x	N
SG88 LN	SG S&P x5 DAILY LONG	-		0	0.31	-	0.75	-	+5x	N
TCHF77 IT	Tachlit SAL 4D NASDAQ 100	-		-	-	-	-	-	-	N
KSMF114 IT	KSM ETF 6D Short Leveraged S&P	-		-	-	-	2.75	-	-3x	N
KSMF117 IT [C]	KSM ETF 4A S&P SmallCap 600 Cu	-		-	0.36	601	0.80	-	-	N
HRNDX49 IT	Harel Sal NASDAQ 100 INS	-		-	-	-	-	-	-	N
TCSP123 IT	Tachlit S&P 500 series 3 NTR I	-		-	-	-	0.12	-	-	N
KSMF112 IT	KSM ETF 6D Leveraged NASDAQ 10	-		-	-	-	2.75	-	+3x	N
SG91 LN	SG S&P x3 DAILY SHORT	-		0	0.20	-	0.75	-	-3x	N
PSGT236 IT	Psagot Sal Composite 2 Consume	-		-	-	-	0.40	-	-	N
PSGF64 IT	Psagot ETF 4D NASDAQ 100	-		-	-	-	0.60	-	-	N
TCHF76 IT	Tachlit SAL 4D S&P 500	-		-	-	-	-	-	-	N
PDRB171 IT [C]	Psagot Sal US BUYBACK ILS	-		-	-	173	1.00	-	-	N
PSSP211 IT	Psagot Sal Composite 3 Select	-		-	-	-	0.40	-	-	N
TCLSP14 IT	Tachlit Canada S&P 60 ILS 40a	-		-	-	-	0.62	-	-	N
Latin America										
IBZL LN	iShares MSCI Brazil UCITS ETF	359		0	0.69	52	0.74	1.51	-	N
Main X-listings: IBZL NA (EUR), IBZL SW (USD)										
DLTM LN	iShares MSCI EM Latin America	322	↓	0	0.53	107	0.74	0.91	-	N
Main X-listings: LTAM NA (EUR), LTAM LN (GBp)										
ALAT FP	Amundi Msci EM Latin America U	255	↑	0	0.29	107	0.20	1.12	-	N
Main X-listings: ALAT IM (EUR), ALAT SW (EUR), AMEL GR (EUR)										
BRA IM	Lyxor MSCI Brazil UCITS ETF	194	↓	1	0.28	52	0.65	1.76	-	N
Main X-listings: LYRIO SW (USD)										
XMBR LN	Xtrackers MSCI Brazil UCITS ET	144		0	0.42	52	0.65	1.43	-	N
Main X-listings: XMBD LN (USD), XMBR IM (EUR), XMBR SS (SEK)										
XMES LN	Xtrackers MSCI Mexico UCITS ET	101	↑	0	0.38	26	0.65	0.05	-	N
Main X-listings: XMEX LN (GBp), XMEX IM (EUR), XMEX SW (CHF)										
XMLA IM	Xtrackers MSCI EM Latin Americ	72	↓	0	0.26	107	0.65	1.09	-	N
Main X-listings: XMLD LN (USD), XMLA LN (GBp), XMLACHF SW (CHF)										
LTM FP	Lyxor MSCI EM Latin America UC	62		0	0.27	107	0.65	1.13	-	N
CMXC LN	iShares MSCI Mexico Capped UCI	57	↑	0	0.38	-	0.65	0.06	-	N
Main X-listings: CMX1 LN (GBp), CSMXCP IM (EUR)										
HBZ FP	HSBC MSCI BRAZIL UCITS ETF	30		0	1.16	52	0.60	0.17	-	N
Main X-listings: HBRL LN (GBp), HMBR LN (USD)										
HMLA FP	HSBC MSCI EM LATIN AMERICA UCI	15		0	0.84	107	0.60	0.11	-	N
Main X-listings: HMLA IM (EUR), HMLA LN (GBp), HMLA SW (USD)										
BRZ FP	AMUNDI MSCI BRAZIL	12	↓	0	0.33	52	0.55	0.09	-	N
Main X-listings: BRZ IM (EUR)										
HMED LN	HSBC MSCI MEXICO CAPPED UCITS	8		0	0.47	-	0.60	0.05	-	N
Main X-listings: HMEX LN (GBp)										
PRIO FP	Lyxor PEA MSCI Brazil UCITS ET	5	↓	0	0.27	52	0.65	1.76	-	N
LTMP FP	Lyxor PEA Amerique Latine MSCI	1		0	0.22	107	0.65	1.13	-	N
KSMF31 IT	KSM ETF 4D ! IBOVESPA	-		-	-	-	1.00	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

International

Asia Pacific

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
SJPA LN	iShares Core MSCI Japan IMI UC	3,208		0.9	0.11	1,298	0.20	1.44	-	N
Main X-listings: SJPA SW (JPY), IJPA LN (USD), IJPA LN (USD), SJPA IM (EUR)										
IFFF LN	iShares MSCI AC Far East ex-Ja	2,287		1.2	0.14	874	0.74	1.42	-	N
Main X-listings: IDFF LN (USD), IFFF NA (EUR)										
XMJP SW	Xtrackers MSCI Japan UCITS ETF	1,895		0.5	0.13	322	0.30	1.18	-	N
Main X-listings: XMJD LN (USD), XMJP IM (EUR), XMJP LN (GBp)										
VDJP LN	Vanguard FTSE Japan UCITS ETF	1,688		1.0	0.12	512	0.19	0.05	-	N
Main X-listings: VJPN IM (EUR)										
CPJ1 LN	iShares Core MSCI Pacific ex-J	1,610		0.5	0.18	1,032	0.20	1.45	-	N
Main X-listings: CSPXJ SW (USD), CSPXJ IM (EUR)										
IJPE LN [C]	iShares MSCI Japan EUR Hedged	1,435	↓	1.3	-	-	0.64	0.10	-	N
IJPN LN	iShares MSCI Japan UCITS ETF U	1,348		0.9	0.11	322	0.59	1.40	-	N
Main X-listings: IJPN SW (JPY), IJPN IM (EUR)										
XCS6 GY	Xtrackers MSCI China UCITS ETF	1,045	↑	1.3	0.15	469	0.65	1.13	-	N
Main X-listings: XCS6 IM (EUR), XCS6 LN (USD), XCX6 LN (GBp), XMCH SW (CHF)										
INR FP	Lyxor MSCI India UCITS ETF	954	↓	1.8	0.14	79	0.85	1.12	-	N
XDJE SW [C]	Xtrackers Nikkei 225 UCITS ETF	924		-	0.15	225	0.19	-	-	N
Main X-listings: XDJE GR (EUR)										
XNJP SW	Xtrackers Nikkei 225 UCITS ETF	923	↑	0.1	0.13	225	0.09	0.09	-	N
JPN FP	Lyxor Japan TOPIX DR UCITS ETF	906		0.5	-	2,136	0.45	1.50	-	N
Main X-listings: JPNC SW (CHF), JPNL LN (GBp)										
JPNJPA SW	UBS ETF-MSCI Japan UCITS ETF	897		1.6	0.13	322	0.35	0.04	-	N
Main X-listings: JPNEUA IM (EUR), JPNCHA SW (CHF), UIM5 NA (EUR)										
JPNA SW	UBS ETF-MSCI Japan UCITS ETF	880	↑	1.0	0.28	322	0.35	0.04	-	N
Main X-listings: JPNA IM (EUR)										
XMK9 GR [C]	Xtrackers MSCI Japan UCITS ETF	737	↓	0.0	-	322	0.40	7.77	-	N
EMAD LN	SPDR MSCI EM Asia UCITS ETF	680	↑	0.4	0.31	884	0.55	0.33	-	N
Main X-listings: EMAS LN (GBP), EMAE FP (EUR), EMAS SW (CHF)										
FXC LN	iShares China Large Cap UCITS	639		0.4	0.16	50	0.74	1.47	-	N
Main X-listings: IDFX LN (USD), FXC IM (EUR)										
IKOR LN	iShares MSCI Korea UCITS ETF U	623	↑	0.2	0.22	115	0.74	1.42	-	N
Main X-listings: IKOR SW (USD), IKOR IM (EUR)										
XPXJ LN	Xtrackers MSCI Pacific ex Japa	602		0.1	0.13	148	0.45	1.45	-	N
Main X-listings: XPXD LN (USD), XPXJ IM (EUR), XPXJ SS (SEK)										
CSEMAS SW	iShares MSCI EM Asia UCITS ETF	566		0.3	0.21	884	0.65	0.12	-	N
Main X-listings: CEA1 LN (GBp), CSEMAS IM (EUR)										
XAXD LN	Xtrackers MSCI AC Asia ex Japa	553		0.6	0.15	956	0.65	0.01	-	N
Main X-listings: XAXJ LN (GBp), XAXJ IM (EUR), XAXJ SS (SEK)										
XMAS LN	Xtrackers MSCI EM Asia Swap UC	551	↓	0.1	0.21	884	0.65	1.45	-	N
Main X-listings: XMAI SW (USD), XMAS IM (EUR)										
IASH LN	iShares MSCI China A UCITS ETF	545	↑	0.2	0.37	238	0.40	2.54	-	N
Main X-listings: CNYA LN (USD), 36BZ GR (EUR), CNYA SW (USD)										
IUS4 GY	iShares MSCI Japan Small Cap U	516	↓	0.2	0.24	976	0.58	1.09	-	N
Main X-listings: ISJP SW (JPY), IDJP LN (USD), ISJP LN (GBp), ISJP IM (EUR)										
RQFI IM	Xtrackers Harvest CSI300 UCITS	512	↑	0.3	0.28	-	0.65	3.65	-	N
Main X-listings: RQFI GR (EUR), RQFIUSD SW (USD)										
CINA IM	Lyxor China Enterprise HSCEI U	469		0.7	0.18	50	0.65	1.14	-	N
Main X-listings: ASIL LN (GBp), ASIU LN (USD), LYASI SW (USD)										
TPXH FP [C]	Amundi Japan Topix UCITS ETF	443	↓	0.8	-	-	0.48	0.01	-	N
Main X-listings: TPXH IM (EUR)										
HMCD LN	HSBC MSCI CHINA UCITS ETF	406	↑	0.5	0.19	469	0.60	0.17	-	N
Main X-listings: HMCH IM (EUR), CNY FP (EUR), HMCH LN (GBp)										
CSJP SW	iShares MSCI Japan UCITS ETF	393		0.2	0.20	322	0.48	0.05	-	N
Main X-listings: CSJP IM (EUR), CSJP LN (GBp), CJPU LN (USD)										
AEJ FP	Lyxor MSCI AC Asia Pacific Ex	384		0.5	0.19	1,032	0.60	1.13	-	N
Main X-listings: LYAEJ SW (USD), AEJ LN (USD), AEJL LN (GBp)										
APX FP	Lyxor MSCI AC Asia Ex Japan UC	344		0.1	0.20	956	0.50	1.13	-	N
VDPX LN	Vanguard FTSE Developped Asia	336		0.2	0.18	-	0.22	0.27	-	N
Main X-listings: VAPX IM (EUR)										
IJPD LN [C]	iShares MSCI Japan USD Hedged	321	↓	1.4	0.14	-	0.64	0.16	-	N
CP9 FP	Amundi Index MSCI Pacific ex J	317		0.1	0.24	148	0.46	1.14	-	N
JPNH FP [C]	Lyxor Japan TOPIX DR UCITS ETF	312	↓	0.2	-	-	0.45	0.22	-	N
Main X-listings: JPNH SW (EUR)										
JPX4 FP	Lyxor JPX-Nikkei 400 DR UCITS	306		0.2	0.12	397	0.25	1.45	-	N
Main X-listings: JPXG LN (GBp), JPX4 LN (USD), JPXY NA (JPY)										
CJ1 FP	Amundi Index MSCI Japan UCITS	301		0.2	0.10	322	0.45	0.05	-	N
TPXE FP	Amundi Japan Topix UCITS ETF	290		0.4	-	2,136	0.20	1.44	-	N
Main X-listings: TPXE SW (EUR)										
IAUS LN	iShares MSCI Australia UCITS E	288	↓	0.2	0.18	69	0.50	0.10	-	N
Main X-listings: SAUS LN (GBp), IBC6 GY (EUR), SAUS SW (AUD), SAUS IM (EUR)										
HMAD LN	HSBC MSCI AC FAR EAST EX JAPAN	288		0.2	0.31	874	0.45	0.25	-	N
Main X-listings: HMAF IM (EUR), HMAF SW (USD)										
XFVT LN	Xtrackers FTSE Vietnam Swap UC	279		0.2	0.50	20	0.85	1.45	-	N
Main X-listings: XFVT IM (EUR), XVTD LN (USD), XFVI SW (CHF)										
WTDX GR [C]	WisdomTree Japan Equity UCITS	257		0.0	0.34	-	0.48	0.23	-	N
DXJ LN [C]	WisdomTree Japan Equity UCITS	256	↑	0.1	0.43	-	0.48	0.23	-	N
Main X-listings: DXJ IM (EUR), DXJ SW (USD)										

Asia Pacific (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
IPXJ LN	iShares MSCI Pacific ex-Japan	250	↓	0	0.15	148	0.60	0.06	-	N
Main X-listings: SPXJ IM (EUR), SPXJ LN (GBp)										
IJPC SW [C]	iShares MSCI Japan CHF Hedged	249	↓	1	0.16	322	0.64	0.12	-	N
CBNDDUP GY	ComStage ETF MSCI Pacific TRN	240		0	0.31	470	0.45	0.08	-	N
Main X-listings: CBMP SW (CHF)										
HMCA LN	HSBC MSCI China A Inclusion UC	240		0	0.36	238	0.30	-	-	N
Main X-listings: HMCA IM (EUR), HMCT LN (USD), HMCT SW (USD)										
H41K GR	HSBC MSCI China A Inclusion UC	237		0	0.38	238	0.30	-	-	N
ITDW LN	iShares MSCI Taiwan UCITS ETF	230	↓	0	0.25	-	0.74	0.05	-	N
Main X-listings: ITWN LN (GBp), ITWN IM (EUR)										
CSNKY SW	iShares Nikkei 225 UCITS ETF	223	↓	0	0.25	225	0.48	0.12	-	N
Main X-listings: CNKY LN (GBp), CSNKY IM (EUR)										
HSI FP	Lyxor Hong Kong HSI UCITS ETF	222	↑	0	0.20	50	0.65	1.14	-	N
Main X-listings: LYHSI SW (USD)										
XDNS LN	Xtrackers JPX-Nikkei 400 UCITS	190		0	0.14	397	0.20	1.39	-	N
Main X-listings: XDNY LN (USD), XDNY IM (EUR), XDNY GR (EUR)										
XCS5 LN	Xtrackers MSCI India Swap UCIT	172		0	0.18	79	0.75	0.01	-	N
Main X-listings: XCS5 GY (EUR), XCX5 LN (GBp)										
IJPH LN [C]	iShares MSCI Japan GBP Hedged	166	↓	1	0.16	322	0.64	0.11	-	N
CI2 FP	Amundi Msci India UCITS ETF	165		0	0.32	79	0.80	1.14	-	N
Main X-listings: CI2 IM (EUR)										
PACUSA SW	UBS ETF MSCI Pacific ex Japan	159		0	0.21	148	0.30	0.05	-	N
Main X-listings: PACEUA GY (EUR), UIMD NA (EUR)										
HMJP LN	HSBC MSCI JAPAN UCITS ETF	159	↓	0	0.17	322	0.19	0.03	-	N
Main X-listings: HMJD LN (USD), HMJPJPY SW (JPY), MJP FP (EUR), HMJD IM (EUR)										
JPNK FP	Amundi Jpx-Nikkei 400 UCITS ET	159	↑	0	0.14	397	0.18	1.44	-	N
Main X-listings: JPNK IM (EUR), JP40 GR (EUR), JPNK SW (EUR)										
NKYEX GY	iShares Nikkei 225 UCITS ETF D	153	↓	0	0.11	225	0.51	0.17	-	N
XNIF GY	Xtrackers Nifty 50 Swap UCITS	143	↓	0	0.21	-	0.85	2.58	-	N
Main X-listings: XNID LN (USD), XNIF LN (GBp), XNIF SS (SEK)										
NDIA LN	iShares MSCI India UCITS ETF	141		0	0.26	79	0.65	-	-	N
Main X-listings: IIND LN (GBP), QDV5 GR (EUR)										
LYINR SW	Lyxor MSCI India UCITS ETF	139		0	0.20	79	0.85	0.03	-	N
CC1 FP	Amundi Msci China UCITS ETF	135	↑	0	0.31	-	0.55	1.13	-	N
Main X-listings: CC1 FP (EUR), CC1 IM (EUR), CC1E SW (EUR)										
XMID LN	Xtrackers MSCI Indonesia Swap	134	↓	0	0.53	28	0.65	1.45	-	N
Main X-listings: XIDD LN (USD)										
XX25 LN	Xtrackers FTSE China 50 UCITS	123		0	0.19	-	0.60	1.45	-	N
Main X-listings: XX25 IM (EUR), XXXI SW (USD), XX25 SS (SEK)										
XMUJ LN [C]	Xtrackers MSCI Japan UCITS ETF	117	↓	0	0.11	322	0.40	6.12	-	N
Main X-listings: XMUJ SW (USD)										
SMLN GR	Invesco JPX-Nikkei 400 UCITS E	116	↓	0	0.12	397	0.19	0.00	-	N
N400 LN	Invesco JPX-Nikkei 400 UCITS E	116	↓	0	0.15	397	0.19	0.00	-	N
Main X-listings: S400 LN (GBp), N400 IM (EUR)										
LYASC SW	Lyxor China Enterprise HSCEI U	111		-	0.54	50	0.65	-	-	N
LCJP IM	Lyxor Core MSCI Japan DR UCITS	106	↑	0	0.32	322	0.12	1.46	-	N
Main X-listings: LCUJ GR (EUR), LCJP LN (GBP), LCJD LN (USD)										
JPHE FP [C]	Amundi Jpx-Nikkei 400 UCITS ET	105	↓	0	0.14	-	0.18	0.01	-	N
Main X-listings: JPHE SW (EUR), JP4H GR (EUR), , JPHE FP (EUR), JPHE IM (EUR)										
LCCN LN	Lyxor MSCI China UCITS ETF	101		0	0.21	469	0.30	-	-	N
PAXJ FP	Lyxor MSCI Pacific Ex Japan UC	99		0	0.18	148	0.12	1.13	-	N
Main X-listings: PAXJ LN (USD)										
XAUS IM	Xtrackers S&P ASX 200 UCITS ET	98		0	0.15	200	0.50	1.04	-	N
Main X-listings: XAUS LN (GBp)										
AJEUAS SW	UBS ETFs plc - MSCI AC Asia ex	94	↓	0	0.51	956	0.23	0.01	-	N
Main X-listings: UC48 LN (GBp)										
LCJG LN [C]	Lyxor Core MSCI Japan DR UCITS	93		0	0.17	-	0.20	-	-	N
JPNY FP	Amundi Jpx-Nikkei 400 UCITS ET	93	↓	0	0.17	397	0.18	0.02	-	N
Main X-listings: JPNY LN (GBp), JPNY SW (JPY)										
KRW FP	Lyxor MSCI Korea UCITS ETF	92		0	0.20	115	0.45	1.08	-	N
Main X-listings: KRW LN (USD), KRWL LN (GBp), LYKRW SW (USD)										
JPEUBH SW [C]	UBS ETF - MSCI Japan hedged to	89	↓	0	0.17	-	0.45	0.11	-	N
XKS2 LN	Xtrackers MSCI Korea UCITS ETF	87	↓	0	0.38	115	0.65	1.44	-	N
Main X-listings: XMKO IM (EUR), XMKO SW (USD)										
CHIN LN	ICBCCS WisdomTree S&P China 50	86	↑	0	1.24	563	0.75	0.50	-	N
Main X-listings: CHIN IM (EUR), CHIC LN (CNY), CHIP LN (GBp), ICW5 GR (EUR)										
LGJG LN	L&G Japan Equity UCITS ETF	84		-	0.29	339	0.10	-	-	N
Main X-listings: LGJP IM (EUR), LGJP LN (USD), LGJP NA (EUR)										
ETLR GR	L&G Japan Equity UCITS ETF	84		-	0.15	339	0.10	-	-	N
JPXH FP [C]	Lyxor JPX-Nikkei 400 DR UCITS	80	↓	0	0.13	-	0.25	0.10	-	N
JPHU FP [C]	Amundi Jpx-Nikkei 400 UCITS ET	78	↑	0	0.15	-	0.18	0.01	-	N
Main X-listings: JPHU LN (USD), JPHU SW (USD)										
TPXY FP	Amundi Japan Topix UCITS ETF	75	↓	0	0.13	2,136	0.20	0.01	-	N
Main X-listings: TPXU LN (USD), TPXG LN (GBp), TPXY SW (JPY)										
AUSCHW SW	UBS Irl ETF plc - MSCI Austral	73	↑	0	0.21	69	0.40	0.08	-	N
JPCHBH SW [C]	UBS ETF - MSCI Japan hedged to	71	↓	0	0.22	322	0.45	0.12	-	N
PHEF LN	SciBeta HFE Pacific ex-Jap Equ	67	↑	0	0.61	-	0.30	0.03	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

International

Asia Pacific (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
JHEF LN	SciBeta HFE Japan Equity 6F EW	67	↓	0.0	0.61	-	0.30	0.03	-	N
LAUU LN	Lyxor Australia S&P/ASX 200 UC	64		0.0	0.20	200	0.40	1.67	-	N
Main X-listings: LYPU EU (EUR), LAUS LN (GBp) , LYAU2 SW (USD)										
DJCHOEX GY	iShares Dow Jones China Offsho	63		0.1	0.36	-	0.61	0.12	-	N
ETFCHINA GY	Deka MSCI China ex A Shares UC	62		0.1	0.37	-	0.65	-	-	N
XMTD LN	Xtrackers MSCI Taiwan UCITS ET	59	↓	0.1	0.23	-	0.65	0.05	-	N
Main X-listings: XMTW LN (GBp), XMTW IM (EUR)										
CSKR SW	iShares MSCI Korea UCITS ETF U	57	↑	0.0	0.29	115	0.65	0.12	-	N
ETFJPAC GY	Deka MSCI Japan UCITS ETF	56		0.1	0.28	322	0.50	0.20	-	N
ISFE LN	iShares MSCI AC Far East ex-Ja	53		0.1	0.39	-	0.74	1.45	-	N
CNAA FP	Lyxor Hwabao WP MSCI China A D	52		0.1	0.61	387	0.65	2.81	-	N
Main X-listings: CNAA LN (USD), CNAL LN (GBp), LNY3 GR (EUR), CNAA SW (USD), CNAA IM (EUR)										
CBNKY GY	ComStage ETF Nikkei 225 UCITS	52		0.1	0.51	225	0.25	0.13	-	N
Main X-listings: CBNKYJP SW (JPY), CBNKY SW (CHF), PNIK PL (EUR)										
NJXE LN [C]	Nomura JPX-Nikkei 400 Net Tota	51		0.0	0.28	-	0.30	0.15	-	N
Main X-listings: NJXE SW (EUR)										
JPGBPD SW [C]	UBS ETF-MSCI Japan UCITS ETF	47	↓	0.0	0.63	322	0.45	0.11	-	N
Main X-listings: UB0D LN (GBp)										
XCS4 LN	Xtrackers MSCI Thailand UCITS	45	↓	0.1	0.42	36	0.50	0.22	-	N
Main X-listings: XCX4 LN (GBp), XCS4 IM (EUR)										
SYGJP SJ	Sygnia Itrix MSCI Japan ETF	45		0.1	1.75	322	0.86	-	-	N
AUHCHA SW [C]	UBS Irl ETF plc - MSCI Austral	44	↑	0.1	0.37	-	0.50	0.13	-	N
XPHI LN	Xtrackers MSCI Philippines UCI	44		0.1	0.52	40	0.65	0.04	-	N
Main X-listings: XPHG LN (GBp), XPQP GR (EUR)										
JPEUAH SW [C]	UBS ETF - MSCI Japan hedged to	44	↓	0.0	0.47	-	0.45	0.11	-	N
Main X-listings: UE32 NA (EUR)										
JPXU LN [C]	Lyxor JPX-Nikkei 400 DR UCITS	43	↓	0.1	0.16	-	0.25	0.10	-	N
AUHUSA SW [C]	UBS Irl ETF plc - MSCI Austral	42	↑	0.0	0.34	-	0.50	0.08	-	N
JPUSBH SW [C]	UBS ETF - MSCI Japan hedged to	42	↓	0.2	0.30	-	0.45	0.19	-	N
NK4E LN [C]	iShares JPX-Nikkei 400 EUR Hed	42		0.0	0.25	-	0.25	0.15	-	N
Main X-listings: NK4E SW (EUR), 36BY GR (EUR)										
HIDD LN	HSBC MSCI INDONESIA UCITS ETF	42	↓	0.0	0.56	28	0.60	0.03	-	N
Main X-listings: HIDD IM (EUR), HIDR LN (GBp)										
JPXX LN [C]	Lyxor JPX-Nikkei 400 DR UCITS	40	↓	0.1	0.16	-	0.25	0.11	-	N
XMCJ SW [C]	Xtrackers MSCI Japan UCITS ETF	40	↓	0.1	-	322	0.40	6.31	-	N
AUHEUA SW [C]	UBS Irl ETF plc - MSCI Austral	39	↑	0.1	0.29	-	0.50	0.11	-	N
Main X-listings: AUHEUA IM (EUR), UE28 NA (EUR)										
NXKE SW [C]	Nomura Nikkei 225 EUR-Hedged U	38		0.0	0.27	-	0.60	1.12	-	N
Main X-listings: NXKE LN (EUR)										
KWEB LN	KraneShares CSI China Internet	38		-	0.82	-	0.75	-	-	N
INDO FP	Lyxor MSCI Indonesia UCITS ETF	33	↓	0.1	0.70	28	0.55	1.11	-	N
H4ZH GY	HSBC MSCI PACIFIC EX JAPAN UCI	32		0.0	0.27	148	0.40	0.06	-	N
N4US LN [C]	Invesco JPX-Nikkei 400 UCITS E	30		0.1	0.24	-	0.19	0.01	-	N
Main X-listings: N4US LN (USD)										
HMXJ LN	HSBC MSCI PACIFIC EX JAPAN UCI	29	↓	0.0	0.26	148	0.40	0.06	-	N
Main X-listings: HMXJ IM (EUR), HMXD LN (USD)										
SMLC GR	CSOP Source FTSE China A50 UCI	29		0.0	0.50	50	0.65	0.20	-	N
CHNA LN	CSOP Source FTSE China A50 UCI	29	↑	0.0	0.41	50	0.65	0.20	-	N
Main X-listings: CHNA IM (EUR), CHNA SW (USD)										
WTIZ GR	WisdomTree Japan Equity UCITS	28		0.0	0.40	501	0.40	0.18	-	N
XDNE IM [C]	Xtrackers JPX-Nikkei 400 UCITS	27	↓	0.0	0.13	397	0.30	7.34	-	N
Main X-listings: XDNE GR (EUR)										
NS4E GR [C]	Invesco JPX-Nikkei 400 UCITS E	26	↓	0.0	-	-	0.19	0.01	-	N
Main X-listings: NS4E GR (EUR)										
NXKU LN [C]	Nomura Nikkei 225 USD-Hedged U	26		0.1	0.37	225	0.60	1.14	-	N
Main X-listings: NXKU SW (USD)										
TWN FP	Lyxor MSCI Taiwan UCITS ETF	26	↓	0.0	0.40	-	0.45	1.14	-	N
Main X-listings: LYTWN SW (USD)										
MAL FP	Lyxor MSCI Malaysia UCITS ETF	25	↓	0.0	0.65	-	0.65	1.11	-	N
Main X-listings: MAL FP (EUR), MALU LN (USD), MALX LN (GBp)										
DXJG LN	WisdomTree Japan Equity UCITS	24	↓	0.0	0.40	501	0.40	0.18	-	N
Main X-listings: DXJZ IM (EUR), DXJZ LN (USD), DXJZ SW (USD)										
LGAG LN	L&G Asia Pacific ex Japan Equi	23		-	0.45	156	0.10	-	-	N
Main X-listings: LGAP IM (EUR), LGAP LN (USD), LGAP NA (EUR)										
ETLK GR	L&G Asia Pacific ex Japan Equi	23		-	0.35	156	0.10	-	-	N
MAJQ SW	Market Access iSTOXX MUTB Japa	22	↓	0.0	0.43	149	0.50	0.70	-	N
Main X-listings: M9SQ GR (EUR), MAJQ LN (GBP)										
LYPXJ SW	Lyxor MSCI AC Asia Pacific Ex	21		-	0.54	1,032	0.60	-	-	N
THA FP	Lyxor MSCI Thailand UCITS ETF	20	↓	0.0	0.55	36	0.45	2.67	-	N
C022 GY	ComStage ETF HSI UCITS ETF	19		0.0	0.38	50	0.55	0.08	-	N
Main X-listings: CBHSI SW (CHF), CBHSIUS SW (USD)										
CI2USD SW	Amundi Msci India UCITS ETF	19	↑	0.0	0.72	79	0.80	0.02	-	N
Main X-listings: CI2G LN (GBp)										
CASH GR	L&G E Fund MSCI China A UCITS	18		0.0	1.12	-	0.88	2.12	-	N
CASH LN	L&G E Fund MSCI China A UCITS	18		0.0	0.83	-	0.88	1.76	-	N
Main X-listings: CASH IM (EUR), CASE LN (GBp), CASH NA (EUR)										

International

Asia Pacific (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
UB0C LN [C]	UBS ETF-MSCI Japan UCITS ETF	16	↓	0	0.48	322	0.45	0.11	-	N
Main X-listings: JPGBPA SW (GBP)										
C024 GR	ComStage FTSE China A50 UCITS	15	↓	0	0.36	50	0.40	0.16	-	N
Main X-listings: CBCHNUS SW (USD), CBCHN SW (CHF)										
CBNDDUPX GY	ComStage ETF MSCI Pacific ex J	15		0	0.44	148	0.45	0.09	-	N
Main X-listings: CBMPJUS SW (USD), CBMPJ SW (CHF)										
HTWD LN	HSBC MSCI TAIWAN UCITS ETF	13	↑	0	0.30	-	0.60	0.06	-	N
Main X-listings: HTWN IM (EUR), HTWN LN (GBp)										
WTIF GR [C]	WisdomTree Japan Equity UCITS	12		0	0.35	-	0.45	0.25	-	N
DXJF IM [C]	WisdomTree Japan Equity UCITS	12	↑	0	0.41	-	0.45	0.25	-	N
Main X-listings: DXJF SW (EUR)										
NJXU LN [C]	Nomura JPX-Nikkei 400 Net Tota	12		0	0.25	-	0.30	0.23	-	N
Main X-listings: NJXU SW (USD)										
JPNUKD SW	UBS ETF-MSCI Japan UCITS ETF	12		0	0.41	322	0.35	0.04	-	N
CP9U LN	Amundi Index MSCI Pacific ex J	12		0	1.06	148	0.46	0.06	-	N
Main X-listings: CP9G LN (GBp)										
MXJP LN	Invesco MSCI Japan UCITS ETF	12		0	0.12	322	0.19	0.00	-	N
Main X-listings: SMSJPN GY (EUR), SMSJPN IM (EUR)										
DEMP LN	WisdomTree Emerging Asia Equit	11		0	0.76	496	0.54	0.24	-	N
Main X-listings: DEMA IM (EUR), DEMA LN (USD), DEMA SW (USD)										
DXJA LN [C]	WisdomTree Japan Equity UCITS	11		0	0.50	-	0.48	0.24	-	N
Main X-listings: DXJA SW (USD)										
WTEA GR	WisdomTree Emerging Asia Equit	11		0	0.74	496	0.54	0.24	-	N
PASI FP	Lyxor PEA China Entreprise HSC	11	↑	0	0.27	50	0.65	1.14	-	N
X017 GY	ComStage ETF MSCI Japan TRN UC	11	↓	0	0.75	322	0.25	0.09	-	N
AUSAUY SW	UBS Irl ETF plc - MSCI Austral	11	↑	0	0.43	69	0.40	0.08	-	N
Main X-listings: AUAD LN (GBp)										
C023 GY	ComStage ETF HSCEI UCITS ETF	10	↓	0	0.48	50	0.55	0.17	-	N
Main X-listings: CBHSCE SW (CHF), CBHSCEUS SW (USD)										
XMJG LN [C]	Xtrackers MSCI Japan UCITS ETF	9	↓	0	0.21	322	0.40	9.84	-	N
CC1USD SW	Amundi Msci China UCITS ETF	9	↑	0	0.60	-	0.55	0.05	-	N
Main X-listings: CC1G LN (GBp)										
PINR FP	Lyxor PEA MSCI India UCITS ETF	9	↓	0	0.18	79	0.85	1.12	-	N
PAEJ FP	Lyxor PEA MSCI AC Asia Pacific	9		0	0.21	1,032	0.60	1.13	-	N
PR1J GR	AMUNDI PRIME JAPAN UCITS ETF D	9		-	0.20	-	0.05	-	-	N
HKOD LN	HSBC MSCI KOREA UCITS ETF	9		0	0.32	115	0.60	0.14	-	N
Main X-listings: HKOR IM (EUR), HKOR LN (GBp)										
JPXC SW [C]	Lyxor JPX-Nikkei 400 DR UCITS	9	↓	0	0.24	-	0.25	0.10	-	N
XDNU LN [C]	Xtrackers JPX-Nikkei 400 UCITS	8	↓	0	0.15	397	0.30	5.85	-	N
AH50 GR	Xtrackers Harvest FTSE China A	8		0	0.26	50	0.65	3.17	-	N
Main X-listings: AH50 LN (USD)										
JPJP LN	SPDR MSCI Japan UCITS ETF	8	↑	0	0.51	322	0.30	0.16	-	N
Main X-listings: ZPDJ GR (EUR)										
XDNG LN [C]	Xtrackers JPX-Nikkei 400 UCITS	8	↓	0	0.14	397	0.30	9.49	-	N
TPHU FP [C]	Amundi Japan Topix UCITS ETF	7	↓	0	0.12	-	0.48	0.01	-	N
Main X-listings: TPHU LN (USD), TPHU SW (USD)										
AUGA LN [C]	UBS Irl ETF plc - MSCI Austral	7	↑	0	0.45	-	0.50	0.10	-	N
Main X-listings: AUHGBA SW (GBP)										
PJPN FP	Lyxor PEA Japan TOPIX UCITS ET	6		0	-	2,136	0.45	1.45	-	N
C025 GR [C]	ComStage MSCI Japan 100% Daily	6	↓	0	0.11	-	0.30	0.05	-	N
ETFJPLC GY	Deka MSCI Japan LC UCITS ETF	6	↓	0	0.46	139	0.50	0.19	-	N
CBNDEUST GY	ComStage ETF MSCI Taiwan TRN U	5		0	0.53	-	0.60	0.09	-	N
Main X-listings: CBTAIUS SW (USD), CBTAI SW (CHF)										
PRCE LN	GF International-FTSE China A	5	↓	0	0.58	1,834	0.35	1.54	-	N
Main X-listings: PRCU LN (GBP)										
FLQA IM	Franklin LibertyQ AC Asia ex J	5		0	0.66	237	0.40	-	-	N
Main X-listings: FLQA LN (USD), FLQA SW (USD), FRQX LN (GBP), FVSJ GR (EUR)										
HMYD LN	HSBC MSCI MALAYSIA UCITS ETF	4		0	0.57	-	0.60	0.04	-	N
Main X-listings: HMYD IM (EUR), HMYR LN (GBp)										
JPUSAH SW [C]	UBS ETF - MSCI Japan hedged to	4	↓	0	0.61	-	0.45	0.19	-	N
CH3L IM	ETFS 3x Daily Long FTSE China	4	↑	0	0.96	50	0.98	-	+3x	N
PACUKD SW	UBS ETF MSCI Pacific ex Japan	4		0	0.43	148	0.30	0.05	-	N
JPEH LN [C]	SPDR MSCI Japan UCITS ETF	4	↓	0	0.43	-	0.35	0.37	-	N
Main X-listings: ZPDW GR (EUR), JPEH IM (EUR)										
JPHC FP [C]	Amundi Jpx-Nikkei 400 UCITS ET	4	↑	0	0.19	-	0.18	0.01	-	N
Main X-listings: JPHC SW (CHF)										
DXJD SW [C]	WisdomTree Japan Equity UCITS	3		0	0.59	-	0.45	0.25	-	N
CJ1Y FP	Amundi Index MSCI Japan UCITS	3	↓	0	0.19	322	0.45	1.47	-	N
FJP FP	First Trust Japan AlphaDEX UCI	3	↓	0	0.47	-	0.70	0.24	-	N
Main X-listings: FJPU LN (USD)										
JPEX LN	Invesco STOXX Japan Exporters	3		0	0.18	159	0.35	0.00	-	N
JEXE GR [C]	Invesco STOXX Japan Exporters	3		0	0.20	159	0.35	0.01	-	N
TPHG FP [C]	Amundi Japan Topix UCITS ETF	2	↓	0	0.13	-	0.48	0.03	-	N
Main X-listings: TPHG LN (GBp), TPHG SW (GBP)										
ETFJPMC GY	Deka MSCI Japan MC UCITS ETF	2		0	0.19	183	0.50	0.21	-	N
ISTM FP [C]	BNP Paribas Easy iSTOXX MUTB J	2	↓	0	0.40	149	0.30	7.54	-	N
Main X-listings: ISTM GR (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Asia Pacific (Continued)										
PKRW FP	Lyxor PEA MSCI Korea UCITS ETF	2	↓	0.0	0.21	115	0.45	1.08	-	N
TPHC SW [C]	Amundi Japan Topix UCITS ETF	2	↓	0.0	0.24	-	0.48	0.01	-	N
Main X-listings: TPHC FP (CHF)										
PJPH FP [C]	Lyxor PEA Japan TOPIX UCITS ET	2	↓	0.0	0.14	-	0.45	0.03	-	N
PHSI FP	Lyxor PEA Hong Kong HSI UCITS	1		0.0	0.23	50	0.65	1.14	-	N
C2BC GR	Bank of China International BO	1		0.0	0.32	50	1.00	4.08	-	N
JPNP SW [C]	UBS ETF-MSCI Japan UCITS ETF	1		0.0	0.59	-	0.45	0.15	-	N
DXJP LN [C]	WisdomTree Japan Equity UCITS	1	↓	0.0	0.52	-	0.45	0.25	-	N
Main X-listings: DXJP SW (GBP)										
M9SV GR	Market Access STOXX China A Mi	1		0.0	1.25	-	0.65	-	-	N
Main X-listings: M9SV LN (GBP)										
JPHG FP [C]	Amundi Jpx-Nikkei 400 UCITS ET	1	↓	0.0	0.17	-	0.18	0.02	-	N
Main X-listings: JPHG LN (GBp), JPHG SW (GBP)										
DFJA IM	WisdomTree Japan Smallcap Divi	1		0.0	0.44	869	0.48	-	-	N
Main X-listings: DFJA LN (USD)										
DFJ LN	WisdomTree Japan Smallcap Divi	1		0.0	0.45	869	0.48	-	-	N
Main X-listings: DFJ IM (EUR)										
CH3S IM	ETFS 3x Daily Short FTSE China	1		0.0	2.12	-	0.98	-	-3x	N
SJPD SW	iShares Core MSCI Japan IMI UC	0		-	0.36	1,298	0.20	-	-	N
Main X-listings: SJPD NA (USD)										
AUHGBD SW [C]	UBS Irl ETF plc - MSCI Austral	0	↓	0.0	0.85	-	0.50	0.81	-	N
KSMF79 IT	KSM ETF 4D NIKKEI 225	-		-	-	-	-	-	-	N
MBINK10 IT	Psagot Sal Nikkei 225	-		-	-	-	-	-	-	N
PSGT306 IT	Psagot Sal Japan WisdomTree NT	-		-	-	-	0.50	-	-	N
TNIKI54 IT	Tachlit NIKKEI 225 ILS 40a	-		-	-	-	2.00	-	-	N
MBNK18 IT [C]	Psagot Sal Nikkei Shekel	-		-	-	225	-	-	-	N
TCDR107 IT [C]	Tachlit NASDAQ Golden Dragon C	-		0.0	0.53	221	0.52	-	-	N
TCNK16 IT	Tachlit NIKKEI 225 series 1 4D	-		-	-	-	0.67	-	-	N
KMSCI48 IT	KSM MSCI Singapore PR 4Da	-		-	-	-	1.02	-	-	N
TCCHN38 IT	Tachlit China FTSE 50 4Da	-		-	-	-	1.02	-	-	N
PSHSI55 IT	PSAGOT Hang Seng	-		-	-	-	0.80	-	-	N
KSMF64 IT	KSM ETF 4D ! KOSPI 200	-		-	-	-	-	-	-	N
KSMF66 IT	KSM ETF 4D ! MSCI Taiw an	-		-	-	-	-	-	-	N
INHSCE7 IT	Tachlit China HSCEI ILS 40a	-		-	-	-	1.52	-	-	N
KSMF69 IT	KSM ETF 4D MSCI AC Far East EX	-		-	-	-	-	-	-	N
PSGF102 IT	Psagot ETF 4D S&P/ASX 200	-		-	-	-	0.80	-	-	N
KSMNKIL IT	KSM NIKKEI 225 PR ILS 40a	-		-	-	-	1.50	-	-	N
KSMF63 IT	KSM ETF 4D ! MSCI India	-		-	-	-	-	-	-	N
KSMF54 IT	KSM ETF 4D FTSE China 50	-		-	-	-	-	-	-	N
MNFTY67 IT	Psagot Sal CNX Nifty 4Da	-		-	-	-	0.00	-	-	N
KSMF90 IT	KSM ETF 4A Hang Seng China Cur	-		-	-	-	-	-	-	N
KA20052 IT	KSM S&P ASX 200 PR 4Da	-		-	-	-	0.82	-	-	N
Asset Allocation Funds										
F701 GR	ComStage Vermoegensstrategie U	81		0.1	0.27	-	0.25	-	-	N
Main X-listings: F701 QT (EUR), CBVS SW (CHF), CBVSEU SW (EUR)										
PIRI IM	Invesco Italian PIR Multi-Asse	15		0.0	0.28	-	0.45	-	-	N
F702 GR	ComStage Vermoegensstrategie D	9	↑	0.0	0.36	-	0.25	-	-	N
F703 GR	ComStage Vermoegensstrategie O	5		0.0	0.32	-	0.25	-	-	N
Fixed Income										
Corporates										
IEAC NA	iShares Core EUR Corp Bond UCI	9,748	↑	1.9	-	2,550	0.20	0.04	-	N
Main X-listings: IEBC LN (GBP), IEAC SW (CHF)										
IE15 EU	iShares EUR Corp Bond 1-5yr UC	4,325		20.8	-	1,323	0.20	-	-	N
Main X-listings: SE15 LN (GBP)										
IBCS GY	iShares EUR Corp Bond Large Ca	3,712		1.1	-	-	0.20	0.07	-	N
Main X-listings: IBCX SW (CHF)										
LQDE LN	iShares USD Corp Bond UCITS ET	3,570		6.5	0.11	1,910	0.20	0.10	-	L
Main X-listings: LQDE IM (EUR), LQDS LN (GBp)										
IHYU LN	iShares USD High Yield Corp Bo	3,254		5.9	0.12	-	0.50	0.10	-	L
Main X-listings: SHYU LN (GBP)										
ERNE LN	iShares EUR Ultrashort Bond UC	2,738		1.4	-	-	0.09	0.03	-	N
SYBD GR	SPDR Bloomberg Barclays 0-3 Ye	2,125	↑	0.0	-	818	0.20	0.03	-	N
Main X-listings: SEUC FP (EUR)										
SLXX LN	iShares Core GBP Corp Bond UCI	2,092		4.0	0.19	-	0.20	0.09	-	N
Main X-listings: SLXX SW (GBP)										
IEX5 LN	iShares EUR Corp Bond ex-Finan	1,821		0.9	0.17	776	0.20	0.04	-	N
Main X-listings: EEX5 SW (EUR)										
ICOV NA	iShares EUR Covered Bond UCITS	1,815	↑	0.2	0.10	927	0.20	0.06	-	N
Main X-listings: ICOV SW (EUR)										
IS15 LN	iShares GBP Corp Bond 0-5yr UC	1,620		3.0	0.16	-	0.20	0.08	-	N
Main X-listings: ES15 LN (EUR), IS15 SW (GBP)										
HFRN IM [C]	Amundi Floating Rate USD Corpo	1,550	↓	1.4	-	-	0.20	0.06	-	N
Main X-listings: FRNH GR (EUR), AFLE FP (EUR)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Corporates (Continued)										
SDIG LN	iShares USD Short Duration Cor	1,531		2	0.12	-	0.20	0.05	-	N
CRPH LN	iShares Global Corp Bond EUR H	1,253		1	0.15	12,185	0.25	0.06	-	N
CHCORP SW	iShares Core CHF Corporate Bon	1,252		2	-	551	0.15	0.05	-	N
IEXF LN	iShares EUR Corp Bond ex-Finan	1,251		0	0.14	1,615	0.20	0.04	-	N
Main X-listings: IEXF SW (CHF), EEXF LN (GBP)										
AFLT FP	Amundi Floating Rate USD Corpo	1,235	↓	2	-	-	0.18	0.03	-	N
Main X-listings: FRNU GR (EUR), AFLT SW (USD), AFLTN MM (MXN), USFRN IM (EUR)										
CORP SW	iShares Global Corp Bond UCITS	1,219		0	0.20	12,185	0.20	0.07	-	N
FLOT FP	Lyxor Barclays Floating Rate E	1,205		0	-	64	0.15	0.00	-	N
Main X-listings: FLOT IM (EUR), FLOT FP (EUR), NK4L GR (EUR)										
SDIA LN	iShares USD Short Duration Cor	999		1	0.18	-	0.20	0.05	-	N
Main X-listings: SDIA SW (CHF)										
ERNS LN	iShares GBP Ultrashort Bond UC	921	↑	2	0.10	-	0.09	0.04	-	N
XBLC EU	Xtrackers II EUR Corporate Bon	871		4	-	2,550	0.16	-	-	N
Main X-listings: XBEC SW (CHF), XBLC LN (EUR)										
AFRN IM	Amundi Floating Rate Euro Corp	788		0	-	-	0.18	0.03	-	N
HYLD IM	iShares Global High Yield Corp	778	↑	1	0.14	-	0.50	1.13	-	N
Main X-listings: HYLDN MM (MXN)										
R1JKEX GY	iShares Pfandbriefe UCITS ETF	756		1	-	-	0.10	-	-	N
Main X-listings: R1JKEX SW (EUR)										
CRPX LN	Lyxor Euro Corporate Bond UCIT	751		0	0.12	-	0.20	1.17	-	N
Main X-listings: CRPE IM (EUR)										
CC4 FP	Amundi Euro Corporates UCITS E	730	↑	0	0.12	-	0.16	0.01	-	N
Main X-listings: CC4 IM (EUR)										
SDHY LN	iShares USD Short Duration Hig	716		2	0.18	-	0.45	0.10	-	N
Main X-listings: SDHYN MM (MXN)										
STHE LN [C]	PIMCO Short-Term High Yield Co	676	↑	0	0.24	871	0.60	0.51	-	N
Main X-listings: STHE IM (EUR)										
SYBJ GY	SPDR Bloomberg Barclays Euro H	666	↑	1	0.16	377	0.40	0.10	-	N
Main X-listings: JNKE SW (CHF), JNKE FP (EUR)										
IHYA LN	iShares USD High Yield Corp Bo	597	↑	1	0.19	-	0.50	0.10	-	N
Main X-listings: IHYA SW (CHF)										
IEBB LN	iShares EUR Corp Bond BBB-BB U	546	↑	0	0.15	-	0.25	0.05	-	N
Main X-listings: IEBB SW (EUR), IEBB IM (EUR), IEBB LN (EUR), IS06 GR (EUR)										
LQDA LN	iShares USD Corp Bond UCITS ET	525	↑	1	0.16	1,910	0.20	0.10	-	N
Main X-listings: LQDA SW (CHF)										
EMCRN MM	iShares JP Morgan USD EM Corp	514		0	-	-	0.50	-	-	N
CBEU5 IM	UBS ETF - Bloomberg Barclays E	510		0	0.20	439	0.18	0.02	-	N
Main X-listings: CBEU5 SW (EUR), UEF6 GR (EUR), UEF6 NA (EUR)										
AHYE IM	Amundi Euro High Yield Liquid	472	↑	1	0.10	-	0.40	0.01	-	N
Main X-listings: AHYE FP (EUR), AHYE GR (EUR)										
XDGU GR	Xtrackers USD Corporate Bond U	469		0	0.11	1,981	0.16	1.13	-	N
Main X-listings: XDGU LN (USD), XDGU IM (EUR), XDGU SW (USD)										
GLCB LN	SPDR Thomson Reuters Global Co	444	↓	0	1.06	-	0.50	-	-	N
Main X-listings: ZPRC GR (EUR), GCVB LN (USD), GCVB SW (CHF), CONV IM (EUR)										
ERND LN	iShares USD Ultrashort Bond UC	364	↑	1	-	-	0.09	0.06	-	N
Main X-listings: ERNDN MM (MXN)										
ETFLCD GY	Deka iBoxx EUR Liquid Corporat	351		0	0.19	-	0.20	0.02	-	N
EUCO FP	SPDR Bloomberg Barclays Euro C	340	↑	0	0.13	2,550	0.20	0.05	-	N
Main X-listings: EUCO SW (CHF), EUCO LN (EUR)										
XDEP IM	Xtrackers iBoxx EUR Corporate	332	↑	0	0.17	960	0.25	0.06	-	N
Main X-listings: XDEP GR (EUR), XDEP SW (CHF), XDEPEUR SW (EUR)										
CBUSE IM [C]	UBS ETF - Bloomberg Barclays U	323		1	0.23	442	0.23	0.10	-	N
Main X-listings: UEF0 GR (EUR), CBUSE SW (EUR), UEF0 NA (EUR)										
WIAU LN	iShares Fallen Angels High Yie	293	↑	0	0.35	272	0.50	0.15	-	N
LDCE GR [A]	PIMCO Low Duration Euro Corpor	281		0	0.12	-	0.49	0.36	-	N
Main X-listings: LDCE SW (EUR), LDCE IM (EUR)										
UEF8 NA [C]	UBS ETF - Bloomberg Barclays U	273	↓	0	1.04	137	0.23	0.07	-	N
Main X-listings: CBUS5E SW (EUR)										
ISXF LN	iShares GBP Corp Bond ex-Finan	259		1	0.22	434	0.20	0.09	-	N
Main X-listings: SSXF LN (EUR)										
UEF9 GR	UBS ETF - Bloomberg Barclays U	250		0	0.36	442	0.18	0.07	-	N
Main X-listings: UC84 LN (GBp), UC76 LN (USD), UEF9 NA (EUR)										
XDGE IM [C]	Xtrackers USD Corporate Bond U	247	↑	0	0.17	1,981	0.21	5.58	-	N
Main X-listings: XDGE SW (EUR), XDGE GR (EUR)										
WING LN	iShares Fallen Angels High Yie	246		0	0.32	272	0.50	0.15	-	N
Main X-listings: WING SW (USD), WING IM (EUR), QDVQ GR (EUR), RISE LN (GBp)										
STHY LN	PIMCO Short-Term High Yield Co	244	↓	1	0.21	871	0.55	0.51	-	N
Main X-listings: STHY IM (EUR)										
IEAA LN	iShares Core EUR Corp Bond UCI	244	↑	0	0.18	2,550	0.20	0.04	-	N
Main X-listings: IEAA SW (EUR)										
XHY1 GR	Xtrackers II EUR High Yield Co	221	↑	0	0.14	-	0.35	0.01	-	N
Main X-listings: XHY1 IM (EUR)										
VPAC SW	Invesco Variable Rate Preferre	212		-	0.25	-	0.50	-	-	N
Main X-listings: VPAC LN (USD)										
UEF7 GR	UBS ETF - Bloomberg Barclays U	206		0	0.27	137	0.18	0.03	-	N
Main X-listings: UC81 LN (GBp), CBUS5 SW (USD), UC86 LN (USD), UEF7 NA (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Fixed Income

Corporates (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
AT1 LN	Invesco AT1 Capital Bond UCITS	203		0.1	0.49	65	0.39	-	-	N
Main X-listings: AT1 IM (EUR), AT1P LN (GBp), IAT1 SW (USD)										
CBBB FP	AMUNDI ETF BBB Euro Corporate	196	↓	0.1	0.12	-	0.20	0.00	-	N
Main X-listings: CAB3 GR (EUR), CBBB IM (EUR), CBBB SW (EUR)										
UC82 LN[C]	UBS ETF - Bloomberg Barclays U	194		0.1	0.48	137	0.23	0.07	-	N
Main X-listings: CBUS5H SW (GBP)										
LQDH LN	iShares USD Corp Bond Interest	187		0.4	0.22	-	0.25	0.09	-	N
Main X-listings: LQDHN MM (MXN)										
HYEA LN	iShares Global High Yield Corp	175	↑	0.1	0.31	-	0.50	1.13	-	N
Main X-listings: HYLA LN (USD), HYLA SW (USD), HYLAN MM (MXN)										
ERNA LN	iShares USD Ultrashort Bond UC	175		0.6	0.14	-	0.09	-	-	N
Main X-listings: ERNAN MM (MXN)										
ZC1G LN[C]	BMO Bloomberg Barclays 1-3 Yea	171	↑	0.1	0.25	526	0.17	0.07	-	N
XHYG GR	Xtrackers II EUR High Yield Co	166		0.0	0.10	456	0.35	0.09	-	N
Main X-listings: XHYG IM (EUR), XHYG LN (EUR)										
BUOY LN	Lyxor USD Floating Rate Note U	166		0.2	-	139	0.10	0.00	-	N
Main X-listings: SWIM LN (GBP)										
CNB FP	Lyxor Euro Corporate Bond Ex F	164		0.0	0.10	-	0.20	0.00	-	N
HYBB FP	Lyxor iBoxx EUR Liquid High Yi	149		0.3	0.16	-	0.35	0.00	-	N
Main X-listings: HYBB IM (EUR)										
VUCP LN	Vanguard USD Corporate Bond UC	143	↑	0.1	0.19	7,510	0.12	1.69	-	N
Main X-listings: VDCP LN (USD), VUCP NA (EUR), VUCP SW (CHF), VDCPN MM (MXN), VUCP IM (EUR)										
CBUS5S SW[C]	UBS ETF - Bloomberg Barclays U	141	↓	0.3	0.35	137	0.23	0.09	-	N
SUKC LN	SPDR Bloomberg Barclays 0-5 Ye	139	↑	0.1	0.38	302	0.20	0.05	-	N
Main X-listings: SYBQ GR (EUR)										
SDHA LN	iShares USD Short Duration Hig	127		0.3	0.15	-	0.45	-	-	N
Main X-listings: SDHAN MM (MXN)										
LDCU LN[A]	PIMCO Low Duration US Corporat	127	↓	0.3	0.15	-	0.49	0.42	-	N
Main X-listings: LDCU SW (USD), LDCU IM (EUR)										
HYS IM	Lyxor BofAML EUR Short Term Hi	126		0.3	0.20	92	0.30	0.00	-	N
IEAH LN[C]	iShares Core EUR Corp Bond UCI	119	↑	0.1	0.26	2,550	0.25	5.37	-	N
VECP LN	Vanguard EUR Corporate Bond UC	118	↑	0.1	0.20	2,550	0.12	1.19	-	N
Main X-listings: VECP IM (EUR), VECP NA (EUR), VECP SW (CHF), VECP GR (EUR)										
SYBF GR	SPDR Bloomberg Barclays 0-3 Ye	111		0.0	0.29	1,627	0.20	0.04	-	N
AFIN FP	Amundi Euro Corporate Financia	110	↑	0.0	0.13	-	0.16	0.02	-	N
YIEL EU	Lyxor BofAML EUR High Yield Ex	109		0.6	0.11	390	0.45	-	-	N
GHYS LN[C]	iShares Global High Yield Corp	108		0.2	0.35	-	0.55	0.12	-	N
ZHYG LN[C]	BMO Bloomberg Barclays Global	108	↑	0.3	0.39	504	0.35	0.18	-	N
HIGH LN	iShares EUR High Yield Corp Bo	106	↑	0.2	0.25	456	0.50	0.09	-	N
Main X-listings: HIGH SW (EUR)										
USYH IM[C]	Lyxor BofAML USD High Yield Bo	103		0.2	0.30	1,830	0.40	0.00	-	N
USIX LN	Lyxor USD Liquid Investment Gr	102	↓	0.0	0.15	-	0.09	1.46	-	N
Main X-listings: USIG IM (EUR), USIG LN (USD)										
LCRP LN	SPDR Bloomberg Barclays 10+ Ye	99		0.0	0.96	1,955	0.20	0.13	-	N
Main X-listings: SYBN GR (EUR), LUSC LN (USD), LUSC SW (USD), LUSC IM (EUR)										
LQEE LN[C]	iShares USD Corp Bond UCITS ET	96	↑	0.1	0.19	1,910	0.25	5.58	-	N
Main X-listings: LQEE SW (EUR)										
IHYE LN[C]	iShares USD High Yield Corp Bo	91	↑	0.5	0.24	-	0.55	5.54	-	N
Main X-listings: IBC2 GR (EUR)										
GCVE IM[C]	SPDR Thomson Reuters Global Co	90		0.2	0.45	-	0.55	-	-	N
Main X-listings: GCVE IM (EUR), GCVE SW (EUR), SPF1 GR (EUR)										
STYC LN	PIMCO Short-Term High Yield Co	90	↑	0.3	0.23	871	0.55	0.50	-	N
Main X-listings: STYC SW (USD)										
CRPU LN[C]	iShares Global Corp Bond UCITS	90	↓	0.2	0.24	12,185	0.25	1.72	-	N
Main X-listings: CRPU SW (USD)										
UEFR GY	UBS ETF - Bloomberg Barclays E	88	↑	0.1	0.48	769	0.20	0.60	-	N
Main X-listings: ECOEUA IM (EUR), UEFR NA (EUR)										
CRPA LN	iShares Global Corp Bond UCITS	85		0.1	0.21	12,185	0.20	-	-	N
XBCT GY	Xtrackers II iBoxx Germany Cov	85	↓	0.1	0.21	192	0.15	0.00	-	N
EBBB FP	Amundi Index Barclays Euro Cor	83	↑	0.1	0.16	725	0.20	0.04	-	N
Main X-listings: EBBB IM (EUR)										
VTBB RM	VTBB ETF Corp Bonds Smart Beta	82		-	0.32	86	0.80	-	-	N
PRFD IM	Invesco Preferred Shares UCITS	79	↓	0.1	0.23	-	0.50	-	-	N
Main X-listings: PRFP LN (GBp), PRFD LN (USD), PRFD SW (USD)										
COVR GR[A]	PIMCO Covered Bond Source UCIT	74	↓	0.0	0.14	955	0.43	0.52	-	N
SDMXX IX[C]	iShares USD Short Duration Cor	72		0.0	-	-	0.25	-	-	N
SYBK GR	SPDR Bloomberg Barclays 0-5 Ye	70	↑	0.0	0.39	631	0.40	0.25	-	N
XACTBOND SS	XACT Obligation UCITS ETF	63	↑	0.2	0.12	-	0.10	0.17	-	N
VDUC LN	Vanguard USD Corporate 1-3 Yea	59		0.1	0.22	1,646	0.15	-	-	N
Main X-listings: VDUCN MM (MXN), VUSC GR (EUR), VUSC IM (EUR), VUSC LN (GBP), VUSC SW (CHF)										
CBUSS SW[C]	UBS ETF - Bloomberg Barclays U	58	↓	0.1	0.59	-	0.23	0.11	-	N
CRHG LN[C]	iShares Global Corp Bond UCITS	58	↑	0.1	0.26	12,185	0.25	5.62	-	N
COUK LN	Lyxor iBoxx GBP Liquid Corpora	58	↑	0.0	0.26	-	0.09	0.00	-	N
Main X-listings: COUK FP (GBP)										
VDPA LN	Vanguard USD Corporate Bond UC	57		-	0.30	7,510	0.12	-	-	N
Main X-listings: VCPA LN (GBP)										
ZC3G LN[C]	BMO Bloomberg Barclays 3-7 Yea	57	↑	0.0	0.30	859	0.17	0.13	-	N

Fixed Income

Corporates (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
XUHY LN	Xtrackers USD High Yield Corpo	54		0	0.13	583	0.35	0.13	-	N
Main X-listings: XUHY GR (EUR), XUHY IM (EUR), XUHY SW (USD)										
HLQD LN	iShares USD Corp Bond Interest	54		0	0.25	-	0.25	-	-	N
Main X-listings: HLQDN MM (MXN)										
AFRN7 FP	Amundi Floating Rate Euro Corp	51		-	-	-	0.18	-	-	N
EUHA SW	PIMCO Euro Short-Term High Yie	51	↑	0	0.24	300	0.50	0.39	-	N
Main X-listings: EUHA GR (EUR)										
FAHY LN	Invesco US High Yield Fallen A	50		0	0.47	-	0.45	1.76	-	N
Main X-listings: HYFA SW (USD), HYFA LN (USD), HYFA IM (EUR), HYFA FP (EUR), FAHY GR (EUR)										
PR1C GR	AMUNDI PRIME EURO CORPORATES U	49		-	0.13	-	0.05	-	-	N
USCB LN	SPDR Bloomberg Barclays U.S. C	46		0	0.73	5,909	0.20	0.13	-	N
Main X-listings: USCO LN (USD), SYB1 GR (EUR), USCO IM (EUR), USCO SW (USD)										
USIH FP[C]	Lyxor USD Liquid Investment Gr	45	↓	0	0.23	-	0.20	0.01	-	N
Main X-listings: USIH IM (EUR)										
EFRN LN	iShares Euro Floating Rate Bon	45		0	0.23	307	0.10	-	-	N
Main X-listings: EFRN GR (EUR), EFRN SW (EUR)										
ECBD GR	UC Thomson Reuters Balanced Eu	44	↓	0	0.65	-	0.75	0.04	-	N
Main X-listings: ECBD IM (EUR), ECBD SW (CHF)										
TCBT NA	Think iBoxx Corporate Bond UCI	43		0	0.17	40	0.15	0.09	-	N
Main X-listings: TCBT GR (EUR)										
FLOTH IM[C]	Lyxor USD Floating Rate Note U	43	↓	0	0.16	139	0.15	0.00	-	N
CBSUSE SW[C]	UBS ETF - Bloomberg Barclays M	42		0	0.81	-	0.25	0.09	-	N
Main X-listings: UE27 NA (EUR), CBSUSE IM (EUR), UET0 GR (EUR)										
CBSUST SW[C]	UBS ETF - Bloomberg Barclays M	40	↑	0	0.71	-	0.25	0.10	-	N
PSFE SW	Invesco Euro Corporate Bond UC	40	↓	0	0.15	2,550	0.16	0.24	-	N
Main X-listings: PSFE GR (EUR), PSFE IM (EUR)										
EUHI SW	PIMCO Euro Short-Term High Yie	40	↑	0	0.26	300	0.50	0.51	-	N
Main X-listings: EUHI GR (EUR), EUHI IM (EUR)										
CBSEUS SW[C]	UBS ETF - Bloomberg Barclays M	40	↑	0	0.61	573	0.25	0.06	-	N
UC85 LN[C]	UBS ETF - Bloomberg Barclays U	40	↓	0	0.45	-	0.23	0.12	-	N
Main X-listings: CBUSH SW (GBP)										
EMCA LN	iShares JP Morgan USD EM Corp	38		0	0.38	-	0.50	-	-	N
Main X-listings: EMCAN MM (MXN)										
PUIG IM	Invesco USD Corporate Bond UCI	38	↓	0	0.23	2,106	0.16	-	-	N
Main X-listings: PUIG LN (USD), PUIG SW (USD)										
STEA LN[C]	PIMCO Short-Term High Yield Co	37	↑	0	0.29	871	0.60	0.51	-	N
Main X-listings: STEA SW (EUR)										
JRBE LN[A]	JPMorgan EUR Corporate Bond Re	33		-	0.22	-	0.19	-	-	N
Main X-listings: JREB GR (EUR), JREB IM (EUR), JREB LN (EUR), JREB SW (EUR)										
ZC7G LN[C]	BMO Bloomberg Barclays 7-10 Ye	33		0	0.35	625	0.17	0.14	-	N
CBSEUA SW	UBS ETF - Bloomberg Barclays M	32	↑	0	0.51	573	0.20	0.06	-	N
STHS LN[C]	PIMCO Short-Term High Yield Co	31		0	0.26	871	0.60	-	-	N
Main X-listings: STHS SW (GBP)										
STHC SW[C]	PIMCO Short-Term High Yield Co	31		0	0.22	871	0.60	5.18	-	N
JRBU LN[A]	JPMorgan USD Corporate Bond Re	31		-	0.33	-	0.19	-	-	N
Main X-listings: JRUB GR (EUR), JRUB IM (EUR), JRUB LN (USD), JRUB SW (USD)										
WTDI GR	WisdomTree AT1 CoCo Bond UCITS	29		0	0.66	-	0.50	-	-	N
HYST LN	Lyxor BofAML USD Short Term Hi	28	↓	0	0.31	-	0.30	0.00	-	N
Main X-listings: STUB LN (GBP)										
HYSTH IM[C]	Lyxor BofAML USD Short Term Hi	28	↓	0	0.20	-	0.40	0.00	-	N
XYLE SW[C]	Xtrackers iBoxx USD Corporate	28		-	0.63	-	0.30	-	-	N
Main X-listings: XYLE GR (EUR)										
CCBO IM	WisdomTree AT1 CoCo Bond UCITS	27		0	0.63	-	0.50	-	-	N
Main X-listings: CCBO LN (USD)										
SYBR GR	SPDR Bloomberg Barclays 3-10 Y	27	↑	0	0.63	2,787	0.20	0.06	-	N
Main X-listings: IUCB LN (USD), IUCB IM (EUR), IUCB SW (USD)										
ECBC GR	UC Thomson Reuters Balanced Eu	26		0	0.77	-	0.75	0.05	-	N
Main X-listings: ECBC IM (EUR), ECBC SW (CHF)										
XYLD LN	Xtrackers iBoxx USD Corporate	26		0	0.32	-	0.25	0.20	-	N
Main X-listings: XYLD GR (EUR), XYLD IM (EUR), XYLD SW (USD)										
J15R LN[A]	JPMorgan EUR Corporate Bond 1-	25		-	0.21	-	0.19	-	-	N
Main X-listings: JER5 GR (EUR), JR15 IM (EUR), JR15 LN (EUR), JR15 SW (EUR)										
CBSUSH SW[C]	UBS ETF - Bloomberg Barclays M	23		0	0.77	-	0.25	0.12	-	N
Main X-listings: BSUS LN (GBp)										
CBUS5A SW	UBS ETF - Bloomberg Barclays U	21	↑	0	0.44	137	0.18	0.03	-	N
UBBB FP	Amundi Index Barclays Us Corp	21		0	0.15	1,176	0.20	0.06	-	N
Main X-listings: UBBBN MM (MXN), UBBB IM (EUR)										
USHY FP	Lyxor BofAML USD High Yield Bo	21	↓	0	0.23	1,830	0.30	1.13	-	N
Main X-listings: USHY LN (USD), UHYG LN (GBP), USHY IM (EUR)										
CBUSAC SW	UBS ETF - Bloomberg Barclays U	20	↑	0	0.72	442	0.18	0.07	-	N
HYPE FP	BNP Paribas Easy High Yield Eu	19	↓	0	1.37	-	0.40	0.02	-	N
CBUSIH IM	UBS ETF-Bloomberg Barclays US	18		0	1.03	-	0.23	0.13	-	N
Main X-listings: CBUSIH SW (USD), CUIH LN (GBp)										
ALQD LN	Xtrackers II USD Asia ex Japan	17	↓	0	0.28	169	0.30	0.15	-	N
Main X-listings: ALQD GR (EUR)										
AXFI IM	Amundi Euro Corporate EX Finan	17		0	0.12	-	0.16	0.03	-	N
Main X-listings: AXFI FP (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Corporates (Continued)										
HYGU LN [C]	iShares EUR High Yield Corp Bo	17	↑	0.2	0.25	456	0.55	5.56	-	N
Main X-listings: HYGU SW (USD), HYGUN MM (MXN)										
CBEU5S SW [C]	UBS ETF - Bloomberg Barclays E	16	↑	0.0	0.80	439	0.23	0.03	-	N
GCVC SW	SPDR Thomson Reuters Global Co	16		0.1	0.96	-	0.55	-	-	N
CREG LN	L&G LOIM Global Corporate Bond	15	↓	0.0	1.06	7,189	0.35	1.54	-	N
Main X-listings: ETL4 GR (EUR), CRED SW (CHF), CREE LN (EUR), CRED LN (USD), CRED IM (EUR)										
IHYMXX IX [C]	iShares USD High Yield Corp Bo	14		0.0	-	-	0.55	-	-	N
Main X-listings: IHYM SW (CHF)										
LDCC SW [A C]	PIMCO Low Duration US Corporat	13	↓	0.0	0.41	-	0.54	-	-	N
FWEG LN	L&G LOIM Euro Corporate Bond F	13	↓	0.0	0.88	2,014	0.30	1.19	-	N
Main X-listings: FWEC SW (CHF), FWEC LN (EUR), FWEU LN (USD), FWEC IM (EUR)										
FXRB RM [C]	FinEx Tradable Russian Corpora	12	↓	0.1	0.18	-	0.95	-	-	N
EFNT IM	Invesco Euro Floating Rate Not	12		0.0	0.39	104	0.12	-	-	N
Main X-listings: EFNT GR (EUR), EFNT SW (EUR)										
XHYA GR	Xtrackers II EUR High Yield Co	12	↓	0.0	0.14	456	0.35	0.08	-	N
LQGH LN [C]	iShares USD Corp Bond UCITS ET	12	↑	0.2	0.19	1,910	0.25	6.84	-	N
FAEU GR [C]	Invesco US High Yield Fallen A	11	↑	0.0	0.31	-	0.50	5.69	-	N
Main X-listings: FAEU SW (EUR)										
XAT1 IM [C]	Invesco AT1 Capital Bond UCITS	11		0.1	0.31	65	0.39	-	-	N
Main X-listings: XAT1 GR (EUR), XAT1 SW (EUR)										
FLOTH SW [C]	Lyxor USD Floating Rate Note U	8	↓	0.1	0.24	139	0.15	0.03	-	N
FLUC LN [A]	Franklin Liberty USD Investmen	6		0.0	0.40	5,909	0.35	-	-	N
Main X-listings: FLUC IM (EUR), FLUC SW (USD), FRUC LN (GBP), FVUI GR (EUR)										
VRPS SW	Invesco Variable Rate Preferre	5		-	0.25	-	0.50	-	-	N
Main X-listings: VRPS IM (EUR), VRPS LN (USD)										
CBSEUT SW [C]	UBS ETF - Bloomberg Barclays M	5	↑	0.1	0.66	573	0.25	0.06	-	N
SWIH LN [C]	Lyxor USD Floating Rate Note U	5	↓	0.0	0.23	139	0.15	0.00	-	N
UFLT LN	Invesco USD Floating Rate Note	4		0.0	0.36	270	0.10	-	-	N
Main X-listings: UFLP LN (GBp), UFLT IM (EUR), UFLT SW (USD)										
WIGG LN [C]	iShares Fallen Angels High Yie	4	↑	0.1	0.39	272	0.55	5.68	-	N
ELQC FP	BNP Paribas Easy Markit iBoxx	3	↓	0.0	0.22	40	0.20	0.03	-	N
Main X-listings: ELQC GR (EUR)										
AFLC SW	Amundi Floating Rate USD Corpo	3		0.0	0.32	-	0.20	-	-	N
IHHG LN [C]	iShares USD High Yield Corp Bo	2	↓	0.0	0.36	-	0.55	6.81	-	N
VSCA LN	Vanguard USD Corporate 1-3 Yea	2		-	0.26	1,646	0.15	-	-	N
Main X-listings: VDCA LN (USD)										
XBCD GR	Xtrackers II iBoxx Germany Cov	2	↑	0.0	0.31	192	0.15	0.00	-	N
UFLE SW [C]	Invesco USD Floating Rate Note	2		0.0	0.58	270	0.12	-	-	N
Main X-listings: UFLE IM (EUR), UFLE GR (EUR)										
COBO IM [C]	WisdomTree AT1 CoCo Bond UCITS	2		0.0	0.79	-	0.50	-	-	N
WNGE LN [C]	iShares Fallen Angels High Yie	2	↑	0.1	0.36	272	0.55	4.03	-	N
Main X-listings: IBC7 GR (EUR)										
PRF LN	VanEck Vectors Preferred US Eq	2		0.0	0.40	156	0.41	0.16	-	N
Main X-listings: PRGB LN (GBP), PVF1 GR (EUR), PREF IM (EUR), PREF SW (CHF)										
COGO LN [C]	WisdomTree AT1 CoCo Bond UCITS	1		0.0	0.99	-	0.50	-	-	N
AFRHG FP [C]	Amundi Floating Rate Euro Corp	1		-	-	-	0.20	-	-	N
WTEB GR [C]	WisdomTree AT1 CoCo Bond UCITS	1		0.0	1.01	-	0.50	-	-	N
M9AT NA	Market Access Markit iBoxx EUR	1		0.0	0.99	46	0.48	-	-	N
Main X-listings: M9AT LN (GBP)										
CODO LN [C]	WisdomTree AT1 CoCo Bond UCITS	1		0.0	1.13	-	0.50	-	-	N
CBEU5U SW [C]	UBS ETF - Bloomberg Barclays E	1		0.0	0.87	439	0.23	0.08	-	N
HYDI FP	BNP Paribas Easy High Yield Eu	1		0.0	1.37	-	0.40	0.02	-	N
AFRHU FP [C]	Amundi Floating Rate Euro Corp	1		-	-	-	0.20	-	-	N
FAGB LN [C]	Invesco US High Yield Fallen A	1	↓	0.0	0.67	-	0.50	6.97	-	N
Main X-listings: FAGB SW (GBP)										
AT1D SW	Invesco AT1 Capital Bond UCITS	1		0.0	-	65	0.39	-	-	N
Main X-listings: AT1D IM (EUR), AT1D LN (GBp)										
FACH SW [C]	Invesco US High Yield Fallen A	1	↓	0.0	0.62	-	0.50	5.28	-	N
VECA LN	Vanguard EUR Corporate Bond UC	1		-	0.26	2,550	0.12	-	-	N
Main X-listings: VECA GR (EUR)										
COCB LN	WisdomTree AT1 CoCo Bond UCITS	0		0.0	0.95	-	0.50	-	-	N
AT1S SW [C]	Invesco AT1 Capital Bond UCITS	0		0.0	2.22	65	0.39	-	-	N
Main X-listings: AT1S LN (GBp)										
PSGF17 IT	Psagot ETF 00 Tel Bond-Yields	-		-	-	-	0.20	-	-	N
PSGF19 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.00	-	-	N
PSGF27 IT	Psagot ETF 00 Tel Bond-Yields	-		-	-	-	0.20	-	-	N
PSGF23 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.00	-	-	N
KSMF18 IT	KSM ETF 00 Tel Bond-20	-		-	-	-	0.25	-	-	N
PSGF84 IT [C]	Psagot ETF 0A Bloomberg Barcla	-		-	2.53	2,241	0.25	-	-	N
PSGF30 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.00	-	-	N
KSMF48 IT	KSM ETF 00 Tel Bond-Shekel	-		-	-	-	0.25	-	-	N
PSGF15 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.20	-	-	N
PSGF12 IT	Psagot ETF 00 Tel-Bond 20	-		-	-	-	0.20	-	-	N
PSGF82 IT [C]	Psagot ETF 0A Markit iBoxx US	-		-	1.99	-	0.30	-	-	N
KSMF19 IT	KSM ETF 0D ! iBoxx US Liquid H	-		-	-	-	1.00	-	-	N
PSGF29 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.00	-	-	N
PSGF24 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.20	-	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Corporates (Continued)										
PSGF85 IT [C]	Psagot ETF 0A Bloomberg Barcla	-		-	2.80	1,713	0.25	-	-	N
KSMF26 IT	KSM ETF 00 Short Tel Bond-20	-		-	-	-	0.50	-	-1x	N
PSGF33 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.00	-	-	N
PSGF20 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.00	-	-	N
SBCB RM	Sberbank - MOEX Russian Liquid	-		-	0.31	-	0.80	-	-	N
PSGF14 IT	Psagot ETF 00 Tel-Bond 60	-		-	-	-	0.20	-	-	N
PSGF18 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.20	-	-	N
KSMF50 IT	KSM ETF 00 Short Tel Bond-40 3	-		-	-	-	0.50	-	-1x	N
PSGF32 IT	Psagot ETF 00 Tel Bond-Global	-		-	-	-	0.00	-	-	N
PSGF87 IT	Psagot ETF 0D Bloomberg Barcla	-		-	-	-	0.40	-	-	N
PSGF28 IT	Psagot ETF 00 Tel Bond Shekel-	-		-	-	-	0.00	-	-	N
PSGF21 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.00	-	-	N
KSMF40 IT	KSM ETF 00 Tel Bond-40	-		-	-	-	0.25	-	-	N
PSGF13 IT	Psagot ETF 00 Tel-Bond 40	-		-	-	-	0.20	-	-	N
PSGF16 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.20	-	-	N
PSGF25 IT	Psagot ETF 00 Tel Bond-Composi	-		-	-	-	0.20	-	-	N
PSGF22 IT	Psagot ETF 00 Tel Bond-CPI Lin	-		-	-	-	0.00	-	-	N
KSMF41 IT	KSM ETF 00 Tel Bond-60	-		-	-	-	0.25	-	-	N
PSGF31 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.00	-	-	N
PSGF34 IT	Psagot ETF 00 Tel Bond-Shekel	-		-	-	-	0.00	-	-	N
Government (Broad)										
IHYG LN	iShares EUR High Yield Corp Bo	6,796	↑	7	0.10	456	0.50	0.09	-	N
Main X-listings: SHYG LN (GBP), IHYG SW (CHF)										
IBGX LN	iShares EUR Govt Bond 3-5yr UC	2,781	↑	0	-	-	0.20	1.17	-	N
Main X-listings: IBGX IM (EUR), IBGX SW (CHF)										
XGLE EU	Xtrackers II Eurozone Governme	2,759		13	-	367	0.15	-	-	N
PJS1 GY [A]	PIMCO Euro Short Maturity Sour	1,918	↓	3	-	-	0.35	0.51	-	N
Main X-listings: PJS1 IM (EUR), PJS1 SW (EUR)										
SEGA IM	iShares Core EUR Govt Bond UCI	1,509		0	-	385	0.20	0.04	-	N
Main X-listings: IEGA NA (EUR), SEGA LN (GBP), IEGA SW (EUR)										
IBGS IM	iShares EUR Govt Bond 1-3yr UC	1,415		2	-	-	0.20	0.01	-	N
Main X-listings: IBGS LN (GBP), IBGS SW (CHF), IEGS LN (EUR)										
X1G IM	Amundi Govt Bond Lowest Rated	1,089		2	-	164	0.14	0.01	-	N
Main X-listings: X1G FP (EUR)										
INFL LN	Lyxor EUR 2-10Y Inflation Expe	1,071		0	0.13	-	0.25	1.17	-	N
Main X-listings: INFL FP (EUR), EUIN GR (EUR), INFL IM (EUR), INFL SW (EUR)										
XY4P EU	Xtrackers II iBoxx Eurozone Go	1,032		2	0.19	-	0.15	-	-	N
IBCI NA	iShares EUR Inflation Linked G	1,010		0	-	36	0.25	0.01	-	N
Main X-listings: IBC1 LN (EUR), IBCI LN (GBP), IBCI SW (CHF)										
MTA EU	Lyxor EuroMTS 1-3Y Investment	991		2	-	20	0.17	-	-	N
MTX FP	Lyxor EuroMTS All-Maturity Inv	986		0	-	163	0.17	0.00	-	N
Main X-listings: MTXX LN (GBp)										
SYB3 GY	SPDR Bloomberg Barclays 1-3 Ye	830	↑	0	-	76	0.15	0.02	-	N
Main X-listings: GOVS FP (EUR), EU13 LN (EUR)										
MTB FP	Lyxor EuroMTS 3-5Y INVESTMENT	673		0	-	20	0.17	0.01	-	N
IBGM IM	iShares EUR Govt Bond 7-10yr U	657	↑	2	-	-	0.20	0.02	-	N
Main X-listings: IBGM LN (GBP), IBGM SW (CHF)										
MTIX LN	Lyxor EuroMTS Inflation Linked	620	↓	0	-	35	0.20	1.17	-	N
Main X-listings: MTI EU (EUR)										
XYP1 GR	Xtrackers II iBoxx Eurozone Go	599	↑	0	-	32	0.15	0.03	-	N
Main X-listings: XYP1 SW (CHF)										
MAA FP	Lyxor EuroMTS Highest Rated Ma	534	↑	0	-	151	0.17	0.01	-	N
X13E IM	Xtrackers II Eurozone Governme	515	↑	0	-	31	0.15	0.02	-	N
Main X-listings: X13E SW (CHF)										
IEGY LN	iShares EUR Govt Bond 5-7yr UC	479	↑	0	-	-	0.20	0.06	-	N
Main X-listings: IEGY SW (CHF), IBGY LN (GBP)										
GOVY FP	SPDR Bloomberg Barclays Euro G	461	↑	0	-	385	0.15	0.03	-	N
Main X-listings: GOVY SW (CHF), GOVY LN (EUR)										
CB3 IM	Amundi Govt Bond Euromts Broad	452	↑	1	-	315	0.14	0.01	-	N
Main X-listings: CB3 FP (EUR)										
CSBGE3 SW	iShares EUR Govt Bond 1-3yr UC	433	↑	0	-	-	0.20	0.01	-	N
Main X-listings: CE31 LN (GBp)										
CSBGE7 SW	iShares EUR Govt Bond 3-7yr UC	415	↑	0	-	-	0.20	0.02	-	N
Main X-listings: CE71 LN (GBp), CBE7 NA (EUR)										
C3M IM	Amundi ETF Govies 0-6 Months E	402	↑	0	-	51	0.14	0.02	-	N
IEGL LN	iShares EUR Govt Bond 15-30yr	400		0	0.21	-	0.20	0.02	-	N
Main X-listings: IBGL LN (GBP), IBGL SW (CHF)										
MTD FP	Lyxor EuroMTS 7-10Y Investment	390	↑	0	-	20	0.17	0.02	-	N
AGGH LN [C]	iShares Core Global Aggregate	371	↑	0	0.20	23,515	0.10	3.72	-	N
Main X-listings: AGGH SW (EUR), EUNA GR (EUR)										
X57E GY	Xtrackers II Eurozone Governme	371	↑	1	-	22	0.15	0.02	-	N
Main X-listings: X57E SW (CHF)										
XEIN EU	Xtrackers II Eurozone Inflatio	368		1	0.10	36	0.20	-	-	N
MTC FP	Lyxor EuroMTS 5-7Y Investment	333	↓	0	-	18	0.17	0.02	-	N
IB83EX GY	iShares Euro Government Bond C	318		0	-	-	0.15	0.08	-	N
PJSR SW [A]	PIMCO Euro Short Maturity Sour	305	↑	0	0.11	-	0.35	0.51	-	N
Main X-listings: PJSR GR (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Government (Broad) (Continued)										
C33 FP	Amundi ETF Govt Bond Euromts B	294	↑	0.2	-	58	0.14	0.01	-	N
AM3A FP	Amundi Govt Bond Highest Rated	276	↑	0.7	-	151	0.14	0.01	-	N
MA35 FP	Lyxor EuroMTS Highest Rated Ma	262	↑	0.0	-	30	0.17	0.01	-	N
Main X-listings: AAA35 IM (EUR)										
X35E GY	Xtrackers II Eurozone Governme	259		0.2	-	21	0.15	0.03	-	N
Main X-listings: X35E SW (CHF)										
C10 FP	Amundi ETF Govt Bond Euromts B	256		0.1	-	32	0.14	0.01	-	N
IBGE LN	iShares EUR Govt Bond 0-1yr UC	250	↑	0.1	-	34	0.20	1.17	-	N
Main X-listings: IEGE NA (EUR), IEGE SW (EUR)										
EGOV IM	AMUNDI INDEX J.P. MORGAN EMU G	224	↑	0.1	-	-	0.14	0.02	-	N
CBOXESOV G\	ComStage ETF iBoxx Liquid Sove	179		0.1	0.50	50	0.12	0.02	-	N
X03F GY	Xtrackers II Eurozone Governme	170	↑	0.3	-	367	0.15	0.03	-	N
Main X-listings: X03F SW (CHF)										
C13 FP	Amundi ETF Govt Bond Euromts B	160	↓	0.1	-	64	0.14	0.02	-	N
X13G IM	Amundi Govt Bond Low est Rated	159		0.2	-	32	0.14	0.02	-	N
Main X-listings: X13G FP (EUR), X13G SW (EUR), X13G GR (EUR)										
VIGB GR	Think iBoxx AAA-AA Government	141		-	0.74	-	0.15	-	-	N
ETFES13 GY	Deka iBoxx EUR Liquid SOV DIV	139	↑	0.4	0.10	-	0.15	0.01	-	N
C53 FP	Amundi ETF Govt Bond Euromts B	135	↑	0.2	-	40	0.14	0.03	-	N
XYPD GR	Xtrackers II iBoxx Eurozone Go	135	↑	0.1	0.11	-	0.15	0.04	-	N
C73 FP	Amundi ETF Govt Bond Euromts B	129	↑	0.2	-	54	0.14	0.01	-	N
X1GD FP	Amundi Govt Bond Low est Rated	129	↑	0.2	-	164	0.14	0.01	-	N
Main X-listings: X1GD SW (EUR)										
CI3 IM	Amundi ETF Euro Inflation UCIT	113		0.2	-	-	0.16	0.01	-	N
VETY LN	Vanguard EUR Eurozone Governme	107	↑	0.1	-	385	0.12	1.18	-	N
Main X-listings: VETY IM (EUR), VETY NA (EUR), VETY SW (CHF), VGEB GR (EUR)										
MTF FP	Lyxor EuroMTS 15+Y Investment	98	↑	0.1	0.12	67	0.17	0.00	-	N
Main X-listings: LYMTF SW (EUR)										
X710 IM	Xtrackers II Eurozone Governme	94		0.3	-	28	0.15	0.02	-	N
Main X-listings: X710 SW (CHF)										
XBAT GY	Xtrackers II Eurozone AAA Gove	85	↑	0.1	0.15	73	0.15	0.00	-	N
MA13 FP	Lyxor EuroMTS Highest Rated Ma	84	↑	0.0	-	32	0.17	0.01	-	N
Main X-listings: AAA13 IM (EUR)										
ETFES57 GY	Deka iBoxx EUR Liquid SOV DIV	82		0.3	0.12	-	0.15	0.03	-	N
IEGZ LN	iShares EUR Govt Bond 10-15yr	71	↓	0.1	0.19	-	0.20	0.04	-	N
Main X-listings: IBGZ LN (GBP), IEGZ SW (CHF)										
MTE FP	Lyxor EuroMTS 10-15Y Investmen	69		0.1	-	18	0.17	0.03	-	N
Main X-listings: LYMTE SW (EUR)										
MTH FP	Lyxor Ultra Long Duration Euro	69	↑	0.2	0.21	33	0.10	0.01	-	N
5X63 GY	ComStage ETF Commerzbank Bund-	66		0.1	0.17	-	0.20	-	-2x	N
Main X-listings: CBBFDS SW (CHF)										
JE13 IM	JPMorgan BetaBuilders EUR Govt	61	↑	0.0	-	-	0.10	0.09	-	N
Main X-listings: JE13 GR (EUR), JE13 LN (EUR), J13E LN (GBP), JE13 SW (EUR)										
ETFES35 GY	Deka iBoxx EUR Liquid SOV DIV	58	↑	0.2	0.16	-	0.15	0.02	-	N
E20Y LN	iShares EUR Govt Bond 20yr Tar	58		0.1	0.23	-	0.15	0.04	-	N
Main X-listings: E20Y SW (EUR), E20Y SW (EUR), IS05 GR (EUR)										
CE01 LN	iShares EUR Govt Bond 7-10yr U	52		0.0	0.15	-	0.20	1.18	-	N
ETFES11 GY	Deka iBoxx EUR Liquid SOV DIV	46		0.1	0.13	-	0.15	0.02	-	N
X15E IM	Xtrackers II Eurozone Governme	44		0.0	0.23	35	0.15	0.04	-	N
S10 FP	AMUNDI ETF SHORT GOVT BOND EUR	44	↓	0.1	0.14	-	0.14	-	-1x	N
AGGS SW [C]	iShares Core Global Aggregate	41	↑	0.1	0.22	23,515	0.10	3.84	-	N
XSGL EU	Xtrackers II Eurozone Governme	38		0.8	0.29	-	0.15	-	-	N
X03C GY	Xtrackers II Eurozone Governme	38		0.3	0.12	21	0.15	0.03	-	N
Main X-listings: X03C SW (CHF)										
X03B GY	Xtrackers II Eurozone Governme	38	↑	0.2	-	31	0.15	0.02	-	N
Main X-listings: X03B SW (CHF)										
TGBT NA	Think iBoxx Government Bond UC	34	↓	0.4	0.13	-	0.15	0.06	-	N
Main X-listings: TGBT GR (EUR)										
ELFD GR	Deka Eurozone Rendite Plus 1-1	32		0.0	0.31	-	0.15	0.07	-	N
MA57 FP	Lyxor EuroMTS Highest Rated Ma	30	↑	0.0	-	19	0.17	0.01	-	N
Main X-listings: AAA57 IM (EUR)										
PR1R GR	AMUNDI PRIME EURO GOVIES UCITS	29		-	0.11	-	0.05	-	-	N
PEU IM	Invesco EuroMTS Cash 3 Months	28	↑	0.1	0.16	51	0.15	0.03	-	N
LINF IM	Lyxor Inverse EUR 2-10Y Inflat	28		-	0.22	-	0.35	-	-	N
Main X-listings: LINF FP (EUR)										
X25E IM	Xtrackers II Eurozone Governme	26		0.0	0.23	19	0.15	0.03	-	N
SB0 IM	Amundi Short Govt Bond Euromts	25	↓	0.0	0.11	-	0.14	-	-1x	N
CBOXES1 GY	ComStage ETF iBoxx Liquid Sove	18		0.1	0.39	-	0.12	0.04	-	N
ETFES71 GY	Deka iBoxx EUR Liquid SOV DIV	16	↑	0.1	0.12	-	0.15	0.02	-	N
CBOXES25 GY	ComStage ETF iBoxx Liquid Sove	15		0.0	0.86	-	0.12	0.03	-	N
ETFES10 GY	Deka iBoxx EUR Liquid SOV DIV	12	↓	0.0	0.25	-	0.15	0.04	-	N
AA13 FP	Amundi Govt Bond Highest Rated	11		0.0	-	32	0.14	0.04	-	N
CBOXES7 GY	ComStage ETF iBoxx Liquid Sove	11		0.0	0.88	-	0.12	0.03	-	N
X105 GY	Xtrackers II Eurozone Governme	9	↓	0.0	0.16	21	0.15	0.05	-	N
XY1D GR	Xtrackers II iBoxx Eurozone Go	9	↓	0.0	-	32	0.15	0.03	-	N
Main X-listings: XY1D SW (CHF)										
CBOXES5 GY	ComStage ETF iBoxx Liquid Sove	9		0.0	0.76	-	0.12	0.03	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Government (Broad) (Continued)										
XBAI GR	Xtrackers II Eurozone AAA Gove	9		0	0.14	73	0.15	0.00	-	N
XESQ GR	Xtrackers Eurozone Government	7	↓	0	0.20	350	0.20	0.03	-	N
Main X-listings: XESQ IM (EUR)										
SYB4 GR	SPDR Bloomberg Barclays 3-5 Ye	7	↑	0	0.31	67	0.15	0.03	-	N
Main X-listings: EU35 LN (EUR), EU35 SW (CHF), EU35 IM (EUR)										
CBOXES10 GY	ComStage ETF iBoxx Liquid Sove	6	↑	0	0.83	-	0.12	0.03	-	N
CBOXES3 GY	ComStage ETF iBoxx Liquid Sove	5	↓	0	0.88	-	0.12	0.04	-	N
CBOXES3M GY	ComStage ETF iBoxx Liquid Sove	4		0	0.74	-	0.12	0.03	-	N
SYBV GR	SPDR Bloomberg Barclays 10+ Ye	3	↓	0	0.28	117	0.15	0.03	-	N
Main X-listings: LGOV LN (EUR), LGOV SW (EUR), LGOV IM (EUR)										
OBLI FP	Lyxor PEA Obligations d'Etat E	3		-	0.48	163	0.40	-	-	N
CBOXES15 GY	ComStage ETF iBoxx Liquid Sove	2	↓	0	0.63	-	0.12	0.05	-	N
WGOV IM	WisdomTree EUR Government Bond	2		0	0.23	270	0.16	-	-	N
GOVE IM	WisdomTree EUR Government Bond	2		0	0.24	270	0.16	-	-	N
WTDS GR	WisdomTree EUR Government Bond	2		0	0.30	270	0.16	-	-	N
SYB7 GR	SPDR Bloomberg Barclays 7-10 Y	2	↓	0	0.21	72	0.15	0.09	-	N
Main X-listings: EU7L LN (EUR), EU7L IM (EUR), EU7L SW (EUR)										
WTDR GR	WisdomTree EUR Government Bond	2		0	0.30	270	0.16	-	-	N
GOMA FP	BNP Paribas Easy BARCLAY Euro	1		0	0.13	36	0.15	0.03	-	N
Main X-listings: GOMA GR (EUR)										
VGEA GR	Vanguard EUR Eurozone Governme	1		-	0.15	385	0.12	-	-	N
Main X-listings: VETA LN (GBP)										
3UBS IM	Boost Bund 30Y 3x Short Daily	0	↑	0	0.27	-	0.30	-	-3x	N
XMWH GR	Boost Bund 30Y 3x Short Daily	0		0	0.28	-	0.30	-	-3x	N
Government / Corporates										
FLOA N MM	iShares USD Floating Rate Bond	2,185		4	1.79	691	0.10	-	-	N
Main X-listings: FLOA LN (USD)										
IEAG EU	iShares EUR Aggregate Bond UCI	2,183		6	-	5,162	0.25	-	-	N
Main X-listings: SEAG LN (GBP), IEAG SW (CHF)										
AGGU LN [C]	iShares Core Global Aggregate	941		0	0.20	23,515	0.10	2.27	-	N
Main X-listings: AGGU SW (USD)										
IUAG LN	iShares US Aggregate Bond UCIT	677		1	0.15	10,398	0.25	0.06	-	N
Main X-listings: IUAG SW (USD), SUAG LN (GBP), EUNX GY (EUR)										
IUAA LN	iShares US Aggregate Bond UCIT	667	↑	2	0.18	10,398	0.25	0.06	-	N
Main X-listings: IUAA SW (CHF)										
FLO5 LN	iShares USD Floating Rate Bond	468	↑	0	0.15	691	0.10	1.47	-	N
Main X-listings: QDVY GR (EUR), FLTR IM (EUR), FLOT SW (USD), FLOT LN (USD)										
EAGG FP	SPDR Bloomberg Barclays Euro A	418	↑	0	0.13	5,162	0.17	0.04	-	N
Main X-listings: EAGG SW (CHF), EUAG LN (EUR)										
AGGG LN	iShares Core Global Aggregate	348	↑	0	0.17	23,515	0.10	0.06	-	N
Main X-listings: AGGG SW (USD), EUNU GR (EUR), SAGG LN (GBP)										
EFQ8 GY	Deka iBoxx EUR Liquid Non-Fina	296	↓	0	0.17	-	0.20	0.02	-	N
UEFY GR	UBS-ETF SBI Foreign AAA-BBB 1-	272		0	0.35	275	0.20	0.08	-	N
XBAE GR [C]	Xtrackers II Global Aggregate	263		0	0.12	23,515	0.20	0.01	-	N
Main X-listings: XBAE IM (EUR), XBAE SW (EUR)										
GLAG IM	SPDR Bloomberg Barclays Global	242	↑	0	0.17	23,515	0.10	0.05	-	N
Main X-listings: GLAG SW (USD), GLAG LN (USD), GLBL LN (GBP), SYBZ GR (EUR)										
XTXC EU	Xtrackers II iTraxx Crossover	227		4	0.21	-	0.24	-	-	N
JPST LN [A]	JPMorgan USD Ultra-Short Incom	221	↑	0	0.11	2	0.18	0.18	-	N
Main X-listings: JPST IM (EUR), JPTS LN (GBp), JPPS GR (EUR), JPST IM (EUR), JPST SW (USD), JPTS LN (GBP)										
XBAG LN	Xtrackers II Global Aggregate	220	↑	0	0.17	23,515	0.15	1.45	-	N
Main X-listings: XBAG IM (EUR), XBAG SW (USD), XBAG GR (EUR)										
PRAC SW [C]	Invesco Preferred Shares UCITS	216		-	0.35	-	0.50	-	-	N
Main X-listings: PRAC LN (USD)										
IUAE LN [C]	iShares US Aggregate Bond UCIT	181	↑	0	0.22	10,398	0.30	5.58	-	N
GHYC SW [C]	iShares Global High Yield Corp	177		0	0.23	-	0.55	0.11	-	N
UEFZ GR	UBS-ETF SBI Foreign AAA-BBB 5-	152	↑	0	0.49	154	0.20	0.11	-	N
ECB FP	Lyxor EuroMTS Covered Bond Agg	138		0	0.15	-	0.17	0.00	-	N
FRMXNX IX [C]	iShares USD Floating Rate Bond	122		0	-	691	0.15	-	-	N
Main X-listings: FRMX SW (CHF)										
JGST LN [A]	JPMorgan GBP Ultra-Short Incom	111		0	0.15	-	0.18	-	-	N
XBAC SW [C]	Xtrackers II Global Aggregate	91	↓	0	0.26	23,515	0.20	0.01	-	N
ETFIBOXG GY	Deka iBoxx EUR Liquid Germany	86	↓	0	0.19	30	0.09	0.03	-	N
AGBP LN [C]	iShares Core Global Aggregate	76	↑	0	0.29	23,515	0.10	5.80	-	N
Main X-listings: AGBP SW (GBP)										
GLAE IM [C]	SPDR Bloomberg Barclays Global	76	↑	0	0.28	23,515	0.10	0.09	-	N
Main X-listings: GLAE SW (EUR), SPFE GR (EUR)										
XTC5 EU	Xtrackers II iTraxx Crossover	64		1	0.32	-	0.24	-	-	N
ICBU LN	iShares $ Intermediate Credit	51		0	0.29	4,416	0.15	0.08	-	N
Main X-listings: SXRF GR (EUR)										
GAGU NA	AMUNDI INDEX BARCLAYS GLOBAL A	50	↑	0	0.47	15,795	0.10	0.08	-	N
Main X-listings: GAGUN MM (MXN), GAGG IM (EUR), GAGG LN (GBp)										
XBAU SW [C]	Xtrackers II Global Aggregate	47	↓	0	0.17	23,515	0.20	0.01	-	N
Main X-listings: XBAUN MM (MXN)										
GLAB LN [C]	SPDR Bloomberg Barclays Global	43	↑	0	0.32	23,515	0.10	0.07	-	N
Main X-listings: GLAB SW (GBP)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Fixed Income

Government / Corporates (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
FLOS LN [C]	iShares USD Floating Rate Bond	42	↑	0.2	0.20	691	0.12	6.84	-	N
Main X-listings: FLOS SW (GBP)										
MOOC FP	OSSIAM SOLACTIVE MOODY'S ANALY	42		0.0	0.37	-	0.35	0.03	-	N
Main X-listings: OSXF GR (EUR)										
HQLA1 IM	UBS ETF Bloomberg Barclays EUR	38		0.1	0.55	507	0.18	-	-	N
Main X-listings: HQLA1 IM (EUR), HQLA1 SW (EUR), UIQL GR (EUR)										
USAG LN	SPDR Bloomberg Barclays U.S. A	32	↑	0.1	0.53	10,398	0.17	0.09	-	N
Main X-listings: USAG FP (EUR), USAG SW (CHF)										
FLES LN [A]	Franklin Liberty Euro Short Ma	32		0.0	0.59	536	0.30	-	-	N
Main X-listings: FLES IM (EUR), FLES SW (EUR), FRXE LN (GBP), FVSH GR (EUR)										
IUGA LN [C]	iShares US Aggregate Bond UCIT	28	↑	0.1	0.30	10,398	0.30	6.84	-	N
FLOE LN [C]	iShares USD Floating Rate Bond	27	↑	0.0	0.25	691	0.12	5.56	-	N
Main X-listings: FLOE IM (EUR), FLOE SW (EUR), SXRR GR (EUR)										
XTXE EU	Xtrackers II iTraxx Europe Sw a	25		0.1	0.19	-	0.18	-	-	N
GLAC SW [C]	SPDR Bloomberg Barclays Global	21	↑	0.1	0.33	23,515	0.10	0.11	-	N
XB4N GY	Xtrackers II EUR Corporate Bon	15	↓	0.0	0.19	1,615	0.20	0.11	-	N
TCEP LN	Tabula European Performance Cr	10		0.0	0.51	-	0.50	-	+3x	N
PIRB IM [A]	Lyxor Italia Bond PIR DR UCITS	10		0.0	0.38	-	0.49	-	-	N
XBGG LN [C]	Xtrackers II Global Aggregate	6	↑	0.0	0.20	23,515	0.20	0.02	-	N
Main X-listings: XBGG SW (GBP)										
TECC LN	Tabula European iTraxx Crossov	6		-	0.66	-	0.40	-	-	N
PRFE SW [C]	Invesco Preferred Shares UCITS	6	↑	0.0	0.43	-	0.55	5.59	-	N
Main X-listings: PRFE IM (EUR), PDSE GR (EUR)										
GFA LN	VanEck Vectors Global Fallen A	6		0.0	0.92	412	0.40	0.53	-	N
Main X-listings: GFA IM (EUR), GFAA SW (CHF), GFEA GR (EUR), GFGB LN (GBP)										
GLAU LN [C]	SPDR Bloomberg Barclays Global	5	↑	0.0	0.36	23,515	0.10	0.07	-	N
Main X-listings: GLAU SW (USD)										
RUSB RM	ITI Funds Russia-Focused USD E	4		0.0	0.26	-	0.50	0.41	-	N
Main X-listings: RUSB LN (USD)										
EYLD IM	WisdomTree EUR Aggregate Bond	2		0.0	0.35	4,270	0.18	-	-	N
WTDQ GR	WisdomTree EUR Aggregate Bond	2		0.0	0.50	4,270	0.18	-	-	N
YLD IM	WisdomTree EUR Aggregate Bond	2		0.0	0.31	4,270	0.18	-	-	N
WTDP GR	WisdomTree EUR Aggregate Bond	2		0.0	0.48	4,270	0.18	-	-	N
TECS LN	Tabula European iTraxx Crossov	1		-	0.51	-	0.50	-	-1x	N
TCED LN	Tabula European Performance Cr	1		0.0	0.57	-	0.50	-	+3x	N
PRFC SW [C]	Invesco Preferred Shares UCITS	0		0.0	0.50	-	0.55	-	-	N
GAHU FP [C]	AMUNDI INDEX BARCLAYS GLOBAL A	0	↓	0.0	0.39	15,795	0.10	0.14	-	N
PSGF83 IT [C]	Psagot ETF 0A Bloomberg Barcla	-		-	2.58	1,355	0.25	-	-	N
PSGF88 IT	Psagot ETF 0D Bloomberg Barcla	-		-	-	-	0.30	-	-	N
PSGF86 IT [C]	Psagot ETF 0A Bloomberg Barcla	-		-	2.44	4,416	0.25	-	-	N

Government (International)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
IBTS LN	iShares USD Treasury Bond 1-3y	4,156	↑	1.2	-	-	0.20	1.45	-	N
Main X-listings: IDBT LN (USD), IBTS IM (EUR)										
IDTM LN	iShares USD Treasury Bond 7-10	3,037		2.8	-	-	0.20	0.04	-	N
Main X-listings: IBTM LN (GBP), BTMA NA (EUR)										
ITPS LN	iShares USD TIPS UCITS ETF	1,769		0.8	0.13	40	0.25	1.45	-	N
Main X-listings: IDTP LN (USD), ITPS IM (EUR)										
CSBGU7 SW	iShares USD Treasury Bond 3-7y	1,638	↑	0.8	-	-	0.20	0.04	-	N
Main X-listings: CSBGU7 IM (EUR), CU71 LN (GBp)										
IBTA LN	iShares USD Treasury Bond 1-3y	1,516	↑	2.8	-	-	0.20	0.04	-	N
Main X-listings: IBTA SW (CHF)										
IGLO LN	iShares Global Govt Bond UCITS	1,200	↑	0.9	0.12	-	0.20	0.04	-	N
Main X-listings: IGLON MM (MXN), SGLO LN (GBP), IGLO SW (CHF), EUN3 GY (EUR)										
TRXS LN [C]	Invesco US Treasury 7-10 Year	931		-	0.17	20	0.10	-	-	N
XG7S GR	Xtrackers II Global Government	861	↑	0.0	0.13	-	0.20	0.03	-	N
Main X-listings: XGGB LN (USD), XG7SEUR SW (EUR)										
TIPH LN [C]	Lyxor Core US TIPS DR UCITS ET	722	↑	0.9	0.13	40	0.20	0.06	-	N
XGSH IM [C]	Xtrackers II Global Government	616	↑	0.4	0.12	-	0.25	3.37	-	N
INFU LN	Lyxor USD 10Y Inflation Expect	605	↓	0.5	0.14	-	0.25	0.00	-	N
Main X-listings: INFU FP (EUR), UINF GR (EUR), INFU IM (EUR), INFU SW (USD)										
TIPU LN	Lyxor Core US TIPS DR UCITS ET	545	↑	0.3	-	40	0.09	0.00	-	N
Main X-listings: TIUP GR (EUR), TIPG LN (GBp), TIPU IM (EUR)										
XGIN IM [C]	Xtrackers II Global Inflation-	499		0.2	0.12	140	0.25	3.21	-	N
XJSE GR	Xtrackers II Japan Government	464	↑	0.0	0.22	-	0.15	1.46	-	N
SGIL LN	iShares Global Inflation Linke	458	↓	0.3	0.23	140	0.25	1.45	-	N
Main X-listings: SGIL LN (GBP), EGIL LN (EUR)										
IDTL LN	iShares USD Treasury Bond 20+y	447	↑	1.1	0.10	-	0.20	0.06	-	N
Main X-listings: IDTLN MM (MXN), IDTL SW (USD), IBTL LN (GBp), IDTL SW (USD), IS04 GR (EUR)										
XUTD EU	Xtrackers II US Treasuries UCI	447		0.5	-	261	0.12	-	-	N
Main X-listings: XUTD IM (EUR)										
UTIP LN	SPDR Bloomberg Barclays U.S. T	372	↓	0.2	0.18	40	0.17	0.10	-	N
Main X-listings: SYBY GR (EUR), TIPS LN (USD), TIPS IM (EUR), TIPS SW (USD)										
TIP1A SW	UBS ETF - Bloomberg Barclays T	367		0.5	0.25	29	0.15	0.03	-	N
TIP5 LN	iShares USD TIPS 0-5 UCITS ETF	332	↓	0.7	0.11	-	0.10	0.03	-	N
Main X-listings: SXRH GR (EUR), TIP5 SW (USD), TP05 LN (GBp)										
TRSY LN	SPDR Bloomberg Barclays U.S. T	320	↑	0.7	-	258	0.15	0.03	-	N
Main X-listings: TRSY SW (CHF), TSYE FP (EUR), USTY LN (GBP), TRSY IM (EUR)										

Fixed Income

Government (International) (Continued)

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
XUTE IM [C]	Xtrackers II US Treasuries UCI	317	↑	0	0.12	261	0.17	5.57	-	N
Main X-listings: XUTE GR (EUR), XUTE SW (CHF)										
TIP1E SW [C]	UBS ETF - Bloomberg Barclays T	309		0	0.23	29	0.20	0.08	-	N
Main X-listings: TIP1E IM (EUR)										
US7 FP	Amundi US Treasury 7-10 UCITS	279	↑	0	0.12	-	0.14	0.01	-	N
Main X-listings: US7 IM (EUR)										
DJAD GR	Lyxor iBoxx $ Treasuries 10Y+	273		0	-	-	0.07	-	-	N
Main X-listings: US10 EU (USD), US10 IM (EUR), U10G LN (GBp)										
US13 EU	Lyxor Core iBoxx USD Treasurie	255		1	0.10	-	0.07	-	-	N
Main X-listings: US13 IM (EUR), U13G LN (GBp)										
JBEM FP	BNP Paribas Easy JPM GBI EMU U	246	↑	0	0.12	-	0.15	0.11	-	N
CSBGU3 SW	iShares USD Treasury Bond 1-3y	222	↑	0	-	-	0.20	0.04	-	N
Main X-listings: CSBGU3 IM (EUR), CU31 LN (GBp)										
XGVD IM [C]	Xtrackers II Global Government	220		0	0.18	-	0.25	3.37	-	N
CSBGU0 SW	iShares USD Treasury Bond 7-10	208		1	-	-	0.20	0.04	-	N
XGIU GR	Xtrackers II Global Inflation-	198	↓	0	0.16	140	0.20	0.12	-	N
Main X-listings: XGIU SW (CHF)										
GGOV IM	AMUNDI INDEX JP MORGAN GBI GLO	198	↑	0	0.19	-	0.20	0.05	-	N
Main X-listings: GGOU NA (USD), GGOV LN (GBp)										
SYBW GR	SPDR Bloomberg Barclays 1-3 Ye	168	↑	0	-	96	0.15	0.02	-	N
Main X-listings: TRS3 IM (EUR)										
XGII GR [C]	Xtrackers II Global Inflation-	156		0	0.13	140	0.25	3.21	-	N
Main X-listings: XGII IM (EUR), XGIIEUR SW (EUR)										
XGSG LN [C]	Xtrackers II Global Government	147	↑	0	0.23	-	0.25	5.96	-	N
UBTS LN	UBS ETF - Bloomberg Barclays T	140		0	0.41	29	0.15	0.03	-	N
Main X-listings: TIP1D SW (USD), TIP1D IM (EUR)										
IBTE LN [C]	iShares USD Treasury Bond 1-3y	136	↑	0	-	-	0.22	5.57	-	N
IB01 LN	iShares USD Treasury Bond 0-1y	134		-	0.12	-	0.07	-	-	N
VUTY LN	Vanguard USD Treasury Bond UCI	134	↑	0	0.11	258	0.12	1.62	-	N
Main X-listings: VUTY IM (EUR), VDTY LN (USD), VUTY NA (EUR), VUTY SW (CHF), VGTY GR (EUR)										
XUT3 EU	Xtrackers II US Treasuries 1-3	125		0	-	98	0.12	-	-	N
TIP1G SW [C]	UBS ETF - Bloomberg Barclays T	113		0	0.35	29	0.20	0.05	-	N
Main X-listings: UBTP LN (GBp)										
GOVH FP [C]	AMUNDI INDEX JP MORGAN GBI GLO	105	↑	0	0.23	-	0.22	0.04	-	N
XGIG LN [C]	Xtrackers II Global Inflation-	100		0	0.26	140	0.25	4.38	-	N
DTLA LN	iShares USD Treasury Bond 20+y	91		0	0.15	-	0.20	-	-	N
U10H IM [C]	Lyxor iBoxx $ Treasuries 10Y+	91	↑	0	0.21	-	0.15	0.12	-	N
IAAA SW	iShares Global AAA-AA Govt Bon	87	↑	0	0.17	-	0.20	0.04	-	N
IGLH LN [C]	iShares Global Govt Bond UCITS	81	↑	0	0.19	-	0.25	5.93	-	N
JU13 IM	JPMorgan Betabuilders US Treas	69		0	-	-	0.10	-	-	N
Main X-listings: J13U LN (GBP), JA13 GR (EUR), JU13 LN (USD)										
IBTMXX IX [C]	iShares USD Treasury Bond 1-3y	66		0	-	-	0.25	-	-	N
IGTM LN [C]	iShares USD Treasury Bond 7-10	63		-	0.10	-	0.22	-	-	N
GILE LN [C]	iShares Global Inflation Linke	57		0	0.36	140	0.25	3.43	-	N
Main X-listings: GILE SW (EUR)										
US71 LN	Lyxor Core iBoxx USD Treasurie	56	↑	0	0.12	-	0.07	0.03	-	N
Main X-listings: LYX7 GR (EUR), U71G LN (GBp)										
UB74 LN	UBS ETF - Bloomberg Barclays U	44	↑	0	0.38	96	0.12	0.03	-	N
Main X-listings: UT1USA SW (USD), UEFF GY (EUR), UEFF NA (EUR)										
TIP1S SW [C]	UBS ETF - Bloomberg Barclays T	42		0	0.46	29	0.20	0.09	-	N
XG7U SW [C]	Xtrackers II Global Inflation-	42		0	0.36	140	0.25	3.05	-	N
Main X-listings: XG7UN MM (MXN)										
OM3M GR	iShares USD Treasury Bond 3-7y	42		0	-	-	0.20	-	-	N
U13H IM [C]	Lyxor Core iBoxx USD Treasurie	33	↑	0	-	-	0.15	0.06	-	N
IBTG LN [C]	iShares USD Treasury Bond 1-3y	32	↑	0	-	-	0.22	6.84	-	N
US1 FP	Amundi ETF US Treasury 1-3 UCI	31	↑	0	-	98	0.14	0.02	-	N
Main X-listings: US1 IM (EUR)										
TIP10G SW [C]	UBS ETF - Bloomberg Barclays T	31		-	0.72	11	0.25	-	-	N
Main X-listings: T10G LN (GBp)										
DSUG LN	Lyxor 10Y US Treasury Daily -2	29	↓	0	0.18	-	0.20	-	-	N
Main X-listings: DSUS LN (USD), DSUS FP (EUR), DSUS IM (EUR)										
US3 FP	Amundi US Treasury 3-7 UCITS E	27	↑	0	-	-	0.14	0.01	-	N
Main X-listings: US3 IM (EUR)										
TI5G LN [C]	iShares USD TIPS 0-5 UCITS ETF	26	↑	0	0.17	-	0.12	6.85	-	N
AGGNZX IX [C]	iShares Core Global Aggregate	25		0	-	23,515	0.15	-	-	N
UST1F IM [C]	UBS ETF - Bloomberg Barclays U	24	↓	0	0.27	-	0.17	0.07	-	N
Main X-listings: UST1F SW (EUR)										
US57 EU	Lyxor Core iBoxx USD Treasurie	22		0	0.10	-	0.07	-	-	N
Main X-listings: US57 IM (EUR), U57G LN (GBp)										
DTLE LN [C]	iShares USD Treasury Bond 20+y	20	↑	0	0.18	-	0.25	5.57	-	N
Main X-listings: DTLE SW (EUR)										
UT1US SW	UBS ETF - Bloomberg Barclays U	19	↑	0	0.75	96	0.12	0.03	-	N
ITPE LN [C]	iShares USD TIPS UCITS ETF	19	↑	0	0.21	40	0.27	5.57	-	N
Main X-listings: IBC5 GR (EUR)										
UT7US SW	UBS ETF - Bloomberg Barclays U	19	↑	0	0.40	20	0.12	0.04	-	N
Main X-listings: UT7USN MM (MXN)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Government (International) (Continued)										
TREX IM	Invesco US Treasury 7-10 Year	18		-	0.15	20	0.06	-	-	N
Main X-listings: TREX LN (USD), TREX SW (USD), TRXG LN (GBp)										
GIST LN	Lyxor Core Global Inflation-Li	18		-	0.13	80	0.12	-	-	N
VUTA LN	Vanguard USD Treasury Bond UCI	18		-	0.23	258	0.12	-	-	N
Main X-listings: VDTA LN (USD)										
SU7 FP	Amundi ETF Short US Treasury 7	16	↓	0.1	0.17	-	0.14	-	-1x	N
ITPG LN [C]	iShares USD TIPS UCITS ETF	16		0.1	0.18	40	0.27	6.84	-	N
E571 GR	ComStage CBK 10Y US-Treasury F	16	↑	0.0	0.22	-	0.20	-	-1x	N
Main X-listings: CB10YS SW (CHF), CB10YSUS SW (USD)										
ADBF MP [A]	African Domestic Bond Fund	16		0.0	-	222	0.60	-	-	N
SPP7 GR	SPDR Bloomberg Barclays 7-10 Y	16	↓	0.0	0.21	20	0.15	0.03	-	N
Main X-listings: TRSX LN (USD), TRSX IM (EUR), TRSX SW (USD)										
IGLA LN	iShares Global Govt Bond UCITS	14	↑	0.2	0.22	-	0.20	0.04	-	N
Main X-listings: IGLA SW (USD), IGLAN MM (MXN)										
SPP3 GR	SPDR Bloomberg Barclays 3-5 Ye	14	↑	0.0	0.24	57	0.15	0.02	-	N
Main X-listings: TRS5 LN (USD), TRS5 SW (USD), TRS5 IM (EUR)										
10AK GR	AMUNDI INDEX JP MORGAN GBI GLO	13	↑	0.0	0.19	-	0.20	0.05	-	N
U35G LN	Lyxor Core iBoxx USD Treasurie	13		0.0	-	-	0.07	1.45	-	N
Main X-listings: US35 LN (USD)										
PR1G GR	AMUNDI PRIME GLOBAL GOVIES UCI	13		-	0.27	-	0.05	-	-	N
UST10F SW [C]	UBS ETF - Bloomberg Barclays U	13	↑	0.0	0.83	49	0.25	0.07	-	N
Main X-listings: UST10F IM (EUR)										
ATIP IM	Amundi Index Barclays US Gov I	13	↑	0.1	0.18	40	0.16	1.15	-	N
Main X-listings: UIFL FP (USD)										
TRDS GR	Invesco US Treasury UCITS ETF	12		-	2.84	258	0.06	-	-	N
Main X-listings: TRES IM (EUR), TRES LN (USD), TRES SW (USD), TRSG LN (GBp)										
XGSI LN [C]	Xtrackers II Global Government	11	↓	0.0	0.37	-	0.25	2.83	-	N
Main X-listings: XGSI SW (USD)										
FRC3 GR	UBS ETF - Bloomberg Barclays E	11	↓	0.0	0.26	23	0.20	0.18	-	N
Main X-listings: INFL1 IM (EUR), INFL1 SW (EUR), UBIF LN (GBp)										
UEFI GY	UBS ETF - Bloomberg Barclays U	10	↓	0.0	0.41	20	0.12	0.04	-	N
Main X-listings: UT7EUA IM (EUR), UEFI NA (EUR)										
DTLC SW	iShares USD Treasury Bond 20+y	10	↑	0.1	0.21	-	0.25	5.08	-	N
UINE LN	Lyxor Inverse US$ 10Y Inflatio	9		-	0.16	-	0.35	-	-	N
Main X-listings: UINE FP (EUR), UINE IM (EUR)										
XUIT LN	Xtrackers II US Treasuries Inf	9		0.0	0.30	260	0.12	0.04	-	N
Main X-listings: D5BF GR (EUR)										
TR3G LN [C]	Invesco US Treasury 1-3 Year U	9		-	-	96	0.06	-	-	N
Main X-listings: TRD3 GR (EUR), TRE3 IM (EUR), TRE3 LN (USD), TRE3 SW (USD)										
UBTL LN	UBS ETF - Bloomberg Barclays T	8	↑	0.0	0.61	11	0.20	0.09	-	N
Main X-listings: TIP10D SW (GBp), TIP10D IM (EUR), UIMB GR (EUR)										
E573 GR	ComStage CBK US-Treasury Bond	7		0.0	0.26	-	0.20	-	-2x	N
Main X-listings: CB25DSUS SW (USD), CB25DS SW (CHF)										
ASHWGB SJ	Ashburton World GovB ETF	7	↑	0.0	1.61	1,033	0.45	5.23	-	N
CORG LN	L&G LOIM Global Government Bon	7	↓	0.0	0.81	1,118	0.25	1.51	-	N
Main X-listings: CORE SW (CHF), COGG LN (EUR), CORE LN (USD), CORE IM (EUR)										
E572 GR	ComStage CBK US-Treasury Bond	7		0.0	0.23	-	0.20	-	-1x	N
Main X-listings: CB25YSUS SW (USD), CB25YS SW (CHF)										
FRC4 GR	UBS ETF - Bloomberg Barclays E	6		0.0	0.63	13	0.20	0.18	-	N
Main X-listings: INFL10 IM (EUR), INFL10 SW (EUR)										
US1S FP	Lyxor 10Y US Treasury Daily -1	5	↓	0.0	0.28	-	0.20	-	-1x	N
Main X-listings: US1S IM (EUR)										
TR7G LN	Invesco US Treasury 3-7 Year U	5		-	-	93	0.06	-	-	N
Main X-listings: TRD7 GR (EUR), TRE7 IM (EUR), TRE7 LN (USD), TRE7 SW (USD)										
E570 GR	ComStage CBK 10Y US-Treasury F	5		0.0	0.22	-	0.20	0.12	-	N
Main X-listings: CB10YL SW (CHF), CB10YLUS SW (USD)										
SPPX GR	SPDR Bloomberg Barclays 10+ Ye	5	↓	0.0	0.31	49	0.15	0.05	-	N
Main X-listings: LUTR LN (USD), LUTR SW (USD), LUTR IM (EUR)										
3TYS IM	Boost US Treasuries 10Y 3x Sho	3	↓	0.0	0.32	-	0.30	-	-3x	N
Main X-listings: 3TYS LN (GBp)										
TY3S GR	Boost US Treasuries 10Y 3x Sho	3		0.0	0.36	-	0.30	-	-3x	N
PR1S GR	AMUNDI PRIME US TREASURY UCITS	3		-	0.17	-	0.05	-	-	N
IBB1 GR [C]	iShares USD Treasury Bond 7-10	3		-	0.10	-	0.22	-	-	N
IBTU LN	iShares USD Treasury Bond 0-1y	3		-	0.13	-	0.07	-	-	N
Main X-listings: IBCC GR (EUR)										
GAGH FP [C]	AMUNDI INDEX BARCLAYS GLOBAL A	2	↓	0.1	0.41	15,795	0.10	0.09	-	N
USTY FP	BNP Paribas Easy Barclays US T	1	↓	-	-	258	0.20	0.09	-	N
CBUE GR [C]	iShares USD Treasury Bond 3-7y	1		-	-	-	0.22	-	-	N
3TYL IM	Boost US Treasuries 10Y 3x Lev	1	↑	0.0	0.32	-	0.30	-	+3x	N
Main X-listings: 3TYL LN (GBp)										
10AL GR	AMUNDI INDEX J.P. MORGAN EMU G	1	↓	0.0	-	-	0.14	0.02	-	N
10AM GR	AMUNDI INDEX BARCLAYS GLOBAL A	1	↓	0.0	0.34	15,795	0.10	1.13	-	N
5TYS IM	Boost US Treasuries 10Y 5x Sho	1		0.0	0.46	-	0.50	-	-5x	N
GAAA LN	iShares Global AAA-AA Govt Bon	0		0.0	0.21	-	0.20	-	-	N
Main X-listings: GAAAN MM (MXN)										
ETFGGB SJ	STANLIB G7 GOVT BOND ETF	0		0.0	1.17	-	0.40	1.17	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Government (International) (Continued)										
UL3S IM	Boost US Treasuries 30Y 3x Sho	0		0	0.27	-	0.30	-	-3x	N
Main X-listings: UL3S LN (GBp)										
CBUG NA [C]	iShares USD Treasury Bond 3-7y	0		-	-	-	0.22	-	-	N
Main X-listings: CBUG LN (GBP)										
PSGF7 IT	Psagot ETF 00 CPI-Linked Gover	-		-	-	-	0.15	-	-	N
KSMF161 IT	KSM ETF 0A iBoxx $ Corps Liqui	-		-	-	-	-	-	-	N
KSMF2 IT	KSM ETF 00 Tel Bond Shekel-50	-		-	-	-	-	-	-	N
KSMF88 IT	KSM ETF 2A Composite Gen Bond	-		-	-	-	-	-	-	N
PSGF63 IT	Psagot ETF 0A iBoxx US Liquid	-		-	-	-	0.60	-	-	N
KSMF172 IT [C]	KSM ETF 2A Comp Gov Bond 35% C	-		-	0.47	-	-	-	-	N
KSMF87 IT	KSM ETF 3B Composite Gen Bond	-		-	-	-	-	-	-	N
PSGF1 IT	Psagot ETF 00 Non-Linked Float	-		-	-	-	0.15	-	-	N
KSMF110 IT	KSM ETF 00 Tel Bond-Yields	-		-	-	-	0.25	-	-	N
KSMF141 IT [C]	KSM ETF 2A Comp Gov Bond 55% C	-		-	0.51	-	-	-	-	N
KSMF42 IT	KSM ETF 00 CPI-Linked Fixed In	-		-	-	-	0.15	-	-	N
KSMF58 IT	KSM ETF 00 Non-Linked Fixed In	-		-	-	-	-	-	-	N
PSGF2 IT	Psagot ETF 00 Non-Linked Fixed	-		-	-	-	0.15	-	-	N
KSMF157 IT [C]	KSM ETF 0A Comp iBoxx US IG To	-		-	0.77	-	-	-	-	N
PSGF10 IT	Psagot ETF 00 CPI Linked Gover	-		-	-	-	0.20	-	-	N
KSMF154 IT	KSM ETF 00 Tel Bond-Floating	-		-	-	-	-	-	-	N
KSMF144 IT	KSM ETF 0A Tel Bond-Composite	-		-	-	-	-	-	-	N
KSMF91 IT	KSM ETF 2A Composite Gen Bond	-		-	-	-	-	-	-	N
KSMF106 IT	KSM ETF 0D iBoxx US Liquid Inv	-		-	-	-	0.60	-	-	N
KSMF23 IT	KSM ETF 00 Non-Linked Floating	-		-	-	-	0.15	-	-	N
KSMF148 IT [C]	KSM ETF 00 Short Tel Bond-Yiel	-		-	0.24	-	-	-	-	N
KSMF149 IT [C]	KSM ETF 2A Comp Gov Bond Israe	-		-	0.60	-	-	-	-	N
KSMF107 IT	KSM ETF 00 Tel Bond-CPI Linked	-		-	-	-	0.25	-	-	N
KSMF85 IT	KSM ETF 00 Comp Gov Bond Israe	-		-	-	-	-	-	-	N
KSMF36 IT	KSM ETF 00 CPI-Linked Gov Bond	-		-	-	-	0.15	-	-	N
KSMF45 IT	KSM ETF 2A Composite Gov Bond	-		-	-	-	-	-	-	N
KSMF43 IT	KSM ETF 00 Short Term Treasury	-		-	-	-	0.05	-	-	N
PSGF5 IT	Psagot ETF 00 Short Term Treas	-		-	-	-	0.05	-	-	N
KSMF62 IT	KSM ETF 00 CPI-Linked Gov Bond	-		-	-	-	-	-	-	N
KSMF4 IT	KSM ETF 0D iBoxx USD Liquid FR	-		-	-	-	-	-	-	N
KSMF39 IT	KSM ETF 00 Non-Linked Fixed In	-		-	-	-	0.15	-	-	N
SBGB RM	Sberbank - MOEX Russian Govern	-		-	0.37	-	0.80	-	-	N
KSMF108 IT	KSM ETF 00 Tel Bond-CPI Linked	-		-	-	-	0.25	-	-	N
PSGF8 IT	Psagot ETF 00 CPI-Linked Gover	-		-	-	-	-	-	-	N
KSMF1 IT	KSM ETF 00 Tel Bond-CPI Linked	-		-	-	-	-	-	-	N
KSMF37 IT	KSM ETF 00 Non-Linked Fixed In	-		-	-	-	0.15	-	-	N
KSMF165 IT [C]	KSM ETF 0A Comp iBoxx $ 3-7 Ye	-		-	1.52	-	-	-	-	N
KSMF38 IT	KSM ETF 00 Non-Linked Fixed In	-		-	-	-	0.15	-	-	N
DCCUS2 SJ	2YR Dollar Custodial Certifica	-		0	0.42	-	0.30	-	-	N
PSGF9 IT	Psagot ETF 00 CPI-Linked Gover	-		-	-	-	0.15	-	-	N
KSMF164 IT	KSM ETF 0D iBoxx $ Corps Liqui	-		-	-	-	-	-	-	N
DCCUSD SJ	Dollar Custodial Certificates	-		0	0.59	-	-	-	-	N
KSMF153 IT	KSM ETF 00 Short Non-Linked Fi	-		-	-	-	-	-	-	N
KSMF3 IT	KSM ETF 00 Tel Bond-Global	-		-	-	-	-	-	-	N
PSGF11 IT	Psagot ETF 00 Non-Linked Fixed	-		-	-	-	0.20	-	-	N
PSGF62 IT	Psagot ETF 0D iBoxx US Liquid	-		-	-	-	0.60	-	-	N
KSMF174 IT	KSM ETF 00 Tel Bond-Shekel 3-5	-		-	-	-	-	-	-	N
PSGF6 IT	Psagot ETF 00 Non-Linked Gover	-		-	-	-	0.15	-	-	N
PSGF3 IT	Psagot ETF 00 Non-Linked Fixed	-		-	-	-	0.15	-	-	N
PSGF4 IT	Psagot ETF 00 Non-Linked Fixed	-		-	-	-	0.15	-	-	N
KSMF126 IT	KSM ETF 00 Tel Bond-CPI Linked	-		-	-	-	0.25	-	-	N
KSMF86 IT	KSM ETF 0A Government Bonds	-		-	-	-	-	-	-	N
KSMF160 IT [C]	KSM ETF 0A iBoxx $ Corps Liqui	-		-	1.12	-	-	-	-	N
KSMF35 IT	KSM ETF 00 CPI-Linked Gov Bond	-		-	-	-	0.15	-	-	N
Government (EM)										
IEML LN	iShares JP Morgan EM Local Gov	8,728	↑	4	0.18	-	0.50	0.19	-	N
Main X-listings: SEML LN (GBP), SEML IM (EUR)										
IEMB LN	iShares J.P. Morgan USD EM Bon	6,887		8	0.12	-	0.45	0.08	-	L
Main X-listings: IEMB IM (EUR), SEMB LN (GBp)										
EMBE LN [C]	iShares J.P. Morgan USD EM Bon	3,397	↑	3	0.17	-	0.50	0.12	-	N
Main X-listings: EMBE IM (EUR)										
EMDD LN	SPDR Bloomberg Barclays Emergi	3,230		1	0.26	530	0.55	0.13	-	N
Main X-listings: EMDL LN (GBP), EMDL SW (CHF), EMLD FP (EUR)										
XEMB EU [C]	Xtrackers II USD Emerging Mark	1,478		3	0.12	-	0.40	-	-	N
JPEA LN	iShares J.P. Morgan USD EM Bon	953	↑	1	0.15	-	0.45	0.08	-	N
Main X-listings: JPEA SW (CHF), JPEE LN (EUR)										
XUEM IM	Xtrackers II USD Emerging Mark	805		0	0.22	-	0.25	-	-	N
Main X-listings: XUEM GR (EUR), XUEM LN (USD)										
SBEME IM [C]	UBS ETF - Bloomberg Barclays U	361	↑	1	0.25	-	0.47	0.16	-	N
Main X-listings: SBEME SW (EUR), FRCK GR (EUR)										
VDET LN	Vanguard USD Emerging Markets	346	↑	0	0.44	1,238	0.25	0.47	-	N
Main X-listings: VEMT NA (EUR), VEMT SW (CHF), VEMT LN (GBP), VDET SW (USD), VGEM GR (EUR), VDETN MM (MXN), VEMT IM (EUR)										

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income										
Government (EM) (Continued)										
LEMB EU	Lyxor IBOXX $ Liquid Emerging	341		0.2	0.19	-	0.30	-	-	N
Main X-listings: EMKTB IM (EUR)										
EMGA LN	iShares JP Morgan EM Local Gov	318		0.1	0.31	-	0.50	-	-	N
Main X-listings: EMGAN MM (MXN)										
EMLOC IM	UBS ETF - JP Morgan EM Multi-F	234		0.2	0.46	-	0.47	-	-	N
Main X-listings: EMLO LN (GBp), EMLOC SW (USD), UEFE GR (EUR)										
EMLB LN	PIMCO Emerging Markets Advanta	177		0.1	0.47	-	0.60	0.81	-	N
AGEB FP	Amundi ETF Global Emerging Bon	165	↑	0.3	0.22	-	0.30	0.02	-	N
Main X-listings: AGEB IM (EUR)										
SEAA GR	UBS ETF - J.P. Morgan USD EM D	153	↑	0.0	0.45	-	0.42	0.16	-	N
Main X-listings: SEMC LN (GBp), SHEMB IM (EUR), SHEMB SW (USD)										
LOCG LN	L&G LOIM Emerging Market Local	152	↓	0.0	1.09	305	0.55	1.55	-	N
Main X-listings: LOCL SW (CHF), LOCL LN (USD), LOCL IM (EUR)										
ZPR5 GR	SPDR BofAML 0-5 Year EM USD Go	150	↑	0.0	0.56	270	0.42	0.06	-	N
Main X-listings: SEMH LN (GBP), EMH5 LN (USD), EMH5 SW (CHF), EMH5 IM (EUR)										
PEMD IM	Invesco Emerging Markets USD B	143	↑	0.1	0.26	499	0.35	-	-	N
Main X-listings: PEMD SW (USD), PEMD LN (USD)										
SHEME IM[C]	UBS ETF - J.P. Morgan USD EM D	131	↑	0.1	0.33	-	0.47	0.19	-	N
Main X-listings: SEAB GR (EUR), SHEME SW (EUR)										
UEFS GR	UBS ETF - Bloomberg Barclays U	116	↑	0.0	0.34	976	0.42	0.15	-	N
Main X-listings: SBEM LN (GBp), SBEM IM (EUR), SBEM SW (USD), SBEMC SW (CHF)										
EMBC SW[C]	iShares J.P. Morgan USD EM Bon	110		0.3	0.21	-	0.50	0.14	-	N
SPFA GR	SPDR Bloomberg Barclays Emergi	94		0.0	0.36	530	0.55	-	-	N
Main X-listings: EMDA SW (CHF)										
EMBH IM[C]	Lyxor IBOXX $ Liquid Emerging	94	↑	0.1	0.19	-	0.40	0.00	-	N
EMLI LN	PIMCO Emerging Markets Advanta	85		0.0	0.55	-	0.60	0.81	-	N
Main X-listings: EMLI SW (USD), EMLI IM (EUR)										
XQUE IM[C]	Xtrackers USD Emerging Markets	82	↑	0.1	0.26	374	0.55	5.58	-	N
Main X-listings: XQUE GR (EUR), XQUE SW (CHF)										
JMBE GR[C]	JPMorgan USD Emerging Markets	78		0.0	0.45	-	0.39	-	-	N
Main X-listings: JMBE IM (EUR), JMBE LN (EUR), JMBE SW (EUR)										
IGEA LN	iShares Emerging Asia Local Go	68		0.1	0.42	-	0.50	0.10	-	N
Main X-listings: IGEAN MM (MXN), SGEA LN (GBP)										
SYBI GR	SPDR Bloomberg Barclays EM Inf	63		0.0	0.67	75	0.55	0.40	-	N
EMGB LN	VanEck Vectors JP Morgan EM Lo	62	↑	0.0	0.97	-	0.30	6.88	-	N
Main X-listings: EM1C GR (EUR), EMLC IM (EUR), EMLC LN (USD), EMLC SW (CHF)										
SBEG LN[C]	UBS ETF - Bloomberg Barclays U	54	↓	0.1	0.48	-	0.47	0.20	-	N
Main X-listings: SBEMH SW (GBp)										
EMHG LN[C]	iShares J.P. Morgan USD EM Bon	54	↑	0.2	0.26	-	0.50	6.82	-	N
SHEMG SW[C]	UBS ETF - J.P. Morgan USD EM D	49	↑	0.1	0.88	-	0.47	0.18	-	N
Main X-listings: UBXX LN (GBp)										
JPMB LN	JPMorgan USD Emerging Markets	49		0.0	0.42	-	0.39	0.24	-	N
Main X-listings: JPMB IM (EUR), JPMB LN (USD), JPBM GR (EUR), JPBM LN (GBP), JPMB SW (USD)										
NFGOVI SJ	New Funds Govi ETF	45	↑	0.2	0.76	10	0.32	-	-	N
XQUA LN	Xtrackers USD Emerging Markets	45		0.0	0.40	374	0.50	0.09	-	N
Main X-listings: XQUA IM (EUR), XQUA GR (EUR), XQUA SW (CHF)										
CGB GR	Xtrackers II Harvest China Gov	29	↑	0.0	0.64	-	0.40	2.90	-	N
Main X-listings: CGB IM (EUR), CGB LN (USD)										
SBEMS SW[C]	UBS ETF - Bloomberg Barclays U	26		0.1	0.83	-	0.47	0.16	-	N
EMBMXX IX[C]	iShares J.P. Morgan USD EM Bon	14		0.0	-	-	0.50	-	-	N
Main X-listings: EMBM SW (CHF)										
IGAA LN	iShares Emerging Asia Local Go	14		0.1	0.40	-	0.50	-	-	N
HYGB LN	Van Eck Vectors Emerging Marke	9	↑	0.0	0.79	710	0.40	1.11	-	N
Main X-listings: HYEM LN (USD), HY3M GR (EUR), HYEM IM (EUR), HYEM SW (CHF)										
MISB MP	MCB India Sovereign Bond ETF	8		0.0	-	-	0.99	1.31	-	N
VEMA LN	Vanguard USD Emerging Markets	6		-	0.46	1,238	0.25	-	-	N
Main X-listings: VDEA LN (USD)										
STXILB SJ	Satrix ILBI Portfolio	5	↑	0.0	-	-	0.25	2.68	-	N
SHEMC SW[C]	UBS ETF - J.P. Morgan USD EM D	4	↑	0.0	1.00	-	0.47	0.19	-	N
SBEMA SW	UBS ETF - Bloomberg Barclays U	1		0.0	0.71	976	0.42	0.15	-	N
Government (Peripheral)										
IITB SW	iShares Italy Govt Bond UCITS	639		0.1	0.10	75	0.20	0.06	-	N
IESP SW	iShares Spain Govt Bond UCITS	616		0.0	0.16	40	0.20	0.05	-	N
BTP2S IM	Lyxor BTP Daily -2x Inverse UC	159	↓	0.7	0.15	-	0.40	-	-2x	N
MI10 FP	Lyxor EuroMTS 10Y Italy BTP Go	103	↑	0.1	0.12	6	0.17	0.01	-	N
XBOT IM	Xtrackers II Italy Government	99	↑	0.2	0.16	-	0.15	-	-	N
BTP5L IM	SG ETC BTP Futures +5x Daily L	69		0.1	0.43	-	0.98	-	+5x	N
BTP3L IM	SG ETC BTP Futures +3x Daily L	65		0.0	0.27	-	0.59	-	+3x	N
BTP13 IM	Lyxor EuroMTS 1-3Y Italy BTP G	57	↑	0.2	-	17	0.17	0.02	-	N
BTP1S IM	Lyxor BTP Monthly -1x Inverse	32	↓	0.5	0.19	-	0.40	-	-1x	N
BTP3S IM	SG ETC BTP Futures -3x Daily S	29		0.0	0.28	-	0.59	-	-3x	N
BTP5S IM	SG ETC BTP Futures -5x Daily S	18		0.0	0.23	-	0.98	-	-5x	N
BTP2L IM	Lyxor BTP Daily 2x Leveraged U	17	↑	0.2	0.15	-	0.40	-	+2x	N
SPEH LN[C]	iShares Spain Govt Bond UCITS	7	↑	0.0	0.17	40	0.22	5.56	-	N
XBTP IM	Xtrackers II Italy Government	7	↓	0.1	0.12	-	0.15	0.05	-	N
3BTS IM	Boost BTP 10Y 3x Short Daily E	6	↓	0.1	0.33	-	0.60	-	-3x	N
Main X-listings: 3BTS LN (GBp)										

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Fixed Income										
Government (Peripheral) (Continued)										
5BTS IM	Boost BTP 10Y 5x Short Daily E	5	↓	0	0.43	-	0.99	-	-5x	N
ITEH LN[C]	iShares Italy Govt Bond UCITS	4	↑	0	0.18	75	0.22	5.57	-	N
XITA IM	Xtrackers II Italy Government	4	↓	0	0.19	-	0.20	-	-	N
3BTL IM	Boost BTP 10Y 3x Leverage Dail	2	↑	0	0.30	-	0.60	-	+3x	N
Main X-listings: 3BTL LN (GBp)										
ITGH LN[C]	iShares Italy Govt Bond UCITS	1	↑	0	0.17	75	0.22	5.33	-	N
SPHG LN[C]	iShares Spain Govt Bond UCITS	0	↑	0	0.18	40	0.22	5.33	-	N
Government (Non-Euro)										
IGLT LN	iShares Core UK Gilts UCITS ET	1,816		4	0.11	44	0.20	0.02	-	N
Main X-listings: IGLT IM (EUR), IGLT SW (GBP)										
IGLS LN	iShares UK Gilts 0-5yr UCITS E	1,567		3	0.11	14	0.20	0.02	-	N
INXG LN	iShares GBP Index-Linked Gilts	1,019		2	0.16	28	0.25	0.02	-	N
GILS LN	Lyxor Core FTSE Actuaries UK G	372	↑	1	0.10	44	0.07	0.02	-	N
GIL5 LN	Lyxor Core FTSE Actuaries UK G	179	↑	0	-	14	0.07	0.01	-	N
CSBGC0 SW	iShares Swiss Domestic Governm	145	↑	0	0.29	-	0.15	0.10	-	N
CSBGC7 SW	iShares Swiss Domestic Governm	119		0	0.17	-	0.15	0.07	-	N
SB3CHA SW	UBS ETF CH-SBI Domestic Govern	99		0	0.42	-	0.15	0.04	-	N
SB1CHA SW	UBS ETF CH-SBI Domestic Govern	85		0	0.45	-	0.15	0.04	-	N
UKBE LN	Lyxor UK GBP 10Y Inflation Exp	61		0	0.20	-	0.25	0.00	-	N
CSBGC3 SW	iShares Swiss Domestic Governm	51		0	0.15	-	0.15	0.04	-	N
GILI LN	Lyxor Core FTSE Actuaries UK G	29	↓	0	0.20	30	0.07	0.03	-	N
JG15 LN	JPMorgan BetaBuilders UK Gilt	13		0	0.20	-	0.10	-	-	N
3GIS LN	Boost Gilts 10Y 3x Short Daily	8		0	0.47	-	0.30	-	-3x	N
SB7CHA SW	UBS ETF CH-SBI Domestic Govern	6	↓	0	0.81	-	0.15	0.05	-	N
1GIS LN	Boost Gilts 10Y 1x Short Daily	1	↑	0	0.11	-	0.25	-	-1x	N
3GIL LN	Boost Gilts 10Y 3x Leverage Da	1	↑	0	0.40	-	0.30	-	+3x	N
VGVA LN	Vanguard U.K. Gilt UCITS ETF	0		-	0.25	41	0.12	-	-	N
Government (Core)										
DSB FP	Lyxor Bund Daily -2x Inverse U	806		1	-	-	0.20	-	-2x	N
5X62 GY	ComStage Commerzbank Bund-Futu	503	↓	1	-	-	0.20	-	-1x	N
Main X-listings: CBBFS SW (CHF)										
ETFGS13 GY	Deka DB EUROGOV Germany 1-3 UC	417		1	-	-	0.15	0.01	-	N
ETFGS11 GY	Deka DB EUROGOV Germany UCITS	366		0	0.11	-	0.15	0.02	-	N
ETFGS51 GY	Deka DB EUROGOV Germany 5-10 U	350		0	-	-	0.15	0.02	-	N
BUNS FP	Lyxor Bund Daily -1x Inverse U	343	↑	0	0.12	-	0.15	-	-1x	N
EBMMEX GY	iShares eb.rexx Government Ger	322	↓	1	-	-	0.13	0.10	-	N
RXP5EX GY	iShares eb.rexx Government Ger	309		1	-	-	0.16	0.03	-	N
RXRGEX GY	iShares eb.rexx Government Ger	301	↑	0	-	-	0.16	0.03	-	N
IFRB SW	iShares France Govt Bond UCITS	256		0	0.12	47	0.20	0.03	-	N
XBTR EU	Xtrackers II Germany Governmen	217		1	-	50	0.15	-	-	N
RXP1EX GY	iShares eb.rexx Government Ger	212		0	-	-	0.16	0.05	-	N
RXPXEX GY	iShares eb.rexx Government Ger	152	↑	0	0.10	-	0.16	0.05	-	N
ETFGS35 GY	Deka DB EUROGOV Germany 3-5 UC	145		0	-	-	0.15	0.01	-	N
X03G GY	Xtrackers II Germany Governmen	145	↑	1	0.13	50	0.15	0.02	-	N
RXP2EX GY	iShares eb.rexx Government Ger	117		0	-	-	0.16	0.03	-	N
BUND5L IM	SG ETC Bund Futures +5x Daily	96		0	0.21	-	0.48	-	+5x	N
OAT5L IM	SG ETC OAT Futures +5x Daily L	94		0	0.47	-	0.98	-	+5x	N
BUND3L IM	SG ETC Bund Futures +3x Daily	75		0	0.16	-	0.29	-	+3x	N
OAT3L IM	SG ETC OAT Futures +3x Daily L	74		0	0.26	-	0.59	-	+3x	N
ETFGS10 GY	Deka DB EUROGOV Germany 10+ UC	35	↓	0	0.12	-	0.15	0.05	-	N
BUND3S IM	SG ETC Bund Futures -3x Daily	30		0	0.17	-	0.29	-	-3x	N
OAT3S IM	SG ETC OAT Futures -3x Daily S	29		0	0.28	-	0.59	-	-3x	N
BUND5S IM	SG ETC Bund Futures -5x Daily	20		0	0.22	-	0.48	-	-5x	N
OAT5S IM	SG ETC OAT Futures -5x Daily S	20		0	0.38	-	0.98	-	-5x	N
DLB FP	Lyxor Bund Daily 2x Leveraged	19		0	-	-	0.20	-	+2x	N
ETFGSMM GY	Deka DB EUROGOV Germany MM UCI	19	↓	1	-	-	0.12	0.01	-	N
SBU3 GR	Boost Bund 10Y 3x Short Daily	14		0	0.17	-	0.30	-	-3x	N
XB13 EU	Xtrackers II Germany Governmen	12		0	0.13	14	0.15	-	-	N
3BUS IM	Boost Bund 10Y 3x Short Daily	12	↓	0	0.18	-	0.30	-	-3x	N
Main X-listings: 3BUS LN (GBp)										
C540 GY	ComStage ETF iBOXX Germany Cov	9		0	0.45	25	0.12	0.05	-	N
CBOXGS3M G\	ComStage ETF iBoxx Sovereigns	8		0	0.29	-	0.12	0.03	-	N
UEFL GY	UBS ETF-Markit iBoxx EURO Germ	7	↓	0	0.22	14	0.17	0.01	-	N
5BUS IM	Boost Bund 10Y 5x Short Daily	7	↑	0	0.28	-	0.49	-	-5x	N
5X60 GY	ComStage ETF Commerzbank Bund-	4	↓	0	-	-	0.20	0.08	-	N
Main X-listings: CBBF SW (CHF)										
5X61 GY	ComStage ETF Commerzbank Bund-	4		0	0.11	-	0.20	-	+2x	N
Main X-listings: CBBFL SW (CHF)										
CBOXGS1 GY	ComStage ETF iBoxx Sovereigns	3		0	0.47	-	0.12	0.04	-	N
ETFFS11 GY	Deka Deutsche Borse EUROGOV Fr	3	↓	0	0.18	-	0.15	0.03	-	N
CBOXGS10 GY	ComStage ETF iBoxx Sovereigns	3	↑	0	0.46	-	0.12	0.03	-	N
CBOXGS5 GY	ComStage ETF iBoxx Sovereigns	2		0	0.41	-	0.12	0.03	-	N
3BUL IM	Boost Bund 10Y 3x Leverage Dai	1	↓	0	0.26	-	0.30	-	+3x	N
Main X-listings: 3BUL LN (GBp)										
X0CV GY	Coba ETN -10x BUNDF Daily Shor	0		0	0.58	-	-	-	-1000x	N
DEGH LN[C]	iShares Germany Govt Bond UCIT	0	↑	0	0.23	49	0.22	5.35	-	N
X0CX GY	Coba ETN 5x SCHATZF Daily Long	0		0	0.15	-	-	-	+5x	N

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Fixed Income										
Government (Core) (Continued)										
DEEH LN [C]	iShares Germany Govt Bond UCIT	0	↑	0.0	0.23	49	0.22	5.53	-	N
X0CU GY	Coba ETN -5x BUNDF Daily Short	0		0.0	0.30	-	-	-	-5x	N
FREH LN [C]	iShares France Govt Bond UCITS	0	↑	0.0	0.15	47	0.22	5.54	-	N
FRGH LN [C]	iShares France Govt Bond UCITS	0	↑	0.0	0.15	47	0.22	5.34	-	N
X00G GY	Coba ETN -3x DAXF Daily Short	0		0.0	0.16	-	-	-	-3x	N
X0CT GY	Coba ETN 15x BUNDF Daily Long	0		0.0	0.65	-	-	-	+1500x	N
X0CR GY	Coba ETN 5x BUNDF Daily Long	0		0.0	0.26	-	-	-	+5x	N
X009 GY	Coba ETN -5x SCHATZF Daily Sho	0		0.0	0.16	-	-	-	-5x	N
X049 GY	Coba ETN -10x SCHATZF Daily Sh	0		0.0	0.23	-	-	-	-1000x	N
X0CZ GY	Coba ETN 15x SCHATZF Daily Lon	0		0.0	0.35	-	-	-	+1500x	N
X0CY GY	Coba ETN 10x SCHATZF Daily Lon	0		0.0	0.24	-	-	-	+1000x	N
X0CS GY	Coba ETN 10x BUNDF Daily Long	0		0.0	0.48	-	-	-	+1000x	N
Money Market										
MINT LN [A]	PIMCO US Dollar Short Maturity	3,033		2.9	-	-	0.35	0.27	-	N
Main X-listings: MINT SW (USD), MINT IM (EUR)										
XEON EU	Xtrackers II EUR Overnight Rat	910		4.0	0.16	-	0.10	-	-	N
CSHD LN	Lyxor Euro Overnight Return UC	769		0.3	-	-	0.10	4.10	-	N
Main X-listings: LEONIA IM (EUR)										
CSH2 FP [A]	Lyxor Smart Cash	658	↑	0.7	-	-	0.05	0.01	-	N
Main X-listings: SMART IM (EUR)										
QUID LN [A]	PIMCO Sterling Short Maturity	249	↓	0.2	0.13	25	0.35	0.26	-	N
JEST IM [A]	JPMorgan EUR Ultra-Short Incom	148		0.1	0.37	2	0.18	-	-	N
Main X-listings: JEST GR (EUR), JEST LN (EUR), JSET LN (GBP)										
XFFE IM	Xtrackers II USD Overnight Rat	142	↓	0.8	-	-	0.15	1.13	-	N
Main X-listings: XFFE SW (CHF), DXSZN MM (MXN), XFFE LN (USD)										
XSTR IM	Xtrackers II GBP Overnight Rat	111	↓	0.2	-	-	0.15	-	-	N
CBEONIA GY	ComStage ETF Commerzbank EONIA	43		0.1	0.37	-	0.10	0.03	-	N
Main X-listings: CBEONI SW (CHF)										
CCMR LN [A]	Commerzbank CCBI RQFII Money M	33		0.0	0.11	-	0.65	-	-	N
Main X-listings: CCMR FP (CNY)										
XUSD LN	Xtrackers USD Overnight Rate S	17	↓	0.3	0.17	-	0.15	0.01	-	N
Main X-listings: XUSDN MM (MXN)										
FXMM RM [C]	FinEx Cash Equivalents UCITS E	16		0.4	-	-	0.49	0.18	-	N
CBFEDFER GY	ComStage ETF Commerzbank FED F	15		0.1	0.11	-	0.10	0.07	-	N
Main X-listings: CBFEDFUS SW (USD), CBFEDF SW (CHF)										
FXEU NA [A C]	First Trust FactorFX UCITS ETF	3		0.0	0.76	-	0.75	-	-	N
FTFX LN [A]	First Trust FactorFX UCITS ETF	3	↓	0.0	0.94	-	0.75	-	-	N
FXGB LN [A C]	First Trust FactorFX UCITS ETF	2	↑	0.0	1.01	-	0.75	-	-	N
IBLVR1 SJ	IB VR1 ETN 2SEP2019	-		0.6	-	-	0.00	-	-	N
Mortgage-backed										
IMBS LN	iShares US Mortgage Backed Sec	599	↑	0.4	0.19	327	0.28	0.10	-	N
Main X-listings: IMBS SW (USD), QDVP GR (EUR), SMBS LN (GBp)										
IMBA LN	iShares US Mortgage Backed Sec	506	↑	0.4	0.41	327	0.28	0.10	-	N
Main X-listings: IMBA SW (CHF)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Currency Funds										
Currency Funds										
SMTC LN [A]	Lyxor Smart Cash	152		1.3	-	-	0.10	0.04	-	N
Main X-listings: SMARTU IM (EUR)										
COINXBE SS	Bitcoin Tracker EUR	146	↑	1.0	0.55	-	2.50	-	-	N
COINXBT SS	Bitcoin Tracker One - SEK	121		1.0	0.53	-	2.50	-	-	N
SJPS GY	ETFS Long JPY Short EUR	86	↑	0.0	0.22	-	0.39	0.00	-	N
EUJP NA	ETFS Long JPY Short EUR	86	↑	0.0	0.11	-	0.39	0.00	-	N
SPLE5 IM	SG ETC x5 Daily Short GBP and	78		0.0	0.20	-	0.88	-	+5x	N
XBJQ GY	ETFS Short USD Long EUR	71	↑	0.0	0.25	-	0.39	0.00	-	N
USE3 IM	ETFS 3x Short USD Long EUR	50	↑	0.5	0.28	-	0.98	-	-3x	N
Main X-listings: USE3 NA (EUR)										
SULE3 IM	SG ETC x3 Daily Short USD and	49		0.0	0.20	-	0.78	-	+3x	N
SULE5 IM	SG ETC x5 Daily Short USD and	45		0.0	0.20	-	0.88	-	+5x	N
LUSE3 IM	SG ETC x3 Daily Long USD and S	39		0.0	0.20	-	0.78	-	+3x	N
FEDG LN	Lyxor Fed Funds US Dollar Cash	35	↓	0.1	-	-	0.10	1.45	-	N
Main X-listings: FEDF IM (EUR), FEDF LN (USD)										
LUSE5 IM	SG ETC x5 Daily Long USD and S	30		0.0	0.20	-	0.88	-	+5x	N
USE5 IM	ETFS 5x Short USD Long EUR	22	↓	0.3	0.49	-	0.98	-	-5x	N
XBJD GY	ETFS Long SEK Short EUR	21	↑	0.0	0.49	-	0.39	0.00	-	N
5CH6 GR	ETFS 5x Short USD Long EUR	19		0.0	0.99	-	0.98	-	+5x	N
EUS3 IM	ETFS 3x Long USD Short EUR	18	↓	0.3	0.18	-	0.98	-	+3x	N
Main X-listings: EUS3 NA (EUR)										
CSH2 LN [A]	Lyxor Smart Cash	16	↓	0.8	-	-	0.05	-	-	N
LPSE5 IM	SG ETC x5 Daily Long GBP and S	14		0.0	0.20	-	0.88	-	+5x	N
XBJP GY	ETFS Long USD Short EUR	13	↓	0.0	0.15	-	0.39	0.00	-	N
SEU3 LN	ETFS 3x Short EUR Long USD	11		0.0	0.83	-	0.98	-	+3x	N
5CH5 GR	ETFS 5x Long USD Short EUR	7		0.1	0.36	-	0.98	-	+5x	N
PUS5 LN	ETFS 5x Short USD Long GBP	7	↑	0.1	1.29	-	0.98	-	-5x	N
LNOE GY	ETFS Long NOK Short EUR	7	↓	0.0	0.11	-	0.39	0.00	-	N
EUS5 IM	ETFS 5x Long USD Short EUR	6	↓	0.2	0.26	-	0.98	-	+5x	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Currency Funds										
Currency Funds (Continued)										
HODL SW	Amun Crypto Basket Index ETP	5		-	0.43	-	2.50	-	-	N
URGB LN	ETFS Short EUR Long GBP	5	↑	0	0.24	-	0.39	0.00	-	N
XBJA GY	ETFS Long CHF Short EUR	5		0	0.40	-	0.39	0.00	-	N
USGB LN	ETFS Short USD Long GBP	5	↑	0	0.22	-	0.39	0.00	-	N
0LJH GR	Boost Short USD Long EUR 5x Da	4		0	0.68	-	0.89	-	-5x	N
5EUS IM	Boost Short USD Long EUR 5x Da	4	↑	0	0.42	-	0.89	-	+5x	N
USD2 LN	ETFS Short GBP Long USD	3	↓	0	0.23	-	0.39	1.45	-	N
Main X-listings: SGBp LN (USD)										
XBJJ GY	ETFS Long AUD Short EUR	3	↑	0	0.18	-	0.39	0.00	-	N
LEU3 LN	ETFS 3x Long EUR Short USD	3		0	0.89	-	0.98	-	+3x	N
EJP3 IM	ETFS 3x Long JPY Short EUR	3	↑	0	0.38	-	0.98	-	+3x	N
Main X-listings: EJP3 NA (EUR)										
SEUP LN	ETFS Short EUR Long USD	3	↓	0	0.19	-	0.39	1.46	-	N
Main X-listings: SEUR LN (USD)										
LGB3 LN	ETFS 3x Long GBP Short USD	3	↑	0	0.83	-	0.98	-	+3x	N
EJP5 IM	ETFS 5x Long JPY Short EUR	2		0	0.49	-	0.98	-	+5x	N
GBJP LN	ETFS Long JPY Short GBP	2		0	0.22	-	0.39	0.00	-	N
PUS3 LN	ETFS 3x Short USD Long GBP	2	↓	0	0.90	-	0.98	-	-3x	N
EJP5 GR	ETFS 5x Long JPY Short EUR	2		0	0.70	-	0.98	-	+5x	N
SUP3 LN	ETFS 3x Short EUR Long GBP	2		0	0.66	-	0.98	-	-3x	N
USBS GR	ETFS Bullish USD vs Commodity	2		0	0.25	-	0.49	1.14	-	N
USP3 LN	ETFS 3x Long USD Short GBP	2	↓	0	0.83	-	0.98	-	+3x	N
AETH SW	Amun Ethereum Crypto Single Tr	2		-	0.49	-	2.50	-	-	N
GBPP LN	ETFS Long GBP Short USD	2	↓	0	0.14	-	0.39	1.45	-	N
Main X-listings: LGBp LN (USD)										
GBUS LN	ETFS Long USD Short GBP	2	↑	0	0.20	-	0.39	0.00	-	N
GBCH LN	ETFS Long CHF Short GBP	2	↑	0	0.44	-	0.39	0.00	-	N
SJPY LN	ETFS Short JPY Long USD	2	↓	0	0.24	-	0.39	0.00	-	N
Main X-listings: SJPP LN (GBp)										
0LJG GR	Boost Long USD Short EUR 5x Da	1		0	0.48	-	0.89	-	+5x	N
ABTC SW	Amun Bitcoin Crypto Single Tra	1		-	0.44	-	2.50	-	-	N
EGB3 IM	ETFS 3x Long GBP Short EUR	1	↓	0	0.75	-	0.98	-	+3x	N
ECH3 IM	ETFS 3x Long CHF Short EUR	1		0	0.39	-	0.98	-	+3x	N
CHE3 IM	ETFS 3x Short CHF Long EUR	1		0	0.39	-	0.98	-	+3x	N
GBUR LN	ETFS Long EUR Short GBP	1	↑	0	0.21	-	0.39	0.00	-	N
NEWUSD SJ	New Wave US Dollar ETN	1		0	0.57	-	0.00	-	-	N
SAU3 LN	ETFS 3x Short AUD Long USD	1	↓	0	0.83	-	0.98	-	+3x	N
SJP3 LN	ETFS 3x Short JPY Long USD	1	↓	0	0.92	-	0.98	-	+3x	N
SCHF LN	ETFS Short CHF Long USD	1	↓	0	0.44	-	0.39	0.00	-	N
Main X-listings: SCHP LN (GBp)										
SGB3 LN	ETFS 3x Short GBP Long USD	1	↓	0	0.83	-	0.98	-	-3x	N
SAUP LN	ETFS Short AUD Long USD	1	↑	0	0.22	-	0.39	1.46	-	N
Main X-listings: SAUD LN (USD)										
EGB5 IM	ETFS 5x Long GBP Short EUR	1	↓	0	1.60	-	0.98	-	+5x	N
SUD5 LN	ETFS 5x Long EUR Short USD	1	↑	0	1.59	-	0.98	-	+5x	N
CH5E IM	ETFS 5x Short CHF Long EUR	1	↓	0	0.52	-	0.98	-	+5x	N
5CHE GR	ETFS 5x Short CHF Long EUR	1		0	1.59	-	0.98	-	+5x	N
GBNO LN	ETFS Long NOK Short GBP	1	↓	0	0.43	-	0.39	0.00	-	N
XBJE GY	ETFS Long CNY Short USD	1		0	-	-	0.59	1.13	-	N
LCNY LN	ETFS Long CNY Short USD USD	1		0	2.44	-	0.59	0.01	-	N
Main X-listings: LCNP LN (GBp)										
5USE IM	Boost Long USD Short EUR 5x Da	1	↓	0	0.39	-	0.89	-	+5x	N
XBJF GY	ETFS Short CNY Long USD USD	1		0	-	-	0.59	1.13	-	N
SCNY LN	ETFS Short CNY Long USD USD	1	↓	0	2.52	-	0.59	0.01	-	N
Main X-listings: SCYP LN (GBp)										
XBJL GY	ETFS Long CAD Short EUR	1	↓	0	0.19	-	0.39	0.00	-	N
GBSK LN	ETFS Long SEK Short GBP	1	↑	0	0.46	-	0.39	0.00	-	N
EAU3 IM	ETFS 3x Long AUD Short EUR	1		0	0.87	-	0.98	-	+3x	N
LUD5 LN	ETFS 5x Short EUR Long USD	1		0	1.47	-	0.98	-	-5x	N
SGBB LN	ETFS Bearish GBP vs G10 Curren	1		0	0.18	-	0.49	0.00	-	N
GBE3 IM	ETFS 3x Short GBP Long EUR	1		0	0.39	-	0.98	-	+3x	N
JPEU NA	ETFS Short JPY Long EUR	1	↑	0	0.11	-	0.39	0.00	-	N
SJPL GY	ETFS Short JPY Long EUR	1	↑	0	0.21	-	0.39	0.00	-	N
4USE IM	Boost Long USD Short EUR 4x Da	1	↓	0	0.34	-	0.69	-	+4x	N
SUP5 LN	ETFS 5x Short EUR Long GBP	1	↑	0	1.03	-	0.98	-	-5x	N
ECA3 IM	ETFS 3x Long CAD Short EUR	1	↓	0	0.84	-	0.98	-	+3x	N
EUP3 LN	ETFS 3x Long EUR Short GBP	1	↓	0	0.87	-	0.98	-	+3x	N
JPE3 IM	ETFS 3x Short JPY Long EUR	1	↓	0	0.41	-	0.98	-	+3x	N
Main X-listings: JPE3 NA (EUR)										
SCHE GY	ETFS Short CHF Long EUR	0	↓	0	0.20	-	0.39	0.00	-	N
AUE3 IM	ETFS 3x Short AUD Long EUR	0		0	0.86	-	0.98	-	-3x	N
GBE5 IM	ETFS 5x Short GBP Long EUR	0	↓	0	1.63	-	0.98	-	+5x	N
4EUS IM	Boost Short USD Long EUR 4x Da	0	↓	0	0.36	-	0.69	-	+4x	N
LUSB LN	ETFS Bullish USD vs G10 Curren	0	↓	0	0.19	-	0.49	0.00	-	N
USP5 LN	ETFS 5x Long USD Short GBP	0	↓	0	1.54	-	0.98	-	+5x	N
SCOM LN	ETFS Bullish USD vs Commodity	0		0	0.26	-	0.49	0.01	-	N
5CH2 GR	ETFS 5x Long AUD Short EUR	0		0	0.75	-	0.98	-	+5x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Currency Funds									
Currency Funds (Continued)										
EAU5 IM	ETFS 5x Long AUD Short EUR	0		0.0	1.85	-	0.98	-	+5x	N
LJP3 LN	ETFS 3x Long JPY Short USD	0		0.0	1.01	-	0.98	-	+3x	N
CCME FP [A]	Commerzbank CCBI RQFII Money M	0		0.0	0.58	-	0.65	-	-	N
Main X-listings: CCME GR (EUR), CCME LN (EUR)										
GBCA LN	ETFS Long CAD Short GBP	0	↑	0.0	0.20	-	0.39	0.00	-	N
NEWGBP SJ	New Wave Pound Sterling ETN	0		0.0	0.47	-	0.00	-	-	N
LJPY LN	ETFS Long JPY Short USD	0	↓	0.0	0.26	-	0.39	0.00	-	N
Main X-listings: JPYP LN (GBp)										
ECH5 IM	ETFS 5x Long CHF Short EUR	0		0.0	1.84	-	0.98	-	+5x	N
5CH3 GR	ETFS 5x Long CHF Short EUR	0		0.0	2.38	-	0.98	-	+5x	N
LCHF LN	ETFS Long CHF Short USD	0	↑	0.0	0.28	-	0.39	0.00	-	N
Main X-listings: CHFP LN (GBp)										
EUP5 LN	ETFS 5x Long EUR Short GBP	0	↓	0.0	1.63	-	0.98	-	+5x	N
NEWEUR SJ	New Wave Euro ETN	0		0.0	0.42	-	0.00	-	-	N
JPE5 IM	ETFS 5x Short JPY Long EUR	0	↓	0.0	1.90	-	0.98	-	+5x	N
JPE5 GR	ETFS 5x Short JPY Long EUR	0		0.0	1.87	-	0.98	-	+5x	N
GBAU LN	ETFS Long AUD Short GBP	0	↓	0.0	0.21	-	0.39	0.00	-	N
SAP3 LN	ETFS 3x Short AUD Long GBP	0	↓	0.0	0.85	-	0.98	-	-3x	N
XBJG GY	ETFS Long INR Short USD	0		0.0	3.00	-	0.59	1.13	-	N
LINR LN	ETFS Long INR Short USD USD	0		0.0	2.29	-	0.59	0.01	-	N
Main X-listings: LINP LN (GBp)										
CCMG LN [A]	Commerzbank CCBI RQFII Money M	0		0.0	0.17	-	0.65	-	-	N
JPP3 LN	ETFS 3x Long JPY Short GBP	0	↓	0.0	0.86	-	0.98	-	+3x	N
SNZD LN	ETFS Short NZD Long USD	0		0.0	0.21	-	0.39	0.00	-	N
Main X-listings: SNZP LN (GBp)										
SUSB LN	ETFS Bearish USD vs G10 Curren	0		0.0	0.18	-	0.49	0.00	-	N
SYP3 LN	ETFS 3x Short JPY Long GBP	0		0.0	0.87	-	0.98	-	-3x	N
AUE5 IM	ETFS 5x Short AUD Long EUR	0		0.0	1.87	-	0.98	-	+5x	N
LEUR LN	ETFS Long EUR Short USD	0	↓	0.0	0.25	-	0.39	0.00	-	N
Main X-listings: EURP LN (GBp)										
AUE5 GR	ETFS 5x Short AUD Long EUR	0		0.0	1.73	-	0.98	-	-	N
AUGB LN	ETFS Short AUD Long GBP	0		0.0	0.21	-	0.39	0.00	-	N
CHGB LN	ETFS Short CHF Long GBP	0		0.0	0.45	-	0.39	0.00	-	N
LGBB LN	ETFS Bullish GBP vs G10 Curren	0		0.0	0.16	-	0.49	0.01	-	N
NZGB LN	ETFS Short NZD Long GBP	0	↑	0.0	0.21	-	0.39	0.00	-	N
AUP3 LN	ETFS 3x Long AUD Short GBP	0	↑	0.0	0.88	-	0.98	-	+3x	N
LAUD LN	ETFS Long AUD Short USD	0		0.0	0.21	-	0.39	0.00	-	N
Main X-listings: AUDP LN (GBp)										
JPGB LN	ETFS Short JPY Long GBP	0	↓	0.0	0.22	-	0.39	0.00	-	N
LAU3 LN	ETFS 3x Long AUD Short USD	0	↑	0.0	0.88	-	0.98	-	+3x	N
LCAD LN	ETFS Long CAD Short USD	0		0.0	0.25	-	0.39	0.00	-	N
Main X-listings: CADP LN (GBp)										
SCAD LN	ETFS Short CAD Long USD	0	↓	0.0	0.23	-	0.39	0.00	-	N
Main X-listings: SCDP LN (GBp)										
LEUB GR	ETFS Bullish EUR vs G10 Curren	0	↑	0.0	0.22	-	0.49	0.00	-	N
ECA5 IM	ETFS 5x Long CAD Short EUR	0		0.0	1.77	-	0.98	-	+5x	N
NOKP LN	ETFS Long NOK Short USD	0		0.0	0.44	-	0.39	1.45	-	N
Main X-listings: LNOK LN (USD)										
5CH1 GR	ETFS Bearish USD vs Commodity	0		0.0	0.21	-	0.49	1.13	-	N
LCOM LN	ETFS Bearish USD vs Commodity	0		0.0	0.30	-	0.49	0.00	-	N
GBNZ LN	ETFS Long NZD Short GBP	0		0.0	0.21	-	0.39	0.00	-	N
LSEK LN	ETFS Long SEK Short USD	0		0.0	0.47	-	0.39	0.00	-	N
Main X-listings: SEKP LN (GBp)										
CAGB LN	ETFS Short CAD Long GBP	0		0.0	0.20	-	0.39	0.00	-	N
XBJH GY	ETFS Short INR Long USD	0	↓	0.0	2.84	-	0.59	1.13	-	N
SINR LN	ETFS Short INR Long USD USD	0	↓	0.0	2.25	-	0.59	0.01	-	N
Main X-listings: SINP LN (GBp)										
SNOK LN	ETFS Short NOK Long USD	0	↓	0.0	0.44	-	0.39	0.00	-	N
Main X-listings: SNOP LN (GBp)										
SEUB GR	ETFS Bearish EUR vs G10 Curren	0	↓	0.0	0.21	-	0.49	-	-1x	N
CAE5 IM	ETFS 5x Short CAD Long EUR	0	↓	0.0	2.36	-	0.98	-	+5x	N
SSEK LN	ETFS Short SEK Long USD	0	↓	0.0	0.43	-	0.39	0.00	-	N
Main X-listings: SSEP LN (GBp)										
NZDP LN	ETFS Long NZD Short USD	0	↓	0.0	0.22	-	0.39	1.45	-	N
Main X-listings: LNZD LN (USD)										
CAE3 IM	ETFS 3x Short CAD Long EUR	0	↓	0.0	0.86	-	0.98	-	+3x	N
ENFX LN	ETFS G10 vs USD Multi Strategy	0		0.0	0.30	-	0.59	0.01	-	N
ENFX GR	ETFS G10 vs USD Multi Strategy	0		0.0	0.42	-	0.59	1.13	-	N
NOGB LN	ETFS Short NOK Long GBP	0		0.0	0.44	-	0.39	0.00	-	N
SKGB LN	ETFS Short SEK Long GBP	0	↓	0.0	0.43	-	0.39	0.00	-	N
SG58 LN	SG EURUSD x3 DAILY LONG	-		0.0	0.21	-	0.95	-	+3x	N
SG62 LN	SG GBPUSD x3 DAILY LONG	-		0.0	0.20	-	0.95	-	+3x	N
SG66 LN	SG JPYUSD x3 DAILY LONG	-		0.0	0.17	-	0.95	-	+3x	N
SG67 LN	SG JPYUSD x3 DAILY SHORT	-		0.0	0.16	-	0.95	-	-3x	N
SG61 LN	SG EURUSD x5 DAILY SHORT/new	-		0.0	0.19	-	0.95	-	-5x	N
PSCHN56 IT	PSAGOT SAL FTSE XINHUA CHINA 2	-		-	-	-	1.00	-	-	N
SG65 LN	SG GBPUSD x5 DAILY SHORT/new	-		0.0	0.19	-	0.95	-	-5x	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Currency Funds									
Currency Funds (Continued)										
SG69 LN	SG JPYUSD x5 DAILY SHORT	-		0	0.16	-	0.95	-	-5x	N
SG60 LN	SG EURUSD x5 DAILY LONG/new	-		0	0.19	-	0.95	-	+5x	N
SG63 LN	SG GBPUSD x3 DAILY SHORT	-		0	0.19	-	0.95	-	-3x	N
SG59 LN	SG EURUSD x3 DAILY SHORT	-		0	0.20	-	0.95	-	-3x	N
IBLUSD SJ [C]	INVESTEC BANK USD ETN	-		0	0.33	-	-	-	-	N
SG68 LN	SG JPYUSD x5 DAILY LONG	-		0	0.17	-	0.95	-	+5x	N
SG64 LN	SG GBPUSD x5 DAILY LONG/new	-		0	0.18	-	0.95	-	+5x	N
	Commodity									
Broad Commodity										
ICOM LN	iShares Diversified Commodity	892		0	0.11	24	0.19	0.06	-	N
Main X-listings: SXRS GR (EUR), COMM LN (GBp), ICOM SW (USD)										
CMOD LN	Invesco Bloomberg Commodity UC	728	↓	0	0.13	24	0.19	0.04	-	N
Main X-listings: CMOP LN (GBp), CMOD IM (EUR)										
CRB IM	Lyxor Commodities Thomson Reut	631	↓	0	0.15	-	0.35	1.12	-	N
Main X-listings: CRB SW (USD)										
COMF LN	L&G Longer Dated All Commoditi	526	↓	0	0.16	24	0.30	0.02	-	N
Main X-listings: CMFP LN (GBp), COMF NA (EUR), COMF SW (CHF)										
ETL2 GY	L&G Longer Dated All Commoditi	501		0	0.18	24	0.30	1.13	-	N
CBCOMM GY	ComStage ETF Commerzbank Commo	432		1	0.19	-	0.30	0.06	-	N
Main X-listings: CBCOMMUS SW (USD), CBCOMM SW (CHF)										
CCEUAS SW [C]	UBS ETFs plc - CMCI Composite	391		0	0.24	-	0.34	0.02	-	N
CCUSAS SW	UBS ETFs plc - CMCI Composite	319	↓	1	0.24	-	0.34	0.01	-	N
Main X-listings: CCUSAS IM (EUR)										
DJCOMEX GY	iShares Diversified Commodity	296	↓	0	0.14	23	0.46	0.16	-	N
Main X-listings: DJCOMEX SW (EUR)										
CCCHAS SW [C]	UBS ETFs plc - CMCI Composite	265		0	0.24	-	0.34	0.02	-	N
C099 GR [C]	ComStage CBK Commodity ex-Agri	260	↑	0	0.16	-	0.35	0.03	-	N
Main X-listings: CBACOM SW (EUR)										
WTIC GR	WisdomTree Enhanced Commodity	208		0	0.53	-	0.35	0.04	-	N
WCOA IM	WisdomTree Enhanced Commodity	205	↑	0	0.67	-	0.35	0.04	-	N
Main X-listings: SPXD SW (USD), WCOA LN (USD), WCOB LN (GBp)										
XDBC GY [C]	Xtrackers DBLCI Commodity Opti	192	↓	0	0.22	-	0.55	0.01	-	N
Main X-listings: XDBC SW (CHF)										
AIGC LN	ETFS All Commodities	191	↓	0	0.35	24	0.49	0.40	-	N
Main X-listings: AGCP LN (GBp)										
OD7V GY	ETFS All Commodities	189		0	0.13	24	0.49	1.22	-	N
BCCMS SW [C]	UBS ETFs PLC - Bloomberg Commo	168	↑	0	0.40	-	0.34	0.02	-	N
GSDE GR	BNP Paribas Easy Energy & Meta	120		0	0.82	-	0.49	1.11	-	N
Main X-listings: GSCE NA (EUR)										
CRAU LN	Lyxor Commodities Thomson Reut	116	↑	0	0.25	-	0.35	0.00	-	N
Main X-listings: CRBA IM (EUR), CAMX GR (EUR), CRAL LN (GBP), CRAU SW (USD)										
CMOE IM [C]	Invesco Bloomberg Commodity UC	113		0	0.12	24	0.24	-	-	N
UD07 LN	UBS ETFs PLC - Bloomberg Commo	101	↑	0	0.24	-	0.34	0.01	-	N
Main X-listings: BCCMA SW (USD), BCCU LN (USD)										
EMEH FP [C]	BNP Paribas Easy Energy & Meta	98		0	0.48	-	0.49	5.59	-	N
Main X-listings: EMEH GR (EUR)										
CRN FP	Lyxor Commodities Thomson Reut	97		0	0.21	-	0.35	1.12	-	N
Main X-listings: LYCRN SW (USD)										
XBCU LN	Xtrackers DBLCI Commodity Opti	91		0	0.19	-	0.55	0.02	-	N
Main X-listings: XBCU SW (USD)										
GSCIUSD SW	S&P GSCI Energy&Metals Capped	88		0	0.36	-	0.48	0.04	-	N
ROLL LN	iShares Bloomberg Roll Select	80		0	0.57	24	0.28	-	-	N
Main X-listings: ROLG LN (GBP)										
LGCU LN	Invesco Commodity Composite UC	63	↓	0	0.66	-	0.40	0.06	-	N
Main X-listings: LGCF LN (GBP)										
TCMCI SW	UBS ETC on UBS Bloomberg CMCI	57		0	-	-	0.38	0.59	-	N
CMCU LN	UBS ETC linked to the UBS Bloo	50	↓	0	0.26	-	0.38	0.00	-	N
CMCI LN	UBS ETC linked to the UBS Bloo	49	↓	0	0.26	-	0.38	0.42	-	N
BCOG LN	L&G All Commodities UCITS ETF	46	↑	0	0.34	24	0.15	1.45	-	N
Main X-listings: BCOM LN (USD)										
ETLF GR	L&G All Commodities UCITS ETF	43		0	1.07	24	0.15	1.13	-	N
OSXC GR	OSSIAM RISK WEIGHTED ENHANCED	41		0	0.38	-	0.45	1.13	-	N
Main X-listings: CRWE SW (EUR)										
GSCU FP	BNP Paribas Easy Energy & Meta	40	↑	0	0.35	-	0.49	0.06	-	N
MRIC SW	Market Access Rogers Internati	40		0	0.45	-	0.70	1.11	-	N
Main X-listings: M9SA GY (EUR)										
DCCHAS SW [C]	UBS ETFs plc - Bloomberg Commo	37	↓	0	0.22	-	0.34	0.01	-	N
XAAG GR	Invesco Bloomberg Commodity ex	37		0	0.17	13	0.19	0.04	-	N
XCBE GY [C]	Xtrackers DB Bloomberg Commodi	24	↓	0	0.37	-	0.95	0.02	-	N
Main X-listings: XCBE SW (CHF)										
WCOM LN [C]	WisdomTree Enhanced Commodity	19		0	0.64	-	0.35	-	-	N
CXAU LN	UBS ETFs plc - CMCI ex-Agricul	19	↓	0	0.26	83	0.34	0.01	-	N
Main X-listings: CCXAA SW (USD), CXAP LN (GBP), UEQU GR (EUR)										
DCUSAS SW	UBS ETFs plc - Bloomberg Commo	18	↓	0	0.23	24	0.34	0.01	-	N
TDJCM SW	UBS ETC on Bloomberg Commodity	18		0	-	-	0.50	0.45	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑ / ↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Broad Commodity (Continued)										
CCXAE SW C	UBS ETFs plc - CMCI ex-Agricul	15	↓	0.0	0.27	-	0.34	0.02	-	N
Main X-listings: UIQ1 GR (EUR)										
DCEUAS SW C	UBS ETFs plc - Bloomberg Commo	13	↓	0.0	0.23	-	0.34	0.01	-	N
CCMCI SW	UBS ETC on UBS Bloomberg CMCI	12		0.0	-	-	0.81	1.41	-	N
XACTCOMM S	XACT RAVAROR UCITS ETF	12	↑	0.1	0.41	-	0.70	1.91	-	N
CCGBAS SW C	UBS ETFs plc - CMCI Composite	10	↑	0.0	0.26	-	0.34	0.01	-	N
Main X-listings: UC90 LN (GBp), UC90 LN (GBp), CCGBAS SW (GBP)										
XDBG LN C	Xtrackers DBLCI Commodity Opti	9	↑	0.1	0.30	-	0.55	0.02	-	N
Main X-listings: XDBG SW (GBP)										
ETLE GR	L&G Longer Dated All Commoditi	8		0.0	0.67	-	0.30	1.13	-	N
XAGS LN	L&G Longer Dated All Commoditi	8	↓	0.0	0.29	-	0.30	0.03	-	N
Main X-listings: XAGG LN (GBp)										
TDJCMU SW	UBS ETC on UBS Bloomberg BCOM	7		0.0	-	-	0.38	0.00	-	N
00XK GR C	ETFS EUR Daily Hedged All Comm	6	↓	0.0	0.20	25	0.49	0.03	-	N
CRWU LN	OSSIAM RISK WEIGHTED ENHANCED	6		0.0	0.31	-	0.45	0.03	-	N
Main X-listings: CRWU SW (USD)										
TCMCIU SW	UBS ETC on UBS Bloomberg CMCI	6		0.0	-	-	0.38	0.00	-	N
CCXAS SW C	UBS ETFs plc - CMCI ex-Agricul	5		0.0	0.26	-	0.34	0.02	-	N
WCOG LN	WisdomTree Enhanced Commodity	4		0.0	0.49	-	0.35	0.04	-	N
BCFE GR C	UBS ETFs PLC - Bloomberg Commo	4	↓	0.0	0.23	-	0.34	0.02	-	N
Main X-listings: BCCME SW (EUR)										
ECMCI SW	UBS ETC on UBS Bloomberg CMCI	3		0.0	-	-	0.50	0.99	-	N
FAIG LN	ETFS Longer Dated All Commodit	2		0.0	1.22	24	0.49	0.40	-	N
TEMCIU SW	UBS ETC on UBS Bloomberg ex Ag	2		0.0	-	83	0.38	0.01	-	N
BCCMG SW C	UBS ETFs PLC - Bloomberg Commo	2		0.0	0.26	-	0.34	0.01	-	N
Main X-listings: UD06 LN (GBp)										
UD08 LN C	UBS ETFs plc - CMCI ex-Agricul	2	↓	0.1	0.26	-	0.34	0.01	-	N
Main X-listings: CCXAG SW (GBP)										
LALL IM	ETFS 2X Daily Long All Commodi	1		0.0	0.77	24	0.98	-	+2x	N
Main X-listings: LALL LN (USD)										
SALL LN	ETFS 1X Daily Short All Commod	1	↑	0.0	1.59	24	0.98	-	-1x	N
Main X-listings: SALL IM (EUR)										
BCOMUU SW	UBS ETC linked to the Bloomber	1		0.0	-	24	0.16	0.00	-	N
CDJCM SW	UBS ETC on Bloomberg Commodity	1		0.0	-	112	0.72	0.70	-	N
DCGBAS SW C	UBS ETFs plc - Bloomberg Commo	1		0.0	0.26	-	0.34	0.01	-	N
WCOE IM C	WisdomTree Enhanced Commodity	0		0.0	1.08	-	0.35	-	-	N
AIGX LN	ETFS Ex-Energy	0		0.0	0.42	18	0.49	0.30	-	N
PALL LN C	ETFS GBP Daily Hedged All Comm	0		0.0	0.56	25	0.49	0.02	-	N
PFCM LN C	ETFS GBP Daily Hedged Longer D	0		0.0	0.62	25	0.49	0.02	-	N
WTEH GR C	WisdomTree Enhanced Commodity	0		0.0	0.73	-	0.35	-	-	N
TCM1Y SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.38	0.52	-	N
EXEF LN	ETFS Longer Dated Ex-Energy	0		0.0	1.44	-	0.49	0.27	-	N
LNEY LN	ETFS 2X Daily Long Ex-Energy	0		0.0	1.04	18	0.98	-	+2x	N
CCMCIU SW C	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	-	0.50	0.00	-	N
BCOMCU SW C	UBS ETC linked to the Bloomber	0	↑	0.0	-	-	0.28	0.01	-	N
TCM3M SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.38	0.65	-	N
SNEY LN	ETFS 1X Daily Short Ex-Energy	0	↓	0.0	2.03	18	0.98	-	-1x	N
BCOMEU SW C	UBS ETC linked to the Bloomber	0		0.0	-	-	0.28	0.01	-	N
ECMCIU SW C	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.50	0.01	-	N
CEMCIU SW C	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.50	0.01	-	N
EEMCIU SW C	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.50	0.01	-	N
CDJCMU SW C	UBS ETC on UBS Bloomberg BCOM	0		0.0	-	-	0.50	0.01	-	N
BCAICU SW C	UBS ETC linked to the Bloomber	-		0.0	-	-	0.35	0.01	-	N
CXAS LN C	UBS ETC linked to UBS Bloomber	-		0.0	0.26	-	0.50	0.00	-	N
BCEXUU SW	UBS ETC linked to the Bloomber	-		0.0	-	13	0.16	0.00	-	N
CMGG LN C	UBS ETC linked to UBS Bloomber	-		0.0	0.27	-	0.50	0.01	-	N
CMBU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.26	-	0.38	0.00	-	N
CXAD LN	UBS ETC linked to UBS Bloomber	-		0.0	0.26	83	0.38	0.00	-	N
CMGU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.26	121	0.38	0.00	-	N
TCM3MU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.38	0.00	-	N
TCM6MU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.38	0.00	-	N
EDJCMU SW C	UBS ETC on UBS Bloomberg BCOM	-		0.0	-	-	0.50	0.01	-	N
GCMCIU SW	UBS ETC on UBS Bloomberg SPGSC	-		0.0	-	121	0.38	0.00	-	N
KSMF7 IT	KSM ETF 4D S&P GSCI	-		-	-	-	-	-	-	N
BCEXEU SW C	UBS ETC linked to the Bloomber	-		0.0	-	-	0.28	0.01	-	N
CMBG LN C	UBS ETC linked to UBS Bloomber	-		0.0	0.26	-	0.50	0.01	-	N
BCEXCU SW C	UBS ETC linked to the Bloomber	-		0.0	-	-	0.28	0.01	-	N
CMGB LN C	UBS ETC linked to the UBS Bloo	-		0.0	0.27	-	0.50	0.01	-	N
TCM1YU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.38	0.00	-	N
Metals										
NGPLT SJ	New Gold Platinum ETF	824	↑	3.4	0.63	-	0.40	-	-	N
PHAG LN	ETFS Physical Silver	669		0.4	-	-	0.49	0.00	-	N
Main X-listings: PHAG IM (EUR), PHSP LN (GBp)										
ZSIL SW	ZKB Silver ETF	615		0.7	0.28	-	0.60	-	-	N
Main X-listings: ZKBSF US (USD)										
NICK LN	ETFS Nickel	473	↑	0.1	1.26	2	0.49	0.02	-	N
Main X-listings: NICK IM (EUR)										

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Metals (Continued)										
AIGI LN	ETFS Industrial Metals	342	↑	0	0.30	5	0.49	0.12	-	N
Main X-listings: AIGI IM (EUR)										
PHPT LN	ETFS Physical Platinum	273		0	0.14	-	0.49	0.00	-	N
Main X-listings: PHPT IM (EUR)										
ZPLA SW	ZKB Platinum ETF	238		0	0.35	-	0.50	-	-	N
COPA LN	ETFS Copper	216		1	0.15	2	0.49	0.02	-	N
Main X-listings: COPA IM (EUR)										
ZSILUS SW	ZKB Silver ETF	183		0	0.35	-	0.60	-	-	N
ETFPLD SJ	Africa Palladium Debentures	175	↓	0	1.78	-	0.35	-	-	N
ZSILEU SW	ZKB Silver ETF	160		0	0.39	-	0.60	-	-	N
XAD6 GY	Xtrackers Physical Silver ETC	144	↑	0	-	-	0.40	0.00	-	N
ETFPLT SJ	Africa PlatinumETF	134		0	1.01	-	0.30	-	-	N
XAD3 GY C	Xtrackers Physical Platinum EU	120	↑	0	0.18	-	0.75	5.52	-	N
ZPAL SW	ZKB Palladium ETF	111	↓	0	0.61	-	0.50	-	-	N
PHPD LN	ETFS Physical Palladium	108		0	0.60	-	0.49	0.00	-	N
Main X-listings: PHPD IM (EUR)										
XAD2 GR C	Xtrackers Physical Silver EUR	105		0	0.13	-	0.75	-	-	N
NGPLD SJ	New Palladium ETF	102	↓	1	1.06	-	0.40	-	-	N
SVUSA SW	UBS ETF CH-Silver	86		0	0.32	-	0.45	0.01	-	N
ISLN LN	iShares Physical Silver ETC	81	↑	0	0.15	-	0.40	0.00	-	L
Main X-listings: SSLN LN (GBp), PPFD GR (EUR)										
PHPM LN	ETFS Physical PM Basket	81	↓	0	0.74	-	0.44	0.04	-	N
Main X-listings: PHPP LN (GBp), PHPM IM (EUR)										
ZSILHC SW C	ZKB Silver ETF	62		0	0.23	-	0.60	-	-	N
JBSIUA SW C	GAM Precious Metals - GAM Phys	55		0	0.42	-	0.69	0.20	-	N
JBSICA SW C	GAM Precious Metals - GAM Phys	53		0	0.86	-	0.69	-	-	N
PTUSA SW	UBS ETF CH-Platinum	47		0	0.39	-	0.35	0.01	-	N
Main X-listings: PTCHA SW (CHF)										
SLVP LN	Invesco Physical Silver ETC	39		0	0.19	-	0.39	-	-	N
Main X-listings: SSLV LN (USD)										
SLVR1L IM	SG ETC Silver Collateralized	38		0	0.32	-	0.48	1.06	-	N
SLVRH IM C	SG ETC Silver Daily Euro Hedge	37		0	0.27	-	0.48	0.01	-	N
XRH0 LN	Xtrackers Physical Rhodium ETC	37	↓	0	-	-	0.95	-	-	N
EFCM IM C	ETFS EUR Daily Hedged Longer D	37	↑	0	0.54	25	0.49	0.03	-	N
LSIL IM	ETFS 2X Daily Long Silver	36		0	0.30	2	0.98	-	+2x	N
Main X-listings: LSIL LN (USD), LSIL NA (EUR)										
XSIL LN	Xtrackers Physical Silver ETC	34		0	-	-	0.40	-	-	N
XPLA LN	Xtrackers Physical Platinum ET	29		0	0.29	-	0.45	0.00	-	N
SLVR2L IM	SG ETC Silver +2x Daily Levera	27		0	0.27	-	0.65	-	+2x	N
ALUM LN	ETFS Aluminium	27	↓	0	1.24	2	0.49	0.02	-	N
Main X-listings: ALUM IM (EUR)										
SLVR LN	ETFS Silver	26		0	0.38	2	0.49	0.02	-	N
Main X-listings: SLVR IM (EUR)										
EIMCI SW	UBS ETC on UBS Bloomberg CMCI	25	↓	0	-	-	0.49	0.88	-	N
IPLT LN	iShares Physical Platinum ETC	24	↑	0	0.22	-	0.40	0.00	-	N
Main X-listings: SPLT LN (GBp), PPFC GR (EUR)										
EPMCI SW	UBS ETC on UBS Bloomberg CMCI	24	↑	0	-	-	0.61	0.70	-	N
AIGP LN	ETFS Precious Metals	23	↓	0	0.13	3	0.49	0.02	-	N
Main X-listings: AIGP IM (EUR)										
EIMT IM C	ETFS EUR Daily Hedged Industri	22		0	0.15	6	0.49	0.03	-	N
BCNIEU SW C	UBS ETC linked to the Bloomber	19		0	-	-	0.27	0.01	-	N
SBAPD1 SJ	Standard Bank Palladium-Linker	18		0	0.62	-	0.50	-	-	N
JBPLCA SW C	GAM Precious Metals - Physical	16		0	0.51	-	0.55	5.09	-	N
JBPLUA SW	GAM Precious Metals - Physical	16	↓	0	0.53	-	0.55	0.03	-	N
PCFH GR	Boost Silver 3x Leverage Daily	16		0	0.60	-	0.99	-	+3x	N
JBSIEA SW C	GAM Precious Metals - GAM Phys	16	↓	0	0.33	-	0.69	5.58	-	N
Main X-listings: JBSIUA SW (USD), JBSICA SW (CHF), JBSIGA SW (GBp)										
SLVR3S IM	SG ETC Silver -3X Daily Short	15		0	0.68	-	0.98	-	-3x	N
M9SC GY	Market Access RICI Metals Inde	14	↓	0	0.49	-	0.60	1.13	-	N
Main X-listings: MRMI SW (USD)										
ZSILHE SW C	ZKB Silver ETF	13		0	0.36	-	0.60	-	-	N
SBAPL1 SJ	Standard Bank Platinum-Linker	13		0	1.64	-	0.50	-	-	N
XAD4 GY C	Xtrackers Physical Palladium E	13	↓	0	0.54	-	0.75	5.57	-	N
ZINC LN	ETFS Zinc	12		0	1.40	2	0.49	0.02	-	N
Main X-listings: ZINC IM (EUR)										
4RUD GY	ETFS 2X Daily Long Nickel	11		0	0.78	2	0.98	-	+2x	N
TLPCI SW	UBS ETC on UBS Bloomberg CMCI	11	↓	0	-	-	0.37	0.72	-	N
LNIK LN	ETFS 2X Daily Long Nickel	11	↑	0	2.21	2	0.98	-	+2x	N
Main X-listings: 4RUD GY (EUR)										
TIMCI SW	UBS ETC on UBS Bloomberg CMCI	10	↓	0	-	-	0.37	0.62	-	N
00XR GR C	ETFS EUR Daily Hedged Silver	10	↑	0	0.30	3	0.49	0.03	-	N
PLUSA SW	UBS ETF CH-Palladium	9	↓	0	1.22	-	0.35	0.01	-	N
JBPAUA SW	GAM Precious Metals - Physical	9	↓	0	2.10	-	0.55	0.04	-	N
SPPT LN	Invesco Physical Platinum ETC	8		0	0.31	-	0.39	0.00	-	N
Main X-listings: SPPP LN (GBp)										
XPAL LN	Xtrackers Physical Palladium E	7	↓	0	0.64	-	0.45	0.00	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Metals (Continued)										
LPLA IM	ETFS 2X Daily Long Platinum	7	↑	0.2	0.37	2	0.98	-	+2x	N
Main X-listings: LPLA LN (USD)										
NEWPLT SJ	New Wave Platinum ETN	7		0.0	2.86	-	0.40	-	-	N
JBPACA SW [C]	GAM Precious Metals - Physical	7	↓	0.0	1.22	-	0.55	5.12	-	N
00XL GR [C]	ETFS EUR Daily Hedged Copper	7	↑	0.0	0.16	3	0.49	0.03	-	N
IPDM LN	iShares Physical Palladium ETC	6		0.0	0.77	-	0.40	0.00	-	N
Main X-listings: SPDM LN (GBp), PPFA GR (EUR)										
TPMCI SW	UBS ETC on UBS Bloomberg CMCI	6	↑	0.0	-	-	0.49	0.52	-	N
LCOP IM	ETFS 2X Daily Long Copper	5		0.1	0.26	2	0.98	-	+2x	N
Main X-listings: LCOP LN (USD)										
3NIL IM	ETFS 3x Daily Long Nickel	5	↑	0.3	0.85	2	0.98	-	+3x	N
Main X-listings: 3NIL LN (USD)										
SBAS1 SJ	Standard Bank Silver-Linker	4		0.0	0.71	-	0.50	-	-	N
JBPLEA SW [C]	GAM Precious Metals - Physical	4	↓	0.0	0.89	-	0.55	5.58	-	N
Main X-listings: JBPLUA SW (USD), JBPLCA SW (CHF), JBPLGA SW (GBp)										
TLNCIU SW	UBS ETC on UBS Bloomberg CMCI	4	↑	0.0	-	-	0.37	0.01	-	N
TLPCIU SW	UBS ETC on UBS Bloomberg CMCI	4	↓	0.0	-	-	0.37	0.00	-	N
JBPAEA SW [C]	GAM Precious Metals - Physical	3	↓	0.0	1.31	-	0.55	5.67	-	N
Main X-listings: JBPAUA SW (USD), JBPACA SW (CHF), JBPAGA SW (GBp)										
SLVR3L IM	SG ETC Silver +3X Daily Levera	3		0.0	0.65	-	0.98	-	+3x	N
SPAL LN	Invesco Physical Palladium ETC	3		0.0	0.75	-	0.39	0.00	-	N
Main X-listings: SPAP LN (GBp)										
TLACI SW	UBS ETC on UBS Bloomberg CMCI	3		0.0	-	-	0.37	0.73	-	N
JBSIGA SW [C]	GAM Precious Metals - GAM Phys	3		0.0	0.92	-	0.69	7.33	-	N
3HCL IM	Boost Copper 3x Leverage Daily	3	↑	0.2	0.26	-	0.99	-	+3x	N
SI3L IM	ETFS 3x Daily Long Silver	3	↑	0.1	0.43	2	0.98	-	+3x	N
Main X-listings: SI3L LN (USD)										
TLACIU SW	UBS ETC on UBS Bloomberg CMCI	3	↓	0.0	-	-	0.37	0.01	-	N
1PAS IM	Boost Palladium 1x Short Daily	3	↑	0.1	0.50	-	0.95	-	+3x	N
Main X-listings: 1PAS LN (USD)										
SCOP LN	ETFS 1X Daily Short Copper	3		0.3	0.13	2	0.98	-	-1x	N
CPLCI SW	UBS ETC on UBS Bloomberg CMCI	2		0.0	-	-	0.92	-	-	N
B4NM GR	Collateralized ETC on RICI Enh	2		0.0	0.91	-	0.99	0.00	-	N
2PAL LN	Boost Palladium 2x Leverage Da	2		0.0	1.09	-	0.95	-	+2x	N
Main X-listings: 2PAL IM (EUR)										
FIND LN	ETFS Longer Dated Industrial M	2	↓	0.0	0.73	-	0.49	0.08	-	N
LALU IM	ETFS 2X Daily Long Aluminium	2	↑	0.0	1.20	2	0.98	-	+2x	N
Main X-listings: LALU LN (USD)										
LZIC LN	ETFS 2X Daily Long Zinc	2	↑	0.0	2.66	2	0.98	-	+2x	N
PLTT LN	ETFS Platinum Individual Secur	1		0.0	0.58	2	0.49	0.02	-	N
Main X-listings: PLTT IM (EUR)										
SSIL IM	ETFS 1X Daily Short Silver	1	↓	0.0	0.52	2	0.98	-	-1x	N
Main X-listings: SSIL LN (USD), SSIL NA (EUR)										
CIMCI SW	UBS ETC on UBS Bloomberg CMCI	1		0.0	-	-	0.81	1.54	-	N
TPLCI SW	UBS ETC on UBS Bloomberg CMCI	1		0.0	-	-	0.49	1.86	-	N
SI3S IM	ETFS 3x Daily Short Silver	1		0.2	0.34	2	0.98	-	-3x	N
Main X-listings: SI3S LN (USD)										
TLNCI SW	UBS ETC on UBS Bloomberg CMCI	1	↑	0.0	-	-	0.37	1.28	-	N
ENIK IM [C]	ETFS EUR Daily Hedged Nickel	1	↓	0.0	0.27	3	0.49	0.03	-	N
TIMCIU SW	UBS ETC on UBS Bloomberg CMCI	1	↑	0.0	-	-	0.37	0.00	-	N
BCIMUU SW	UBS ETC linked to the Bloomber	1		0.0	-	5	0.15	0.06	-	N
PSVR LN [C]	ETFS GBP Daily Hedged Silver	1	↑	0.0	0.37	3	0.49	0.02	-	N
3HCS IM	Boost Copper 3x Short Daily ET	1	↓	0.0	0.50	-	0.99	-	-3x	N
SZIC LN	ETFS 1X Daily Short Zinc	1	↓	0.0	1.71	2	0.98	-	-1x	N
CLNCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1	↑	0.0	-	-	0.49	0.01	-	N
NEWSLV SJ	New Wave Silver ETN	1		0.0	2.41	-	0.40	-	-	N
JBSIEX SW [C]	GAM Precious Metals - GAM Phys	1		0.0	0.82	-	0.45	5.62	-	N
PCFG GR	Boost Silver 3x Short Daily ET	1		0.0	0.45	-	0.99	-	-3x	N
EALU IM [C]	ETFS EUR Daily Hedged Aluminiu	1	↓	0.0	0.28	3	0.49	0.03	-	N
CFCM SW [C]	Swiss Franc Daily Hedged Longe	1	↓	0.0	0.67	-	0.49	0.04	-	N
3CUL LN	ETFS 3x Daily Long Copper	1	↑	0.0	0.24	2	0.98	-	-	N
Main X-listings: 3CUL IM (EUR)										
CPLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1	↑	0.0	-	-	0.61	0.01	-	N
EZNC IM [C]	ETFS EUR Daily Hedged Zinc	1	↓	0.0	0.26	3	0.49	0.03	-	N
JBPAGA SW [C]	GAM Precious Metals - Physical	1	↓	0.0	2.19	-	0.55	6.92	-	N
EPLCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	0.0	-	-	0.61	2.56	-	N
CLNCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	0.0	-	-	0.81	3.26	-	N
LEED LN	ETFS Lead Individual Securitie	1	↑	0.0	1.29	2	0.49	0.02	-	N
Main X-listings: LEAD IM (EUR)										
EPLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1		0.0	-	-	0.61	0.01	-	N
ELNCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1		0.0	-	-	0.49	0.01	-	N
3CUS IM	ETFS 3x Daily Short Copper	1	↓	0.1	0.35	2	0.98	-	-3x	N
Main X-listings: 3CUS LN (USD)										
TINM LN	ETFS Tin	1	↓	0.0	1.67	2	0.49	0.02	-	N
Main X-listings: TINM IM (EUR)										
ESICIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1		0.0	-	-	0.42	0.01	-	N
CLPCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	-	-	-	0.81	1.86	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Metals (Continued)										
JBPAEX SW [C]	GAM Precious Metals - Physical	1	↓	0	2.58	-	0.35	5.67	-	N
CPMCI SW	UBS ETC on UBS Bloomberg CMCI	1		0	-	-	0.92	1.13	-	N
3NIS LN	ETFS 3x Daily Short Nickel	1	↓	0	1.68	2	0.98	-	-	N
Main X-listings: 3NIS IM (EUR)										
PCOP LN [C]	ETFS GBP Daily Hedged Copper	1	↑	0	0.21	3	0.49	0.02	-	N
ELPCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	-	-	-	0.49	1.05	-	N
SALU LN	ETFS 1X Daily Short Aluminium	1	↓	0	1.46	2	0.98	-	-1x	N
Main X-listings: SALU IM (EUR)										
JBPLGA SW [C]	GAM Precious Metals - Physical	1	↓	0	0.96	-	0.55	6.83	-	N
LPMT LN	ETFS 2X Daily Long Precious Me	1		0	0.90	3	0.98	-	+2x	N
Main X-listings: PHAU IX (USD)										
LTIM LN	ETFS 2X Daily Long Tin	0		0	-	2	0.98	-	+2x	N
BNQP GR	Collateralized ETC on RICI Enh	0	↑	0	0.89	-	1.00	2.72	-	N
B4NQ GR	BNP Paribas Copper ETC	0		0	0.68	-	0.90	-	-	N
PIMT LN [C]	ETFS GBP Daily Hedged Ind Met	0	↓	0	0.34	6	0.49	0.02	-	N
BNQV GR	Collateralized ETC on RICI Enh	0		0	1.52	-	1.00	2.72	-	N
LIME LN	ETFS 2X Daily Long Industrial	0	↓	0	0.83	5	0.98	-	+2x	N
SNIK IM	ETFS 1X Daily Short Nickel	0	↓	0	1.62	2	0.98	-	-	N
Main X-listings: SNIK LN (USD)										
JBPLEX SW [C]	GAM Precious Metals - Physical	0	↓	0	0.85	-	0.35	5.58	-	N
CLPCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.49	0.01	-	N
BNQL GR	Collateralized ETC on Palladiu	0	↑	0	0.14	-	0.99	2.74	-	N
LLEA LN	ETFS 2X Daily Long Lead	0		0	2.46	2	0.98	-	+2x	N
B4NC GR	Collateralized ETC on RICI Enh	0		0	0.91	-	0.99	0.01	-	N
CLXCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.49	0.01	-	N
CIMT SW [C]	Swiss Franc Daily Hedged Indus	0		0	0.53	6	0.49	0.04	-	N
CPMT SW [C]	Swiss Franc Daily Hedged Preci	0	↑	0	0.40	4	0.49	0.04	-	N
SIMT LN	ETFS 1X Daily Short Industrial	0		0	0.95	5	0.98	-	-1x	N
JBPAGX SW [C]	GAM Precious Metals - Physical	0	↓	0	2.18	-	0.33	6.92	-	N
SLEA LN	ETFS 1X Daily Short Lead	0		0	1.69	2	0.98	-	-1x	N
SPLA LN	ETFS 1X Daily Short Platinum	0		0	0.53	2	0.98	-	-1x	N
PPMT LN [C]	ETFS GBP Daily Hedge Pre Met	0	↑	0	0.37	4	0.49	0.02	-	N
STIM LN	ETFS 1X Daily Short Tin	0	↓	0	2.70	2	0.98	-	-1x	N
BNQQ GR	Collateralized ETC on RICI Enh	0	↓	0	0.89	-	1.00	2.70	-	N
00XQ GR [C]	ETFS EUR Daily Hedged Precious	0	↓	0	0.17	4	0.49	0.03	-	N
CCPP SW [C]	Swiss Franc Daily Hedged Coppe	0	↓	0	0.45	3	0.49	0.04	-	N
B4N5 GR [C]	Collateralized EUR Hedged RICI	0		0	-	-	1.20	5.58	-	N
BNQN GR	Collateralized ETC on RICI Enh	0	↓	0	0.84	-	1.00	2.72	-	N
META LN	Boost Enhanced Industrial Meta	0		-	0.48	-	0.40	-	-	N
Main X-listings: META IM (EUR)										
2SIS IM	Boost Silver 2x Short Daily ET	0	↓	0	0.52	-	0.70	-	-2x	N
Main X-listings: 2SIS LN (USD)										
2SIL LN	Boost Silver 2x Leverage Daily	0	↓	0	0.41	-	0.44	-	+2x	N
JBPLGX SW [C]	GAM Precious Metals - Physical	0	↓	0	0.85	-	0.35	6.83	-	N
CNIK SW [C]	Swiss Franc Daily Hedged Nicke	0	↓	0	1.35	3	0.49	0.04	-	N
JBSIGX SW [C]	GAM Precious Metals - GAM Phys	0	↓	0	0.90	-	0.45	7.52	-	N
CLXCI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.81	2.02	-	N
TSICIU SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.30	0.00	-	N
B4NS GR	BNP Paribas Zinc ETC	0	↑	0	0.67	-	0.90	-	-	N
ELNCI SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.49	1.82	-	N
TLXCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.37	0.00	-	N
CLEA SW [C]	Swiss Franc Daily Hedged Lead	0	↑	0	1.50	3	0.49	0.04	-	N
CIMCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.49	0.01	-	N
TPLCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.49	0.01	-	N
B4NN GR	Collateralized ETC on RICI Enh	0		0	0.91	-	0.99	0.00	-	N
BNQW GR	Collateralized ETC on RICI Enh	0		0	0.89	-	1.00	2.72	-	N
B4NW GR [C]	BNP Paribas EUR Hedged Palladi	0	↓	0	-	-	1.20	5.58	-	N
B4N7 GR [C]	Collateralized EUR Hedged RICI	0	↑	0	-	-	1.20	5.60	-	N
CZNC SW [C]	Swiss Franc Daily Hedged Zinc	0	↑	0	1.19	3	0.49	0.04	-	N
B4NR GR	BNP Paribas Nickel Futures ETC	0		0	0.69	-	0.90	-	-	N
ELACI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.49	1.25	-	N
CPLT SW [C]	Swiss Franc Daily Hedged Plati	0		0	0.83	3	0.49	0.04	-	N
SIL2L SW	UBS ETC 2x Long Linked to the	0		0	-	-	1.05	-	+2x	N
CTIN SW [C]	Swiss Franc Daily Hedged Tin	0	↑	0	1.74	3	0.49	0.04	-	N
B4N4 GR [C]	Collateralized EUR Hedged RICI	0		0	-	-	1.20	5.58	-	N
B4N8 GR [C]	Collateralized EUR Hedged RICI	0		0	-	-	1.20	5.55	-	N
INMG LN [C]	UBS ETC linked to the UBS Bloo	0	↓	0	0.46	-	0.49	0.01	-	N
ELXCI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.49	1.15	-	N
CLACIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.49	0.01	-	N
SPMT LN	ETFS 1X Daily Short Precious M	0	↓	0	1.03	3	0.98	-	-1x	N
CLACI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.81	2.28	-	N
CPMCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.39	0.00	-	N
TLLCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.37	0.00	-	N
B4N6 GR [C]	Collateralized EUR Hedged RICI	0		0	-	-	1.20	5.60	-	N
B4NU GR	BNP Paribas Lead ETC	0	↑	0	0.67	-	0.90	-	-	N
BNQS GR	Collateralized ETC on RICI Enh	0		0	0.89	-	1.00	2.72	-	N
ELPCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.49	0.00	-	N

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[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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	Commodity									
Metals (Continued)										
B4ND GR	Collateralized ETC on RICI Enh	0		0.0	0.91	-	0.99	0.01	-	N
BNQR GR	Collateralized ETC on RICI Enh	0	↓	0.0	0.87	-	1.00	2.71	-	N
B4NA GR	Collateralized ETC on RICI Enh	0		0.0	0.92	-	0.99	0.00	-	N
B4NP GR	BNP Paribas Aluminium ETC	0		0.0	0.67	-	0.90	-	-	N
BCSIEU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.27	0.00	-	N
BCPMCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.27	0.00	-	N
BCNICU SW [C]	UBS ETC linked to the Bloomber	0	↓	0.0	-	-	0.27	0.01	-	N
CSICIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.42	0.01	-	N
BCIMCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.27	0.01	-	N
B4N9 GR [C]	Collateralized EUR Hedged RICI	0		0.0	-	-	1.20	5.56	-	N
B4NB GR	Collateralized ETC on RICI Enh	0		0.0	0.91	-	0.99	0.00	-	N
CALU SW [C]	Swiss Franc Daily Hedged Alumi	0	↓	0.0	1.09	3	0.49	0.04	-	N
CLLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.49	0.01	-	N
EIMCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.49	0.01	-	N
SIL2S SW	UBS ETC 2x Short Linked to the	0		0.0	-	2	1.05	-	-2x	N
B4NT GR	BNP Paribas Tin ETC	0		0.0	0.71	-	0.90	-	-	N
BCCOCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.27	0.00	-	N
B4NF GR	Collateralized ETC on RICI Enh	0		0.0	0.92	-	0.99	0.01	-	N
BNQT GR	Collateralized ETC on RICI Enh	0		0.0	0.89	-	1.00	2.73	-	N
BCNIUU SW	UBS ETC linked to the Bloomber	0		0.0	-	2	0.15	0.01	-	N
B4NE GR	Collateralized ETC on RICI Enh	0		0.0	0.92	-	0.99	0.00	-	N
BCCOUU SW	UBS ETC linked to the Bloomber	0		0.0	-	2	0.15	0.01	-	N
BCLEUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.15	0.01	-	N
SG36 LN	SG COPPER x2 DAILY LONG	-		0.0	0.27	-	1.20	-	+2x	N
NIKU LN	UBS ETC linked to UBS Bloomber	-		0.0	0.57	-	0.37	0.01	-	N
SG54 LN	SG SILVER X3 DAILY LONG	-		0.0	0.39	-	1.41	-	+3x	N
TPMCIU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.27	0.00	-	N
SG56 LN	SG SILVER X5 DAILY LONG	-		0.0	0.67	-	2.07	-	-	N
SILP LN [C]	UBS ETC linked to the UBS Bloo	-		0.0	0.57	-	0.42	0.01	-	N
PRMU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.36	-	0.27	0.00	-	N
BCLEEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
SG57 LN	SG SILVER X5 DAILY SHORT	-		0.0	0.65	-	2.33	-	-	N
ELACIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.49	0.01	-	N
BCCOEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.00	-	N
LXUU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.56	-	0.37	0.00	-	N
SG40 LN	SG COPPER x5 DAILY LONG	-		0.0	0.66	-	1.80	-	+5x	N
BCZICU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.00	-	N
BCZIEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.00	-	N
SG53 LN	SG SILVER X2 DAILY SHORT	-		0.0	0.26	-	1.01	-	-2x	N
BCSIUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.15	0.01	-	N
BCIMEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
ELXCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.49	0.00	-	N
SG50 LN	SG SILVER X5 DAILY LONG	-		0.0	0.65	-	2.07	-	+5x	N
SG37 LN	SG COPPER x2 DAILY SHORT	-		0.0	0.26	-	1.25	-	-2x	N
PLTU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.66	-	0.49	0.01	-	N
SG39 LN	SG COPPER x3 DAILY SHORT	-		0.0	0.39	-	1.45	-	-3x	N
BCALCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
BCPMUU SW	UBS ETC linked to the Bloomber	-		0.0	-	3	0.15	0.00	-	N
SG51 LN	SG SILVER X5 DAILY SHORT	-		0.0	0.64	-	2.33	-	-5x	N
BCLECU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
BCPMEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.00	-	N
INMU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.45	-	0.37	0.00	-	N
BCPLEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.35	0.01	-	N
BCPLCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.35	0.01	-	N
BCSICU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
PRMG LN [C]	UBS ETC linked to the UBS Bloo	-		0.0	0.36	-	0.39	0.00	-	N
ELLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.49	0.00	-	N
BCPLUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.27	0.01	-	N
MCUU LN	UBS ETC linked to UBS Bloomber	-		0.0	0.56	-	0.37	0.00	-	N
BCALUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.15	0.00	-	N
ALYU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.56	-	0.37	0.01	-	N
BCALEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.01	-	N
EPMCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.39	0.01	-	N
SG41 LN	SG COPPER x5 DAILY SHORT	-		0.0	0.64	-	1.95	-	-5x	N
SG38 LN	SG COPPER x3 DAILY LONG	-		0.0	0.39	-	1.35	-	+3x	N
SIUS LN	UBS ETC linked to UBS Bloomber	-		0.0	0.56	-	0.30	0.00	-	N
SG52 LN	SG SILVER X2 DAILY LONG	-		0.0	0.65	-	0.65	-	+2x	N
Gold										
PHAU LN	ETFS Physical Gold	5,799		4.6	-	-	0.39	0.00	-	L
Main X-listings: PHAU IM (EUR), PHGP LN (GBp), PHAU IX (USD)										
SGLD LN	Invesco Physical Gold ETC	4,857		3.6	-	-	0.24	0.00	-	N
Main X-listings: SGLP LN (GBp), SGLD IM (EUR), SGLD NA (EUR)										
SGLN LN	iShares Physical Gold ETC	3,689	↑	2.2	-	-	0.25	1.45	-	N
Main X-listings: IGLN LN (USD), EGLN LN (EUR)										
GBS LN	Gold Bullion Securities Ltd	2,868		3.1	-	-	0.40	0.00	-	N
Main X-listings: GBSS LN (GBp), GBS FP (EUR)										
ZGLD SW	ZKB Gold ETF	2,356		2.7	0.10	-	0.40	-	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Gold (Continued)										
XAD5 GY	Xtrackers Physical Gold ETC EU	2,192	↑	1	-	-	0.25	0.00	-	N
XAD1 GY [C]	Xtrackers Physical Gold EUR He	1,551		2	-	-	0.59	-	-	N
AUUSI SW	UBS ETF CH-Gold	1,465		2	0.13	-	0.23	0.00	-	N
Main X-listings: AUUSIC SW (CHF)										
ZGLDUS SW	ZKB Gold ETF	1,215		3	0.12	-	0.40	-	-	N
ZGLDHC SW [C]	ZKB Gold ETF	889		1	0.19	-	0.40	-	-	N
GZUR GY	ETFS Physical Swiss Gold	734		0	-	-	0.25	1.13	-	N
SGBS LN	ETFS Physical Swiss Gold	724	↑	1	-	-	0.25	0.00	-	N
Main X-listings: GZUR GY (EUR), SGBX LN (GBp), SGBS NA (EUR)										
AUCHAH SW [C]	UBS ETF CH-Gold CHF hedged	721		2	-	-	0.23	0.54	-	N
GLD SJ	New Gold Issuer Ltd	644	↓	1	0.30	-	0.40	-	-	N
Main X-listings: GLD BG (BWp), NEWGOLD NL (NGN)										
ZGLDEU SW	ZKB Gold ETF	634		1	0.38	-	0.40	-	-	N
XGLD LN	Xtrackers Physical Gold ETC	568		1	-	-	0.25	-	-	N
JBGOUA SW	GAM Precious Metals - Physical	443	↓	1	0.21	-	0.40	0.02	-	N
JBGOCA SW [C]	GAM Precious Metals - Physical	366	↓	1	0.25	-	0.40	0.53	-	N
CSGOLD SW	iShares Gold ETF CH	359		1	-	-	0.30	0.00	-	N
CSGLDC SW [C]	iShares Gold CHF Hedged ETF CH	299		0	0.15	-	0.35	0.14	-	N
GBSP LN [C]	ETFS GBP Daily Hedged Physical	261	↑	0	0.22	-	0.39	-	-	N
ZGLDHE SW [C]	ZKB Gold ETF	245		1	0.30	-	0.40	-	-	N
JBGOEA SW [C]	GAM Precious Metals - Physical	221	↓	0	0.68	-	0.40	0.45	-	N
Main X-listings: JBGOUA SW (USD), JBGOGA SW (GBp), JBGOCA SW (CHF)										
AUEUAH SW [C]	UBS ETF CH-Gold EUR hedged	209	↑	1	0.17	-	0.23	0.43	-	N
TGCCIU SW	UBS ETC on UBS Bloomberg CMCI	172	↑	0	-	-	0.26	0.00	-	N
GBSE GR [C]	ETFS EUR Daily Hedged Physical	140		0	0.12	-	0.39	-	-	N
CSGLDE SW [C]	iShares Gold EUR Hedged ETF CH	122	↑	0	0.11	-	0.35	0.12	-	N
XGLS LN [C]	Xtrackers Physical Gold GBP He	110	↑	0	0.13	-	0.69	6.84	-	N
RGLDO SW	Raiffeisen ETF - Solid Gold Ou	92		0	0.32	-	0.46	-	-	N
BULL IM	ETFS Gold	90		0	-	2	0.49	1.12	-	N
Main X-listings: BULL LN (USD), BULP LN (GBp)										
RGLDOH SW [C]	Raiffeisen ETF - Solid Gold Ou	90		0	0.36	-	0.45	-	-	N
GOLD1L IM	SG ETC Gold Collateralized	84		0	0.22	-	0.29	0.00	-	N
EWG2 GR	EUWAX GOLD II	80	↑	0	0.65	-	0.00	-	-	N
GOLDH IM [C]	SG ETC Gold Daily EURO Hedged	69		0	0.71	-	0.48	0.01	-	N
GOLD1S IM	SG ETC GOLD -1X Daily Short Co	61		0	0.32	-	0.95	-	-1x	N
GOLD2L IM	SG ETC Gold +2x Daily Leverage	45		0	0.26	-	0.65	-	+2x	N
JBGOCX SW [C]	GAM Precious Metals - Physical	39		0	0.50	-	0.32	0.53	-	N
JBGOEX SW [C]	GAM Precious Metals - Physical	32		0	1.14	-	0.33	0.45	-	N
LBUL LN	ETFS 2X Daily Long Gold	30		0	0.14	2	0.98	-	+2x	N
Main X-listings: LBUL NA (EUR)										
4RT8 GY	ETFS 2X Daily Long Gold	30		0	0.19	2	0.98	-	+2x	N
JBGOGA SW [C]	GAM Precious Metals - Physical	27		0	0.24	-	0.40	6.83	-	N
RGLDOU SE	Raiffeisen ETF - Solid Gold Ou	23	↑	0	0.31	-	0.69	-	-	N
GLDTR TI	Istanbul Gold Exchange Traded	22	↑	1	0.17	-	0.47	-	-	N
JBGOGX SW [C]	GAM Precious Metals - Physical	20	↑	0	1.11	-	0.33	6.83	-	N
GOLD3S IM	SG ETC Gold -3X Daily Short Co	16		0	0.77	-	0.98	-	-3x	N
PCFP GR	Boost Gold 3x Leverage Daily E	15		0	0.26	-	0.99	-	+3x	N
00XN GR [C]	ETFS EUR Daily Hedged Gold	15		0	-	3	0.49	0.03	-	N
GOLD3L IM	SG ETC Gold +3X Daily Leverage	14		0	0.28	-	0.98	-	+3x	N
SBAG1 SJ	Standard Bank Gold-Linker	12		0	0.26	-	0.50	-	-	N
RGLDS SW	Raiffeisen ETF - Solid Gold	12		0	0.32	-	0.51	-	-	N
EGCCI SW	UBS ETC on UBS Bloomberg CMCI	12		0	-	-	0.38	0.38	-	N
ZGLDGB SW	ZKB Gold ETF	10		0	0.12	-	0.40	-	-	N
ZGLDHG SW [C]	ZKB Gold ETF	9		0	0.18	-	0.40	-	-	N
GOLDP TI	Bizim Portfoy Altin Katilim Bo	9		0	1.00	-	-	-	-	N
3AUL IM	ETFS 3x Daily Long Gold	8	↑	0	0.10	2	0.98	-	+3x	N
Main X-listings: 3AUL LN (USD)										
ETFGLD SJ	AfricaGoldETF	7		0	0.84	-	0.25	-	-	N
BULLGUX3 SS	BULL GULD X3 H	6	↓	0	0.63	-	-	-	-	N
BCXAEU SW [C]	UBS ETC linked to the Bloomber	5		0	-	-	0.27	0.00	-	N
CBUL SW [C]	Swiss Franc Daily Hedged Gold	4	↓	0	0.35	3	0.49	0.04	-	N
TGCCI SW	UBS ETC on UBS Bloomberg CMCI	3	↓	0	-	-	0.26	0.25	-	N
CGCCI SW	UBS ETC on UBS Bloomberg CMCI	3	↑	0	-	-	0.66	0.71	-	N
GLD IM	Boost Gold ETC	3	↑	0	0.10	-	0.25	0.04	-	N
Main X-listings: GLD LN (USD)										
0LJE GR	Boost Gold ETC	3		0	0.15	-	0.25	0.04	-	N
SBUL LN	ETFS 1X Daily Short Gold	3	↓	0	-	2	0.98	-	-1x	N
Main X-listings: SBUL IM (EUR), SBUL NA (EUR)										
PBUL LN [C]	ETFS GBP Daily Hedged Gold	2	↑	0	0.18	3	0.49	0.02	-	N
3AUS IM	ETFS 3x Daily Short Gold	1	↑	0	0.16	2	0.98	-	-3x	N
Main X-listings: 3AUS LN (USD)										
PCFN GR	Boost Gold 3x Short Daily ETP	1		0	0.29	-	0.99	-	-3x	N
BNQJ GR	Collateralized ETC on Gold	1		0	-	-	0.99	2.73	-	N
2GOL LN	Boost Gold 2x Leverage Daily E	1		0	0.25	-	0.44	-	+2x	N
B4NV GR [C]	BNP Paribas EUR Hedged Gold ET	1		0	-	-	1.20	5.55	-	N
2GOS LN	Boost Gold 2x Short Daily ETP	0		0	0.69	-	0.70	-	-2x	N
1GOS LN	Boost Gold 1x Short Daily ETP	0		0	0.13	-	0.44	-	-1x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Commodity								
Gold (Continued)										
GLD2L SW	UBS ETC 2x Long Linked to the	0		0.0	-	-	0.94	-	+2x	N
CGCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.38	0.00	-	N
EGCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.38	0.00	-	N
GLDU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.35	-	0.26	0.00	-	N
GCGB LN [C]	UBS ETC linked to the UBS Bloo	-		0.0	0.35	-	0.38	0.00	-	N
SG48 LN	SG GOLD X5 DAILY LONG	-		0.0	0.65	-	1.64	-	-	N
SG44 LN	SG GOLD X2 DAILY LONG	-		0.0	0.26	-	0.61	-	+2x	N
BCXAUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.15	0.00	-	N
SG49 LN	SG GOLD X5 DAILY SHORT	-		0.0	0.64	-	1.69	-	-	N
SG45 LN	SG GOLD X2 DAILY SHORT	-		0.0	0.26	-	0.88	-	-2x	N
GLD2S SW	UBS ETC 2x Short Linked to the	-		0.0	-	-	0.94	-	-2x	N
SG42 LN	SG GOLD X5 DAILY LONG	-		0.0	0.64	-	1.64	-	+5x	N
BCXACU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.27	0.00	-	N
KSGLDNIS IT	KSM Commodity Gold London AM I	-		-	-	-	1.50	-	-	N
SG47 LN	SG GOLD X3 DAILY SHORT/new	-		0.0	0.39	-	1.30	-	-3x	N
SG46 LN	SG GOLD X3 DAILY LONG/new	-		0.0	0.39	-	1.28	-	-	N
SG43 LN	SG GOLD X5 DAILY SHORT	-		0.0	0.64	-	1.69	-	-5x	N
KSMF6 IT	KSM ETF 4D LBMA Gold Price PM	-		-	-	-	-	-	-	N
PSGF61 IT	Psagot ETF 4D LBMA Gold Price	-		-	-	-	0.80	-	-	N
Soft Commodity										
AIGA LN	ETFS Agriculture	226		0.3	0.34	10	0.49	0.19	-	N
Main X-listings: AIGA IM (EUR), AGAP LN (GBp)										
COFF LN	ETFS Coffee	97	↑	0.1	0.90	2	0.49	0.02	-	N
Main X-listings: COFF IM (EUR)										
SPAG LN	iShares Agribusiness UCITS ETF	56	↓	0.1	0.27	-	0.55	1.47	-	N
Main X-listings: ISAG LN (USD)										
WEAT LN	ETFS Wheat	52	↓	0.1	0.52	2	0.49	0.02	-	N
Main X-listings: WEAT IM (EUR)										
SUGA LN	ETFS Sugar	40	↑	0.1	1.01	2	0.49	0.02	-	N
Main X-listings: SUGA IM (EUR)										
XFRM LN	ETFS Ex-Agriculture & Livestoc	34	↓	0.0	0.34	13	0.49	0.48	-	N
CORN LN	ETFS Corn	27	↓	0.0	0.79	2	0.49	0.02	-	N
Main X-listings: CORN IM (EUR)										
3CFL IM	ETFS 3x Daily Long Coffee	26	↑	0.5	0.52	2	0.98	-	+3x	N
Main X-listings: 3CFL LN (USD)										
LCFE LN	ETFS 2X Daily Long Coffee	21	↑	0.0	1.97	2	0.98	-	+2x	N
Main X-listings: 4RT2 GY (EUR)										
COCO LN	ETFS Cocoa Individual Securiti	20	↓	0.1	1.09	2	0.49	0.02	-	N
Main X-listings: COCO IM (EUR)										
MRAI SW	Market Access RICI Agriculture	19		0.0	0.46	-	0.70	1.12	-	N
4RT2 GY	ETFS 2X Daily Long Coffee	17		0.0	0.76	2	0.98	-	+2x	N
AIGG LN	ETFS Grains	17		0.0	0.95	5	0.49	0.16	-	N
Main X-listings: AGGP LN (GBp), AIGG IM (EUR)										
4RUP GY	ETFS 2X Daily Long Cocoa	11		0.0	0.75	2	0.98	-	+2x	N
SOYB LN	ETFS Soybeans	10	↓	0.0	0.49	2	0.49	0.02	-	N
Main X-listings: SOYB IM (EUR)										
TAGCIU SW	UBS ETC on UBS Bloomberg CMCI	9	↑	0.0	-	-	0.45	0.00	-	N
LWEA IM	ETFS 2X Daily Long Wheat	9		0.1	0.72	2	0.98	-	+2x	N
Main X-listings: LWEA LN (USD)										
TAGCI SW	UBS ETC on UBS Bloomberg CMCI	8	↓	0.0	-	-	0.47	0.82	-	N
LCOC LN	ETFS 2X Daily Long Cocoa	8	↑	0.0	1.18	2	0.98	-	+2x	N
Main X-listings: 4RUP GY (EUR)										
LSUG IM	ETFS 2X Daily Long Sugar	7	↓	0.0	0.75	2	0.98	-	+2x	N
Main X-listings: LSUG LN (USD)										
3WHL LN	ETFS 3x Daily Long Wheat	7	↑	0.0	1.34	2	0.98	-	-	N
Main X-listings: 3WHL IM (EUR)										
TCNCI SW	UBS ETC on UBS Bloomberg CMCI	5		0.0	-	-	0.47	1.33	-	N
TWWCI SW	UBS ETC on UBS Bloomberg CMCI	5		0.0	-	-	0.47	3.55	-	N
3SUL IM	ETFS 3x Daily Long Sugar	5	↓	0.1	0.79	2	0.98	-	+3x	N
Main X-listings: 3SUL LN (USD)										
LCOR LN	ETFS 2X Daily Long Corn	4		0.0	0.84	2	0.98	-	+2x	N
Main X-listings: 4RT4 GY (EUR)										
4RT4 GY	ETFS 2X Daily Long Corn	4		0.0	0.56	2	0.98	-	+2x	N
ECOF IM [C]	ETFS EUR Daily Hedged Coffee	4	↑	0.0	0.38	3	0.49	0.03	-	N
COTN LN	ETFS Cotton	4	↓	0.0	1.30	2	0.49	0.02	-	N
Main X-listings: COTN IM (EUR)										
TKCCIU SW	UBS ETC on UBS Bloomberg CMCI	4	↑	0.0	-	-	0.45	0.01	-	N
HOGS LN	ETFS Lean Hogs	4		0.0	2.15	2	0.49	0.02	-	N
Main X-listings: HOGS IM (EUR)										
00XS GR [C]	ETFS EUR Daily Hedged Wheat	3		0.0	0.33	3	0.49	0.03	-	N
OD7P GY	ETFS Soybean Oil	2		0.0	1.29	2	0.49	1.12	-	N
SOYO IM	ETFS Soybean Oil	2	↑	0.0	0.24	2	0.49	1.12	-	N
Main X-listings: SOYO LN (USD)										
TCNCIU SW	UBS ETC on UBS Bloomberg CMCI	2	↑	0.0	-	-	0.45	0.01	-	N
X0B9 GR	Coba ETC 1x Cocoa Daily Long	2		0.0	0.47	-	0.60	3.66	-	N
4RUA GY	ETFS 2X Daily Long Lean Hogs	2		0.0	0.75	2	0.98	-	+2x	N
ESBCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	2		0.0	-	-	0.57	0.01	-	N

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		Commodity								
Soft Commodity (Continued)										
TFOCI SW	UBS ETC on UBS Bloomberg CMCI	2		0	-	-	0.55	1.02	-	N
LSOB LN	ETFS 2X Daily Long Soybeans	2	↑	0	0.90	2	0.98	-	+2x	N
LAGR IM	ETFS 2X Daily Long Agriculture	2		0	0.86	10	0.98	-	+2x	N
Main X-listings: LAGA LN (USD)										
FAGR LN	ETFS Longer Dated Agriculture	2		0	1.37	10	0.49	0.25	-	N
ESUG IM [C]	ETFS EUR Daily Hedged Sugar	2	↓	0	0.37	3	0.49	0.03	-	N
EFAG IM [C]	ETFS EUR Daily Hedged Longer D	1		0	0.62	11	0.49	0.03	-	N
SCTO LN	ETFS 1X Daily Short Cotton	1	↑	0	1.58	1	0.98	-	-1x	N
AIGS IM	ETFS Softs	1		0	0.87	-	0.49	1.11	-	N
Main X-listings: AIGS LN (USD)										
CATL LN	ETFS Live Cattle	1	↑	0	1.89	2	0.49	0.02	-	N
LCTO LN	ETFS 2X Daily Long Cotton	1	↑	0	1.88	1	0.98	-	+2x	N
CAGCI SW	UBS ETC on UBS Bloomberg CMCI	1		0	-	-	0.84	1.72	-	N
LLHO LN	ETFS 2X Daily Long Lean Hogs	1		0	2.58	2	0.98	-	+2x	N
Main X-listings: 4RUA GY (EUR)										
SCOC LN	ETFS 1X Daily Short Cocoa	1	↓	0	1.66	2	0.98	-	-1x	N
3SUS LN	ETFS 3x Daily Short Sugar	1	↑	0	1.48	2	0.98	-	-	N
Main X-listings: 3SUS IM (EUR)										
SWEA LN	ETFS 1X Daily Short Wheat	1		0	0.78	2	0.98	-	-1x	N
Main X-listings: 4RTK GY (EUR)										
SCFE LN	ETFS 1X Daily Short Coffee	1	↓	0	1.71	2	0.98	-	-1x	N
Main X-listings: 9GA3 GY (EUR)										
4RTK GY	ETFS 1X Daily Short Wheat	1		0	0.79	2	0.98	-	-1x	N
SLHO LN	ETFS 1X Daily Short Lean Hogs	1	↑	0	1.67	2	0.98	-	-1x	N
Main X-listings: 4RTB GR (EUR)										
CKCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1	↑	0	-	-	0.57	0.02	-	N
EKCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1	↑	0	-	-	0.57	0.02	-	N
9GA3 GY	ETFS 1X Daily Short Coffee	1		0	1.71	2	0.98	-	-1x	N
EAGCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	0	-	-	0.55	1.03	-	N
00XJ GR [C]	ETFS EUR Daily Hedged Agricult	1		0	0.57	11	0.49	0.03	-	N
SSUG LN	ETFS 1X Daily Short Sugar	1	↓	0	1.45	2	0.98	-	-1x	N
SSOB LN	ETFS 1X Daily Short Soybeans	1	↑	0	0.54	2	0.98	-	-1x	N
SCOR LN	ETFS 1X Daily Short Corn	1		0	0.92	2	0.98	-	-1x	N
CFOCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1		0	-	-	0.57	0.01	-	N
AIGL IM	ETFS Livestock	1	↓	0	1.65	3	0.49	2.03	-	N
Main X-listings: AIGL LN (USD)										
LSYO LN	ETFS 2X Daily Long Soybean Oil	1	↑	0	1.15	2	0.98	-	+2x	N
ECRN IM [C]	ETFS EUR Daily Hedged Corn	1	↓	0	0.31	3	0.49	0.03	-	N
TKCCI SW	UBS ETC on UBS Bloomberg CMCI	1		0	-	-	0.54	2.86	-	N
CCOF SW [C]	Swiss Franc Daily Hedged Coffe	1	↑	0	1.78	3	0.49	0.04	-	N
EFOCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	-	-	-	0.63	1.20	-	N
3CFS LN	ETFS 3x Daily Short Coffee	0		0	1.41	2	0.98	-	+3x	N
Main X-listings: 3CFS IM (EUR)										
TAG1YU SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.45	0.00	-	N
TSBCI SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.63	3.28	-	N
ESOY IM [C]	ETFS EUR Daily Hedged Soybeans	0		0	0.19	3	0.49	0.03	-	N
3WHS IM	ETFS 3x Daily Short Wheat	0	↓	0	0.47	2	0.98	-	-3x	N
Main X-listings: 3WHS LN (USD)										
SOFF LN	ETFS Longer Dated Softs	0	↓	0	0.85	-	0.49	0.52	-	N
LGRA LN	ETFS 2X Daily Long Grains	0	↑	0	0.82	5	0.98	-	+2x	N
CSOY SW [C]	Swiss Franc Daily Hedged Soybe	0	↑	0	0.61	3	0.49	0.04	-	N
4RTB GR	ETFS 1X Daily Short Lean Hogs	0		0	1.57	2	0.98	-	-1x	N
4RUB GY	ETFS 2X Daily Long Live Cattle	0		0	1.10	2	0.98	-	+2x	N
TSBCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.45	0.00	-	N
ECNCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.57	0.01	-	N
GRAF LN	ETFS Longer Dated Grains	0		0	1.26	-	0.49	0.31	-	N
CSBCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.57	0.01	-	N
CWWCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.57	0.02	-	N
CCNCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.57	0.01	-	N
PAGR LN [C]	ETFS GBP Daily Hedged Agri	0	↓	0	0.62	11	0.49	0.02	-	N
CAGT SW [C]	Swiss Franc Daily Hedged Agric	0		0	0.57	11	0.49	0.04	-	N
SSYO LN	ETFS 1X Daily Short Soybean Oi	0	↑	0	0.84	2	0.98	-	-1x	N
Main X-listings: 4RTG GY (EUR)										
LLCT LN	ETFS 2X Daily Long Live Cattle	0	↓	0	1.84	2	0.98	-	+2x	N
Main X-listings: 4RUB GY (EUR)										
CSUG SW [C]	Swiss Franc Daily Hedged Sugar	0	↓	0	1.53	3	0.49	0.04	-	N
SAGR LN	ETFS 1X Daily Short Agricultur	0		0	1.70	10	0.98	-	-1x	N
4RTG GY	ETFS 1X Daily Short Soybean Oi	0		0	1.31	2	0.98	-	-1x	N
CCOC SW [C]	Swiss Franc Daily Hedged Cocoa	0	↓	0	1.59	3	0.49	0.04	-	N
PFAG LN [C]	ETFS GBP Daily Hedged Longer D	0	↓	0	0.72	11	0.49	0.02	-	N
CGRN SW [C]	Swiss Franc Daily Hedged Grain	0	↑	0	0.54	6	0.49	0.04	-	N
CQCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.57	0.01	-	N
SSFT IM	ETFS 1X Daily Short Softs	0	↑	0	0.66	-	0.98	-	-	N
Main X-listings: SSFT LN (USD)										
ECTN IM [C]	ETFS EUR Daily Hedged Cotton	0	↓	0	0.26	3	0.49	0.03	-	N
SLST LN	ETFS 1X Daily Short Livestock	0		0	-	3	0.98	-	-1x	N
TLHCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↑	0	-	-	0.45	0.01	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Soft Commodity (Continued)										
HOGF LN	ETFS Longer Dated Lean Hogs	0		0.0	2.33	-	0.49	0.02	-	N
Main X-listings: HOGF IM (EUR)										
BCCFCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.30	0.01	-	N
CWAT SW [C]	Swiss Franc Daily Hedged Wheat	0	↓	0.0	0.68	3	0.49	0.04	-	N
4RTC GY	ETFS 1X Daily Short Live Cattl	0		0.0	-	2	0.98	-	-1x	N
SLCT LN	ETFS 1X Daily Short Live Cattl	0		0.0	2.31	2	0.98	-	-1x	N
Main X-listings: 4RTC GY (EUR)										
BCWHCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.30	0.03	-	N
LLST LN	ETFS 2X Daily Long Livestock	0	↓	0.0	-	3	0.98	-	+2x	N
LSFT LN	ETFS 2X Daily Long Softs	0	↓	0.0	0.98	-	0.98	-	+2x	N
CLHCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.57	0.01	-	N
SGRA LN	ETFS 1X Daily Short Grains	0		0.0	1.34	5	0.98	-	-1x	N
TQCCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	-	0.45	0.00	-	N
CFAG SW [C]	Swiss Franc Daily Hedged Longe	0	↓	0.0	0.75	11	0.49	0.04	-	N
CCOR SW [C]	Swiss Franc Daily Hedged Corn	0	↓	0.0	0.73	3	0.49	0.04	-	N
CCTN SW [C]	Swiss Franc Daily Hedged Cotto	0	↓	0.0	1.60	3	0.49	0.04	-	N
TLCCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.45	0.00	-	N
BCAGUU SW	UBS ETC linked to the Bloomber	0	↓	0.0	-	10	0.23	0.00	-	N
TFOCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.45	0.00	-	N
9GAN GY	ETFS Longer Dated Livestock	0		0.0	1.84	-	0.49	1.87	-	N
FLIV LN	ETFS Longer Dated Livestock	0	↓	0.0	1.00	-	0.49	1.65	-	N
Main X-listings: 9GAN GY (EUR)										
BCLSUU SW	UBS ETC linked to the Bloomber	0		0.0	-	3	0.23	0.01	-	N
CLHCI SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.98	7.61	-	N
TCTCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.45	0.00	-	N
BCSUUU SW	UBS ETC linked to the Bloomber	0		0.0	-	2	0.21	0.02	-	N
TSMCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.45	0.00	-	N
CAGCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.57	0.01	-	N
BCAGCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.35	0.01	-	N
CSFT SW [C]	Swiss Franc Daily Hedged Softs	0	↓	0.0	0.59	5	0.49	0.04	-	N
AGGB LN [C]	UBS ETC linked to the UBS Bloo	0		0.0	0.52	-	0.57	0.01	-	N
BCCCCU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.33	0.00	-	N
CATF LN	ETFS Longer Dated Live Cattle	0		0.0	1.12	2	0.49	0.02	-	N
SBUS LN	UBS ETC linked to the UBS Bloo	0		0.0	0.64	-	0.45	0.00	-	N
EQCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	-	0.57	0.01	-	N
CLCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.57	0.00	-	N
TWWCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	-	0.45	0.01	-	N
BCWHUU SW	UBS ETC linked to the Bloomber	0		0.0	-	2	0.18	0.02	-	N
LIVP LN [C]	UBS ETC linked to the UBS Bloo	0		0.0	0.66	-	0.57	0.00	-	N
EWWCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	-	0.57	0.01	-	N
CFOCI SW	UBS ETC on UBS Bloomberg CMCI	0		-	-	-	0.92	1.87	-	N
BCSUEU SW [C]	UBS ETC linked to the Bloomber	0		0.0	-	-	0.33	0.01	-	N
CSYCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	-	0.57	0.00	-	N
BCLHUU SW	UBS ETC linked to the Bloomber	0		0.0	-	2	0.22	0.02	-	N
BCAIUU SW	UBS ETC linked to the Bloomber	-		0.0	-	12	0.23	0.00	-	N
KSMF81 IT	KSM ETF 4D Bloomberg Agricultu	-		-	-	-	-	-	-	N
BCWHEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.30	0.03	-	N
BCCTCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.33	0.00	-	N
BCSBUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.18	0.01	-	N
ECTCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.00	-	N
BSCUCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.33	0.01	-	N
CCTCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.01	-	N
BCLCUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.22	0.02	-	N
ELHCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.01	-	N
TBOCIU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.45	0.01	-	N
BCCFUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.18	0.02	-	N
BSSBCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.30	0.03	-	N
TSYCIU SW	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.45	0.00	-	N
BCCTUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.21	0.01	-	N
BCLHEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.34	0.01	-	N
BCCCEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.33	0.00	-	N
ESYCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.00	-	N
BCAIEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.35	0.01	-	N
BCLCEU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.34	0.00	-	N
COFU LN	UBS ETC linked to UBS Bloomber	-		0.0	0.65	-	0.45	0.01	-	N
ELCCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.00	-	N
CORU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.62	-	0.45	0.00	-	N
LIVU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.62	-	0.45	0.01	-	N
BCLCCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.34	0.00	-	N
AGRU LN	UBS ETC linked to the UBS Bloo	-		0.0	0.51	-	0.45	0.00	-	N
BCLHCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.34	0.01	-	N
EFOCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0.0	-	-	0.57	0.01	-	N
BCCNCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.30	0.01	-	N
BCCCUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.21	0.01	-	N
BCCNUU SW	UBS ETC linked to the Bloomber	-		0.0	-	2	0.18	0.02	-	N
BCSMUU SW	UBS ETC linked to the Bloomber	-		0.0	-	-	0.18	0.02	-	N
BCLSCU SW [C]	UBS ETC linked to the Bloomber	-		0.0	-	-	0.35	0.01	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity									
Soft Commodity (Continued)										
WWTU LN	UBS ETC linked to the UBS Bloo	-		0	0.64	-	0.45	0.01	-	N
BCSOUU SW	UBS ETC linked to the Bloomber	-		0	-	2	0.18	0.00	-	N
BCCNEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.01	-	N
BCLSEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.35	0.01	-	N
BCAGEU SW	UBS ETC linked to the Bloomber	-		0	-	-	0.35	0.01	-	N
BCCFEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.01	-	N
BCCTEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.33	0.00	-	N
BCSBEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.03	-	N
SOYU LN	UBS ETC linked to the UBS Bloo	-		0	0.62	-	0.45	0.00	-	N
Energy										
CRUD LN	ETFS WTI Crude Oil	574		5	-	2	0.49	0.02	-	L
Main X-listings: CRUD IM (EUR)										
OILB LN	ETFS Brent 1mth Oil Securities	230		0	0.35	-	0.49	-	-	N
Main X-listings: OILB IM (EUR), OLBP LN (GBp)										
OIL3L IM	SG ETC WTI Oil +3X Daily Lever	229		1	0.42	-	0.98	-	+3x	N
O1LL GR	Boost WTI Oil 3x Leverage Dail	138		0	0.65	-	0.99	-	+3x	N
XCTH GY [C]	Xtrackers Energy Optimum Yield	122	↑	0	0.28	-	0.45	0.01	-	N
OOEA GR	ETFS Brent Crude	109		0	0.17	2	0.49	1.11	-	N
BRNT LN	ETFS Brent Crude	100	↓	1	0.32	2	0.49	0.02	-	N
Main X-listings: OOEA GR (EUR)										
OIL1S IM	SG ETC WTI Oil -1X Daily Short	88		0	0.70	-	0.95	-	-1x	N
XETC GY [C]	Xtrackers Brent Crude Oil Opti	73	↓	1	0.14	-	0.45	0.01	-	N
OILUSA SW	UBS ETF CH-CMCI Oil SF USD A-d	71	↓	0	0.32	-	0.26	0.05	-	N
OIL2L IM	SG ETC WTI Oil +2x Daily Lever	64		0	0.22	-	0.65	-	+2x	N
OILH IM [C]	SG ETC WTI Oil Daily Euro Hedg	61		0	0.22	-	0.48	0.01	-	N
SOIL LN	ETFS 1X Daily Short Wti Crude	60	↑	0	0.11	2	0.98	-	-1x	N
Main X-listings: SOIL IM (EUR)										
LOIL IM	ETFS 2X Daily Long Wti Crude O	41		2	0.16	2	0.98	-	+2x	N
Main X-listings: LOIL LN (USD)										
AIGE LN	ETFS Energy	41		0	0.15	7	0.49	0.83	-	N
Main X-listings: AIGE IM (EUR)										
OILCHA SW [C]	UBS ETF CH-CMCI Oil SF CHF A-d	39		0	0.30	12	0.26	0.01	-	N
XCTL GY	Xtrackers Brent Crude Oil Opti	37	↓	0	0.11	-	0.45	0.01	-	N
GAS1L IM	SG ETC Natural Gas Collaterali	35		0	1.45	-	0.48	1.07	-	N
GASH IM [C]	SG ETC Natural Gas Daily Euro	34		0	1.26	-	0.48	0.01	-	N
XCT9 LN	Xtrackers WTI Crude Oil Optimu	33	↓	1	0.19	-	0.45	0.01	-	N
NGSP LN	ETFS Natural Gas	32		0	0.58	2	0.49	1.46	-	N
Main X-listings: NGAS LN (USD), NGSP LN (GBp), NGAS IX (USD)										
3LNG LN	Boost Natural Gas 3x Leverage	30	↑	0	1.14	-	0.99	-	+3x	N
TCLCI SW	UBS ETC on UBS Bloomberg CMCI	24	↓	0	-	-	0.30	1.41	-	N
OIL1L IM	SG ETC WTI Oil Collateralized	23		0	0.61	-	0.48	0.01	-	N
EENCI SW	UBS ETC on UBS Bloomberg CMCI	23		0	-	36	0.52	2.52	-	N
BCBREU SW [C]	UBS ETC linked to the Bloomber	21		0	-	-	0.27	0.01	-	N
OESB GR	ETFS WTI 2mth Oil Securities	21		0	0.13	-	0.49	-	-	N
OILW IM	ETFS WTI 2mth Oil Securities	21		0	0.15	-	0.49	-	-	N
Main X-listings: OILW LN (USD), OLWP LN (GBp)										
OIL3 IM	SG ETC WTI Oil +3x Daily Lever	19		0	0.22	-	0.98	-	+3x	N
NGXL GR	Boost Natural Gas 3x Leverage	19		0	1.22	-	0.99	-	+3x	N
CARP LN	ETFS Carbon	19	↑	0	2.51	-	0.49	-	-	N
Main X-listings: CARB LN (EUR)										
BNQC GR	Collateralized ETC on RICI Enh	18	↑	0	0.55	-	1.00	2.68	-	N
GAS2L IM	SG ETC Natural Gas +2x Daily L	17		0	1.85	-	0.65	-	+2x	N
00XM GR [C]	ETFS EUR Daily Hedged WTI Crud	16	↓	0	0.37	3	0.49	0.03	-	N
LNGA IM	ETFS 2X Daily Long Natural Gas	15		0	0.43	2	0.98	-	+2x	N
Main X-listings: LNGA LN (USD)										
BCWTEU SW [C]	UBS ETC linked to the Bloomber	14		0	-	-	0.27	0.02	-	N
ENEF LN	ETFS Longer Dated Energy	13	↑	0	1.26	7	0.49	0.65	-	N
TCOCI SW	UBS ETC on UBS Bloomberg CMCI	13	↓	0	-	-	0.30	1.26	-	N
O1LS GR	Boost WTI Oil 3x Short Daily E	12		0	0.87	-	0.99	-	-3x	N
NGXS GR	Boost Natural Gas 3x Short Dai	12		0	1.59	-	0.99	-	-3x	N
AIGO IM	ETFS Petroleum	11		0	0.35	6	0.49	1.10	-	N
Main X-listings: AIGO LN (USD)										
EHEN GR [C]	ETFS EUR Daily Hedged Energy	10	↑	0	0.77	8	0.49	0.03	-	N
GAS3L IM	SG ETC Natural Gas +3X Daily L	10	↑	0	1.28	-	0.98	-	+3x	N
OIL3S IM	SG ETC WTI Oil -3X Daily Short	9		0	0.61	-	0.98	-	-3x	N
CCLCI SW	UBS ETC on UBS Bloomberg CMCI	8	↓	0	-	12	0.72	4.05	-	N
TENCI SW	UBS ETC on UBS Bloomberg CMCI	8	↓	0	-	-	0.40	1.77	-	N
BNQD GR	Collateralized ETC on RICI Enh	8		0	0.58	-	1.00	2.68	-	N
UGAS IM	ETFS Gasoline	8	↑	0	0.38	2	0.49	1.11	-	N
Main X-listings: UGAS LN (USD)										
3BFM GR	Boost Brent Oil 3x Leverage Da	8		0	0.80	-	0.99	-	+3x	N
3LGS LN	Boost Natural Gas 3x Short Dai	7	↑	0	0.81	-	0.99	-	-3x	N
OILEUA SW [C]	UBS ETF CH-CMCI Oil SF EUR A-d	7	↓	0	0.41	12	0.26	0.01	-	N
3CRL LN	ETFS 3x Daily Long WTI Crude O	7	↑	0	0.29	2	0.98	-	-	N
Main X-listings: 3CRL IM (EUR)										
GAS3S IM	SG ETC Natural Gas -3X Daily S	7		0	1.98	-	0.98	-	-3x	N
LBRT LN	ETFS 2X Daily Long Brent Crude	6		0	0.95	2	0.98	-	+2x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
				Commodity						
Energy (Continued)										
00XT GR [C]	ETFS EUR Daily Hedged Brent Cr	6	↓	0.1	0.34	3	0.49	0.03	-	N
3BRL IM	Boost Brent Oil 3x Leverage Da	5	↑	0.7	0.33	-	0.99	-	+3x	N
Main X-listings: 3BRL LN (USD), 3BLR LN (GBp)										
BULLOLJA SS	BULL OLJA H	5	↓	0.0	0.76	-	-	-	+2x	N
3CRS IM [C]	ETFS 3x Daily Short WTI Crude	5		0.6	0.30	2	0.98	-	-3x	N
Main X-listings: 3CRS LN (USD)										
LPET LN	ETFS 2X Daily Long Petroleum	5		0.0	1.74	6	0.98	-	+2x	N
ECLCI SW	UBS ETC on UBS Bloomberg CMCI	4	↓	0.1	-	12	0.42	2.21	-	N
HEAT LN	ETFS Heating Oil	4		0.1	1.15	2	0.49	0.02	-	N
THOCIU SW	UBS ETC on UBS Bloomberg CMCI	4	↓	0.0	-	-	0.40	0.00	-	N
B4NL GR	Collateralized ETC on RICI Enh	4	↓	0.0	0.61	-	0.99	0.01	-	N
BCBRUU SW	UBS ETC linked to the Bloomber	4	↑	0.0	-	2	0.15	0.00	-	N
NG3L IM	ETFS 3x Daily Long Natural Gas	4	↑	0.2	0.41	2	0.98	-	+3x	N
Main X-listings: NG3L LN (USD)										
BRND LN	Boost Brent Oil ETC	4	↓	0.0	0.27	-	0.25	0.04	-	N
Main X-listings: BRND IM (EUR)										
EENCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	4		0.0	-	-	0.50	0.01	-	N
CCOCI SW	UBS ETC on UBS Bloomberg CMCI	4	↓	0.0	-	-	0.72	3.49	-	N
OSB1 LN	ETFS Brent 1yr	4		0.0	1.07	-	0.49	-	-	N
3BRS IM	Boost Brent Oil 3x Short Daily	3		0.2	0.63	-	0.99	-	-3x	N
Main X-listings: 3BRS LN (USD), 3BSR LN (GBp)										
OIL2L SW	UBS ETC 2x Long CMCI WTI Crude	3	↑	0.0	-	-	0.98	-	+2x	N
0LJD GR	Boost Brent Oil ETC	3		0.0	0.29	-	0.25	0.04	-	N
SBRT LN	ETFS 1X Daily Short Brent Crud	2	↓	0.3	0.46	2	0.98	-	-1x	N
FCRU LN	ETFS Longer Dated WTI Crude Oi	2	↓	0.0	0.70	-	0.49	0.02	-	N
Main X-listings: FCRU IM (EUR)										
PBRT LN [C]	ETFS GBP Daily Hedged Brent Cr	2		0.0	0.50	3	0.49	0.02	-	N
FBRT LN	ETFS Longer Dated Brent Crude	2	↑	0.0	1.32	2	0.49	0.02	-	N
Main X-listings: 00EB GR (EUR)										
0LJC GR	Boost WTI Oil ETC	2		0.0	0.17	-	0.25	0.04	-	N
00EB GR	ETFS Longer Dated Brent Crude	2	↑	0.0	0.83	2	0.49	1.11	-	N
3BFS GR	Boost Brent Oil 3x Short Daily	2		0.0	0.72	-	0.99	-	-3x	N
OILZ IM	Boost WTI Oil 1x Short Daily E	2	↑	0.2	0.13	-	0.49	-	-1x	N
Main X-listings: OIZL LN (GBp), OILZ LN (USD)										
ECOCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	2		0.0	-	-	0.42	0.01	-	N
ECOCI SW	UBS ETC on UBS Bloomberg CMCI	2	↓	0.0	-	-	0.42	1.92	-	N
GASL3 IM	SG ETC Natural Gas +3x Daily L	2		0.0	1.58	-	0.98	-	+3x	N
WTID LN	Boost WTI Oil ETC	2	↑	0.0	0.16	-	0.25	0.04	-	N
Main X-listings: WTID IM (EUR)										
00XP GR [C]	ETFS EUR Daily Hedged Natural	2	↓	0.1	0.42	3	0.49	0.09	-	N
OI1S GR	Boost WTI Oil 1x Short Daily E	2		0.0	0.22	-	0.49	-	-1x	N
TNGCI SW	UBS ETC on UBS Bloomberg CMCI	1	↓	0.0	-	-	0.40	4.32	-	N
PCRD LN [C]	ETFS GBP Daily Hedged WTI Crud	1	↓	0.0	0.34	3	0.49	0.02	-	N
OSB3 LN	ETFS Brent 3yr	1		0.0	2.94	-	0.49	-	-	N
9GAQ GY	ETFS Longer Dated Natural Gas	1		0.0	1.83	2	0.49	1.14	-	N
NGAF LN	ETFS Longer Dated Natural Gas	1		0.0	2.14	2	0.49	0.02	-	N
Main X-listings: 9GAQ GY (EUR)										
4RTD GY	ETFS 1X Daily Short Natural Ga	1		0.0	1.87	2	0.98	-	-1x	N
NG3S LN	ETFS 3x Daily Short Natural Ga	1	↑	0.1	0.44	2	0.98	-	-	N
Main X-listings: NG3S IM (EUR)										
PNGA LN [C]	ETFS GBP Daily Hedged Natural	1		0.0	0.28	3	0.49	0.08	-	N
SNGA LN	ETFS 1X Daily Short Natural Ga	1	↓	0.1	0.23	2	0.98	-	-1x	N
Main X-listings: 4RTD GY (EUR)										
CCLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	1	↑	0.0	-	-	0.42	0.01	-	N
GASD IM	Boost Natural Gas ETC	1	↑	0.0	0.22	-	0.25	0.04	-	N
Main X-listings: GASD LN (USD)										
0LJF GR	Boost Natural Gas ETC	1		0.0	0.40	-	0.25	0.04	-	N
2OIL IM	Boost WTI Oil 2x Leverage Dail	1		0.1	0.42	-	0.65	-	+2x	N
Main X-listings: 2OIL LN (USD), 2OLI LN (GBp)										
2OIL GR	Boost WTI Oil 2x Leverage Dail	1		0.0	0.84	-	0.65	-	+2x	N
BNQ9 GR	Natural Gas ETC von BNPP	1	↑	0.0	-	-	0.90	-	-	N
OSW1 LN	ETFS WTI 1yr	1	↓	0.0	2.50	-	0.49	-	-	N
B4NG GR	Collateralized ETC on RICI Enh	1		0.0	0.60	-	0.99	0.01	-	N
5WTI LN	SG WTI X5 Daily Long GBP 2	1	↑	0.0	2.03	-	2.02	-	+5x	N
2NGS IM	Boost Natural Gas 2x Short Dai	1	↑	0.1	0.85	-	0.70	-	-2x	N
Main X-listings: 2NGS LN (USD)										
2OIS IM	Boost WTI Oil 2x Short Daily E	1		0.1	0.27	-	0.65	-	-2x	N
Main X-listings: 2OIS LN (USD), 2OSI LN (GBp)										
TCOCIU SW	UBS ETC on UBS Bloomberg CMCI	1	↓	0.0	-	-	0.30	0.00	-	N
CBRT SW [C]	Swiss Franc Daily Hedged Brent	1	↓	0.0	1.41	3	0.49	0.04	-	N
BCWTUU SW	UBS ETC linked to the Bloomber	0	↑	0.0	-	2	0.15	0.00	-	N
TCL1Y SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	3	0.30	1.08	-	N
FPET LN	ETFS Longer Dated Petroleum	0		0.0	1.05	-	0.49	0.12	-	N
CENCI SW	UBS ETC on UBS Bloomberg CMCI	0		0.0	-	36	0.84	4.42	-	N
LGAS IM	ETFS 2X Daily Long Gasoline	0	↓	0.0	0.52	2	0.98	-	+2x	N
Main X-listings: LGAS LN (USD)										
TCL3M SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0.0	-	3	0.30	2.05	-	N

Ticker	ETF Name	Total Assets (€M)		Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
				Commodity						
Energy (Continued)										
CENCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.50	0.01	-	N
BNQA GR [C]	Collateralized ETC on Brent Cr	0	↑	0	-	-	0.90	-	-	N
TCO3M SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	1.56	-	N
BCENEU SW [C]	UBS ETC linked to the Bloomber	0		0	-	-	0.28	0.03	-	N
OIL2S SW	UBS ETC 2x Short CMCI WTI Crud	0	↓	0	-	2	0.98	-	-2x	N
ENGCI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.52	7.61	-	N
CNGCI SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.84	-	-	N
2OIS GR	Boost WTI Oil 2x Short Daily E	0		0	0.85	-	0.65	-	-2x	N
SGAS LN	ETFS 1X Daily Short Gasoline	0	↓	0	0.84	2	0.98	-	-1x	N
LHEO LN	ETFS 2X Daily Long Heating Oil	0		0	2.67	2	0.98	-	+2x	N
BCNGUU SW	UBS ETC linked to the Bloomber	0		0	-	2	0.18	0.00	-	N
BCENUU SW	UBS ETC linked to the Bloomber	0		0	-	7	0.16	0.06	-	N
TCO6M SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	1.25	-	N
BRTU LN	UBS ETC linked to the UBS Bloo	0		0	0.43	-	0.30	0.00	-	N
2NGL LN	Boost Natural Gas 2x Leverage	0		0	0.86	-	0.44	-	+2x	N
TCO1Y SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	1.03	-	N
CNGA SW [C]	Swiss Franc Daily Hedged Natur	0	↓	0	1.69	3	0.49	0.13	-	N
B4NH GR	Collateralized ETC on RICI Enh	0		0	0.60	-	0.99	0.01	-	N
OSW3 LN	ETFS WTI 3yr	0		0	2.93	-	0.49	-	-	N
LNRG LN	ETFS 2X Daily Long Energy	0	↑	0	0.81	7	0.98	-	+2x	N
TENCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.38	0.00	-	N
OSW2 LN	ETFS WTI 2yr	0	↓	0	2.61	-	0.49	-	-	N
SHEA IM	ETFS 1X Daily Short Heating Oi	0		0	0.60	2	0.98	-	-	N
Main X-listings: SHEA LN (USD)										
BENE LN	Boost Enhanced Energy ETC	0		-	0.46	-	0.40	-	-	N
Main X-listings: BENE IM (EUR)										
PENR LN [C]	ETFS GBP Daily Hedged Energy	0	↑	0	0.39	8	0.49	0.02	-	N
TXBCIU SW	UBS ETC on UBS Bloomberg CMCI	0	↓	0	-	-	0.40	0.00	-	N
OSB2 LN	ETFS Brent 2yr	0	↓	0	2.73	-	0.49	-	-	N
BNQU GR	Collateralized ETC on RICI Enh	0	↑	0	0.58	-	1.00	2.69	-	N
HEAF LN	ETFS Longer Dated Heating Oil	0		0	2.16	-	0.49	0.02	-	N
Main X-listings: HEAF IM (EUR)										
TCL1YU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	3	0.30	0.00	-	N
CFEN SW [C]	Swiss Franc Daily Hedged Longe	0	↓	0	1.05	8	0.49	0.04	-	N
TCL3MU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	3	0.30	0.01	-	N
TCL6M SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	3	0.30	1.36	-	N
SPET LN	ETFS 1X Daily Short Petroleum	0		0	1.65	6	0.98	-	-1x	N
BCBRCU SW [C]	UBS ETC linked to the Bloomber	0		0	-	-	0.27	0.01	-	N
CEGY SW [C]	Swiss Franc Daily Hedged Energ	0	↑	0	0.89	8	0.49	0.04	-	N
TCO3MU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	0.00	-	N
PFEN LN [C]	ETFS GBP Daily Hedged Longer D	0	↓	0	0.86	8	0.49	0.02	-	N
ENGCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.52	0.01	-	N
CNGCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.52	0.01	-	N
TNGCIU SW	UBS ETC linked to the UBS Bloo	0	↓	0	-	-	0.40	0.03	-	N
BNQE GR	Collateralized ETC on RICI Enh	0		0	0.56	-	1.00	2.73	-	N
CCOCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.42	0.01	-	N
TCLCIU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	0.00	-	N
CXBCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.52	0.01	-	N
B4NK GR	Collateralized ETC on RICI Enh	0		0	0.60	-	0.99	0.01	-	N
TCO6MU SW	UBS ETC on UBS Bloomberg CMCI	0		0	-	-	0.30	0.00	-	N
BNQH GR	Collateralized ETC on RICI Enh	0		0	0.58	-	1.00	2.68	-	N
BCNGCU SW [C]	UBS ETC linked to the Bloomber	0		0	-	-	0.30	0.02	-	N
ENRU LN	UBS ETC linked to the UBS Bloo	0		0	0.37	-	0.38	0.01	-	N
B4NJ GR	Collateralized ETC on RICI Enh	0		0	0.60	-	0.99	0.01	-	N
BRWT FP	BNP Paribas RICI Enhanced WTI	0		0	0.62	-	0.65	1.11	-	N
B4NI GR	Collateralized ETC on RICI Enh	0		0	0.61	-	0.99	0.01	-	N
BNQF GR	Collateralized ETC on RICI Enh	0		0	0.58	-	1.00	2.69	-	N
BRBR FP	BNP Paribas RICI Enhanced BREN	0		-	0.60	-	0.65	1.12	-	N
BCUGUU SW	UBS ETC linked to the Bloomber	0		0	-	2	0.18	0.01	-	N
BCZIUU SW	UBS ETC linked to the Bloomber	0		0	-	2	0.15	0.02	-	N
OIL3 LN	UBS ETC linked to the UBS Bloo	0		0	0.44	3	0.30	1.67	-	N
BNQG GR	Collateralized ETC on RICI Enh	0		0	0.59	-	1.00	2.68	-	N
SG30 LN	SG WTI x2 DAILY LONG	-		0	0.26	-	0.86	-	+2x	N
KSMF84 IT	KSM ETF 4A Bloomberg Brent Cru	-		-	-	-	-	-	-	N
SG20 LN	SG NATURAL GAS x5 DAILY LONG	-		0	0.67	-	2.99	-	+5x	N
BCNGEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.02	-	N
SG34 LN	SG WTI x5 DAILY LONG	-		0	1.29	-	2.13	-	-	N
EXBCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-		0	-	-	0.52	0.00	-	N
BCWTCU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.27	0.02	-	N
SG29 LN	SG WTI x5 DAILY SHORT/new	-		0	1.29	-	2.41	-	-5x	N
OILG LN [C]	UBS ETC linked to the UBS Bloo	-		0	0.44	-	0.42	0.01	-	N
BCUGCU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.01	-	N
BCUGEU SW [C]	UBS ETC linked to the Bloomber	-		0	-	-	0.30	0.01	-	N
SG26 LN	SG NATURAL GAS x5 DAILY LONG	-		0	1.24	-	2.99	-	+5x	N
SG21 LN	SG NATURAL GAS x5 DAILY SHORT	-		0	1.21	-	3.76	-	-5x	N
SG35 LN	SG WTI x5 DAILY SHORT/new	-		0	1.29	-	2.41	-	+5x	N
TCO1YU SW	UBS ETC on UBS Bloomberg CMCI	-		0	-	-	0.30	0.00	-	N

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[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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EMEA Listed ETFs

Ticker	ETF Name	Total Assets (€M)	Average 6M Daily Volume (€M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Commodity							
Energy (Continued)									
SG33 LN	SG WTI x3 DAILY SHORT/new	-	0.0	0.40	-	1.60	-	-3x	N
SG27 LN	SG NATURAL GAS x5 DAILY SHORT	-	0.0	1.24	-	3.76	-	-5x	N
SG31 LN	SG WTI x2 DAILY SHORT	-	0.0	0.27	-	0.94	-	-2x	N
NGAU LN	UBS ETC linked to the UBS Bloo	-	0.0	0.91	-	0.40	0.03	-	N
ECLCIU SW [C]	UBS ETC on UBS Bloomberg CMCI	-	0.0	-	-	0.42	0.01	-	N
SG32 LN	SG WTI x3 DAILY LONG/new	-	0.0	0.39	-	1.42	-	+3x	N
TQSCIU SW	UBS ETC on UBS Bloomberg CMCI	-	0.0	-	-	0.40	0.00	-	N
TCL6MU SW	UBS ETC on UBS Bloomberg CMCI	-	0.0	-	3	0.30	0.00	-	N
BRTG LN [C]	UBS ETC linked to the UBS Bloo	-	0.0	0.43	-	0.42	0.01	-	N
SG25 LN	SG NATURAL GAS x3 DAILY SHORT	-	0.0	0.47	-	2.17	-	-3x	N
BCGOUU SW	UBS ETC linked to the Bloomber	-	0.0	-	2	0.18	0.01	-	N
ENGB LN [C]	UBS ETC linked to the UBS Bloo	-	0.0	0.37	-	0.50	0.01	-	N
SG28 LN	SG WTI x5 DAILY LONG	-	0.0	1.29	-	2.13	-	+5x	N
TDJTEN6 IT	Psagot Sal Oil& Gas	-	-	-	-	1.00	-	-	N
BCENCU SW [C]	UBS ETC linked to the Bloomber	-	0.0	-	-	0.28	0.03	-	N
OILU LN	UBS ETC linked to UBS Bloomber	-	0.0	0.43	-	0.30	0.00	-	N
SG22 LN	SG NATURAL GAS x2 DAILY LONG	-	0.0	0.65	-	0.75	-	+2x	N
SG24 LN	SG NATURAL GAS x3 DAILY LONG	-	0.0	0.40	-	1.71	-	+3x	N
SG23 LN	SG NATURAL GAS x2 DAILY SHORT	-	0.0	0.27	-	1.25	-	-2x	N
KSMF14 IT	KSM ETF 4D Bloomberg Brent Cru	-	-	-	-	0.48	-	-	N
BCHOUU SW	UBS ETC linked to the Bloomber	-	0.0	-	2	0.18	0.01	-	N
BNQ7 GR	Collateralized ETC on RICI Enh	-	0.0	0.61	-	0.99	0.01	-	N
BRT3 LN	UBS ETC linked to UBS Bloomber	-	0.0	0.43	-	0.30	0.00	-	N
NGAG LN [C]	UBS ETC linked to the UBS Bloo	-	0.0	0.74	-	0.52	0.01	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
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[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Regional										
XAXJ SP	db x-trackers MSCI AC Asia Ex JP TRN	622		0.1	0.26	956	0.65	0.01	-	N
83010 HK	iShares Core MSCI AC Asia ex JP Idx	618	↓	0.1	0.46		0.28	1.49	-	N
3010 HK	iShares Core MSCI AC Asia ex JP Idx	616	↓	0.4	0.35		0.28	0.43	-	N
9010 HK	iShares Core MSCI AC Asia ex JP Idx	616	↓	0.6	0.68		0.28	0.43	-	N
IAA AU	iShares Asia 50/AU	366		0.8	0.76	51	0.50	-	-	N
ZRDEMMB CH	Zhongrong Daily Earn Money-B	223		-	-		-	-	-	N
1390 JP	UBS MSCI Pacific ex Jpn UCITS	184		0.0	0.78		0.30	3.63	-	N
VAE AU	Vanguard FTSE Asia ex-JP Shrs Idx	104	↑	0.4	0.31		0.40	0.18	-	N
277540 KS	KIM KIdx S&P ASIA Top50	55	↓	0.1	0.37	51	0.70	3.43	-	N
9810 HK	Premia DJ Emerging Asean Titans 100	48		0.0	0.71	100	0.50	-	-	N
2810 HK	Premia DJ Emerging Asean Titans 100	48		0.0	0.55	100	0.50	-	-	N
9805 HK	Vanguard FTSE Asia ex JP Idx	32		0.0	1.29		0.20	0.18	-	N
82805 HK	Vanguard FTSE Asia ex JP Idx	32		0.0	0.93		0.20	1.46	-	N
2805 HK	Vanguard FTSE Asia ex JP Idx	32		0.1	0.93		0.20	0.14	-	N
2802 HK	iShares MSCI Emerging Asia Idx	26		0.1	0.71	884	0.59	0.75	-	N
AEJ SP	Lyxor MSCI AC APAC Ex Jpn UCITS	23		0.0	1.65	1,032	0.60	0.02	-	N
ASEAN SP	CIMB FTSE ASEAN 40	19		0.1	0.80	40	0.65	0.33	-	N
UBP AU	UBS IQ MSCI Asia APEX 50 Ethical	9	↑	0.0	0.36		0.45	0.22	-	N
XPXJ SP	Xtrackers MSCI Pacific ex Jpn UCITS	3	↓	0.0	0.87	148	0.45	0.06	-	N
CIMBA40 MK	CIMB FTSE ASEAN 40 Malaysia	1		0.0	1.76	40	0.52	2.80	-	N
Country										
Australia										
STW AU	SPDR AS51 Fund	2,625		10.2	0.04	200	0.19	0.04	-	N
VAS AU	Vanguard AU Shrs Idx	2,487	↑	9.5	0.05		0.14	1.23	-	N
IOZ AU	iShares CORE AS51	854		5.1	0.06	200	0.15	0.04	-	N
MVW AU	VanEck Vectors Aus Equal Weight	532	↑	1.7	0.12		0.35	0.04	-	N
A200 AU	BetaShares AU 200	388		4.3	0.05		0.07	-	-	N
SFY AU	SPDR S&P/ASX 50 Fund	387		0.6	0.08	50	0.29	0.04	-	N
ILC AU	iShares S&P/ASX 20	219		0.3	0.09	20	0.24	0.06	-	N
YMAX AU	BetaShares AU Top 20 Equity Yld Maximiser	213		0.6	0.58	20	0.76	3.04	-	N
FAIR AU	BetaShares AU Sustainability Ldr	192	↑	0.5	0.15		0.49	0.83	-	N
VSO AU	Vanguard MSCI AU Small Companies	174	↑	0.4	0.20		0.30	0.16	-	N
QOZ AU	BetaShares FTSE RAFI AU 200	169		0.6	0.12		0.40	0.07	-	N
UBA AU	UBS IQ MSCI AU Ethical	129		0.1	0.28		0.17	0.15	-	N
LF1 SP	Xtrackers S&P ASX 200 UCITS	110		0.0	0.52	200	0.50	1.69	-	N
BBOZ AU[A]	BetaShares AU Equities Strong Bear Hdg	88	↑	2.1	0.13		1.38	-	-2.395x	N
EX20 AU	BetaShares AU Ex-20 Portfolio Diversifier	84	↑	0.3	0.14	179	0.25	0.10	-	N
OZY NZ	SmartShrs - AU Top 20 Fund	83		0.1	0.90	20	0.60	3.12	-	N
ISO AU	iShares S&P/ASX Small Ordinaries	76		0.3	0.28	199	0.55	0.20	-	N
MZY NZ	SmartShrs - AU Mid Cap Fund	75		0.1	0.56	50	0.75	3.09	-	N
GEAR AU[A]	BetaShares Geared AU Equity Fund	62		1.3	0.17	200	0.80	-	-	N
VLC AU	Vanguard MSCI AU Large Companies	60		0.1	0.11		0.20	0.04	-	N
BEAR AU	BetaShares AU Equities Bear Hdg Fund	32		0.4	0.11	200	1.38	-	#####	N
AUST AU	BetaShares Managed Risk AU Shr Fund	28	↑	0.1	0.28	200	0.49	4.25	-	N
INIF AU[A]	InvestSMART AU Equity Income Fund	28		0.0	0.96		0.97	-	-	N
520012 KS[C]	MiraeAsset AU ASX200 ETN H 12	21		0.0	0.15	200	0.99	6.04	-	N
SMLL AU[A]	BetaShares AU Small Companies Select Fund	21	↑	0.0	0.76	199	0.39	4.66	-	N
RINC AU[A]	BetaShares Legg Mason Real Income Fund	18	↑	0.1	0.39	200	0.85	9.82	-	N
KSM AU[A]	K2 AU Small Cap Fund	17	↑	0.0	-		1.31	-	-	N
SSO AU	SPDR S&P/ASX Small Ordinaries Fund	16		0.0	0.22	199	0.50	0.38	-	N
EIGA AU[A]	eInvest Income Generator Fund	16		0.0	0.72	299	0.80	-	-	N
EINC AU[A]	BetaShares Legg Mason Equity Income	14	↑	0.0	0.37	200	0.85	3.65	-	N
Bangladesh										
O9C SP	Xtrackers MSCI Bangladesh Swap UCITS	14	↓	0.0	0.84	46	0.85	1.55	-	N
China										
510050 CH	China 50	7,329	↑	388.7	0.04	50	0.60	0.29	-	N
510500 CH	China CSI 500	6,511	↑	226.5	0.03	500	1.60	0.36	-	N
510300 CH	Huatai-Pinebridge CSI 300	5,106	↑	236.2	0.03	300	1.60	0.14	-	N
82828 HK	Hang Seng CEI	3,819		0.0	0.24	50	0.55	3.10	-	N
2828 HK	Hang Seng CEI	3,814		51.1	0.09	50	0.55	0.21	-	N
2823 HK	iShares FTSE A50 China Idx	3,636	↑	116.4	0.14	50	0.99	1.27	-	N
510330 CH	China AMC CSI 300 Idx	3,633	↑	70.8	0.05	300	0.60	0.19	-	N
159919 CH	Harvest CSI 300 Idx	3,433	↑	30.2	0.05	300	-	0.16	-	N
512960 CH	Bosera CSI Central Ent. Structure Adj	3,241		-	0.12		-	-	-	N
159915 CH	E Fund ChiNext Price Idx	3,013	↑	199.4	0.07	100	-	0.67	-	N
1576 JP	CSOP FTSE China A50	2,949		0.0	3.99	50	1.15	-	-	N
510180 CH	Shanghai SSE180	2,941		11.8	0.07	180	0.50	0.30	-	N
82822 HK	CSOP FTSE China A50	2,937	↑	2.5	0.17	50	0.99	0.28	-	N
2822 HK	CSOP FTSE China A50	2,934	↑	118.7	0.14	50	0.99	2.73	-	N
512950 CH	China AMC CSI Central Enterprises Struct Adj	2,436		-	0.14		0.70	-	-	N
83188 HK	ChinaAMC CSI 300 Idx	2,434	↑	1.9	0.19	300	0.70	0.55	-	N
3188 HK	ChinaAMC CSI 300 Idx	2,432	↑	115.6	0.11	300	0.70	3.06	-	N
510900 CH	E Fund HSCEI	1,254	↓	195.2	0.08	50	-	3.38	-	N
00637L TT	Yuanta/P-Shrs CSI 300 2X Bull	1,194		108.2	0.07		1.22	-	+2x	N
LG9 SP	Xtrackers MSCI CH UCITS	1,172	↑	0.0	0.89	469	0.65	0.07	-	N
159949 CH	Huaan ChiNext 50 Fund	1,109	↑	100.2	0.17	50	-	0.67	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Country										
China (Continued)										
159959 CH	Yinhua CSI Central Enterprises Structure Adj	1,058		-	0.18		-	-	-	N
512880 CH	Guotai CSI All Shr Securities Companies	1,032	↑	78.2	0.10		1.10	0.71	-	N
510310 CH	E Fund CSI 300	925	↑	4.2	0.10	300	-	0.29	-	N
159901 CH	E FUND SZSE100 Idx FUND	840	↑	33.0	0.04	100	0.50	0.31	-	N
00633L TT	Fubon SSE180 Levd 2X Idx	816	↓	62.5	0.04		1.94	-	+2x	N
510390 CH	Pingan-UOB CSI 300 Idx Launched Fund	752		6.6	0.10	300	0.60	0.16	-	N
510510 CH	Guangfa CSI 500	609	↑	6.7	0.11	500	-	0.53	-	N
2801 HK	iShares MSCI CH Idx	406	↑	1.8	0.68	469	0.59	0.11	-	N
00625K TT	Fubon SSE 180 Idx	398		0.1	2.00	180	1.66	0.99	-	N
006205 TT	Fubon SSE 180 Idx	395	↓	4.4	0.08	180	1.66	2.36	-	N
00655L TT	Cathay FTSE China A50 Daily Levd 2X	349	↓	18.9	0.06	50	1.16	-	+2x	N
159922 CH	Harvest CSI 500	326	↑	4.5	0.08	500	-	0.35	-	N
510590 CH	Ping An UOB CSI 500	321		7.3	0.12		0.60	-	-	N
00636 TT	Cathay FTSE China A50	309	↓	4.9	0.07	50	1.05	3.14	-	N
159902 CH	China SME	302		11.9	0.08		2.10	6.20	-	N
2827 HK	BOCI-Prudential - W.I.S.E.-CSI China Tracker	258		0.6	0.37		1.05	6.01	-	N
204480 KS	Mirae Asset Tiger Synth-China A Lvrg	247	↑	5.6	0.09		0.59	-	+2x	N
159925 CH	China Southern Kaiyuan CSI 300 Idx	230	↑	0.1	0.48	300	1.60	0.11	-	N
0061 TT	W.I.S.E. Yuanta/P-Shrs CSI 300	219		1.1	0.11		0.40	-	-	N
159952 CH	GF the ChiNext Board Idx Fund	212	↑	10.3	0.12		-	-	-	N
192090 KS	Mirae Asset Tiger China A300	206		4.4	0.11	300	0.70	2.81	-	N
3040 HK	Mirae Asset Horizons MSCI China	206	↓	0.3	0.32	469	0.24	0.21	-	N
168580 KS	KIdx China CSI300 Equity-Derivative	177		1.3	0.24	300	0.70	2.92	-	N
159910 CH	Harvest Shenzhen F120 Idx	165	↑	0.3	0.25		-	0.60	-	N
006206 TT	Yuanta SSE50 Securities Invstmnt Trust	163	↓	1.5	0.12		1.09	2.77	-	N
512980 CH	Guangfa CSI Media Idx Invstmnt Fund	142	↑	1.4	0.15		-	-	-	N
XX25 SP	Xtrackers FTSE China 50 UCITS	138		0.0	0.98		0.60	0.03	-	N
ASI SP	Lyxor China Enterprise HSCEI UCITS	125		0.1	1.45	50	0.65	0.13	-	N
9167 HK	ICBC CSOP S&P New China Sectors	124		0.0	0.75		0.99	1.90	-	N
83167 HK	ICBC CSOP S&P New China Sectors	124		0.0	0.49		0.99	2.82	-	N
512160 CH	China Southern MSCI CH A Inclusion	124		8.8	0.13	238	0.60	1.96	-	N
3167 HK	ICBC CSOP S&P New China Sectors	124		1.0	0.34		0.99	1.87	-	N
512090 CH	E Fund MSCI CH A Inclusion Idx	115		17.8	0.12	408	-	-	-	N
00739 TT	Yuanta MSCI CH A	112		1.7	0.11		0.80	-	-	N
00643K TT	Cap SZSE SME Price Idx	108		0.0	2.37	100	1.08	1.79	-	N
00643 TT	Cap SZSE SME Price Idx	108		1.0	0.14	100	1.08	2.25	-	N
3073 HK	SPDR FTSE Greater China	104		0.0	0.72		0.48	0.63	-	N
512180 CH	CCB Principal MSCI CH A Guojitong	102		16.6	0.15	238	-	-	-	N
512520 CH	Hutai-PineBridge MSCI CH A Guojitong	99		2.2	0.18	238	1.60	-	-	N
530013 KS	Samsung KTOP30 ETN 13	97		1.5	0.13	30	0.40	1.56	-	N
512280 CH	Invesco Great Wall MSCI CH A Guojitong	94		22.9	0.12	238	-	-	-	N
00639 TT	Fubon SZSE 100	94		1.3	0.14	100	0.15	2.53	-	N
510710 CH	Bosera SSE 50	94	↑	6.9	0.07	50	0.40	0.43	-	N
2803 HK	Premia CSI Caixin China Bedrock Economy	82	↑	0.1	0.88		0.50	0.54	-	N
83147 HK	CSOP SZSE ChiNext	81	↑	0.0	1.07	100	1.12	0.32	-	N
006207 TT	Fuh Hwa CSI 300 A Shrs	81	↓	0.6	0.16		0.85	2.34	-	N
3147 HK	CSOP SZSE ChiNext	81	↑	1.3	0.32	100	1.12	2.60	-	N
169950 KS	SS KODEX FTSE China A50	80	↑	0.4	0.21	50	0.99	3.19	-	N
159960 CH	Ping An-UOB HK Stock Through HSCEI	77		0.1	0.32		0.60	-	-	N
IZZ AU	iShares China Large-Cap/AU	77		0.4	0.53	50	0.74	-	-	N
3173 HK	Premia CSI Caixin China New Economy	76	↑	0.1	1.15		0.50	0.88	-	N
512990 CH	MSCI CH A Fund	75		2.3	0.14	541	0.65	3.22	-	N
159916 CH	CCB Shenzhen F60 Idx	71		0.1	0.45		-	0.71	-	N
82843 HK	Amundi FTSE China A50 Idx	69		0.0	0.41	50	0.48	0.21	-	N
2843 HK	Amundi FTSE China A50 Idx	69		0.1	0.43	50	0.48	2.69	-	N
159903 CH	SZSE COMPONENT Idx FUND/ETF	64		0.3	0.31	500	1.00	0.16	-	N
245360 KS	Mirae Asset Tiger China H-Shr	62		0.1	0.32	50	0.35	3.27	-	N
510010 CH	Bank Of Comm Schroder SSE180	59		0.0	0.81	180	-	2.63	-	N
510560 CH	China Life AMP CSI 500	59	↑	0.0	0.83		-	0.41	-	N
283580 KS	SS KODEX China CSI300	46		0.9	0.21	300	0.55	2.77	-	N
159935 CH	Invesco Great Wall CSI 500 Idx	45		0.0	1.03	500	-	0.77	-	N
3128 HK	Hang Seng China A Industry Top Idx	44		0.0	2.35	48	0.55	6.20	-	N
83128 HK	Hang Seng China A Industry Top Idx	44		0.0	2.01	48	0.55	6.32	-	N
510130 CH	E Fund SSE Mid-cap	41		0.0	0.63	130	0.00	0.71	-	N
159958 CH	ICBC Credit Suisse GEM Idx Invstmnt	39	↑	0.9	0.27	100	1.40	0.60	-	N
1309 JP	SSE50 Idx Linked	39		0.2	0.40	50	0.78	-	-	N
099140 KS	SS KODEX China H	38	↓	0.3	0.30	50	0.37	3.23	-	N
174360 KS	KBSTAR China Mainland CSI100 Feeder	38		0.2	0.38	100	0.65	2.65	-	N
00703 TT	Taishin MSCI China	37	↑	0.4	0.10	469	1.10	2.77	-	N
00783 TT	Fubon China CSI 500 Idx	35		-	0.09		-	-	-	N
510290 CH	China Southern SSE 380 Idx	34		0.1	0.25	380	1.60	0.55	-	N
204450 KS[C]	SS KODEX China H Lev - Equity-Deriv	34		0.6	0.21		0.64	-	+2x	N
512360 CH	Ping An-UOB MSCI CH A Intl Fund	34		0.5	0.43		0.60	-	-	N
2811 HK	Haitong CSI300 Idx	33	↓	0.0	1.26	300	0.60	2.63	-	N
82811 HK	Haitong CSI300 Idx	33	↓	0.0	1.29	300	0.60	0.51	-	N
159907 CH	GUANGFA SZSE SME300 Idx FUND/ETF	33		0.1	0.82	300	-	0.46	-	N
530023 KS[C]	Samsung Lev China A50 Ftrs ETN H 23	33		0.1	0.19		1.50	-	+2x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
China (Continued)										
512100 CH	China Southern CSI 1000	32	↑	1.7	0.16		0.60	0.39	-	N
7228 HK	Samsung HSCEI Daily 2X Levd Prod	31		0.5	0.19	50	0.95	-	+2x	N
510020 CH	Bosera SSE Large Cap Fund	30		0.1	0.29	1,508	0.60	1.80	-	N
3049 HK	Xtrackers CSI300 Swap UCITS	30	↓	0.1	1.45		0.50	0.17	-	N
159909 CH	China Merchants SZSE TMT50 TR Idx	29	↑	0.2	0.12		0.60	-	-	N
7388 HK	CSOP HSCEI Daily -1x Inv Prod	27		1.4	0.20	50	1.28	-	-1x	N
217780 KS	Mirae Asset Tiger Synth-China A Inv	27	↓	6.5	0.12		0.59	-	-1x	N
159957 CH	China Asset GEM Idx Invstmnt Fund	25	↑	0.4	0.56	100	0.65	0.83	-	N
530014 KS[C]	Samsung China A50 Ftrs ETN H 14	25		0.0	0.30		0.70	-	-	N
9169 HK	Vanguard Total China Idx	24		0.0	2.13		0.40	-	-	N
83169 HK	Vanguard Total China Idx	24		0.0	0.75		0.40	-	-	N
3169 HK	Vanguard Total China Idx	24		0.1	0.53		0.40	-	-	N
USSE50 SP	United SSE 50 China	24		0.0	1.35		0.45	5.23	-	N
510060 CH	ICBC Credit Suisse Central 50	23	↓	0.1	0.91		1.40	0.95	-	N
219900 KS	KIM KIdx China Lev CSI300 Synth	23	↑	0.4	0.28		0.50	-	+2x	N
510800 CH	CCB Principal SSE 50 Idx Invstmnt Fund	22	↑	0.9	0.19	50	-	0.61	-	N
00634R TT	Fubon SSE180 Invd Idx	21	↑	0.4	0.19		1.76	-	-1x	N
2846 HK	iShares Core CSI 300 Idx	21		0.1	1.04		0.38	1.29	-	N
82846 HK	iShares Core CSI 300 Idx	21		0.0	1.07		0.38	0.43	-	N
510210 CH	Fullgoal Shanghai Composite Idx	21	↑	0.1	0.09	1,508	-	2.24	-	N
00638R TT	Yuanta/P-Shrs CSI 300 1X Bear	20	↑	0.6	0.12		1.20	-	-1x	N
159918 CH	Harvest SME-ChiNext 400 Idx R	20	↑	0.0	2.11		-	0.33	-	N
590018 KS	MiraeAsset China Shenzhen 100 ETN 18	19		0.0	0.46	100	1.20	2.60	-	N
7288 HK	CSOP HSCEI Daily 2x Levd Prod	19	↓	2.3	0.13	50	1.28	-	+2x	N
2838 HK	Hang Seng FTSE China 50	19		0.0	0.41	50	0.55	0.34	-	N
00665L TT	Fubon HSCE Levd Idx	18	↓	0.3	0.29		-	-	+2x	N
1322 JP	China A Shr Panda CSI 300	18		0.0	1.52	300	0.95	-	-	N
3127 HK	Mirae Asset Horizons CSI 300	17		0.0	1.18	300	0.60	2.73	-	N
159912 CH	China Unv SZSE 300 Price Idx	17	↑	0.1	0.58		-	4.57	-	N
3100 HK	E Fund CSI 100 A-Shr RQFII	16		0.0	0.73	100	0.99	2.71	-	N
83100 HK	E Fund CSI 100 A-Shr RQFII	16		0.0	0.64	100	0.76	0.61	-	N
159908 CH	Bosera Shenzhen F200 Idx	16	↑	0.2	0.16		0.60	9.40	-	N
510430 CH	Yinhua SSE 50 Equal Weight Idx	13		0.0	3.29		-	1.87	-	N
1575 JP	ChinaAMC CSI 300 Idx	13		0.0	1.68	300	0.70	-	-	N
7328 HK	Samsung HSCEI Daily -1X Inv Prod	13	↓	0.0	0.24	50	1.17	-	-1x	N
512780 CH	GF CSI Beijing-Tianjin-Hebei Synergetic Dev	13		0.1	0.26		-	-	-	N
3118 HK	Harvest MSCI CH A Idx	13		0.0	0.82	541	0.60	3.58	-	N
83118 HK	Harvest MSCI CH A Idx	12		0.0	1.37	541	0.60	1.66	-	N
83093 HK	CICC CSI Select 100	12		-	0.68		0.88	-	-	N
3093 HK	CICC CSI Select 100	12		-	0.83		0.88	-	-	N
512550 CH	Harvest FTSE China A50 Idx Fund	12		0.4	0.20	50	0.15	0.10	-	N
159913 CH	Bank Of Comm Schroder SZSE 300 Val	12		0.0	2.33		-	0.68	-	N
510220 CH	Huatai-PineBridge SSE Mid-Small Cap Idx	11		0.1	0.82	1,508	1.60	0.78	-	N
00656R TT	Cathay FTSE China A50 Daily Invd	11	↑	0.3	0.15	50	1.13	-	-1x	N
159956 CH	CCB Principal ChiNext Fund	11		0.1	0.87		-	-	-	N
1572 JP	China Bull 2x HSCEI	11		0.1	0.77		0.85	-	+2x	N
530002 KS[C]	Samsung Inv China A50 Ftrs ETN H 2	11		0.0	0.29		0.70	-	-1x	N
83197 HK	ChinaAMC MSCI CH A Inclusion Idx	11	↓	0.0	0.96	238	0.60	2.44	-	N
3197 HK	ChinaAMC MSCI CH A Inclusion Idx	10	↓	0.1	0.64	238	0.60	3.21	-	N
008201 TT	W.I.S.E. - SSE 50 China Tracker	10		0.0	1.26		0.92	6.67	-	N
00752 TT	CTBC MSCI CH Free 50 ex A and B	10		0.6	0.13	50	-	-	-	N
550018 KS	NH QV CHINEXT ETN H 18	10		0.0	1.07	100	2.00	5.72	-	N
XCSI SP	Xtrackers CSI300 Swap UCITS	9	↓	0.0	1.01		0.50	0.13	-	N
250730 KS[C]	KBSTAR China HSCEI H	9		0.0	0.55	50	0.40	5.83	-	N
256750 KS	SS KODEX ChiNext - Synth	9	↑	0.1	0.36	100	0.47	2.57	-	N
7267 HK	ChinaAMC Direxion HSCEI Daily 2x Levd	9	↓	0.0	0.56	50	0.99	-	+2x	N
00766L TT	Taishin MSCI CH Free Levd 2X Daily	9		-	0.15		1.20	-	-	N
570028 KS[C]	TRUE Inv HSCEI ETN H B 28	9		0.0	0.12		0.74	-	-1x	N
7341 HK	ChinaAMC Direxion HSCEI Daily -1x Inv	8	↓	0.0	0.26	50	0.99	-	-1x	N
00753L TT	CTBC MSCI CH Free 50 ex A&B Daily Levd 2X	8		0.7	0.16		-	-	+2x	N
510600 CH	SWS MU SSE 50 Launched Fund	8		0.2	0.33		-	-	-	N
7230 HK	Mirae Asset Horizons HSCEI Daily 2x	7	↓	0.0	0.21	50	1.11	-	+2x	N
513900 CH	HuaAn CES HK Stock Through Selected 100	7		0.0	1.39		-	-	-	N
117690 KS	Mirae Asset TIGER China Hangseng25	7		0.0	0.46	25	0.49	3.27	-	N
570032 KS[C]	TRUE Inv 2X HSCEI ETN H 32	7		-	0.16		0.90	-	-2x	N
1573 JP	China Bear -1x HSCEI	7		0.1	0.56		0.85	-	-1x	N
512860 CH	HuaAn MSCI CH A Intl Feeder Fund	7		0.4	0.31		-	-	-	N
220130 KS[C]	China Mainland Small & Mid cap CSI500 H	6	↑	0.1	0.53	500	0.60	5.97	-	N
00743 TT	Cathay FTSE China A 150	6		0.3	0.25		1.00	-	-	N
510440 CH	Dacheng CSI 500 SSE Stocks Idx	6		0.0	1.45		-	0.62	-	N
159923 CH	Dacheng CSI 100	6	↓	0.1	0.52	100	-	0.56	-	N
310080 KS[C]	KBSTAR MSCI CH Ftrs H	5		-	0.62	469	0.60	-	-	N
159955 CH	Harvest ChiNext Idx Fund	5		0.2	0.28	753	-	5.50	-	N
00700 TT	Fubon HSCE	5		0.1	0.27	50	-	1.71	-	N
291680 KS[C]	KBSTAR China H Ftrs Inv H	5	↓	0.0	0.31		0.59	-	-	N
3161 HK	XIE Shrs FTSE Chimerica	5	↓	0.2	0.98		0.65	1.54	-	N
159932 CH	Dacheng CSI 500 SZE Stocks Idx	5		0.0	1.85	500	-	4.83	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
China (Continued)										
7362 HK	Mirae HSCEI Daily -1x Inv Prod	4	↓	0.0	0.27	50	1.19	-	-1x	N
CHINA TB	W.I.S.E. KTAM CSI 300 China Tracker	4		0.0	0.65		0.76	-	-	N
291660 KS[C]	SS KODEX China H Ftrs Inv H	4	↓	0.0	0.31		0.64	-	-1x	N
00666R TT	Fubon HSCE Inv Idx	4		0.1	0.53		-	-	-1x	N
159953 CH	GF CSI All Shr Industrials Idx	3		0.0	1.53	1,458	-	4.12	-	N
159950 CH	E Fund SZSE Component Idx	3		0.0	1.97		-	6.19	-	N
204420 KS[C]	Hanwha ARIRANG Synth-HSCEI Lev	3	↓	0.0	0.73		0.80	-	+2x	N
CHNMYR MK	Tradeplus S&P New China Tracker	3		-	0.83	66	-	-	-	N
CIMBC25 MK	CIMB FTSE China 50	3	↓	0.0	1.51	50	0.60	-	-	N
159951 CH	Harvest CNI Z A-Shr Idx	3		0.0	1.60		-	-	-	N
510270 CH	Bank of China InvstmntMngmnt SSE 100	3		0.0	0.63	1,508	-	1.48	-	N
512920 CH	New China MSCI CH A Inclusion Idx	2		-	1.38		1.00	-	-	N
256450 KS	Hanwha ARIRANG ChiNext - Synth	2	↓	0.0	0.66	100	0.50	2.65	-	N
3182 HK	W.I.S.E. - Nasdaq China Top 50	2		0.0	0.28		0.60	-	-	N
83129 HK	CSOP China CSI300 Smart	2		0.0	1.23		0.95	1.70	-	N
3129 HK	CSOP China CSI300 Smart	2		0.0	1.28		0.95	2.95	-	N
3149 HK	CSOP MSCI CH A Inclusion	2	↑	0.0	0.54	238	0.85	3.36	-	N
83149 HK	CSOP MSCI CH A Inclusion	2	↑	0.0	0.58	238	0.85	2.59	-	N
512770 CH	Strategic Emerging Component Idx Fund	2		0.1	0.84		0.60	-	-	N
3055 HK	Xtrackers MSCI CH UCITS	2		0.0	0.65	469	0.65	0.13	-	N
2832 HK	Bosera FTSE China A50 Idx	1	↓	0.0	1.21	50	0.99	3.01	-	N
510520 CH	Lion CSI 500 Idx	1	↓	0.0	1.76	500	-	2.28	-	N
82832 HK	Bosera FTSE China A50 Idx	1	↓	0.0	1.03	50	0.99	1.09	-	N
83136 HK	Harvest MSCI CH A 50 Idx	1		0.0	1.19		0.60	2.87	-	N
3136 HK	Harvest MSCI CH A 50 Idx	1		0.0	0.76		0.60	2.81	-	N
510680 CH	Wanjia SSE50	1	↓	0.0	1.32		0.60	-	-	N
7210 HK	XIE Shrs FTSE N Shr 2X	1	↓	0.0	1.37		1.80	-	+2x	N
501059 CH	Western Leadbank CSI SOE Bonus Enhanced	0		-	5.66		1.25	-	-	N
HACAIEC CH	HuaAn MSCI CH A Intl Feeder Fund	-		-	-		-	-	-	N
Hong Kong										
2800 HK	Tracker Fund of HK Ltd	11,769		130.5	0.17	50	0.09	0.27	-	N
82833 HK	Hang Seng Invstmnt Idx Funds Series II	7,078		0.6	0.56	50	0.05	3.07	-	N
2833 HK	Hang Seng Invstmnt Idx Funds Series II	7,056		0.7	0.28	50	0.05	0.13	-	N
159920 CH	China AMC HSI	791	↑	96.7	0.07	50	1.25	3.37	-	N
7300 HK	CSOP HSI Daily -1x Inv Prod	571	↑	29.5	0.20	50	1.28	-	-1x	N
83053 HK	CSOP HK Dollar Money Mkt	317		0.1	0.05		0.50	-	-	N
3053 HK	CSOP HK Dollar Money Mkt	317		1.2	0.02		0.50	-	-	N
2825 HK	W.I.S.E. - CSI HK100 Tracker	156		0.0	1.12		0.99	0.34	-	N
513660 CH	China AMC Shanghai-HK Stock Connect	113	↓	0.2	0.21	50	1.10	3.10	-	N
9115 HK	iShares Core HSI	38		0.0	0.55	50	0.09	0.13	-	N
83115 HK	iShares Core HSI	38		0.1	0.32	50	0.09	1.51	-	N
3115 HK	iShares Core HSI	38		0.2	0.37	50	0.09	0.04	-	N
2031 JP	Next Notes HSI Levd ETN	33		0.0	1.37		0.80	-	+2x	N
7200 HK	CSOP HSI Daily 2x Levd Prod	24	↑	13.5	0.20	50	1.28	-	+2x	N
83012 HK	Amundi Hang Seng HK 35 Idx	23		0.0	0.56		0.28	2.84	-	N
3012 HK	Amundi Hang Seng HK 35 Idx	23		0.0	0.85		0.28	0.07	-	N
7205 HK	Samsung HSI Daily 2X Levd Prod	22		0.2	0.16	50	1.13	-	+2x	N
7336 HK	Mirae Asset Horizons HSI Daily -1x Inv	19	↑	0.0	0.25	50	1.17	-	-1x	N
159954 CH	China Southern HSCE Invstmnt Fund	19	↓	0.3	0.18		1.10	-	-	N
7321 HK	ChinaAMC Direxion HSI Daily -1x Inv Prod	18		0.1	0.26	50	0.99	-	-1x	N
7312 HK	Samsung HSI Daily -1X Inv Prod	13		0.1	0.25	50	1.24	-	-1x	N
7231 HK	Mirae Asset Horizons HSI Daily 2x Levd	11		0.0	0.27	50	1.06	-	+2x	N
513600 CH	China Southern HSI	11		0.1	0.43	50	1.60	3.32	-	N
7242 HK	E Fund Yuanta HSI Daily 2x Levd Prod	9	↓	0.0	0.30	50	1.50	-	+2x	N
7221 HK	ChinaAMC Direxion HSI Daily 2x	9	↓	0.0	0.25	50	0.99	-	+2x	N
7302 HK	E Fund Yuanta HSI Daily -1x Inv Prod	7	↓	0.1	0.31	50	1.50	-	-1x	N
00649 TT	Fuh Hwa Hang Seng	6	↓	0.1	0.39	50	1.13	1.74	-	N
3157 HK	ChinaAMC Hang Seng Stock Connect HK SC	6		0.0	1.85		0.50	-	-	N
00651R TT	Fuh Hwa Daily Hang Seng Invd	6		0.2	0.27		1.12	-	-1x	N
00650L TT	Fuh Hwa Daily Hang Seng Levd 2X	4		0.2	0.32		1.12	-	+2x	N
2032 JP	Next Notes HSI Short ETN	3		0.0	0.76		0.80	1.19	-	N
HSBEES IN	Reliance Hang Seng BeES	3		0.0	3.06	50	1.13	2.79	-	N
501302 CH	China Southern Hang Seng Feeder Fund	0	↓	0.0	4.82	50	1.60	-	-	N
India										
CPSEBE IN	R* Shrs CPSE	6,130	↑	11.0	0.07		0.01	0.18	-	N
UTNIFTY IN	UTI - Nifty	1,856	↑	0.1	0.69		0.07	0.01	-	N
ICICIB22 IN	BHARAT 22	1,402	↑	4.6	0.10	22	0.01	0.10	-	N
SBINIFT IN	SBI-ETF Nifty 50	767		0.2	0.17	50	0.07	0.01	-	N
UTISENX IN	UTI - Sensex	626	↑	0.0	1.87		0.07	0.04	-	N
LG8 SP	Xtrackers MSCI India Swap UCITS	191		0.0	1.13	79	0.75	0.01	-	N
NBEES IN	Reliance Nifty BeES	179		1.1	0.11	50	0.11	0.02	-	N
ICNIFTY IN	ICICI Prudential Nifty Fund	161		0.1	0.14	50	0.05	0.07	-	N
XNIF SP	Xtrackers Nifty 50 Swap UCITS	159	↓	0.0	0.75		0.85	2.70	-	N
INR SP	Lyxor MSCI India UCITS	156		0.1	1.28	79	0.85	0.03	-	N
INDIA SP	iShares MSCI India Idx	147	↓	0.7	0.32	79	0.99	2.59	-	N
82836 HK	iShares Core S&P BSE SENSEX India Idx	100	↓	0.0	0.63		0.64	3.38	-	N
2836 HK	iShares Core S&P BSE SENSEX India Idx	100	↓	0.3	0.54		0.64	2.67	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
India (Continued)										
9836 HK	iShares Core S&P BSE SENSEX India Idx	100	↓	0.0	0.83		0.64	2.71	-	N
LICNIFT IN	LIC MF - NIFTY 50	77		0.0	1.93	50	0.10	0.06	-	N
LICSENS IN	LIC MF - SENSEX	58		0.0	5.34	31	0.10	0.10	-	N
1678 JP	Next Funds Nifty 50 Linked	53		0.2	0.68	50	0.95	-	-	N
HNIFTY IN	HDFC Nifty 50 Fund	47	↑	0.0	0.30	50	0.05	0.02	-	N
LICN100 IN	LIC MF - Nifty 100	46		0.0	2.20	101	0.25	0.08	-	N
2046 JP	Next Notes Nifty PR 2x Lev Idx ETN	35		0.1	0.81		0.85	-	+200x	N
JBEES IN	Reliance Junior BeES	33		0.2	0.20	50	0.23	0.31	-	N
KONIFTY IN	Kotak Nifty 50	31		0.1	0.26	50	0.10	0.02	-	N
BSLNIFT IN	Aditya Birla Sun Life Nifty	22		0.0	2.32	50	1.50	0.29	-	N
ABSLN50 IN	Aditya Birla Sun Life Nifty Next 50	16		-	7.66	50	-	-	-	N
200250 KS [C]	Kiwoom KOSEF CNX NIFTY India	14		0.2	0.23	50	0.49	-	-	N
ICICILQ IN	ICICI Prudential Liquid	13		0.7	0.20		0.50	-	-	N
TATNETF IN	Tata Nifty	13		-	0.93		-	-	-	N
KOTSS IN	Kotak Sensex	12		0.0	1.23	31	0.27	0.06	-	N
MOST100 IN	Motilal Oswal Midcap 100 Fund	11		0.0	1.01	100	0.20	0.44	-	N
00652 TT [C]	Fubon NIFTY	11		0.1	0.19	50	-	2.60	-	N
236350 KS	Mirae Asset Tiger Synth-India Lev	10	↓	0.1	0.31		0.59	-	+2x	N
RSENSEX IN	Reliance Sensex	9		0.0	0.87	31	0.07	0.04	-	N
HSENSEX IN	HDFC Sensex	9	↑	0.1	1.08	31	0.05	0.03	-	N
00653L TT [C]	Fubon NIFTY 2X Levd Idx	8	↓	0.3	0.20		-	-	+2x	N
SBISENX IN	SBI Sensex	7		0.0	0.49	31	0.07	0.02	-	N
UTINN50 IN	UTI Nifty Next 50	6		0.0	1.69		0.22	0.23	-	N
RELNV20 IN	Reliance NV20	6		0.0	0.67		0.16	0.16	-	N
MOSTM50 IN	Motilal Oswal M50 Fund	5		0.0	1.73	50	0.15	0.13	-	N
2047 JP	Next Notes Nifty TRTR Daily Inv Idx ETN	4		0.0	1.06		0.85	2.87	-	N
RCNX100 IN	Reliance Nifty 100	3		0.0	1.08	101	1.04	0.07	-	N
ICPMIDC IN	ICICI Prudential Midcap Select Fund	3		0.0	0.53	106	0.47	3.29	-	N
00654R TT [C]	Fubon NIFTY -1 Inv Idx	3		0.1	0.41		-	-	-1x	N
ICSPICE IN	ICICI Prudential Sensex Fund	3		0.0	0.54	31	0.19	0.21	-	N
KOTNV20 IN	Kotak NV 20	2		0.0	0.68		0.10	0.26	-	N
MAN50ETF IN	Mirae Asset NIFTY 50	2		-	0.72		0.14	-	-	N
SBNIFTY IN	SBI-ETF Nifty Next 50	2		0.0	0.40	50	0.23	0.17	-	N
BSLSENX IN	Aditya Birla Sun Life Sensex	2		0.0	-	31	0.08	4.10	-	N
AXSNIFT IN	Axis Nifty	1		0.0	1.30	50	0.07	0.17	-	N
ICICIN50 IN	ICICI Prudential Nifty Next 50	1		0.0	0.71	50	0.15	-	-	N
QINDEX IN	Quantum Nifty	1		0.0	0.78	50	0.09	0.03	-	N
ICPNCNX IN	ICICI Prudential Nifty 100 Fund	1		0.0	0.60	101	0.49	0.41	-	N
ICPNV20 IN	ICICI Prudential NV20 Fund	1		0.0	0.42		0.45	0.35	-	N
ICICI500 IN	ICICI Prudential S&P BSE 500	1		0.0	0.61	501	0.30	-	-	N
EDNIFTY IN	Edelweiss - Nifty 50	1		0.0	5.90	50	0.07	0.17	-	N
SBISN50 IN	SBI-ETF Sensex Next 50	0		0.0	0.44	50	0.16	-	-	N
RGNIFTY IN	Invesco India Nifty	0		0.0	2.31	50	0.10	0.06	-	N
SBSE100 IN	SBI-ETF BSE 100	0		0.0	2.30	101	0.15	0.06	-	N
UTISXN50 IN	UTI S&P BSE Sensex Next 50	-		-	9.91		-	-	-	N
Indonesia										
XIIT IJ	Premier IDX30	177		0.0	1.50	30	1.45	0.66	-	N
XMIN SP	Xtrackers MXID Swap UCITS	149	↓	0.4	0.59	28	0.65	0.02	-	N
R/LQ45X IJ	Premier LQ-45	121		0.0	1.14	45	1.36	0.93	-	N
XDIF IJ [A]	Danareksa Indonesia TOP 40	19	↑	0.0	2.30		-	1.59	-	N
256440 KS	KIM Kldx MXID Synth	18		0.1	0.34	28	0.70	-	-	N
XPID IJ	Pinnacle IDX30	12		0.0	2.21		3.50	-	-	N
XPFT IJ	Pinnacle FTSE Indonesia	11		0.0	2.14	31	3.50	-	-	N
500025 KS [C]	Shinhan MXID Ftrs ETN H 25	10		0.0	0.59		1.00	-	-	N
500026 KS [C]	Shinhan Inv MXID Ftrs ETN H 26	8		0.0	0.71		1.00	-	-1x	N
XPLQ IJ [A]	Pinnacle Enhanced Liquid	6		0.0	1.99		3.50	-	-	N
XSBC IJ [A]	Simas IDX30	5		0.0	-	30	-	-	-	N
XPLC IJ	Pinnacle Indonesia Large-Cap	3	↑	-	1.95		3.50	-	-	N
3099 HK	Xtrackers MXID Swap UCITS	2	↓	0.1	0.93	28	0.65	0.12	-	N
XBNI IJ	BNI-AM Nusantara MXID	1		0.0	1.50		1.21	-	-	N
XBLQ IJ [A]	Batavia Smart Liquid	-	↑	-	2.32	45	-	2.24	-	N
Japan										
1306 JP	TPX	81,652	↑	27.5	0.06	2,136	0.11	2.46	-	N
1321 JP	Nikkei 225	58,993		69.4	0.05	225	0.22	2.24	-	N
1305 JP	Daiwa-TPX	38,999	↑	3.8	0.08	2,136	0.12	2.55	-	N
1308 JP	Listed Idx Fund TPX	36,830	↑	3.9	0.07	2,136	0.09	2.57	-	N
1330 JP	Listed Idx Fund 225	27,690		12.6	0.05	225	0.23	2.22	-	N
1320 JP	Daiwa-Nikkei 225	25,215		11.3	0.06	225	0.17	2.46	-	N
1346 JP	MAXIS NIKKEI225	13,407		8.3	0.05	225	0.17	1.77	-	N
1348 JP	MAXIS TPX	11,059	↑	1.7	0.08	2,136	0.08	2.02	-	N
1591 JP	Next Funds JPX-Nikkei Idx 400	6,918	↑	1.1	0.11	397	0.20	2.06	-	N
1329 JP	iShares Core Nikkei 225	6,818	↑	4.0	0.07	225	0.11	1.05	-	N
1369 JP	One Nikkei 225	3,205	↑	0.3	0.09	225	0.16	1.88	-	N
1593 JP	MAXIS JPX-Nikkei Idx 400	3,106	↑	0.4	0.11	397	0.08	2.13	-	N
1570 JP	Next Funds Nikkei 225 Levd Idx	2,732	↓	1256.3	0.06		0.80	-	+2x	N
1475 JP	iShares Core TPX	2,145	↑	1.5	0.09	2,136	0.06	0.91	-	N
LF2 SP	Xtrackers MSCI Jpn UCITS	2,130		0.0	0.32	322	0.30	0.04	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
		Country								
Japan (Continued)										
1599 JP	Daiwa JPX-Nikkei 400	1,926	↑	0.1	0.21	397	0.19	1.36	-	N
1592 JP	Listed Idx Fund JPX-Nikkei 400	1,674	↑	0.1	0.13	397	0.20	2.12	-	N
1357 JP	Next Funds Nikkei 225 Double Inv Idx	1,581	↑	254.8	0.09		0.80	-	-2x	N
1473 JP	One TPX	1,540	↑	0.3	0.12	2,136	0.08	2.05	-	N
1364 JP	iShares JPX-Nikkei 400	1,422	↑	0.1	0.52	397	0.12	1.07	-	N
1474 JP	One JPX-Nikkei 400	1,086	↑	0.0	0.16	397	0.17	2.05	-	N
1571 JP	Next Funds Nikkei 225 Inv Idx	584	↑	4.4	0.07		0.80	-	-1x	N
1397 JP	SMAM NIKKEI225	562	↓	0.0	0.59	225	0.14	1.93	-	N
25314192 JP	NZAM Nikkei 225	468		-	-	225	0.13	-	-	N
2525 JP	NZAM Nikkei 225	465		-	0.12	225	0.13	-	-	N
1360 JP	Nikkei225 Bear -2x	326	↑	30.7	0.05		0.75	-	-2x	N
1456 JP	Daiwa Jpn Nikkei225 Inv Idx	275	↑	0.2	0.35		0.81	-	-1x	N
1586 JP	Listed Idx Fund TPX Ex-Financials	232	↑	0.0	0.43		0.19	1.53	-	N
25311192 JP	NZAM TPX	228		-	-	2,136	0.07	-	-	N
2524 JP	NZAM TPX	227		-	0.16	2,136	0.07	-	-	N
1585 JP	Daiwa TPX Ex-Financials	227	↑	0.1	0.83		0.19	0.43	-	N
IJP AU	iShares MSCI Jpn/AU	191		0.6	0.41	322	0.49	-	-	N
1579 JP	Nikkei 225 Bull 2x	172	↓	74.1	0.05		0.75	-	+2x	N
1459 JP	Rakuten-Nikkei 225 Double Inv Idx	143	↑	13.7	0.13		0.35	-	-2x	N
1457 JP	Daiwa Jpn TPX Inv -1x Idx	138	↑	0.2	0.28	2,136	0.81	-	-1x	N
1568 JP	TPX Bull 2x	124		11.9	0.07	2,136	0.75	-	+2x	N
1580 JP	Nikkei 225 Bear -1x	117		2.8	0.14		0.75	-	-1x	N
2042 JP	Next Notes TSE Mothers Idx ETN	110		1.0	0.27	280	0.50	0.20	-	N
2526 JP	NZAM JPX-Nikkei400	109		-	0.17	397	0.11	-	-	N
25313192 JP	NZAM JPX-Nikkei400	109		-	-	397	0.11	-	-	N
1319 JP	Nikkei 300 Equity Idx Listed Fund	87		0.0	1.82	299	0.52	2.70	-	N
1366 JP	Daiwa Jpn Nikkei225 Double Inv Idx	83	↑	6.6	0.10		0.81	-	-2x	N
47312175 JP	One JPX-Nikkei Mid Small	82		-	-	199	0.50	1.71	-	N
1493 JP	One JPX-Nikkei Mid Small	82	↑	0.0	0.27	199	0.50	1.71	-	N
1356 JP	TPX Bear -2x	76		4.1	0.06	2,136	0.75	-	-2x	N
1458 JP	Rakuten-Nikkei 225 Levd Idx	73	↓	26.8	0.10		0.35	-	+2x	N
1365 JP	Daiwa Jpn Nikkei225 Levd Idx	71	↓	11.4	0.08		0.81	-	+2x	N
1578 JP	Listed Idx Fund Nikkei 225 Mini	58		0.0	0.20	225	0.23	1.48	-	N
1471 JP	Next Funds JPX-Nikkei 400 Inv Idx	49		0.0	2.44		0.80	-	-1x	N
3160 HK [C]	BMO MSCI Jpn Hdgd to USD	42		0.0	0.99		0.50	0.23	-	N
1553 JP	MAXIS S&P Tokai	40		0.0	0.24		0.50	1.90	-	N
1569 JP	TPX Bear -1x	36		0.4	0.20	2,136	0.75	-	-1x	N
03313174 JP	MAXIS JPX-Nikkei Mid and Small Cap Idx	34		-	-	199	-	1.52	-	N
1492 JP	MAXIS JPX-Nikkei Mid and Small Cap Idx	34		0.0	0.47	199	0.50	1.52	-	N
195920 KS [C]	Mirae Asset Tiger Synth-Jpn	26		0.1	0.42	2,136	0.25	7.67	-	N
1358 JP	Listed Idx Fund Nikkei Levd Idx	24		4.8	0.08		0.71	-	+2x	N
1598 JP	Next Funds Russell/Nomura Fundamental	24		0.0	1.90	565	0.30	2.33	-	N
590005 KS [C]	MiraeAsset Jpn Large Cap ETN H 5	23		0.0	0.30	139	0.90	8.60	-	N
9D311181 JP	TSE Mothers	22		-	-	280	0.50	-	-	N
2516 JP	TSE Mothers	22	↑	1.4	0.25	280	0.50	0.74	-	N
04317179 JP	Daiwa FTSE Blossom Jpn Idx	22		-	-		0.15	2.30	-	N
1654 JP	Daiwa FTSE Blossom Jpn Idx	22	↑	0.0	0.16	152	0.16	2.22	-	N
590006 KS [C]	MiraeAsset Jpn Mid Cap ETN H 6	22		0.0	0.31	183	0.90	8.96	-	N
1312 JP	Russell/Nomura Small Cap Core Idx Linked	19		0.0	1.31		0.50	-	-	N
1311 JP	TPX Core 30	19	↓	0.0	0.30	30	0.22	2.56	-	N
570012 KS	TRUE Inv Jpn Yen Ftrs ETN 12	18		0.0	0.07		0.54	-	-1x	N
1367 JP	Daiwa Jpn TPX Levd 2x Idx	18	↓	1.1	0.12	2,136	0.81	-	+2x	N
1310 JP	Daiwa-TPX Core30	17		0.0	0.57	30	0.24	3.59	-	N
570010 KS	TRUE Jpn Yen Ftrs ETN 10	16		0.0	0.08		0.54	0.01	-	N
1468 JP	JPX-Nikkei 400 Bear -1x Inv	14	↓	0.0	2.25		0.75	-	-1x	N
1368 JP	Daiwa Jpn TPX Double Inv -2x Idx	14	↑	0.6	0.18	2,136	0.81	-	-2x	N
570011 KS	TRUE Lev Jpn Yen Ftrs ETN 11	14		0.0	0.11		0.74	-	+2x	N
3126 HK	Vanguard FTSE Jpn Idx	13		0.0	0.88		0.18	0.08	-	N
83126 HK	Vanguard FTSE Jpn Idx	13		0.0	0.91		0.18	1.53	-	N
9126 HK	Vanguard FTSE Jpn Idx	13		0.0	1.25		0.18	0.12	-	N
00645 TT [C]	Fubon TPX Idx	12	↓	0.1	0.28	2,136	-	6.75	-	N
241180 KS	Mirae Asset Tiger NIKKEI225	12		0.0	0.22	225	0.35	3.91	-	N
00641R TT [C]	Fubon TPX Invd 1X Idx	11	↓	0.3	0.16	2,136	-	-	-1x	N
1470 JP	Next Funds JPX-Nikkei 400 Levd Idx	11		0.1	0.90		0.80	-	+2x	N
2523 JP	MAXIS TPX Ex-Financials	10		-	0.78		-	-	-	N
1465 JP	Daiwa Jpn JPX-Nikkei 400 Inv -1x Idx	10	↓	0.0	0.34		0.81	-	-1x	N
1563 JP	TSE Mothers Core	9	↑	0.3	0.13	280	0.50	2.02	-	N
1551 JP	JASDAQ-TOP20	8		0.0	0.74		0.50	0.95	-	N
238720 KS [C]	KIM Kldx Jpn Nikkei225 H	7		0.0	0.54	225	0.30	7.44	-	N
1344 JP	MAXIS TPX Core30	7	↓	0.0	0.54	30	0.19	3.53	-	N
00640L TT [C]	Fubon TPX Levd 2X Idx	7	↓	0.5	0.19	2,136	-	-	+2x	N
101280 KS	SS KODEX Nippon TPX 100	7		0.0	0.28	101	0.37	3.81	-	N
196030 KS [C]	Kldx Jpn Lev H	7		0.1	0.27	2,136	0.50	-	+2x	N
196220 KS [C]	KBSTAR Jpn Lev H Equity	6	↑	0.0	0.54	2,136	0.50	-	+2x	N
205720 KS [C]	KIM Kldx SYNTH-Jpn Inv H	6	↓	0.0	0.30	2,136	0.50	-	-1x	N
00658L TT	Cathay FTSE Jpn Daily Levd 2X	6		0.1	0.19		1.16	-	+2x	N
1464 JP	Daiwa Jpn JPX-Nikkei 400 Levd 2x Idx	5		0.1	0.47		0.81	-	+2x	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Country									
Japan (Continued)										
1469 JP	JPX-Nikkei 400 Bear -2x Double Inv	5		0.1	0.52		0.75	-	-2x	N
00659R TT	Cathay FTSE Jpn Daily Invd	5		0.1	0.16		1.13	-	-1x	N
1574 JP	MAXIS TPX Risk Control 10%	4	↓	0.0	4.32		0.21	-	-	N
00661 TT	Yuanta NIKKEI 225	4		0.0	1.00		0.70	6.03	-	N
1467 JP	JPX-Nikkei 400 Bull 2x Levd	3		0.1	0.46		0.75	-	+2x	N
1466 JP	Daiwa JPX-Nikkei 400 Double Inv -2x	3		0.1	0.44		0.81	-	-2x	N
1670 JP	MAXIS S&P Mitsubishi Group	2		0.0	1.47		0.50	2.97	-	N
1472 JP	Next Funds JPX-Nikkei 400 Double Inv	2		0.0	0.33		0.80	-	-2x	N
1567 JP	MAXIS TPX Risk Control 5%	0		0.0	9.84		0.21	5.65	-	N
Malaysia										
LG6 SP	Xtrackers MSCI Malaysia UCITS	26	↓	0.0	0.91		0.50	0.04	-	N
1560 JP	Next Funds FTSE Bursa Malaysia KLCI	4		0.0	0.48	30	0.55	8.94	-	N
3082 HK	Xtrackers MSCI Malaysia UCITS	1		0.0	0.58		0.50	0.12	-	N
FBM30 MK	FTSE BURSA MALAYSIA KLCI FBMKLCI-EA	1		0.0	1.59	30	0.50	5.43	-	N
New Zealand										
FNZ NZ	SmartShrs - NZ Top 50 Fund	369		0.2	0.37	50	0.75	0.53	-	N
MDZ NZ	SmartShrs - NZ Mid Cap Fund	90	↑	0.1	0.79	38	0.75	0.95	-	N
TNZ NZ	SmartShrs- NZ Top 10 Fund	68		0.1	2.02	10	0.60	0.31	-	N
Pakistan										
O9D SP	Xtrackers MSCI Pakistan Swap UCITS	24		0.0	1.04	25	0.85	1.15	-	N
Phillippines										
N2E SP	Xtrackers MSCI Philippines UCITS	50		0.1	0.85	40	0.65	0.04	-	N
FMETF PM	First Metro Philippine Equity Inc	32		0.0	0.30	30	0.49	0.24	-	N
261920 KS	KIM Kldx MSCI Philippines - Synth	5		0.0	0.60	23	0.50	-	-	N
3016 HK	Xtrackers MSCI Philippines UCITS	2		0.0	0.87	40	0.65	0.12	-	N
Singapore										
STTF SP	SPDR Straits Times Idx	568		1.1	0.13	30	0.30	0.23	-	N
DBSSTI SP	Nikko AM Singapore STI	216	↑	0.2	0.37	30	0.33	0.21	-	N
O9A SP	Xtrackers MSCI Singapore UCITS	46		0.0	0.38	78	0.50	0.18	-	N
SINGINC SP	Phillip SING Income	38		0.1	0.49		0.40	-	-	N
3065 HK	Xtrackers MSCI Singapore UCITS	2		0.0	0.54	78	0.50	0.21	-	N
South Korea										
069500 KS	SS KODEX 200 SECURITIES	5,736	↑	166.9	0.02	200	0.15	2.37	-	N
102110 KS	Mirae Asset TIGER 200	2,707	↑	58.1	0.02	200	0.05	2.23	-	N
122630 KS	SS KODEX Lev Equity	2,017		167.1	0.04		0.64	-	+2x	N
148020 KS	KBSTAR 200 Securities - Equity	1,007		17.8	0.03	200	0.05	2.53	-	N
278540 KS	SS KODEX MSCI Korea TR	993	↑	22.9	0.21	115	0.15	0.15	-	N
233740 KS	SS KODEX KOSDAQ150 Lev	966	↑	207.4	0.05		0.64	-	+2x	N
278530 KS	SS KODEX 200 TR	794	↑	14.6	0.08		0.10	5.18	-	N
229200 KS	SS KODEX KOSDAQ 150	733		50.7	0.05	150	0.25	1.38	-	N
152100 KS	Hanwha Arirang 200 - Equity	689		4.2	0.04	200	0.04	2.91	-	N
293180 KS	NH-Amundi HANARO 200	678	↑	5.5	0.05	200	0.04	2.41	-	N
310970 KS	MIRAE ASSET TIGER MSCI Korea TR	646		-	0.34	115	0.12	-	-	N
105190 KS	Kldx200	597		9.8	0.04	200	0.09	3.05	-	N
069660 KS	Kiwoom KOSEF 200	573		3.5	0.07	200	0.15	2.77	-	N
252670 KS	SS KODEX 200 Ftrs Inv 2X	536	↑	100.9	0.07		0.64	-	-2x	N
226490 KS	SS KODEX KOSPI	513	↑	12.7	0.09	784	0.30	2.67	-	N
114800 KS	SS KODEX Inv	447	↓	45.7	0.08	200	0.64	-	-1x	N
232080 KS	Mirae Asset Tiger KOSDAQ150	423		10.1	0.05	150	0.19	1.00	-	N
292150 KS	Mirae Asset Tiger Top 10	362	↑	0.2	0.26		0.15	2.36	-	N
295040 KS	Shinhan BNPP SMART 200 TR	244	↑	1.1	0.14	200	0.05	0.34	-	N
302450 KS	KBSTAR KOSPI	200		0.7	0.22	784	0.14	-	-	N
251340 KS	SS KODEX KOSDAQ150 Inv	183		132.3	0.08		0.64	-	-1x	N
278240 KS	KBSTAR F-KOSDAQ150 Lev	177		1.3	0.13		0.60	-	+2x	N
294400 KS	Kiwoom KOSEF 200 TR	176	↑	1.8	0.04	200	0.01	0.28	-	N
270810 KS	KBSTAR KOSDAQ150	152	↓	2.6	0.14	150	0.18	1.22	-	N
292190 KS	SS KODEX KRX300	139	↓	1.7	0.14	299	0.05	2.80	-	N
277630 KS	Mirae Asset Tiger KOSPI	128		8.3	0.17	784	0.16	1.89	-	N
152870 KS	Kyobo AXA Power K200	122	↓	0.2	0.06	200	0.15	2.44	-	N
267770 KS	Mirae Asset Tiger 200 Ftrs Lev	110	↑	4.5	0.07		0.09	-	+2x	N
252710 KS	Mirae Asset TIGER 200 Ftrs Inv 2X	98		7.7	0.08		0.09	-	-2x	N
XMKO SP	Xtrackers MSCI Korea UCITS	98	↓	0.0	0.91	115	0.65	0.06	-	N
233160 KS	Mirae Asset Tiger KOSDAQ150 Lev	97	↑	7.0	0.12		0.32	-	+2x	N
277650 KS	Mirae Asset Tiger KOSPI MIDCAP	93		1.1	0.27	200	0.30	1.97	-	N
500039 KS	Shinhan K200 Enhanced Condor 4/10% ETN	83		0.1	0.07		0.80	-	+1x	N
227830 KS	Hanwha ARIRANG KOSPI-Equity	79	↑	0.3	0.13	784	0.20	2.51	-	N
156080 KS	SS KODEX MSCI KOREA	79		0.0	0.35	115	0.15	2.13	-	N
292050 KS	KBSTAR KRX300	74	↓	0.7	0.19	299	0.05	2.13	-	N
122090 KS	Hanwha Arirang KOSPI50 - Equity	71		0.3	0.12	50	0.33	2.71	-	N
310960 KS	MIRAE ASSET TIGER 200 TR	70		-	0.08		0.09	-	-	N
252000 KS	Mirae Asset Tiger 200 EW	70		0.2	0.32	201	0.25	2.11	-	N
226980 KS	SS KODEX200 Mid and Small	63	↓	0.6	0.27	100	0.30	1.81	-	N
292500 KS	Shinhan BNPP SMART KRX300	63		0.5	0.20	299	0.15	2.20	-	N
123310 KS	Mirae Asset TIGER Inv	60	↑	1.4	0.10		0.09	-	-1x	N
292160 KS	MIRAE ASSET TIGER KRX300	51	↓	4.7	0.18	299	0.15	2.27	-	N
306520 KS	NH-Amundi HANARO 200 Ftrs Inv	50		0.5	0.15		0.45	-	-1x	N
500001 KS	Shinhan K200 USD Ftrs BuySell ETN 1	44		0.0	0.11		1.30	0.03	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Country									
South Korea (Continued)										
IKO AU	iShares MSCI South Korea/AU	43		0.1	0.54		0.62	-	-	N
252400 KS	KBSTAR 200 Ftrs Lev	39	↑	0.4	0.12		0.60	-	+2x	N
500002 KS	Shinhan USD K200 Furures BuySell ETN 2	36		0.0	0.14		1.30	-	-	N
252650 KS	SS KODEX 200 Equalweight	35	↑	0.3	0.34	201	0.25	2.17	-	N
252420 KS	KBSTAR 200 Ftrs Inv 2X	34	↓	0.8	0.13		0.60	-	-2x	N
261140 KS	Mirae Asset TIGER Preferred Stock	31	↑	0.2	0.24		0.29	3.80	-	N
277640 KS	Mirae Asset Tiger KOSPI Larege Cap	29	↑	0.9	0.24	100	0.30	2.42	-	N
305050 KS	KIM Kldx KOSPI	29		0.3	0.27	784	0.13	-	-	N
292750 KS	Hanwha ARIRANG KRX300	28	↓	0.0	0.22	299	0.09	2.65	-	N
304770 KS	NH-Amundi HANARO KOSDAQ150	25		0.0	0.27	150	0.20	-	-	N
253250 KS	Kiwoom KOSEF 200 Ftrs Lev	24	↑	0.1	0.09		0.46	-	+2x	N
289480 KS	Mirae Asset TIGER 200Cov Call ATM	24	↑	0.1	0.17		0.38	1.69	-	N
123320 KS	Mirae Asset TIGER Lev	24	↑	0.7	0.14		0.09	-	+2x	N
306950 KS	SS KODEX KRX300 Lev	20		3.0	0.29	299	0.64	-	+2x	N
550026 KS	NH QV KTOP30 ETN 26	19		0.0	0.39	30	0.40	1.56	-	N
108590 KS	Yurie TREX200	18		0.0	0.10		0.33	2.84	-	N
250780 KS	Mirae Asset Tiger KOSDAQ150 Inv	18	↓	3.2	0.08		0.32	-	-1x	N
570003 KS	TRUE BIGFIVE Equal Weight ETN 3	18		0.0	0.07		0.73	0.02	-	N
137930 KS	MIDAS KOSPI200Cov Call	17		0.0	0.14		0.45	2.15	-	N
292730 KS	HI FOCUS KRX300	17		0.0	0.48	299	0.10	2.14	-	N
152280 KS	Woori KOSEF 200 Ftrs	17		0.0	0.23		0.23	0.13	-	N
570009 KS	TRUE Korea Premier ETN 9	17		0.0	0.08		0.95	0.03	-	N
304780 KS	NH-Amundi HANARO 200 Ftrs Lev	16		0.2	0.11		0.45	-	+2x	N
292340 KS	DB Mighty KOSPI200Cov Call ATM Lev	15		0.0	0.53		0.51	-	+2x	N
229720 KS	SS KODEX KTOP30	14		0.0	0.34	30	0.25	1.17	-	N
2034 JP	Next Notes FKOSPI200 Inv ETN	14		0.0	0.45		0.80	-	-	N
152500 KS	Kldx Lev Equity-Derivative	13	↑	0.1	0.25		0.30	-	+2x	N
183710 KS	KBSTAR Equity Balanced	12		0.0	0.25		0.25	1.26	-	N
140950 KS	Kyobo AXA Power K100 - Equity	11	↓	0.0	0.30	100	0.16	2.49	-	N
237350 KS	SS KODEX KOSPI 100	11		0.1	0.24	100	0.15	2.34	-	N
253230 KS	Kiwoom KOSEF 200 Ftrs Inv 2X	10		0.2	0.14		0.46	-	-2x	N
307010 KS	KBSTAR KRX300 Lev	9		1.6	0.40	299	0.55	-	+2x	N
307610 KS	MIRAE ASSET TIGER KRX300 Lev	9		0.9	0.34	299	0.55	-	+2x	N
280920 KS	ARIRANG Leading Industry	9	↓	0.0	0.20		0.23	2.87	-	N
3170 HK	iShares Core KOSPI 200 Idx	9		0.0	0.38	200	0.30	0.36	-	N
83170 HK	iShares Core KOSPI 200 Idx	9		0.0	0.44	200	0.30	1.56	-	N
9170 HK	iShares Core KOSPI 200 Idx	9		0.0	0.68	200	0.30	0.37	-	N
322400 KS	NH-Amundi HANARO e-Commerce	9		-	-		0.53	-	-	N
291620 KS	Kiwoom KOSEF KOSDAQ 150 Ftrs Inv	8		2.6	0.22		0.09	-	-1x	N
306960 KS	SS KODEX KRX300 Ftrs Inv	8		3.3	0.33		0.64	-	-1x	N
260270 KS	Kiwoom KOSEF Low PBR weighted	8		0.8	0.32		0.40	2.43	-	N
291630 KS	Kiwoom KOSEF KOSDAQ 150 Ftrs Lev	8		0.1	0.26		0.09	-	+2x	N
307520 KS	MIRAE ASSET TIGER HOLDINGS COMPANY	8		-	0.32		0.50	-	-	N
091210 KS	Mirae Asset TIGER KRX100	8	↓	0.0	0.31	100	0.46	2.42	-	N
166400 KS	MIRAE ASSET TIGER COVERED C200	8		0.2	0.16		0.38	1.70	-	N
159800 KS	DB Mighty K100	7		0.0	0.50	100	0.40	2.46	-	N
253150 KS	Hanwha ARIRANG 200 Ftrs Lev	7		0.0	0.11		0.20	-	+2x	N
153270 KS	KIWOOM KOSEF KOSPI 100	7		5.6	0.22	100	0.20	2.73	-	N
253240 KS	Kiwoom KOSEF 200 Ftrs Inv	7		0.0	0.13		0.46	-	-1x	N
100910 KS	Kiwoom KOSEF KRX100	7	↓	0.0	0.41	100	0.23	2.75	-	N
570024 KS	TRUE KOSPI Target Vol 20 ETN 24	7		0.0	0.09		0.70	-	-	N
296710 KS	SS KODEX FnKorea50	7		0.0	0.31		0.45	-	-	N
322150 KS	KIM Kldx Smart High Beta	7		-	-		-	-	-	N
307020 KS	KBSTAR KRX300 Ftrs Inv	7		0.7	0.34		0.55	-	-1x	N
307620 KS	MIRAE ASSET TIGER KRX300 Ftrs Inv	7		2.7	0.23		0.55	-	-1x	N
319870 KS	KBSTAR KRX300 USD Ftrs Balanced	6		-	0.28		0.30	-	-	N
228820 KS	Mirae Asset Tiger KTOP30 - Equity	6		0.0	0.32	30	0.25	2.09	-	N
252410 KS	KBSTAR 200 Ftrs Inv	6	↓	0.0	0.15		0.60	-	-1x	N
304760 KS	NH-Amundi HANARO KRX300	6		0.1	0.33	299	0.05	-	-	N
251890 KS	KIM Kldx KOSDAQ - Synth	6	↓	0.0	0.29	1,313	0.30	0.13	-	N
306530 KS	NH-Amundi HANARO KOSDAQ150 Ftrs Lev	6		0.1	0.20		0.45	-	+2x	N
2033 JP	Next Notes KOSPI200 Lev ETN	5		0.0	1.06		0.80	-	+2x	N
292120 KS	Mirae Asset Tiger Mid Small	5	↓	0.0	0.36		0.29	1.53	-	N
226380 KS[C]	Kldx Korean Culture	5		0.0	0.48		0.50	0.99	-	N
301440 KS	Hanwha ARIRANG KOSPI MIDCAP	5		0.0	0.16	200	0.25	-	-	N
295820 KS	Hanwha ARIRANG 200 EW	5		0.0	0.13	201	0.23	-	-	N
300290 KS	KBSTAR Mid-Small Cap Mom Val	4		0.0	0.37		0.35	-	-	N
145670 KS	Kldx Inv - Equity Derivative	4	↓	0.1	0.20		0.15	-	-1x	N
301400 KS	Hanwha ARIRANG KOSDAQ150	4		0.0	0.14	150	0.15	-	-	N
300280 KS	KBSTAR Mid-Small Cap Mom Low Vol	4		0.0	0.34		0.35	-	-	N
291610 KS	Kiwoom KOSEF KOSDAQ 150 Ftrs	4	↓	0.3	0.24		0.09	0.22	-	N
301410 KS	Hanwha ARIRANG KOSDAQ150 F-Inv	4		0.0	0.20		0.29	-	-1x	N
275750 KS	KBSTAR F-KOSDAQ150 Inv	3	↓	0.2	0.15		0.60	-	-1x	N
253160 KS	Hanwha Arirang 200 Ftrs Inv 2X	3		0.2	0.13		0.20	-	-2x	N
316670 KS	Kiwoom KOSEF KOSDAQ150	-		-	0.53		-	-	-	N
315930 KS	SS KODEX Top5Plus TR - Equity	-		-	0.23		0.15	-	-	N
500042 KS	Shinhan K200 Enhanced Condor 6/10%	-		-	0.08		0.70	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Country										
South Korea (Continued)										
580009 KS	KB KOSPI200 Trend Follow Option Mountain	-		-	0.08		-	-	-	N
Taiwan										
0050 TT	Yuanta/P-Shrs Taiwan Top 50	2,164	↑	24.3	0.07		0.36	0.14	-	N
00632R TT	YUANTA/P-Shrs Taiwan Top 50 1X Bear	1,828		25.7	0.09		1.04	-	-1x	N
00664R TT	Cathay TAIEX Daily Invd	72		1.3	0.09		0.79	-	-1x	N
XMTW SP	Xtrackers MSCI Taiwan UCITS	67	↓	0.0	0.55		0.65	0.05	-	N
83074 HK	iShares Core MSCI Taiwan Idx	49	↑	0.0	0.41		0.30	1.54	-	N
9074 HK	iShares Core MSCI Taiwan Idx	49	↑	0.1	0.64		0.30	0.14	-	N
3074 HK	iShares Core MSCI Taiwan Idx	49	↑	0.0	0.74		0.30	0.17	-	N
006208 TT	Fubon Taiwan 50 Idx	42		0.1	0.18	50	0.46	0.19	-	N
00676R TT	Fubon TAIEX Daily -1X Inv	36		0.5	0.15		-	-	-1x	N
00631L TT	YUANTA/P-Shrs Taiwan Top 50 2X Bull	22	↓	3.6	0.08		1.04	-	+2x	N
00690 TT	Mega Taiwan Blue Chip 30	15	↑	0.2	0.16		-	1.84	-	N
006201 TT	Yuanta/P-Shrs Taiwan GreTai 50	15	↑	0.1	0.26		0.44	1.13	-	N
0051 TT	Yuanta/P-Shrs Taiwan Mid-Cap 100	10		0.0	0.40		0.44	0.28	-	N
006203 TT	Yuanta/ P-Shrs MSCI Taiwan	10		0.0	0.61		0.34	0.23	-	N
253990 KS[C]	Mirae Asset Tiger Taiwan H	9		0.0	0.74	909	0.35	4.95	-	N
0057 TT	Fubon MSCI Taiwan	8		0.0	0.70	87	0.83	0.17	-	N
0054 TT	Yuanta/P-Shrs S&P Custom China Play 50	8		0.0	0.53		0.44	1.62	-	N
00728 TT	FSITC Taiwan Industry Elite 30	8	↓	0.5	0.17		-	2.03	-	N
00675L TT	Fubon TAIEX Daily 2X Levd	6		0.2	0.19		-	-	+2x	N
00663L TT	Cathay TAIEX Daily Levd 2X	6		0.3	0.12		0.79	-	+2x	N
006204 TT	Sinopac TAIEX	5		0.0	0.39	909	0.60	0.82	-	N
00686R TT	Cap TAIEX Daily Invd -1X	5	↓	0.1	0.16		0.34	-	-	N
00733 TT	Fubon Taiwan Small-Mid Cap Alpha Mom 50	4		0.1	0.38		-	-	-	N
00685L TT	Cap TAIEX Daily Levd 2X	4		0.0	0.31		0.34	-	+2x	N
00691R TT	Mega Taiwan Blue Chip 30 Daily Inv	4		0.0	0.34		-	-	-1x	N
ITW AU	iShares MSCI Taiwan/AU	4		0.3	0.70		0.62	-	-	N
00729R TT	FSITC Taiwan Industry Elite 30 Daily-1X Inv	2	↓	0.4	0.26		-	-	-	N
Thailand										
LG7 SP	Xtrackers MSCI Thailand UCITS	51	↓	0.1	0.44	36	0.50	0.22	-	N
BSET100 TB	BCAP SET100	40		0.2	0.13		1.61	0.05	-	N
BMSCITH TB	BCAP MSCI Thailand	31		0.2	0.10	36	2.00	0.41	-	N
1559 JP	Next Funds Thai Equity SET50	6		0.0	0.96	50	0.55	8.66	-	N
3092 HK	Xtrackers MSCI Thailand UCITS	1	↓	0.2	1.86	36	0.50	0.25	-	N
ESET50 TB	KTAM SET50 Tracker	1		0.0	0.80	50	1.50	0.34	-	N
TDEX TB	ThaiDEX SET50	0	↓	0.4	0.16	50	0.51	0.32	-	N
TH100 TB	ThaiDEX SET100	0	↓	0.0	4.40	100	2.32	0.26	-	N
Vietnam										
3087 HK	Xtrackers FTSE Vietnam Swap UCITS	316		0.2	0.85	20	0.85	0.12	-	N
E1VFVN30 VN	VFMVN30 Fund	251	↑	0.4	0.21		0.80	3.00	-	N
245710 KS	KIM Kldx Vietnam VN30 Synth	191	↑	1.1	0.08	30	0.70	3.49	-	N
International										
Country										
1557 JP	SPDR SPX Trust	282,401		0.9	0.19	505	0.09	0.05	-	N
SPY AU	SPDR SPX Trust	282,401		0.1	0.06	505	0.09	-	-	N
DIA SP	SPDR DJ Industrial Average Trust	22,461		0.0	1.16	30	0.17	-	-	N
K6K SP	Xtrackers SPX Swap UCITS	5,549	↑	0.0	0.63	505	0.15	0.01	-	N
3020 HK	Xtrackers MSCI USA Swap UCITS	2,664		0.0	0.44	624	0.30	0.12	-	N
IVV AU	iShares Core SPX/AU	2,185		4.8	0.09	505	0.04	-	-	N
VTS AU	Vanguard Total Stock Mkt	1,082		2.1	0.11		0.04	-	-	N
1391 JP	UBS MSCI Switzerland 20/35 UCITS	753		0.0	0.54		0.20	5.68	-	N
1393 JP	UBS MSCI USA UCITS	607		0.0	1.06		0.14	1.50	-	N
1392 JP	UBS MSCI United Kingdom UCITS	554		0.0	0.57		0.20	3.60	-	N
NDQ AU	BetaShares NDX	368	↑	2.0	0.08	103	0.48	1.66	-	N
2044 JP	Next Notes SPX Dvd Aristocrats Net TR	310		0.1	0.30	57	0.85	1.19	-	N
XSPS SP	Xtrackers SPX Inv Daily Swap UCITS	289		0.0	0.63		0.50	-	-1x	N
00646 TT	Yuanta SPX	198		0.2	0.12		0.71	1.79	-	N
IJR AU	iShares Core S&P Small-Cap/AU	135		0.4	0.63	601	0.07	-	-	N
513500 CH	Bosera Standard And Poor's 500 QDII	133	↑	21.2	0.06	505	0.85	3.39	-	N
IHVV AU[C]	iShares SPX AUD Hdgd	117	↑	0.8	0.26		0.10	0.40	-	N
IJH AU	iShares Core S&P Mid-Cap/AU	114		0.5	0.34	400	0.07	-	-	N
143850 KS[C]	Mirae Asset TIGER SPX Ftrs	100		0.9	0.07		0.30	9.90	-	N
1389 JP	UBS FTSE 100 UCITS	94		0.0	2.12		0.20	3.59	-	N
513100 CH	Guotai NDX	87	↑	16.2	0.05	103	0.80	3.72	-	N
513030 CH	HuaAn Intl Leading DAX Idx	74	↑	0.2	0.11	30	-	3.32	-	N
00648R TT	Yuanta Daily SPX Bear 1X	64		0.4	0.11		1.17	-	-1x	N
UMAX AU	BetaShares SPX Yield Maximiser Fund	63		0.1	0.31		0.79	-	-	N
3140 HK	Vanguard SPX Idx HK	63	↑	0.2	0.30		0.18	0.03	-	N
83140 HK	Vanguard SPX Idx HK	63	↑	0.0	0.30		0.18	1.52	-	N
9140 HK	Vanguard SPX Idx HK	63	↑	0.0	0.65		0.18	0.12	-	N
133690 KS	Mirae Asset TIGER NDX	60	↑	0.7	0.08	103	0.49	-	-	N
500034 KS	Shinhan SPX VIX S/T Ftrs ETN 34	57		0.3	0.18		1.20	-	-	N
BBUS AU[C]	BetaShares US Equities Strong Bear Hdg	56	↑	1.2	0.28		1.38	-	+2.37x	N
1547 JP	Listed Idx Fund US Equity S&P500	54	↓	0.2	0.18	505	0.16	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Country (Continued)										
2040 JP	Next Notes DJIA PR JPY Mtly Hdgd x2	53		0.5	0.18		0.80	-	+2x	N
1546 JP	Next Funds DJ Industrial Average	53	↓	0.7	0.09	30	0.45	-	-	N
1545 JP	Next Funds NDX R	48	↓	0.6	0.14	103	0.45	-	-	N
00669R TT	Cathay DJ Industrial Average Daily Invd	45	↑	0.8	0.09		1.03	-	-1x	N
219480 KS[C]	SS KODEX SPX Ftrs H	44	↑	0.2	0.17		0.25	9.90	-	N
500020 KS[C]	Shinhan Lev DJIA Ftrs ETN H 20	39		0.6	0.11		1.05	-	+2x	N
7331 HK	ChinaAMC Direxion NDX Daily -1x Inv Prod	39	↑	0.9	0.21	103	0.99	-	-1x	N
2041 JP	Next Notes DJIA TR JPY Mtly Hdgd Inv x1	38		0.4	0.13		0.80	-	-	N
00671R TT[C]	Fubon NDX -1X Inv Idx	35	↑	0.6	0.10		-	-	-1x	N
590010 KS[C]	MiraeAsset Lev SPX ETN H 12	33		0.0	0.24		0.90	-	+2x	N
590009 KS[C]	MiraeAsset US Aerospace&Defense ETN	30		0.0	0.22	31	0.90	-	-	N
QUS AU	BetaShares FTSE RAFI U.S. 1000	30		0.1	0.22	1,037	0.40	1.67	-	N
500009 KS[C]	Shinhan DJ Industrial Average Ftrs ETN H 9	27		0.0	0.11		0.75	9.57	-	N
1325 JP	Next Funds Ibovespa Linked	27		0.1	0.70	65	0.95	-	-	N
530052 KS[C]	Samsung SPX VIX S/T Ftrs ETN H 52	26		0.1	0.29		0.95	-	-	N
48312179 JP	iShares SPX	26		-	-		0.15	1.15	-	N
1655 JP	iShares SPX	26	↓	0.3	0.09		0.15	1.14	-	N
590007 KS	MiraeAsset USA Large Cap ETN H 7	25		0.0	-	300	0.90	9.83	-	N
590008 KS	MiraeAsset USA Mid Cap ETN H 8	24		0.0	0.28		0.90	9.48	-	N
225040 KS[C]	MiraeAsset TIGER SPX Lev H	24	↑	0.4	0.14		0.59	-	+2x	N
550044 KS	NH QV 2X SPX ETN 44	22		0.1	0.47		0.85	-	+2x	N
225030 KS[C]	MiraeAsset TIGER SPX Inv H	22	↑	0.4	0.10		0.59	-	-1x	N
245340 KS	Mirae Asset Tiger DJ 30	21		0.1	0.13	30	0.35	7.93	-	N
500035 KS	Shinhan Lev USD Ftrs ETN 35	20		0.0	0.06		0.40	-	+2x	N
MOSTNDX IN	Motilal Oswal NDX Fund	20		0.1	0.52	103	0.50	-	-	N
GGUS AU[C]	BetaShares Geared US Equity Fund	19		0.6	0.17	505	0.80	-	-	N
570015 KS	TRUE DJ Sustainability Korea ETN 15	19		0.8	0.14		0.88	0.02	-	N
7322 HK	Mirae Asset Horizons SPX Daily -1X Inv Prod	19	↑	0.3	0.41	505	1.68	-	-1x	N
261120 KS	Mirae Asset TIGER USD Ftrs Inv 2X	17	↑	0.3	0.14		0.59	-	-2x	N
1324 JP	Next Funds Russia RTS Linked	16		0.0	0.85	41	0.95	-	-	N
500036 KS	Shinhan Inv 2X USD Ftrs ETN 36	14		0.0	0.08		0.40	-	-2x	N
00662 TT	Fubon NDX	14		0.2	0.11	103	-	1.71	-	N
269540 KS[C]	Hanwha ARIRANG SPX H	14		0.0	0.21	505	0.30	9.56	-	N
XMRC SP	Xtrackers MSCI Russia Capped Swap UCITS	14	↓	0.0	0.70		0.65	0.06	-	N
261250 KS	SS KODEX USD Ftrs Lev	13	↓	0.8	0.09		0.45	-	+2x	N
00670L TT[C]	Fubon NDX 2X Levd Idx	13	↓	0.6	0.10		-	-	+2x	N
550045 KS	NH QV -2X SPX ETN 45	12		0.1	0.44		0.85	-	-2x	N
2521 JP	Listed Idx Fund US Equity SPX Crncy Hdg	12		0.0	0.27	505	0.40	-	-	N
02311187 JP	Listed Idx Fund US Equity SPX Crncy Hdg	12		-	-	505	-	-	-	N
82834 HK	iShares NDX Idx	12		0.0	0.50	103	0.28	1.54	-	N
590011 KS[C]	MiraeAsset Inv SPX ETN H 13	12		0.0	0.49		0.90	-	-1x	N
9834 HK	iShares NDX Idx	12		0.0	0.42	103	0.28	0.04	-	N
2834 HK	iShares NDX Idx	12		0.1	0.38	103	0.28	0.11	-	N
520025 KS	MiraeAsset SPX VIX S/T Ftrs ETN 42	11		0.1	0.34		1.20	-	-	N
550051 KS	NH QV SPX VIX S/T Ftrs ETN 51	11		0.3	0.38		1.20	-	-	N
570022 KS[C]	TRUE Lev SPX Ftrs ETN H 22	11		0.4	0.13		0.89	-	+2x	N
200020 KS	SS KODEX SYNTH-US IT	11		0.0	0.38	68	0.25	-	-	N
500010 KS[C]	Shinhan Inv DJIA Ftrs ETN H 10	11		0.0	0.18		0.75	-	-1x	N
500028 KS[C]	Shinhan Inv 2X DJIA Ftrs ETN H 28	11		0.4	0.14		1.05	-	-2x	N
261240 KS	SS KODEX USD Ftrs	10	↓	0.1	0.10		0.25	0.09	-	N
7261 HK	ChinaAMC Direxion NDX Daily 2x Levd Prod	10		0.1	0.42	103	0.99	-	+2x	N
261260 KS	SS KODEX USD Ftrs Inv2X	9	↑	0.2	0.09		0.45	-	-2x	N
265690 KS	KIM Kldx MSCI Russia Synth	9	↓	0.0	0.43		0.50	-	-	N
261110 KS	Mirae Asset TIGER USD Ftrs Lev	8	↓	0.1	0.17		0.59	5.61	-	N
3086 HK	BMO NDX	8		0.1	0.35		0.30	0.07	-	N
9086 HK	BMO NDX	8		-	2.18		0.30	-	-	N
00668 TT	Cathay DJ Industrial Average	7	↓	0.1	0.20	30	0.63	2.97	-	N
291130 KS	KIM Kldx MSCI Mexico - Synth	7		0.0	0.48	57	0.50	9.92	-	N
XMBR SP	Xtrackers MSCI Brazil UCITS	7		0.0	1.03	52	0.65	0.06	-	N
181480 KS[C]	KIM Kldx SYNTH-DJ US Real Estate H	7		0.0	0.68	114	0.30	7.87	-	N
570023 KS[C]	TRUE Inverse 2X SPX Ftrs ETN H 23	6		0.4	0.09		0.89	-	-2x	N
1679 JP	Simple-X NY DJ Idx	6		0.0	1.15	30	0.15	-	-	N
280930 KS[C]	SS KODEX US Russell 2000 H	5		0.0	0.42	1,990	0.45	-	-	N
UBU AU	UBS IQ MSCI USA Ethical	5		0.0	0.18		0.20	0.06	-	N
00647L TT	Yuanta Daily SPX Bull 2X	5		0.1	0.23		1.19	-	+2x	N
00776 TT	Shin Kong NYSE US Core Large Cap	5		-	0.42		0.61	-	-	N
00657 TT[C]	Cathay Nikkei 225 Crncy-Hdgd	5	↓	0.0	0.21	225	1.55	6.61	-	N
261270 KS	SS KODEX USD Ftrs Inv	4		0.0	0.17		0.45	-	-1x	N
83146 HK	iShares DAX Idx	4	↑	0.0	0.40	30	0.20	2.11	-	N
3146 HK	iShares DAX Idx	4	↑	0.0	0.33	30	0.20	1.17	-	N
9146 HK	iShares DAX Idx	4	↑	0.0	0.57	30	0.20	1.17	-	N
1323 JP	Next Funds FTSE/JSE Africa Top40 Linked	3	↓	0.0	2.01	42	0.95	-	-	N
82847 HK	iShares FTSE 100 Idx	3		0.0	0.37	101	0.22	2.31	-	N
2847 HK	iShares FTSE 100 Idx	3		0.0	0.31	101	0.22	1.47	-	N
9847 HK	iShares FTSE 100 Idx	3		0.0	0.53	101	0.22	1.47	-	N
Global										
1394 JP	UBS MSCI World UCITS	1,141		0.0	0.67		0.30	1.93	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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International										
Global (Continued)										
IOO AU	iShares Global 100/AU	1,136		1.5	0.28	102	0.40	-	-	N
VGS AU	Vanguard MSCI Idx Intl Shrs	1,109	↑	3.2	0.09		0.18	0.05	-	N
VEU AU	Vanguard FTSE All-World ex-US	947		1.6	0.27		0.09	-	-	N
VGAD AU[C]	Vanguard MSCI Idx Intl Shrs Hdgd	406	↑	1.4	0.12		0.21	0.07	-	N
251350 KS	SS KODEX MSCI World	301	↑	2.4	0.20	1,636	0.36	5.93	-	N
IVE AU	iShares MSCI EAFE/AU	251		0.7	0.42	921	0.32	-	-	N
PIXX AU[A]	Platinum Intl Fund	247	↑	0.5	0.49		1.10	-	-	N
ETHI AU	BetaShares Global Sustainability Ldr	222	↑	0.6	0.22	100	0.59	0.08	-	N
WXOZ AU	SPDR S&P World ex AU Fund	137		0.1	0.19		0.30	0.19	-	N
1680 JP	Intl Dev Countries Equity MSCI	127		0.1	0.31	1,314	0.25	9.36	-	N
1550 JP	MAXIS Global Equity MSCI Kokusai	79		0.1	0.12	1,314	0.25	9.84	-	N
MOGL AU[C A]	Montgomery Global Equities Fund	72	↑	0.2	0.54	1,636	1.32	6.01	-	N
WXHG AU[C]	SPDR S&P World ex AU Hdgd Fund	66		0.1	0.23		0.35	0.11	-	N
48313179 JP	iShares Core MSCI Kokusai	64		-	-		0.19	1.88	-	N
1657 JP	iShares Core MSCI Kokusai	64	↑	0.1	0.18		0.19	1.80	-	N
IWLD AU	iShares Core MSCI World All Cap	52	↑	0.2	0.41		0.16	1.50	-	N
IHWL AU[C]	iShares Core MSCI World All Cap AUD Hdgd	43	↑	0.0	0.47		0.19	1.47	-	N
WRLD AU	BetaShares Managed Risk Global Shr Fund	42	↑	0.1	0.35		0.54	-	-	N
1554 JP	World Equity MSCI ACWI ex Jpn	40		0.1	0.33	2,451	0.30	9.47	-	N
IHOO AU[C]	iShares Global 100 AUD Hdgd	31		0.1	0.53		0.43	0.24	-	N
UBW AU	UBS IQ MSCI World ex AU Ethical	26		0.0	0.25		0.35	0.10	-	N
3019 HK	Xtrackers MSCI World Swap UCITS	25		0.0	0.67	1,636	0.45	0.12	-	N
AGX1 AU[A]	Antipodes Global Shrs EQMF	15		-	0.80	2,773	1.10	-	-	N
METFUS50 MK	MYETF DJ U.S Titans 50	15		0.0	-	51	0.48	-	-	N
208470 KS[C]	Shinhan BNP SMART MSCI DM	13		0.0	0.98	1,636	0.35	8.27	-	N
570026 KS[C]	TRUE Lev SX5E ETN H 26	10		0.0	0.31	50	1.50	-	+2x	N
QMIX AU	SPDR MSCI World Quality Mix Fund	10	↑	0.0	0.23		0.40	0.46	-	N
570025 KS[C]	TRUE Inv SX5E ETN H B 25	8		0.0	0.13		0.90	-	-	N
0131H17C JP	MSCI-KOKUSAI UnHdgd	7		-	-		0.17	9.66	-	N
QLTY AU	BetaShares Global Quality Ldr	7		-	0.40		0.35	-	-	N
2513 JP	MSCI-KOKUSAI UnHdgd	7	↑	0.0	0.36		0.17	9.69	-	N
309230 KS	KIM Kldx US Wide Moat	7		0.9	0.48	46	0.40	-	-	N
570027 KS[C]	TRUE Inv 2X SX5E ETN H 27	7		0.0	0.11	50	1.20	-	-2x	N
550055 KS	NH QV Inv Lev MSCI EAFE ETN 55	6		0.0	1.04		1.40	-	-2x	N
550053 KS	NH QV Inv MSCI EAFE ETN 53	6		0.0	0.49		0.85	-	-1x	N
550054 KS	NH QV Lev MSCI EAFE ETN 54	6		0.0	1.06		1.20	-	+2x	N
189400 KS[C]	Hanwha ARIRANG SYNTH-MSCI AC World H	6		0.0	0.42	2,773	0.40	8.13	-	N
550052 KS	NH QV MSCI EAFE ETN 52	6		0.0	-		0.65	-	+1x	N
KII AU[A]	K2 Global Equities Fund	5	↓	0.0	-		2.05	-	-	N
195970 KS[C]	Hanwha ARIRANG MSCI EAFE SYNTH H	5		0.0	0.44	921	0.50	8.11	-	N
VISM AU	Vanguard MSCI Intl Small Companies Idx	5		-	0.38		0.32	-	-	N
3198 HK	Ping An Nasdaq 5HANDL*	4		-	0.70		0.55	-	-	N
INCM AU	BetaShares Global Income Ldr	3		0.0	0.54		0.45	-	-	N
2514 JP	MSCI-KOKUSAI Yen-Hdgd	2	↑	0.0	0.85		0.17	5.94	-	N
0131I17C JP	MSCI-KOKUSAI Yen-Hdgd	2		-	-		0.17	-	-	N
Regional										
1387 JP	UBS MSCI EMU UCITS	3,337		0.0	1.04		0.18	3.48	-	N
XESX SP	Xtrackers SX5E UCITS	3,265		0.0	0.62	50	0.09	1.14	-	N
XMEU SP	Xtrackers MSCI Europe UCITS	2,514	↓	0.0	0.54	440	0.25	0.08	-	N
IEU AU	iShares Europe/AU	503		1.2	0.25		0.60	-	-	N
1385 JP	UBS SX5E UCITS	492		0.0	0.43	50	0.15	3.77	-	N
IEM AU	iShares MSCI EM/AU	467		1.2	0.23	1,137	0.69	-	-	N
1386 JP	UBS MSCI Europe UCITS	375		0.0	0.51		0.20	3.40	-	N
LEM SP	Lyxor MSCI EM UCITS	235		0.0	1.36	1,137	0.55	0.02	-	N
VGE AU	Vanguard FTSE EM/AU	203	↑	0.7	0.31		0.48	5.31	-	N
VEQ AU	Vanguard FTSE Europe Shrs	166	↑	0.3	0.30		0.35	3.41	-	N
PAXX AU[A]	Platinum Asia Fund	118	↑	0.3	0.59		1.10	-	-	N
1388 JP	UBS MSCI EMU Small Cap UCI	117		0.0	1.58		0.33	2.84	-	N
00717 TT	Fubon S&P US Preferred Stock	109	↓	0.2	0.06	505	-	-	-	N
1681 JP	Intl Emerging Countries Equity MSCI EM	60		0.1	0.58	1,137	0.25	-	-	N
ESTX AU	ETFS SX5E	45		0.2	0.18	50	0.35	1.05	-	N
195930 KS[C]	Mirae Asset Tiger Synth-Euro Stocks 50 H	32		0.1	0.38	50	0.25	-	-	N
48314179 JP	iShares Core MSCI EM IMI	30		-	-		0.23	6.97	-	N
1658 JP	iShares Core MSCI EM IMI	30	↑	0.1	0.16		0.23	6.91	-	N
9101 HK	Vanguard FTSE Dev Europe Idx	29		0.0	1.17		0.18	0.23	-	N
3101 HK	Vanguard FTSE Dev Europe Idx	29		0.0	0.48		0.18	0.21	-	N
83101 HK	Vanguard FTSE Dev Europe Idx	29		0.0	0.66		0.18	1.55	-	N
590003 KS	MiraeAsset Europe Large Cap ETN H 3	21		0.0	-	193	0.90	9.41	-	N
590004 KS[C]	MiraeAsset Europe Mid Cap ETN H 4	21		0.0	0.36	247	0.90	9.54	-	N
195980 KS[C]	Hanwha ARIRANG MSCI EM Synth H	20	↓	0.1	0.28	1,137	0.50	9.91	-	N
570014 KS	TRUE Inv Euro Ftrs ETN 14	18		0.0	0.07		0.54	-	-1x	N
570013 KS	TRUE Euro Ftrs ETN 13	16		0.0	0.11		0.54	0.01	-	N
FEMX AU[A]	Fidelity Global EM Fund/ETF	15		-	0.81	1,137	0.99	-	-	N
WEMG AU	SPDR S&P EM Fund	14		0.1	0.38		0.65	1.05	-	N
UBE AU	UBS IQ MSCI Europe Ethical	11	↑	0.0	0.33		0.40	0.08	-	N
225050 KS[C]	MiraeAsset TIGER Synth-SX5E Lev H	7		0.0	0.32	50	0.59	-	+2x	N
225060 KS[C]	MiraeAsset TIGER Synth-MSCI EM Lev H	7	↓	0.0	0.34		0.59	-	+2x	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
International										
Regional (Continued)										
00660 TT	Yuanta SX5E	7	↓	0.0	0.28		0.74	4.69	-	N
291890 KS[C]	SS KODEX SGX MSCI EM Ftrs H	6		2.2	0.39		0.45	-	-	N
00736 TT	Cathay Ftse EM	5		0.1	0.27	1,880	0.66	-	-	N
105010 KS	Mirae Asset TIGER Latin35	4		0.0	0.54	34	0.49	-	-	N
83155 HK	iShares SX5E Idx	4		0.0	0.37	50	0.20	2.07	-	N
9155 HK	iShares SX5E Idx	4		0.0	0.53	50	0.20	1.14	-	N
3155 HK	iShares SX5E Idx	4		0.0	0.43	50	0.20	1.13	-	N
00709 TT	Fubon FTSE Dev Europe	4		0.1	1.02	586	-	2.64	-	N
01311187 JP	Next Funds EM Equity MSCI-EM UnHdgd	3		-	-		0.19	-	-	N
2520 JP	Next Funds EM Equity MSCI-EM UnHdgd	3		0.0	0.40	1,137	0.19	-	-	N
Sector										
00724B TT	Cap Bofa Merrill Lynch 10 + Yr US Banking	1,343	↑	2.1	0.28	113	0.67	1.93	-	N
00723B TT	Cap Bofa Merrill Lynch US Tech & Electronics	1,066	↑	2.2	0.52	96	0.67	1.94	-	N
00722B TT	Cap BofA Merrill Lynch 15+ Yr US TeleComm	708	↑	2.9	0.14	74	0.67	1.92	-	N
IXJ AU	iShares Global Healthcare/AU	372		0.6	0.39	103	0.47	-	-	N
MICH AU[C A]	Magellan Infra Fund	220	↑	0.7	0.39	75	1.05	2.98	-	N
DJRE AU	SPDR DJ Global Real Estate Fund	209		0.5	0.12	213	0.50	0.40	-	N
IXI AU	iShares Global Cons. Stap./AU	125		0.5	0.30	91	0.47	-	-	N
AXJREIT SP	NikkoAM-StraitsTrading Asia ex JP REIT	122	↑	0.3	0.27	24	0.54	0.57	-	N
AXJREUS SP	NikkoAM-StraitsTrading Asia ex JP REIT	117		0.0	0.48	24	0.54	-	-	N
00712 TT	Fuh Hwa FTSE Mortgage REITs	102	↓	0.1	0.14	35	-	2.35	-	N
IFRA AU[C]	VanEck Vectors FTSE Global Infra Hdgd	93	↑	0.3	0.28		0.52	0.12	-	N
TECH AU	ETFS Morningstar Global Tech	64	↑	0.3	0.31		0.45	0.16	-	N
182480 KS[C]	MiraeAsset Tiger Synth-MSCI US REIT H	28	↓	0.1	0.26	153	0.25	8.04	-	N
00770 TT	Cathay S&P North American Tech	27		-	0.22	288	0.50	-	-	N
590016 KS[C]	MiraeAsset MSCI USA Healthcare ETN H 15	21		0.0	0.28	70	0.90	-	-	N
1659 JP	iShares US REIT	20	↓	0.1	0.16	159	0.20	0.80	-	N
48315179 JP	iShares US REIT	20		-	-	159	0.20	2.82	-	N
GLIN AU[A]	AMP Cap Global Infra Fund UnHdgd	19		0.0	0.64		0.94	4.15	-	N
590012 KS[C]	MiraeAsset Global REIT ETN H 10	19		0.0	0.30	404	0.90	7.14	-	N
590013 KS[C]	MiraeAsset US REIT ETN H 11	18		0.0	0.46		0.90	8.55	-	N
00767 TT	FUH Hwa DJ US Financial Services Equity	16		-	0.71	120	-	-	-	N
FOOD AU[C]	BetaShares Global Agriculture Companies	14		0.0	0.58	60	0.57	0.54	-	N
RENT AU[A]	AMP Cap Global Property Securities	14		0.0	0.71	312	0.99	6.66	-	N
276990 KS	SS KODEX Global Robo & Auto-SYNTH	13	↓	0.0	0.28	89	0.30	-	-	N
00762 TT	Yuanta STOXX Global AI	13		-	0.08		1.16	-	-	N
2515 JP	Next Funds Intl REIT SP Dev RE exJP UHdgd	13	↑	0.0	0.33	306	0.17	6.98	-	N
0131J17C JP	Next Funds Intl REIT SP Dev RE exJP UHdgd	12		-	-		0.17	-	-	N
248270 KS	Mirae Asset Tiger Synth-Global Healthcare	11		0.1	0.33	103	0.40	6.85	-	N
203780 KS	Mirae Asset TIGER Nasdaq BIO-Equity	10		0.1	0.24	221	0.30	-	-	N
269420 KS	SS KODEX S&P Global Infra-Synth	10		0.0	0.48	75	0.26	4.90	-	N
287180 KS	Hanwha Arirang NASDAQ Tech Sector	10		0.0	0.34	39	0.50	-	-	N
269370 KS	Mirae Asset TIGER Synth-S&P Global Infra	9		0.0	0.57	75	0.40	5.29	-	N
550041 KS[C]	NH QV US IT TOP5 ETN H 41	9		0.1	1.03		1.20	-	-	N
304940 KS[C]	SS KODEX US NDX Ftrs H	7		1.0	0.23	103	0.45	-	-	N
200030 KS	SS KODEX SYNTH-US Industrial	7		0.0	0.56	70	0.25	8.71	-	N
219390 KS[C]	KBSTAR SYNTH-US Oil&Gas E&P	7		0.0	0.35	64	0.37	-	-	N
00678 TT	Cap NASDAQ BioTech Idx	7	↓	0.3	0.22	221	1.01	1.94	-	N
276650 KS[C]	KBSTAR Global 4th Industry Revolution IT	6	↓	0.0	0.42	116	0.40	-	-	N
CORE AU	ETFS Global Core Infra	6	↑	0.0	0.59	75	0.55	1.85	-	N
269530 KS	Hanwha ARIRANG S&P Global Infra	6		0.0	0.22	75	0.30	4.98	-	N
218420 KS	SS KODEX SYNTH-US Energy	6	↓	0.0	0.57	29	0.25	-	-	N
185680 KS	SS KODEX SYNTH-US Biotech	5		0.0	0.22	120	0.25	-	-	N
200040 KS	SS KODEX SYNTH-US Financials	5		0.0	0.42	67	0.25	9.00	-	N
MNRS AU[C]	BetaShares Global Gold Miners-Crncy Hdgd	5	↑	0.0	0.98	53	0.57	0.16	-	N
VBLD AU	Vanguard Global Infra Idx	5		0.1	0.56		0.47	-	-	N
00757 TT	UPAMC NYSE FANG+	4		-	0.12		1.03	-	-	N
3023 HK	Ping An Nasdaq AI and Robo	4		-	0.98		0.55	-	-	N
00714 TT	Cap DJ U.S. Real Estate Idx	4		0.1	0.48	114	1.03	2.03	-	N
CURE AU	ETFS S&P Biotech	1		-	0.50		0.45	-	-	N
3116 HK	XIE Shrs FTSE Gold Miners	1	↓	0.0	0.89		0.60	3.01	-	N
314250 KS[C]	SS KODEX FANG Plus H	-		-	0.25	10	0.45	-	-	N
Sector Funds										
Communication Services										
315480 KS	KBSTAR 200 Comm Service	-		-	0.37		0.25	-	-	N
315270 KS	Mirae Asset Tiger 200 Comm Service	-		-	0.32		0.40	-	-	N
Consumer										
159928 CH	China Unv CSI Cons. Stap. Idx	392	↑	2.8	0.09		-	0.29	-	N
150460 KS	Mirae Asset TIGER China Consumer	213		0.3	0.17		0.50	1.30	-	N
139280 KS	Mirae Asset TIGER Cons. Stap.	154		0.2	0.22	34	0.40	9.77	-	N
159936 CH	GF CSI All Shr Cons. Disc.	43		0.0	0.98		-	5.11	-	N
266410 KS	SS KODEX Cons. Stap.	39		0.1	0.31	44	0.45	1.95	-	N
510630 CH	ChinaAMC SSE Cons. Stap.	31	↓	0.2	0.29	21	0.60	8.76	-	N
510150 CH	China Merchants SSE Consumer 80 TR Idx	23		0.3	0.13		0.60	0.94	-	N
550011 KS	NH QV Automotive TOP5 ETN 11	20		0.0	0.51		0.84	0.02	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector Funds									
Consumer (Continued)										
530011 KS[C]	Samsung Online Shopping Theme ETN 11	15		0.0	0.33		0.80	0.02	-	N
530008 KS	Samsung Media Theme ETN 8	15		0.0	0.19		0.80	0.02	-	N
091180 KS	SS KODEX Autos	14	↑	0.2	0.21	21	0.45	2.46	-	N
550006 KS	NH QV Domestic Cons. Goods TOP5	13		0.0	0.68		0.84	0.02	-	N
237440 KS	Mirae Asset Tiger Cons. Goods Balanced	12		0.1	0.18		0.20	-	-	N
530007 KS	Samsung Leisure Theme ETN 7	12		0.0	0.31		0.80	0.02	-	N
520015 KS	MiraeAsset Inv Media Ent Core5 ETN 15	11		0.0	0.30		0.80	-	-1x	N
530006 KS	Samsung Food and Beverage Theme ETN 6	10		0.0	0.42		0.80	0.02	-	N
228790 KS	MIRAE ASSET TIGER COSMETICS	10	↑	0.3	0.17		0.50	0.77	-	N
266390 KS	SS KODEX Cons. Disc.	10		0.0	0.28	39	0.45	1.57	-	N
530004 KS	Samsung Cosmetics Theme ETN 4	9		0.0	0.51		0.80	0.02	-	N
139290 KS	Mirae Asset TIGER 200 Cons. Disc.	7		0.0	0.31	34	0.40	2.49	-	N
510110 CH	SSE Periodical Industry 50	7		0.0	0.98	1,508	0.60	1.12	-	N
287330 KS	KBSTAR 200 Cons. Stap.	6		0.0	0.35	34	0.19	0.65	-	N
1617 JP	Next Funds TPX-17 FOODS	6	↓	0.0	1.66	88	0.32	3.36	-	N
228810 KS	MIRAE ASSET TIGER MEDIA CONTENTS	5	↓	0.2	0.22		0.50	0.60	-	N
1634 JP	Daiwa TPX-17 FOODS	5		0.0	0.75	88	0.19	1.25	-	N
287310 KS	KBSTAR 200 Cons. Disc.	5		0.0	0.33	34	0.19	2.59	-	N
1630 JP	Next Funds TPX-17 RETAIL TRADE	5		0.0	1.96	199	0.32	0.86	-	N
227560 KS	Mirae Asset TIGER 200 Cons. Stap.-Equity	5	↓	0.0	0.22	34	0.40	1.27	-	N
RCONSUM IN	Reliance Consumption	5		0.0	1.53		0.13	0.22	-	N
228800 KS	MIRAE ASSET TIGER TOUR LEISURE	5	↓	0.1	0.28		0.50	1.38	-	N
1647 JP	Daiwa TPX-17 RETAIL TRADE	4		0.0	0.68	199	0.19	0.94	-	N
XIIC IJ[A]	Premier Indonesia Consumer	4	↓	0.0	1.61		3.20	7.60	-	N
309200 KS	Hanwha ARIRANG KRX300 Cons. Disc.	4		-	0.18		0.40	-	-	N
512600 CH	Harvest CSI Primary Consumption Idx Fund	2		0.0	1.08	41	-	0.52	-	N
EFOOD TB	KTAM SET Food and Beverage Tracker	1		0.0	1.48	35	1.50	1.76	-	N
Energy										
MVE AU	Vaneck Vectors S&P/ASX Midcap	73	↑	0.2	0.40		0.45	0.04	-	N
139250 KS	Mirae Asset TIGER 200 Energy & Chemicals	34	↑	0.3	0.20	26	0.40	3.40	-	N
FUEL AU[C]	BetaShares Global Energy Companies	26	↑	0.1	0.41		0.57	0.83	-	N
530033 KS	Samsung Alerian Energy Infra MLP ETN 33	25		0.0	0.55	23	0.95	-	-	N
530032 KS	Samsung Cushing Energy Infra MLP ETN 32	25		0.0	0.55	30	0.95	-	-	N
550005 KS	NH QV Energy TOP5 ETN 5	20		0.0	0.44		0.87	0.02	-	N
243890 KS	Mirae Asset Tiger 200 Energy & Lev	11	↓	0.1	0.28		0.69	-	+2x	N
117460 KS	SS KODEX Energy & Chemicals - Equity	7	↓	0.0	0.21	32	0.45	3.40	-	N
284990 KS	KBSTAR 200 Energy & Chemicals	4		0.0	0.29	26	0.19	3.13	-	N
ENGY TB	MTrack Energy	3		0.0	0.79	45	0.79	0.20	-	N
1635 JP	Daiwa TPX-17 ENERGY RESOURCES	3	↑	0.0	0.22	15	0.19	2.96	-	N
ENY TB	KTAM SET Energy Tracker	3		0.0	0.95	45	1.50	1.77	-	N
1618 JP	Next Funds TPX-17 Energy Resources	2	↓	0.0	1.27	15	0.32	3.88	-	N
1644 JP	Daiwa TPX-17 Elec POWER & GAS	2		0.0	0.71	22	0.19	1.26	-	N
159930 CH	China Unv CSI Energy Idx	2		0.1	0.60		-	1.33	-	N
Financials										
510230 CH	Guotai SSE 180 Financial Idx	932	↑	3.6	0.07	22	0.60	0.50	-	N
1615 JP	TPX Banks	254	↓	1.0	0.70	82	0.22	3.76	-	N
512070 CH	E Fund CSI 300 Financials ex Banks Idx	231	↑	1.3	0.10		-	-	-	N
512800 CH	Fortune SG CSI Bank	229	↑	12.5	0.10		-	-	-	N
512900 CH	CSI All Shr Securities Companies	214	↑	1.3	0.16		1.60	-	-	N
091170 KS	SS KODEX Banks	65		0.5	0.14	9	0.45	5.62	-	N
159940 CH	GF CSI All Shr Financials Idx	65	↑	0.1	0.87		-	-	-	N
102970 KS	SS KODEX Securities	64	↓	0.7	0.13	13	0.45	2.89	-	N
159933 CH	UBS SDIC CSI 300 Financials Idx	56	↑	0.0	1.79		-	0.93	-	N
OZF AU	SPDR AS51 Financials Ex A-REIT Fund	52	↑	0.3	0.11	27	0.40	0.17	-	N
BNKS AU[C]	BetaShares Global Banks	46		0.2	0.60	60	0.57	0.65	-	N
MVB AU	VanEck Vectors AU Bank	31	↑	0.1	0.25		0.28	0.07	-	N
139270 KS	Mirae Asset TIGER 200 Financials	26	↑	0.1	0.23	17	0.40	5.27	-	N
SBIBANK IN	SBI-ETF Nifty Bank	25		0.4	0.24	12	0.20	0.01	-	N
BBEES IN	Reliance Bank BeES	24		2.2	0.19	12	0.19	0.02	-	N
1631 JP	Next Funds TPX-17 BANKS	23	↓	0.0	0.33	82	0.32	4.48	-	N
0055 TT	Yuanta/P-Shrs MSCI Taiwan Financials	22		0.1	0.28		0.04	0.23	-	N
QFN AU	BetaShares S&P/ASX Financial Sector	20	↑	0.3	0.13		0.34	0.21	-	N
3143 HK	BMO HK Banks	19		0.0	0.68		0.45	0.16	-	N
512700 CH	China Southern CSI Bank	17		0.1	0.21	21	1.10	-	-	N
ASF NZ	AU Financials Fund	16		0.0	1.03		0.54	-	-	N
512640 CH	Harvest CSI Financial Property Idx Fund	10		0.0	0.33	1,458	-	0.68	-	N
1648 JP	Daiwa TPX-17 BANKS	9		0.0	0.23	82	0.19	2.41	-	N
140700 KS	SS KODEX Insurance - Equity	8		0.1	0.19		0.45	6.02	-	N
XIIF IJ[A]	Premier Indonesia Financial	7		0.0	1.72		0.43	-	-	N
0059 TT	Fubon Taiwan Finance	7		0.0	0.62	35	0.60	0.28	-	N
284980 KS	KBSTAR 200 Financials	6	↑	0.0	0.28	17	0.19	4.13	-	N
157500 KS	Mirae Asset Tiger Securities	6	↓	0.1	0.30		0.40	4.47	-	N
1612 JP	Daiwa-TPX Banks	6		0.0	0.89	82	0.24	4.05	-	N
510650 CH	ChinaAMC SSE Financials Idx Sponsor Fund	6	↓	0.1	0.39	21	0.60	-	-	N
159931 CH	China Unv CSI Financials Idx	5		0.1	0.54		-	0.56	-	N
091220 KS	Mirae Asset TIGER Banks	5	↑	0.0	0.25	9	0.46	5.40	-	N
512570 CH	E Fund CSI All Shr Securities Companies	5		0.1	0.81		-	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector Funds									
Financials (Continued)										
309180 KS	Hanwha ARIRANG KRX300 Financials	4		-	0.17		0.40	-	-	N
KOTBANK IN	Kotak Banking	3		1.2	0.26	12	0.18	0.04	-	N
1649 JP	Daiwa TPX-17 FINANCIALSEX BANKS	3		0.0	0.61	60	0.19	2.17	-	N
EBANK TB	KTAM SET Banking Tracker	3		0.0	1.99	8	1.50	0.31	-	N
KOPSUB IN	Kotak PSU Bank	2		0.0	0.72	12	0.49	0.56	-	N
PSUBBE IN	Reliance PSU Bank BeES	1		0.0	0.48	12	0.54	0.15	-	N
1632 JP	Next Funds TPX-17 FINANCIALS EX BANKS	1	↓	0.0	0.99	60	0.32	5.23	-	N
EDEBANK IN	Edelweiss - Nifty Bank	0		0.0	11.51	12	0.12	0.07	-	N
Health Care										
159938 CH	GF CSI All Shr Health Care Idx Fund	354	↑	3.4	0.11		-	0.78	-	N
512010 CH	E Fund CSI 300 Health Care Idx	124	↑	5.2	0.08	29	-	1.69	-	N
143860 KS	Mirae Asset TIGER Health Care	121		1.9	0.15	73	0.40	0.37	-	N
159929 CH	China Unv CSI Health Care Idx	44	↑	0.9	0.14		-	0.74	-	N
1621 JP	Next Funds TPX-17 Pharma	26	↓	0.0	0.40	39	0.32	2.36	-	N
550014 KS	NH QV Biotech TOP5 ETN 14	24		0.0	0.33		0.99	0.02	-	N
530005 KS	Samsung BioTech Theme ETN 5	23		0.0	0.43		0.80	0.02	-	N
DRUG AU[C]	BetaShares Global Healthcare	21	↑	0.1	0.45	59	0.57	0.75	-	N
512120 CH[A]	HuaAn CSI Pharma Segment Idx	15	↑	0.4	0.17		-	-	-	N
244580 KS	SS KODEX BIO	15	↑	0.3	0.12		0.45	0.29	-	N
550015 KS	NH QV Pharma TOP5 ETN	14		0.0	0.49		0.87	0.02	-	N
510660 CH	ChinaAMC SSE Health Care Idx Sponsor	13		0.4	0.19	50	0.60	7.83	-	N
550012 KS	NH QV Medical TOP5 ETN 12	10		0.0	0.80		0.97	0.02	-	N
253280 KS	KBSTAR HealthCare	10		0.0	0.30		0.40	0.43	-	N
227540 KS[C]	Mirae Asset TIGER 200 Health Care	9		0.2	0.17	18	0.40	0.34	-	N
248260 KS	Mirae Asset Tiger Synth-Jpn Healthcare	9		0.0	0.64	39	0.40	3.79	-	N
307510 KS	MIRAE ASSET TIGER HEALTHCARE EQUIP	9		-	0.34		0.50	-	-	N
266420 KS	SS KODEX Healthcare	8	↓	0.1	0.21	73	0.45	0.41	-	N
512300 CH	CSI 500 Health Care Idx	7		0.2	0.42		1.60	-	-	N
253290 KS	KBSTAR HealthCare Fixed Income Balanced	7		0.0	0.17		0.35	0.28	-	N
261070 KS	Mirae Asset TIGER KOSDAQ150 Biotech	6	↓	0.1	0.28		0.30	0.21	-	N
1638 JP	Daiwa TPX-17 Pharma	5		0.0	0.38	39	0.19	1.30	-	N
309210 KS	Hanwha ARIRANG KRX300 Health Care	3		-	0.20		0.40	-	-	N
512610 CH	Harvest CSI Medicine and Health Care	2		0.0	0.63	75	-	0.71	-	N
Industrials										
1624 JP	Next Funds TPX-17 MACHINERY	80	↑	0.0	1.58	141	0.32	1.72	-	N
1622 JP	Next Funds TPX-17 Auto Trans Equip.	62		0.0	0.33	73	0.32	2.95	-	N
1628 JP	Next Funds TPX-17 Trans & Logs	50	↑	0.0	1.49	78	0.32	1.35	-	N
139220 KS	Mirae Asset TIGER 200 Construction	32	↑	0.1	0.27	14	0.40	2.13	-	N
1619 JP	Next Funds TPX-17 Construction & Material	19	↓	0.0	0.64	176	0.32	2.57	-	N
117700 KS	SS KODEX Construction - Equity	18		0.2	0.23	28	0.45	2.02	-	N
550016 KS	NH QV Construction TOP5 ETN 16	18		0.0	0.51		0.84	0.02	-	N
550007 KS	NH QV Ship building TOP5 ETN 7	18		0.0	0.48		0.84	0.02	-	N
139230 KS	MiraeAsset TIGER 200 Heavy Industry	15	↑	0.2	0.24	10	0.40	0.87	-	N
305720 KS	SS KODEX Secondary Battery Industry	15		1.1	0.17		0.45	-	-	N
550010 KS	NH QV Trans TOP5 ETN	15		0.0	0.62		0.84	0.02	-	N
1636 JP	Daiwa TPX-17 Construction & Material	11		0.0	0.68	176	0.19	1.62	-	N
1629 JP	Next Funds TPX-17 Comm & Wholesale	11	↑	0.0	0.63	176	0.32	2.94	-	N
102960 KS	SS KODEX Machinary & Equipment	10		0.1	0.21	29	0.45	1.42	-	N
512310 CH	CSI 500 Industrial Idx	8		0.1	0.28	1,458	1.60	7.13	-	N
1646 JP	Daiwa TPX-17 Commercial & Wholesale	8		0.0	0.71	176	0.19	2.20	-	N
0058 TT	Fubon Taiwan Eight Industries	6		0.0	0.70	81	0.54	0.39	-	N
1641 JP	Daiwa TPX-17 MACHINERY	6		0.0	0.82	141	0.19	1.45	-	N
287300 KS	KBSTAR 200 Constructions	6		0.0	0.32	14	0.19	2.80	-	N
1639 JP	Daiwa TPX-17 Auto & Trans Equipment	5		0.1	0.17	73	0.19	2.46	-	N
XISI IJ	Premier SMINFRA18	5		0.0	2.34	18	1.08	1.26	-	N
287320 KS	KBSTAR 200 Industrials	5		0.0	0.33	15	0.19	0.98	-	N
309190 KS	Hanwha ARIRANG KRX300 Industrials	5		-	0.18		0.40	-	-	N
1645 JP	Daiwa TPX-17 Trans & Logs	4		0.0	0.64	78	0.19	0.70	-	N
285010 KS	KBSTAR 200 Heavy Industries	4	↓	0.0	0.31	10	0.19	1.41	-	N
227550 KS	Mirae Asset TIGER 200 Industrials	3		0.0	0.32	15	0.40	1.33	-	N
140710 KS	SS KODEX Trans - Equity	2	↓	0.1	0.32	13	0.45	0.62	-	N
IBEES IN	Reliance Infra BeES	1		0.0	1.05	25	1.14	0.62	-	N
Materials										
OZR AU	SPDR AS51 Resources Fund	56		0.4	0.13	37	0.40	0.17	-	N
MVR AU	VanEck Vectors AU Resources	39	↓	0.1	0.24		0.35	0.05	-	N
139240 KS	Mirae Asset TIGER 200 Steels & Materials	28	↑	0.0	0.26	9	0.40	1.69	-	N
520006 KS	MiraeAsset Chemicals Core5 ETN 6	24		0.0	0.27		0.75	0.04	-	N
QRE AU	BetaShares AU RESOURCES SECTOR	23	↓	0.2	0.20		0.34	1.23	-	N
530012 KS	Samsung Chemicals Theme ETN 12	21		0.0	0.13		0.80	0.02	-	N
ASR NZ	AU Resources Fund	21		0.0	1.80	37	0.54	3.13	-	N
510170 CH	GTJA Allianz SSE Commodity Equity Idx	17		0.0	0.93	1,508	-	1.38	-	N
550013 KS	NH QV Chemical TOP5 ETN 13	17		0.0	0.36		0.84	0.02	-	N
510410 CH	Bosera SSE Natural Resource Idx	14	↑	0.3	0.25	1,508	0.60	0.87	-	N
1620 JP	Next Funds TPX-17 Raw Matr & Chem	13	↓	0.0	1.40	200	0.32	2.46	-	N
117680 KS	SS KODEX Steel - Equity	11	↑	0.1	0.23	16	0.45	1.79	-	N
520007 KS	MiraeAsset Inv Chemicals Core5 ETN 7	11		0.0	0.58		0.80	-	-1x	N
276000 KS[C]	Ma Tiger Synth-Up Natural resources ETF H	10		0.0	0.84	117	0.40	9.80	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector Funds									
Materials (Continued)										
1637 JP	Daiwa TPX-17 Raw Matr & Chem	9		0.0	0.65	200	0.19	1.35	-	N
512340 CH	CSI 500 Materials Idx	6		0.1	0.28	1,458	1.60	5.41	-	N
511620 CH	Guotai Shunli Traded Mnk	6	↑	0.0	0.09		0.62	-	-	N
530010 KS	Samsung Construction Materials Theme	6		0.0	0.29		0.80	0.02	-	N
285020 KS	KBSTAR 200 Steels & Materials	4		0.0	0.31	9	0.19	1.54	-	N
1623 JP	Next Funds TPX17 Steel & Nonferrous	2	↓	0.0	1.32	55	0.32	0.48	-	N
1640 JP	Daiwa TPX-17 Steel & Nonferrous	2		0.0	0.63	55	0.19	2.03	-	N
Real Estate										
1343 JP	Next Funds REIT Idx	2,891		2.5	0.07	63	0.32	1.84	-	N
1345 JP	Listed Idx Fund J-REIT TSE REIT Idx Bi	2,074		0.6	0.11	63	0.40	1.86	-	N
1476 JP	iShares Core Jpn REIT	1,700	↑	0.8	0.08	63	0.16	1.35	-	N
1595 JP	NZAM J-REIT Idx	1,602		0.4	0.13	63	0.25	2.54	-	N
1597 JP	MAXIS J-REIT	1,200		0.4	0.10	63	0.25	1.75	-	N
VAP AU	Vanguard AU Property Securities Idx	875		1.5	0.22		0.23	0.11	-	N
1488 JP	Daiwa TSE REIT Idx	674	↑	0.2	0.11	63	0.16	2.65	-	N
1398 JP	SMAM REIT Idx	637		0.2	0.16	63	0.22	1.87	-	N
SLF AU	SPDR AS51 Listed Property Fund	419		0.6	0.23	18	0.40	0.08	-	N
2517 JP	MAXIS J-REIT Core	306	↑	0.0	0.29		0.25	1.79	-	N
03314184 JP	MAXIS J-REIT Core	305		-	-		-	-	-	N
MVA AU	VanEck Vectors AU Property	142	↑	0.4	0.61		0.35	0.04	-	N
25312192 JP	NZAM J-REIT Core Idx	128		-	-		0.24	-	-	N
2527 JP	NZAM J-REIT Core Idx	128		-	0.22		0.24	-	-	N
SREITS SP	Lion-Phillip S-REIT	102		0.2	0.32		-	0.48	-	N
1660 JP	MAXIS High Yield J-REIT	91	↑	0.1	0.28		0.25	2.01	-	N
0331817A JP	MAXIS High Yield J-REIT	91		-	-		-	2.01	-	N
1555 JP	Listed Idx Fund AU REIT S&P/ASX200 AREIT	49		0.0	0.28	18	0.45	-	-	N
NPF NZ	SmartShrs - NZ Property Fund	46	↑	0.1	0.71		0.54	-	-	N
04311192 JP	Daiwa TSE REIT Core Idx	37		-	-		-	-	-	N
2528 JP	Daiwa TSE REIT Core Idx	37		-	0.42		0.20	-	-	N
2066 JP	Next Notes Tse Reit Ntr ETN	32		0.0	0.65		0.85	1.20	-	N
ASP NZ	AU Property Fund	25		0.0	0.78	18	0.54	4.25	-	N
2045 JP	Next Notes S&P Singpre Reit Net Return	22		0.0	0.94		0.95	1.36	-	N
2824 HK	Lippo Select HK & Mainland Property	19		0.0	0.76		0.75	0.47	-	N
PAREIT SP	Phillip SGX APAC Dvd Ldr REIT	15		0.0	0.32	30	0.30	0.83	-	N
02314176 JP	Listed Idx Fund Asian REIT	15		-	-	24	-	8.60	-	N
1495 JP	Listed Idx Fund Asian REIT	14	↑	0.0	0.54	24	0.90	8.60	-	N
512200 CH	China Southern CSI All Shr Real Estate	14	↑	0.4	0.24	13	-	-	-	N
1633 JP	Next Funds TPX-17 REAL ESTATE	9	↓	0.0	0.68	70	0.32	1.70	-	N
3121 HK	BMO MSCI APAC Real Estate	5	↓	0.0	1.47	99	0.45	0.18	-	N
1650 JP	Daiwa TPX-17 REAL ESTATE	2		0.0	0.70	70	0.19	1.09	-	N
REIT AU [C]	Vaneck Vectors FTSE Intl Property Hdgd	2		-	0.39		0.43	-	-	N
316300 KS	KIM Kldx Singapore REITs	-		-	0.49		0.40	-	-	N
Technology										
139260 KS	Mirae Asset TIGER 200 IT	232		2.4	0.17	12	0.40	1.25	-	N
275980 KS [C]	Ma Tiger Synth Global Expo tech ETF H	193	↓	1.2	0.09		0.40	9.94	-	N
159939 CH	GF CSI All Shr Information Tech?Idx	169	↑	3.4	0.12		-	-	-	N
513050 CH	E Fund CSI Overseas China Internet 50	116	↓	10.9	0.09		-	6.45	-	N
ROBO AU	ETFS ROBO Global Robo and Auto	102	↑	0.2	0.49	89	0.82	1.67	-	N
285000 KS	KBSTAR 200 Information Tech	70	↑	0.3	0.29	12	0.19	0.36	-	N
1625 JP	Next Funds TPX17 Elec Appl & Pl	65	↑	0.0	1.82	191	0.32	1.70	-	N
2067 JP	Next Notes AI Companies 70 Net TR ETN	58		0.1	0.52		0.85	0.03	-	N
512330 CH	CSI 500 Information Tech Idx	55	↑	0.6	0.18		0.60	-	-	N
512220 CH	Invesco Great Wall CSI TMT 150 Open-end	49		0.0	0.77		-	0.70	-	N
00737 TT	Cathay Nasdaq AI& Robo	48		1.3	0.07	95	1.10	-	-	N
ASIA AU	BetaShares Asia Tech Tigers	38		0.4	0.57		0.67	-	-	N
520004 KS	MiraeAsset Electronics Core5 ETN 4	31		0.0	0.22		0.75	-	-	N
550009 KS	NH QV Hardware TOP5 ETN 9	30		0.0	0.31		0.84	0.02	-	N
1613 JP	TPX Elec Appliances	24		0.0	1.00	159	0.22	2.02	-	N
157490 KS	Mirae Asset Tiger Software	23	↑	0.0	0.29		0.40	0.89	-	N
550008 KS	NH QV Software TOP5 ETN 8	22		0.0	0.41		0.87	0.02	-	N
0052 TT	Fubon Taiwan Tech	22	↑	0.2	0.47	41	0.54	0.25	-	N
1610 JP	Daiwa-TPX Elec Appliances	22		0.0	0.75	159	0.24	2.27	-	N
243880 KS	Mirae Asset Tiger 200 IT Lev	20	↓	0.4	0.20	12	0.69	-	+2x	N
RBTZ AU	BetaShares Global Robo And AI	17		0.1	0.54	36	0.57	-	-	N
2812 HK	Samsung CSI China Dragon Internet	14		0.1	0.43	30	1.80	-	-	N
1626 JP	Next Funds TPX17 IT & Services	14	↓	0.0	1.27	471	0.32	1.40	-	N
091230 KS	Mirae Asset TIGER Semicon	12	↓	0.2	0.23	34	0.46	1.65	-	N
091160 KS	SS KODEX Semicon	12	↓	0.2	0.19	34	0.45	1.70	-	N
300950 KS	SS KODEX Game Industry	9		0.1	0.27		0.45	-	-	N
280320 KS [C]	KIM Kldx US INTERNET - Synth H	9		0.3	0.25		0.50	-	-	N
261060 KS	Mirae Asset TIGER KOSDAQ 150 IT	9	↓	0.0	0.27		0.30	1.32	-	N
520005 KS	MiraeAsset Inv Electronics Core5 ETN 5	9		0.0	0.51		0.80	-	-1x	N
ACDC AU	ETFS Battery Tech and Lithium	8		0.0	0.39	30	0.82	-	-	N
9181 HK	Premia Asia Innovative Tech	8		0.0	0.60	50	0.50	-	-	N
3181 HK	Premia Asia Innovative Tech	8		0.0	0.50	50	0.50	-	-	N
0053 TT	Yuanta/P-Shrs Taiwan Electronics Tech	7		0.0	0.47		0.44	0.50	-	N
1643 JP	Daiwa TPX-17 IT & SERVICES OTHERS	7		0.0	0.18	471	0.19	1.19	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Sector Funds									
Technology (Continued)										
266370 KS	SS KODEX IT	6	↓	0.2	0.27	61	0.45	1.59	-	N
83186 HK	Cicc KraneShrs Csi China Internet Idx	6	↓	0.0	0.67		0.72	2.80	-	N
9186 HK	Cicc KraneShrs Csi China Internet Idx	6	↓	0.0	0.81		0.72	0.57	-	N
3186 HK	Cicc KraneShrs Csi China Internet Idx	6	↓	0.0	0.63		0.72	0.51	-	N
266360 KS	SS KODEX Media & Entertainment	6	↓	0.0	0.33	23	0.45	0.66	-	N
300610 KS	MIRAE ASSET TIGER K-GAME	5		0.0	0.34		0.50	-	-	N
300640 KS	KBSTAR Game Industry	5		0.0	0.41		0.30	-	-	N
2522 JP	iShares Auto & Robot	5		-	0.48		0.48	-	-	N
298770 KS	SS KODEX Korea Taiwan IT Premier	4		0.0	0.84		0.55	-	-	N
00735 TT	Cathay Korea/taiwan IT Premier	4		0.1	0.29		0.48	-	-	N
1642 JP	Daiwa TPX17 Elec Appl & Pl	3	↓	0.1	0.18	191	0.19	1.87	-	N
309170 KS	Hanwha ARIRANG KRX300 IT	3		-	0.19		0.40	-	-	N
EICT TB	KTAM SET ICT Tracker	0		0.0	2.20	26	1.50	0.70	-	N
Telecom										
098560 KS	Mirae Asset TIGER Media & Telecom	7	↑	0.1	0.18	10	0.46	2.24	-	N
Utilities										
1627 JP	Next Funds TPX17 Elec Power & Gas	6	↑	0.0	0.65	22	0.32	2.55	-	N
	Style									
Growth										
VDHG AU [C]	Vanguard Diversified High Growth Idx	107	↑	0.4	0.41		0.27	-	-	N
VDGR AU [C]	Vanguard Diversified Growth Idx	70	↑	0.3	0.22		0.27	-	-	N
292100 KS	Mirae Asset Tiger Large Growth	54	↑	0.1	0.26		0.30	1.87	-	N
292130 KS	Mirae Asset Tiger Mid Small Growth	34	↑	0.4	0.28		0.29	0.85	-	N
CNEW AU	Vaneck Vectors China New Economy	29		-	0.94		0.95	-	-	N
530019 KS	Samsung US Large Cap Growth ETN 19	25		0.0	0.39	104	0.60	-	-	N
530015 KS [C]	Samsung US Large Cap Growth ETN H 15	24		0.1	0.32		0.70	-	-	N
530021 KS	Samsung Sec US Mid&Small Cap Grwth	22		0.0	0.43		0.70	-	-	N
530017 KS [C]	Samsung US Mid & Small Cap Growth	22		0.0	-		0.80	-	-	N
159906 CH	Dacheng SZSE Growth 40 Idx	18		0.0	0.91		-	-	-	N
247800 KS	SS KODEX Turnaround Invstmnt	14	↑	0.1	0.21		0.45	1.78	-	N
570031 KS [C]	TRUE Lev HSCEI ETN H 31	10		-	0.12		1.50	-	+2x	N
247790 KS	SS KODEX Growth Invstmnt	10		0.1	0.30		0.45	2.85	-	N
XMTS LI [A]	Reksa Dana MNC36 Likuid	-		-	2.12		-	-	-	N
Value										
MGE AU [A]	Magellan Global Equities Fund	941		1.8	0.33		1.35	-	-	N
292110 KS	Mirae Asset Tiger Large Val	91	↑	0.2	0.24		0.30	2.81	-	N
MHG AU [C A]	Magellan Global Equities Fund	68	↑	0.2	0.47		1.35	5.74	-	N
1480 JP	Next Funds Enterprise VI ETF	67		0.0	0.59	280	0.23	2.03	-	N
292140 KS	Mirae Asset Tiger Mid Small Val	39	↑	0.4	0.28		0.29	2.27	-	N
227570 KS	Mirae Asset TIGER Quality Val EETF	36	↑	1.4	0.16		0.40	-	-	N
223190 KS	SS KODEX 200 Val Low Vol	34	↓	0.3	0.21	199	0.30	2.64	-	N
213610 KS	SS KODEX SAMSUNG Group Val	25		0.0	0.36		0.15	2.51	-	N
510030 CH	SSE 180 Val	23		0.1	0.55		0.60	1.37	-	N
530020 KS	Samsung US Large Cap Val ETN 20	23		0.0	0.42	119	0.50	9.03	-	N
530016 KS [C]	Samsung US Large Cap Val ETN H 16	23		0.0	-		0.60	9.82	-	N
3046 HK	Val China	23	↓	0.1	0.76		0.10	0.71	-	N
530022 KS	Samsung US Mid & Small Cap Val ETN 22	21		0.0	0.44		0.60	-	-	N
530018 KS	Samsung US Mid&Small Cap Val ETN H 18	21		0.0	-		0.70	-	-	N
244670 KS	SS KODEX Val PLUS	16	↑	0.2	0.27		0.30	2.36	-	N
83095 HK	Val China A	16		0.0	0.99		0.10	0.33	-	N
3095 HK	Val China A	16		0.0	0.88		0.10	2.84	-	N
143460 KS	Kldx Val Large	13	↑	0.3	0.24		0.15	3.49	-	N
275540 KS	KYOBO AXA POWER SMART Val	12	↓	0.0	0.30		0.25	3.22	-	N
275290 KS	SS KODEX MSCI Enhanced Val	10	↓	0.1	0.31	80	0.30	2.87	-	N
VVLU AU [A]	Vanguard Global Val Equity Active	10		0.1	0.54		0.28	5.97	-	N
247780 KS	SS KODEX Val Invstmnt	9	↑	0.1	0.29		0.45	2.42	-	N
272230 KS	KIM Kldx Smart Val	8		0.2	0.31		0.19	3.11	-	N
234310 KS	KBSTAR V&S Select Val	7	↓	0.0	0.34		0.30	2.33	-	N
3084 HK	Val Jpn	7		0.0	1.14		0.70	0.31	-	N
295840 KS	Hanwha ARIRANG 200 Val Tilt	6		0.1	0.14		0.30	-	-	N
222180 KS	Hanwha ARIRANG SMARTBETA Val	6	↓	0.1	0.15		0.35	3.08	-	N
241390 KS	Kbstar V&S Select Val Fb ETF	6		0.0	0.21		0.23	0.86	-	N
097750 KS	Yurie TREX Mid Small Cap Val	5		0.0	0.47		0.46	2.72	-	N
3060 HK	Val Taiwan	4		0.0	0.86		0.70	0.53	-	N
3041 HK	Val Korea	3		0.0	1.08		0.70	1.16	-	N
Dividend										
VHY AU	Vanguard AU Shrs High Yield	805		1.9	0.09		0.25	0.13	-	N
1577 JP	Next Funds Jpn Eqt High DVD70	757		0.3	0.10	70	0.32	2.81	-	N
0056 TT	Yuanta/P-Shrs Taiwan Dvd Plus	519	↑	5.1	0.04		0.44	2.14	-	N
XGSD SP	db x-trackers Stoxx Global 100 DVD UCITS	470		0.0	1.03	100	0.50	1.15	-	N
510880 CH	Huatai-PineBridge SSE Dvd Idx	397	↑	4.4	0.05	50	1.60	0.23	-	N
161510 KS	Hanwha ARIRANG High Dvd	338	↑	3.4	0.10		0.23	5.59	-	N
1478 JP	iShares MSCI Jpn High Dvd	337	↑	0.1	0.08		0.19	3.11	-	N
1489 JP	Next Funds Nikkei 225 High Dvd Stock 50	282	↑	0.4	0.21		0.28	3.86	-	N
RDV AU	Russell Invest High Div Aust Shrs	196		0.2	0.17	50	0.34	2.89	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)	Style	Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Dividend (Continued)										
159905 CH	ICBC Credit Suisse Shenzhen DVD Price	169	↑	2.0	0.12		1.40	0.65	-	N
IHD AU	iShares S&P/ASX Dvd Opportunities	163		0.3	0.14	48	0.30	0.08	-	N
WDIV AU	SPDR S&P Global Dvd Fund	158	↑	0.3	0.18	100	0.50	0.21	-	N
1698 JP	Jpn High Dvd TSE Dvd Focus 100	141		0.0	0.13		0.38	2.75	-	N
3070 HK	Ping An of China CSI HK Dvd	117		0.0	1.56	30	0.55	0.50	-	N
04316179 JP	Daiwa TPX High Dvd Yield 40 Idx	115		-	-		0.19	-	-	N
1651 JP	Daiwa TPX High Dvd Yield 40 Idx	115	↑	0.1	0.15		0.21	2.60	-	N
47313175 JP	One High Dvd Jpn Equity	114		-	-	48	0.28	2.62	-	N
1494 JP	One High Dvd Jpn Equity	114	↑	0.0	0.18	48	0.28	2.62	-	N
HVST AU[A]	BetaShares AU Dvd Harvester Fund	114	↓	0.3	0.25		0.90	-	-	N
SYI AU	SPDR MSCI AU Select High Dvd Yield Fund	107		0.2	0.15		0.35	0.13	-	N
00730 TT	Fubon DJ Taiwan High-Quality Dvd 30	96		0.1	0.13		-	6.13	-	N
3145 HK	BMO Asia High Dvd	75		0.0	0.97		0.45	0.31	-	N
ZYAU AU	ETFS S&P/ASX 300 High Yield Plus	67	↑	0.1	0.44		0.35	0.22	-	N
270800 KS	KBSTAR KQ High Dvd	62		0.2	0.30		0.30	3.19	-	N
2048 JP	Next Notes Nomura Jpn Equity High Dvd 70 Ne	56		0.1	0.93		0.85	1.19	-	N
279530 KS	SS KODEX High Dvd	55	↑	0.5	0.15		0.30	5.67	-	N
1499 JP	MAXIS Jpn Equity High Dvd 70 Mkt Neutral	52	↑	0.0	0.98		0.40	3.27	-	N
0331717C JP	MAXIS Jpn Equity High Dvd 70 Mkt Neutral	51		-	-		-	3.27	-	N
266160 KS	KBSTAR High Dvd	48		2.0	0.21		0.20	3.75	-	N
550002 KS	NH QV WISE Dvd ETN 2	44		0.0	0.30		1.20	-	-	N
MVS AU	VanEck Vectors Small Companies Masters	43		0.1	0.42		0.49	0.05	-	N
9085 HK	Vanguard FTSE Asia ex JP High Dvd	39		0.0	1.30		0.35	0.19	-	N
83085 HK	Vanguard FTSE Asia ex JP High Dvd	39		0.0	0.75		0.35	1.49	-	N
3085 HK	Vanguard FTSE Asia ex JP High Dvd	39		0.0	0.78		0.35	0.16	-	N
281990 KS	KBSTAR Mid Small Cap High Dvd	36	↓	0.1	0.29		0.30	3.11	-	N
00742 TT	Shin Kong Domestic Demand High Dvd	32		0.0	0.37		-	-	-	N
210780 KS	Mirae Asset Tiger Kospi High Dvd	30	↑	0.2	0.20	50	0.29	5.17	-	N
211900 KS	SS KODEX Dvd Growth - Equity	30		0.1	0.19	50	0.15	2.65	-	N
DIV NZ	NZ Dvd Fund	24	↑	0.1	0.72	25	0.54	0.43	-	N
590017 KS[C]	MiraeAsset USA High Dvd ETN H 17	22		0.0	0.70	57	0.90	8.99	-	N
2065 JP	Next Notes DVD Arst USD ETN	20		0.0	0.73		0.85	9.48	-	N
2043 JP	Next Notes Stoxx Asean-5 select div 50 ETN	19		0.0	0.91		0.80	0.02	-	N
3110 HK	Mirae Asset Horizons HSI High Dvd	18		0.0	0.70		0.44	0.26	-	N
ASD NZ	AU Dvd Fund	17		0.0	6.85	48	0.54	3.08	-	N
237370 KS	SS KODEX Growth Dvd Balanced	17		0.0	0.11		0.19	2.01	-	N
211560 KS	Mirae Asset TIGER Dvd Growth - Equity	16	↓	0.1	0.18	50	0.15	2.91	-	N
276970 KS[C]	Ss Kodex Us S&P Dvd Cvd cl-Synth H	15	↓	0.1	0.18		0.30	8.10	-	N
MEMMID MK	MyETF MSCI Malaysia Islamic Dvd	14		0.0	3.15		0.49	0.93	-	N
251600 KS	Hh Arirang H DVD Bd-Bal ETF	13		0.1	0.11		0.20	1.92	-	N
CIMBDVD SP	Principal S&P Ethical APAC Dvd	12		0.0	0.86		0.65	1.85	-	N
245350 KS	Mirae Asset Tiger Euro Stoxx Dvd 30	11		0.0	0.24	30	0.35	9.48	-	N
260200 KS	Kiwoom KOSEF Dvd Buyback Plus	11		2.7	0.26		0.40	2.77	-	N
MEMSID MK	MyETF MSCI SEA Islamic Dvd	10		0.0	-		0.76	1.63	-	N
104530 KS	Kiwoom KOSEF High Dvd	9	↓	0.0	0.21		0.40	5.90	-	N
322410 KS	NH-Amundi HANARO High Dvd	8		-	-			-	-	N
211210 KS	DB Mighty KOSPI High Dvd Yield	8	↓	0.0	0.72	50	0.28	4.85	-	N
FDIV AU	VanEck Vectors S&P/ASX Franked Dvd	7	↑	0.0	0.50		0.35	0.03	-	N
DIV AU	UBS IQ Morningstar AU Dvd Yield	7	↓	0.0	0.41		0.30	0.12	-	N
213630 KS[C]	Hanwha DJ US Select Div Synth H Eq-Deriv	6		0.0	0.59	100	0.40	8.00	-	N
211260 KS	Kldx Dvd Growth-Equity	5		0.0	0.37	50	0.15	3.39	-	N
266140 KS	Mirae Asset TIGER Sustainable Dvd	5		0.0	0.29		0.29	4.70	-	N
2529 JP	Next Funds Nomura Shrholder Yield 70	4		-	-		-	-	-	N
01312194 JP	Next Funds Nomura Shrholder Yield 70	4		-	-		-	-	-	N
RDIVOPP IN	Reliance Dvd Opportunities	3		0.0	1.46		0.15	0.12	-	N
XIHD IJ	Premier IDX High Dvd 20	3		-	1.69		-	-	-	N
XPDV IJ	Pinnacle CORE High Dvd	0	↓	0.0	2.05		3.50	-	-	N
1DIV TB	ThaiDEX SET High Dvd	0	↓	0.0	0.36	26	1.06	4.55	-	N
ONESTOX SP	One Stoxx Asean Select Dvd Idx Fund	-		0.0	0.28		3.02	-	-	N
315960 KS	KBSTAR Large Cap High Dvd10TR - Equity	-		-	0.33		-	-	-	N
Low Vol										
1477 JP	iShares MSCI Jpn Minimum Vol ex-REITs	101		0.1	0.12	150	0.19	1.87	-	N
WVOL AU	iShares Edge MSCI World Minimum Vol	39	↑	0.2	0.57		0.30	0.13	-	N
174350 KS	MIRAE ASSET TIGER LOW Vol	31		0.3	0.17		0.40	3.51	-	N
252730 KS	KBSTAR Mom Low Vol	21	↓	0.3	0.23		0.35	2.23	-	N
266550 KS	Hanwha ARIRANG MidCap Low Vol50	20		0.1	0.15		0.23	3.10	-	N
550004 KS	NH QV LongShort K150 Buy Low VOL	17		0.0	0.33		1.20	0.03	-	N
MVOL AU	iShares Edge MSCI AU Minimum Vol	17	↑	0.2	0.10		0.30	0.11	-	N
215620 KS	Heungkuk S&P Korea Low Vol - Equity	12	↑	0.0	0.44	50	0.40	-	-	N
00701 TT	Cathay TIP TAIEX+ Low Vol Select 30	11	↓	0.2	0.09		0.34	1.85	-	N
279540 KS	SS KODEX Min Vol	11		0.1	0.28	120	0.30	2.20	-	N
295890 KS	Hanwha ARIRANG 200 Low VOL Tilt	9		0.1	0.15		0.30	-	-	N
322130 KS	KIM Kldx Smart Low Vol	6		-	-		-	-	-	N
267300 KS	Mirae Asset Tiger KOSDAQ 150 Low Vol	6		0.0	0.38		0.40	1.64	-	N
236460 KS	Hanwha ARIRANG SMARTBETA Low VOL	5		0.0	0.15		0.35	3.42	-	N
INLV30I IN	ICICI Prudential Nifty Low Vol 30 Fund	4		0.0	0.78		0.42	0.25	-	N
Volatility										
00677U TT	Fubon SPX VIX ST Ftrs	654	↑	16.4	0.18		-	1.81	-	N
550057 KS	NH QV KOSPI Vol Matching Strangle ETN 57	592		-	0.20		0.80	-	+1x	N
530060 KS	Samsung KOSPI Short Strangle 5% OTM ETN	433		-	0.07		0.60	-	+1x	N
570019 KS	TRUE KOSPI Short Strangle 5% OTM ETN 19	307		3.8	0.06		0.80	-	-	N
1552 JP	KOKUSAI SPX VIX ST Ftrs Idx	193	↑	5.7	0.11		0.36	-	-	N
550001 KS	NH QV Big Vol ETN 1	47		0.0	0.30		1.20	0.03	-	N
530053 KS	Samsung KOSPI PutWrite ETN 53	44		0.1	0.06		0.55	-	-	N
512390 CH	Ping An UOB MSCI CH A Minimum Vol Idx	32		1.9	0.36		0.60	-	-	N
2035 JP	Next Notes Nikkei 225 VI Ftrs Idx ETN	14	↑	0.2	0.28		0.95	0.20	-	N
VMIN AU[C A]	Vanguard Global Minimum Vol Active	7		0.0	0.44		0.28	6.61	-	N
530057 KS	Samsung K200 Call 1908-01 ETN 57	6		0.0	0.17	200	1.00	-	-	N
530059 KS	Samsung K200 Put 1908-01 ETN 59	6		0.0	0.16	200	1.00	-	-	N
530058 KS	Samsung K200 Call 1908-02 ETN 58	6		0.0	0.17	200	1.00	-	-	N
500045 KS	Shinhan SPX VIX S/T Ftrs ETN B 45	-		-	-		-	-	-	N
550058 KS	NH QV SPX VIX S/T Ftrs ETN B 58	-		-	-		-	-	-	N
530065 KS	Samsung SPX VIX S/T Ftrs ETN H B 65	-		-	-		-	-	-	N
Momentum										
147970 KS	Mirae Asset TIGER Mom	21	↑	0.2	0.23		0.29	2.64	-	N
244620 KS	SS KODEX Mom PLUS	19		0.2	0.23		0.30	1.02	-	N
530003 KS	Samsung Mom Top Pick ETN 3	8		0.0	0.27		1.20	0.03	-	N
272220 KS	KIM Kldx Smart Mom	8		0.1	0.29		0.19	2.29	-	N
295860 KS	Hanwha ARIRANG 200 Mom Tilt	5		0.0	0.15		0.30	-	-	N
222190 KS	Hanwha ARIRANG SMARTBETA Mom	4		0.0	0.15		0.35	2.62	-	N
275280 KS	SS KODEX MSCI Mom	4	↓	0.1	0.33	199	0.30	1.86	-	N
Quality										
QUAL AU	Vaneck Vectors MSCI World ex AU Quality	401	↑	0.9	0.18		0.40	0.04	-	N
244660 KS	SS KODEX Quality PLUS	11	↓	0.2	0.28		0.30	1.71	-	N
3165 HK[C]	BMO MSCI Europe Quality Hdgd to USD	7	↓	0.1	0.87		0.50	0.18	-	N
222200 KS	Hanwha ARIRANG SMARTBETA Quality	7	↑	0.1	0.15		0.35	2.54	-	N
322120 KS	KIM Kldx Smart Quality	7		-	-		-	-	-	N
1460 JP	MAXIS Jpn Quality 150 Idx	6		0.0	5.59	149	0.24	1.74	-	N
ETF AU	UBS IQ Morningstar AU Quality	5		0.0	0.61		0.30	0.10	-	N
238670 KS	HH Arirang SmartBeta Quality B	5		0.0	0.10		0.20	0.80	-	N
295880 KS	Hanwha ARIRANG 200 Quality Tilt	5		0.0	0.15		-	-	-	N
275300 KS	SS KODEX MSCI Quality	5	↓	0.0	0.27	69	0.30	1.83	-	N
3166 HK	Ping An MSCI CH Quality Factor	4		-	1.52	25	0.55	-	-	N
SBIETFQ IN	SBI - Quality	3		-	0.45		0.50	-	-	N
QHAL AU[C]	Vaneck MSCI World ex AU Quality Hdgd	2		-	0.37		0.43	-	-	N
EDENI30 IN	Edelweiss - Nifty 100 Quality 30	1		0.0	3.88		0.26	0.24	-	N
Multi-factor										
WDMF AU	iShares Edge MSCI World Multifactor	150	↑	0.5	0.35		0.35	0.07	-	N
1490 JP	Nikko ETF MSCI JP Eq Hi ETF	126		0.1	1.04		0.45	2.30	-	N
1399 JP	Listd Idx Fund MSCIJP High Div Low Vol	104	↓	0.0	0.51		0.45	2.72	-	N
00713 TT	Yuanta Taiwan High Dvd Low Vol	101		0.0	0.20		0.49	2.37	-	N
00731 TT	Fuh Hwa FTSE Taiwan High Div Low Vol	90		0.0	0.18		-	0.51	-	N
SWTZ AU[A]	Switzer Dvd Growth Fund	54		0.1	0.79	200	0.89	3.57	-	N
ZYUS AU	ETFS SPX High Yield Low Vol	50	↑	0.1	0.26	50	0.35	1.69	-	N
WCMQ AU[A]	WCM Quality Global Growth Fund	45		0.1	0.70		1.35	-	-	N
251590 KS	Hanwha ARIRANG High Dvd Low Vol 50	25	↑	0.1	0.15		0.20	4.02	-	N
252720 KS	KBSTAR Mom Val	17	↓	0.2	0.26		0.35	3.00	-	N
192720 KS	Kyobo Axa Power LVHD	15		0.1	0.26	50	0.23	4.31	-	N
EMKT AU	Vaneck Vectors Msci Multifactor EM Equity	11	↑	0.1	0.56		0.69	0.37	-	N
AUMF AU	iShares Edge MSCI AU Multifactor	10	↑	0.0	0.36		0.30	0.16	-	N
290080 KS	KBSTAR 200 High DvdCov Call ATM	6		0.0	0.23		0.40	3.52	-	N
3163 HK	Ping An MSCI CH Multi-Factor	5		-	1.47	71	0.55	-	-	N
300310 KS	KBSTAR KQ Mom Val	4		0.0	0.36		0.35	-	-	N
300300 KS	KBSTAR KQ Mom Low Vol	4		0.0	0.33		0.35	-	-	N
00702 TT	Cathay SPX Low Vol High Dvd	4	↓	0.1	0.28	50	0.50	2.03	-	N
VGMF AU[A]	Vanguard Global Multi-Factor Active	-		-	0.46		0.34	-	-	N
Socially Responsible										
00692 TT	Fubon TWSE Corp Governance 100	109	↑	0.4	0.08		0.19	1.75	-	N
4731917B JP	One ESG	91		-	-		0.13	-	-	N
1498 JP	One ESG	91	↑	0.0	0.19	152	0.13	2.60	-	N
01311185 JP	Next Funds MSCI Jpn Empowering Women	33		-	-	211	0.15	-	-	N
2518 JP	Next Funds MSCI Jpn Empowering Women	33		0.0	0.14	211	0.15	-	-	N
04318179 JP	Daiwa MSCI Jpn ESG Select Ldr Idx	28		-	-		0.15	-	-	N
1653 JP	Daiwa MSCI Jpn ESG Select Ldr Idx	28	↑	0.1	0.12	268	0.15	1.33	-	N
285690 KS	HI Focus ESG Ldr150	24		0.0	0.35	150	0.10	2.39	-	N
289040 KS	SS KODEX MSCI Korea ESG Unv	18		0.0	0.35		0.30	2.52	-	N
BMSCG TB	BCAP Mid Small CG	17		0.0	0.31	40	1.34	0.23	-	N
278420 KS	Hanwha ARIRANG ESG Leading Company	16		0.0	0.15		0.23	3.40	-	N
ESGI AU	VanEck Vectors MSCI Intl Sustainable Equity	16	↑	0.0	0.57		0.55	0.12	-	N
VESG AU	Vanguard Ethically Conscious Intl Shrs Idx	13		0.2	0.23		0.18	-	-	N
04319179 JP	Daiwa MSCI Jpn Empowering Women	13		-	-		-	-	-	N
1652 JP	Daiwa MSCI Jpn Empowering Women	12	↑	0.0	0.14	213	0.15	1.55	-	N
290130 KS	KBSTAR ESG SRI	6		0.0	0.31		0.30	2.00	-	N
289250 KS	Mirae Asset TIGER MSCI Korea ESG Unv	5	↓	0.7	0.36		0.40	2.51	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Style									
Socially Responsible (Continued)										
289260 KS	Mirae Asset TIGER MSCI Korea ESG Ldr	5	↓	0.6	0.37		0.40	2.80	-	N
XPSG IJ[A]	Pinnacle Indonesia ESG	1	↓	0.0	2.44		3.40	7.05	-	N
XPES IJ[A]	Pinnacle Enhanced Sharia	1		0.0	2.25		3.50	6.02	-	N
VEFI AU[C]	Vanguard Ethically Glb Aggregate Bond Hdgd	1		0.0	0.35		0.26	-	-	N
Theme										
510810 CH	CSI Shanghai SOE	1,399		2.6	0.16		-	8.54	-	N
102780 KS	SS KODEX Samsung Group Invstmnt Trust	910		1.5	0.12		0.25	2.09	-	N
1479 JP	Daiw a MSCI Jpn H&P Invstmnt	496		0.2	0.21		0.38	1.97	-	N
512000 CH	Fortune SG CSI All Shr Securities Companies	474	↑	31.6	0.10		-	-	-	N
1484 JP	One JPX/S&P CAPEX & Human Cap Idx	399	↓	0.0	0.18		0.17	3.09	-	N
512660 CH	Guotai CSI National Defense	262	↑	11.1	0.13		1.10	4.26	-	N
512580 CH	GF CSI Environment Protection Industry	255	↑	1.3	0.16		-	2.15	-	N
159948 CH	China Southern ChiNext Idx Fund	178	↑	1.2	0.15	100	1.60	0.39	-	N
550056 KS	NH QV KOSPI 5% Short strangle OTM ETN 56	173		-	0.27		0.80	-	+1x	N
HACK AU	BetaShares Global CyberSec	109	↑	0.4	0.40		0.67	1.66	-	N
510160 CH	China Sec Southern Well-off Industry	100		0.1	0.22		1.60	0.39	-	N
1483 JP	iShares JPX/S&P CAPEX & Human Cap	98		0.0	1.18		0.19	2.09	-	N
RARI AU	Russell Invest Aust Responsible Inv	84	↑	0.2	0.35		0.45	0.16	-	N
DJIM25 MK	MyETF DJ Islamic Mkt Malaysia Titans 25	72		0.0	2.96	25	0.49	0.18	-	N
XISC IJ[A]	Premier Indonesia State-Ow ned Companies	68		0.0	1.65		-	-	-	N
512680 CH	GF CSI National Defense Industry Idx	59	↑	0.7	0.20		-	-	-	N
580007 KS	KB KB KQ Bluechip30 ETN 7	56		0.0	0.06		0.65	0.02	-	N
580006 KS	KB KB KTOP30 ETN 6	46		0.0	0.15	30	0.39	1.56	-	N
520026 KS	MiraeAsset KOSPI Short Strangle 5% OTM	43		-	0.08		0.60	-	+1x	N
570030 KS	TRUE KOSPI Short Strangle ATM ETN 30	43		0.2	0.08		1.00	-	-	N
580008 KS	KB KOSPI Short Strangle 5% OTM ETN 8	42		-	0.15		0.60	-	-	N
570029 KS	TRUE KOSPI Short Strangle 3% OTM ETN 29	42		0.0	0.08		0.80	-	-	N
1481 JP	Japanese Economy Contributor Stocks	30		0.0	0.27		0.45	2.65	-	N
1485 JP	MAXIS Jpn Proactive Invstmnt in H&P 200 Idx	29		0.0	-		0.22	2.24	-	N
108450 KS	Kldx Samsung Group Sector Weighted	25	↓	0.3	0.19		0.15	2.01	-	N
520014 KS	MiraeAsset Media Ent Core5 ETN 14	24		0.0	0.28		0.75	0.02	-	N
305540 KS	MIRAE ASSET TIGER SECONDARY CELL	22		1.4	0.13		0.50	-	-	N
XISR IJ	Premier Sri Kehati	22	↑	0.0	1.53	25	0.41	0.30	-	N
520013 KS	MiraeAsset Q150 Core5 ETN 13	20		0.0	0.31		0.75	0.02	-	N
2069 JP	Next Notes Jpn Low Beta Select 50 Net TR	20		0.0	0.67		0.85	0.03	-	N
217790 KS	Mirae Asset TIGER Contrarian - Equity	18		0.2	0.27		0.29	1.81	-	N
550003 KS	NH QV Smart Rebalancing 250/3	18		0.0	0.32		1.05	0.03	-	N
2068 JP	Next Notes Jpn High Beta Select 30 Net TR	17		0.1	0.65		0.85	0.03	-	N
550033 KS	NH QV Smart Rebalancing 260/4 ETN 33	17		0.0	0.33		1.05	0.03	-	N
570008 KS	TRUE Sector Top Pick ETN 8	16		0.0	0.08		0.75	0.02	-	N
530009 KS	Samsung Securities Theme ETN 9	16		0.0	0.34		0.80	0.02	-	N
550030 KS	NH QV OLED ETN 30	16		0.0	0.37		1.20	0.03	-	N
510090 CH	CCB Social Responsibility Open Idx	16		0.0	2.12	100	0.00	0.97	-	N
550031 KS	NH QV Aerospace ETN 31	15		0.0	0.48		1.20	0.03	-	N
170350 KS	Mirae Asset TIGER Beta Plus	15		0.0	0.30		0.40	1.81	-	N
550032 KS	NH QV Defense Industry ETN 32	14		0.0	0.52		1.20	0.03	-	N
510190 CH	Huaan SSE Industry Top Idx	14		0.1	0.55	1,508	-	1.20	-	N
104520 KS	Kiw oom KOSEF Blue Chip	13		0.0	0.29		0.40	2.59	-	N
510070 CH	Penghua SSE Private-ow ned Enterprises 50	12		0.1	0.23		1.00	1.56	-	N
105780 KS	KBSTAR Top5 Group	11		0.0	0.36		0.40	2.42	-	N
512810 CH	Fortune SG CSI Military Industry	10		0.3	0.23		-	-	-	N
131890 KS	Kldx Samsung Group Equal Weighted	7		0.0	0.33		0.15	2.61	-	N
159911 CH	PENGHUA SZSE Private Ow ned Enterprise	7		0.0	0.25		1.00	-	-	N
283930 KS	KBSTAR Holding Company	7		0.0	0.32		0.30	3.35	-	N
145850 KS	Yurie TREX Fundamental 200	6		0.0	0.46		0.34	3.21	-	N
138530 KS	Mirae Asset TIGER LG Group+ Fundamental	6	↑	0.0	0.27		0.15	2.44	-	N
138540 KS	Mirae Asset TIGER Hyundai Motor Group+	5	↓	0.1	0.31		0.15	2.68	-	N
140580 KS	KBSTAR Prime Industry Securities - Equity	5		0.0	0.31		0.40	2.77	-	N
140570 KS	KBSTAR Exporter Securities - Equity	5	↓	0.0	0.32		0.40	1.77	-	N
METAGR MK	MyETF Thomson Reut APxJp Islamic Agri	5		0.0	-		0.85	-	-	N
138520 KS	Mirae Asset TIGER Samsung Group	5		0.0	0.33		0.15	2.30	-	N
UBJ AU	UBS IQ MSCI Jpn Ethical	4	↑	0.0	0.23		0.40	0.32	-	N
510120 CH	SSE Non-Cyclical Industry 100	4		0.0	2.34	1,508	0.60	1.27	-	N
512560 CH	E Fund CSI Military Industry	3	↓	0.1	0.61		-	-	-	N
510260 CH	Lion SSE Emerging Industries Idx	3	↓	0.0	1.00	1,508	-	2.94	-	N
XIJI IJ	Premier Syariah JII	2		0.0	1.61	30	1.32	2.18	-	N
ECOMM TB	KTAM SET Commerce Tracker	1		0.0	0.98	22	1.50	1.39	-	N
SBEES IN	Reliance Shariah BeES	0		0.0	1.82		1.16	0.20	-	N
700001 KS	Hana KOSPI Vol-Trend Follow ing Short Strg	-		-	0.11		0.80	-	-	N
510011 KS	Daishin Gold Cov Call Target 5% Inc H 11	-		-	0.26		-	-	-	N
500043 KS	Shinhan K200 Condor 4/10% ETN 43	-		-	0.08		-	-	-	N
500044 KS	Shinhan K200 Condor 6/10% ETN 44	-		-	0.20		-	-	-	N
	Fixed Income Funds									
511990 CH	Fortune SG Listed Mmk	11,842		1354.1	0.00		0.44	0.48	-	N
511880 CH	Yinhua Traded Mmk	7,636		1001.2	0.00		-	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Fixed Income Funds									
2821 HK	ABF PAN ASIA BOND Idx FUND	3,655		0.4	0.40	755	0.18	0.12	-	N
511660 CH	CCB Principal Profit Raise Mmk	2,179	↓	169.1	0.00		-	0.53	-	N
00679B TT	Yuanta US Tsy 20+ Yr Bond	1,157		4.4	0.05		0.56	2.05	-	N
00751B TT	Yuanta US 20+ Yr AAA-A Corp Bond	1,139		3.0	0.09		0.40	-	-	N
00761B TT	Cathay Bbg Barclays US Corp A	1,025		-	0.24	204	0.56	-	-	N
AAA AU	BetaShares AU High Interest Cash	1,010	↑	7.3	0.02		0.18	-	-	N
153130 KS	SS KODEX KRW Cash	960		2.6	0.01		0.15	0.02	-	N
00687B TT	Cathay US Tsy 20+ YR	904	↑	3.9	0.10	40	0.90	2.08	-	N
00720B TT	Yuanta US 20+ Yr BBB Corp Bond	889	↑	5.1	0.12		0.54	2.56	-	N
511810 CH[A]	China Southern CashMngmnt Money Mkt	866	↓	97.0	0.00		0.65	-	-	N
214980 KS	SS KODEX KRW Cash Plus - Bond	847		0.5	0.01		0.15	0.03	-	N
00725B TT	Cath Bbb C Bond d Ch Coup ETF	812	↑	5.5	0.19	155	0.61	2.28	-	N
00746B TT	Fubon 9-35 Yrs US Corp Bond A	728		2.5	0.75	367	-	-	-	N
00718B TT	Fubon China Policy Bank Bond	713	↑	2.7	0.15	191	-	2.19	-	N
00747B TT	FUH Hw a China 5 + YR Policy Bank Bond	677		1.3	0.88		-	-	-	N
157450 KS	Mirae Asset Tiger Money Mkt	671	↓	0.8	0.01		0.09	0.03	-	N
00764B TT	Cap Ice 25 + Yr US Tsy	660		-	0.25	20	0.21	-	-	N
273130 KS[A]	SS KODEX Active Korea Bond Mkt AA-	660	↑	1.4	0.02	10,324	0.07	0.37	-	N
00744B TT	Cathay Chinese Policy Bank Bond 5+	639		2.0	0.30		0.55	-	-	N
VAF AU	Vanguard AU Fixed Interest Idx	618	↑	1.5	0.09		0.20	0.05	-	N
SBIF SP	ABF Singapore Bond Idx Fund	592		0.1	0.18	40	0.25	0.77	-	N
00748B TT	KGI China Policy Bank 3-10 Yr Bond	591		1.9	1.56	87	0.50	-	-	N
00696B TT	Umbrella Fund- Fubon 20+ Yrs US Tsy	585	↑	2.2	0.12		-	2.07	-	N
00726B TT	Cath Em Usd Inv Ex China Cup	536	↑	1.4	0.23	130	0.61	3.47	-	N
IAF AU	iShares CORE Composite Bond	526	↑	1.8	0.11	655	0.20	0.04	-	N
00756B TT	Cap ICE Intl 15+ US EM	520		0.8	0.22	61	0.61	-	-	N
00750B TT	KGI 10+ Yr USD Tech Bond	449		0.5	1.47	86	0.50	-	-	N
511850 CH	Ch Merchants Caifubao Mmk-E	429	↑	28.6	0.00		0.68	9.66	-	N
511690 CH	Dacheng Tianyi Traded Mmk	407	↓	41.0	0.00		-	-	-	N
00740B TT	Fubon US Corp Bond BBB Ex China	406		2.4	0.42	155	-	-	-	N
00773B TT	CTBC Bbg Barclays Banking Senior	388		-	0.21	48	-	-	-	N
00791B TT	Fuh Hw a 1-5 Yr USD Credit Select Bond	368		-	0.46		0.51	-	-	N
MBIF MK	ABF Malaysia Bond Idx Fund	361		0.0	-	128	0.10	0.17	-	N
00795B TT	CTBC U.S. Tsy 20+ Yr Bond	351		-	0.09		0.15	-	-	N
00721B TT	Yuanta Ch Tsy Pbank 3-5 Y ETF	351	↑	1.1	0.20		0.55	2.35	-	N
2819 HK	ABF HK Bond Idx Fund	335		0.0	1.10	71	0.20	0.17	-	N
00778B TT	KGI 20+Yrs US Banking Bond	329		-	1.11	52	0.56	-	-	N
00732 TT	Cathay FTSE CH Gov and Policy Bank	322		0.2	0.28		0.33	-	-	N
511220 CH	SSE Pledge Urban Invstmnt Bond	313	↓	0.7	0.08		0.40	-	-	N
QPON AU	BetaShares AU Bank Senior Floating	305	↑	1.6	0.07		0.22	0.07	-	N
00772B TT	CTBC Bbg Barclays USD Corp	303		-	0.15	291	0.57	-	-	N
00760B TT	FUH Hw a EM Credit Bond	287		-	1.30	106	-	-	-	N
00749B TT	KGI 10+Yr EM USD IG Bond	281		0.6	2.00	104	0.56	-	-	N
00711B TT	Fuh Hw a EM 10+ Yr Bond	247	↑	0.1	0.21	183	-	2.05	-	N
NIKIGCB SP	Nikko AM SGD IG Corp Bond	223		0.1	0.19		0.30	-	-	N
1677 JP	Intl Bond FTSE WGBI Mtly Dvd Payment Type	211	↑	0.1	0.23		0.40	1.00	-	N
PLUS AU	VanEck Vectors AU Corp Bond Plus	208	↑	0.6	0.17		0.32	0.35	-	N
00754B TT	Cap Ice 15 + Yr Aaa-AA US Corp	204		1.3	0.20	69	0.46	-	-	N
00758B TT	Fuh Hw a 15 + YR Energy Bond	198		-	1.76	91	-	-	-	N
NZB NZ	SmartShrs - New Zealand Bond Fund	194	↑	0.1	-	77	-	0.44	-	N
00710B TT	Fuh Hw a 1-5 Yr High Yield	191	↓	0.4	0.19	425	-	2.46	-	N
HBRD AU[A]	BetaShares Active AU Hybrids Fund	191	↑	0.7	0.19		0.55	0.46	-	N
VIF AU[C]	Vanguard Intl Fixed Interest Idx Hdgd	185	↑	0.6	0.23		0.20	1.50	-	N
1566 JP	Listed Idx Fund Emerging Bond	166	↑	0.3	0.16	654	0.45	6.23	-	N
196230 KS	KBSTAR ST MSB - Bond	159	↓	19.7	0.01		0.13	0.03	-	N
00719B TT	Yuanta US Tsy 1-3 Yr Bond	156	↑	0.5	0.18		0.22	1.81	-	N
VGB AU	Vanguard AU Gov Bond Idx	148	↑	0.7	0.13		0.20	0.05	-	N
RCB AU	Russell Invest Aust Select Corp Bond	147	↑	0.3	0.32		0.28	0.20	-	N
VACF AU	Vanguard AU Corp Fixed Interest Idx	141	↑	0.6	0.16		0.26	0.11	-	N
00727B TT	Cathay High Yield ex China Cash	136	↑	0.1	0.20	199	0.61	3.65	-	N
GBF NZ	SmartShrs - Global Bond Fund	135		0.1	0.10		-	-	-	N
9141 HK	BMO Asia USD IG Bond	127		-	2.81		0.35	-	-	N
3141 HK	BMO Asia USD IG Bond	127		0.1	0.51	813	0.35	0.72	-	N
CRED AU	BetaShares AU IG Corp Bond	125		0.8	0.12		0.25	-	-	N
FLOT AU	VanEck Vectors AU Floating Rate	123	↑	0.5	0.09		0.22	0.02	-	N
00789B TT	Fuh Hw a 20+ Yr A3 or Better Corp Bond	122		-	0.38		0.51	-	-	N
273140 KS[A]	SS KODEX Active Korea FRN Bank 1Y AAA	117		0.2	-		0.15	-	-	N
190620 KS	Korea Invstmnt ST MSB Money Mkt	114		0.1	0.01		0.10	-	-	N
00768B TT	FUH Hw a US Tsy 20 + Yr	110		-	1.47	40	-	-	-	N
00779B TT	KGI 25+ Yrs US Tsy Bond	108		-	0.48	20	0.56	-	-	N
282000 KS	KBSTAR KTB 3Y Ftrs Inv	105	↓	6.3	0.03		0.07	-	-1x	N
00759B TT	FUH Hw a 15 + YR Pharmas Bond	104		-	1.31	76	-	-	-	N
KV4 SP	Xtrackers II Singapore Gov Bond UCITS	99		0.0	0.37		0.20	0.04	-	N
ILB AU	iShares Gov Inflation	98		0.4	0.33	18	0.26	0.03	-	N
IGB AU	iShares Tsy	96	↑	0.7	0.22	24	0.26	0.04	-	N
1496 JP[C]	iShares USD IG Corp Bond JPY	93	↑	0.0	0.13		0.28	1.40	-	N
48312178 JP	iShares USD IG Corp Bond JPY	92		-	-		0.28	1.93	-	N
306540 KS	NH-Amundi HANARO ST MSB	88		0.0	-		0.10	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
00769B TT	FUH Hw a China Credit Bond	87		-	2.13	223	-	-	-	N
114260 KS	SS KODEX Tsy Bond	81	↑	0.5	0.03		0.15	0.14	-	N
LBEES IN	Reliance Liquid BeES	77		15.7	0.00		0.65	0.06	-	N
AHYG SP	iShares Barclays USD Asia High Yield Bond	77		0.2	0.38	289	0.44	0.24	-	N
159001 CH	E Funds SWIFT Cash Mmk	70	↑	618.8	0.00		-	-	-	N
272560 KS[A]	KBSTAR ST KTB Active	76	↓	5.4	0.01		0.07	-	-	N
1487 JP	Listed Idx Fund US Bond Crncy Hdg	67		0.0	0.27		0.10	1.44	-	N
00765B TT	Cap Ice 0-10 Yr China Policy Bank	66		-	0.17	111	0.45	-	-	N
00790B TT	Fuh Hw a 8+ Yr Financial Subordinate Bond	65		-	0.47		0.56	-	-	N
00755B TT	Cap Ice 15 + Yr US Utility	63		0.5	0.26	227	0.46	-	-	N
VCF AU[C]	Vanguard Intl Credit Securities Idx Hdgd	61		0.3	0.36		0.30	0.12	-	N
00697B TT	Yuanta US Tsy 7-10 Yr Bond	60	↑	0.6	0.14		0.37	1.82	-	N
114100 KS	KBSTAR KTB	58		0.3	0.05		0.16	-	-	N
176950 KS	SS KODEX 10Y F-LKTB Inv	58	↓	2.6	0.04		0.07	-	-1x	N
136340 KS	KBSTAR Credit Bond Securities - Bond	56	↑	0.2	0.04		0.25	0.12	-	N
NZC NZ	SmartShrs - NZ Cash Fund	56	↓	0.2	-		-	0.05	-	N
272910 KS[A]	KIM Kldx Active Korea Tsy & Agency Bonds	56		0.0	0.08		0.08	-	-	N
511010 CH	Guotai SSE 5-Yr China Tsy Note	55	↑	21.8	0.01		0.42	0.80	-	N
00777B TT	KGI 15+ Yrs AAA-A US Corp Bond	55		-	0.61	210	0.56	-	-	N
1482 JP[C]	iShares Core US Tsy Bond	55	↑	0.1	0.11		0.14	0.14	-	N
BOND AU	SPDR S&P/ASX AU Bond Fund	50	↑	0.4	0.16		0.24	0.06	-	N
272570 KS[A]	KBSTAR Mid-long Term KTB Active	49		0.0	0.06		0.07	-	-	N
511860 CH	Bosera Sec Deposit Real-time Traded Mmk	49	↓	1.2	0.00		0.64	0.39	-	N
RGB AU	Russell Invest Aust Govt Bond	48		0.0	0.28		0.24	0.16	-	N
00782B TT	Cathay Bbg Barclays Utility Select	47		-	0.16	264	0.45	-	-	N
122260 KS	Kiw oom KOSEF 1Y MSB - Fixed Income	46	↑	15.3	0.01		0.15	0.08	-	N
RSM AU	Russell Invest Aust Semi-Govt Bond	45		0.1	0.27		0.26	0.17	-	N
159003 CH	China Merchants Sec Dep fast-sw ng Mm	44	↓	110.0	0.00		0.53	-	-	N
148070 KS	Kiw oom KOSEF 10Y KTB	43	↑	1.4	0.03		0.15	2.72	-	N
00781B TT	Cathay BBG Barclays 15+ Yr Tech Bond	43		-	0.19	60	0.45	-	-	N
130730 KS	Kiw oom KOSEF Enhanced Cash	42	↓	1.0	0.01		0.15	0.04	-	N
BNDS AU[A]	BetaShares Legg Mason AU Bond Fund	42		-	0.16	655	0.42	-	-	N
AJAC SP	iShares J.P. Morgan USD Asia Credit Bond	40		0.1	0.52		0.30	0.24	-	N
114820 KS	Mirae Asset TIGER KTB 3Y	40		1.4	0.03		0.15	1.01	-	N
VBND AU[C]	Vanguard Global Aggregate Bond Hdgd	39	↑	0.2	0.24		0.20	0.17	-	N
48311179 JP	iShares Core 7-10 Yr US Tsy Bond	36		-	-		0.14	1.13	-	N
1656 JP	iShares Core 7-10 Yr US Tsy Bond	36		0.0	0.25		0.14	0.11	-	N
00694B TT	Umbrella Fund- Fubon 1-3 Yrs US Tsy Bond	36	↓	0.5	0.16		-	1.64	-	N
3080 HK	Ping An of China CSI 5-10 Y CGB	35		0.0	-		0.55	1.93	-	N
1497 JP[C]	iShares USD High Yield Corp Bond JPY Hdgd	33	↑	0.0	0.11		0.58	1.97	-	N
48313178 JP	iShares USD High Yield Corp Bond JPY Hdgd	33		-	-		0.58	2.66	-	N
114470 KS	Kiw oom KOSEF 3Y KTB - Fixed Income	32		1.5	0.03		0.15	-	-	N
190160 KS	Hanw ha ARIRANG ST Bond	31	↓	0.1	0.01		0.11	0.03	-	N
511650 CH	China AMC Express Traded Mmk	28	↓	4.1	0.01		0.63	0.53	-	N
511700 CH	Pingan-Uob Traded Mmk	28	↓	1.6	0.00		0.21	0.56	-	N
00774B TT	Shin Kong 10Yr Tsy Policy Bank Green	27		-	0.37		-	-	-	N
00788B TT	Yuanta US 10+ IG Utility Elec Pow er	27		-	0.10		0.40	-	-	N
00780B TT	Cathay Bbg Barclays 7-10 Yr Banking	26		-	0.21	52	0.45	-	-	N
263190 KS	Hanw ha Arirang ST Credit Bond Securities	24		2.8	0.02		0.12	0.15	-	N
278620 KS[A]	Hanw ha Arirang Active ST Credit Bond	24	↓	0.0	0.01		0.13	0.10	-	N
00786B TT	Yuanta US 10+ IG Bank Bond	23		-	0.09		0.40	-	-	N
00785B TT	Fubon FTSE World Broad IG USD Bank	23		-	0.16		-	-	-	N
182490 KS[C]	Mirae Asset TIGER SYNTH-IBOXX ST	23	↓	0.2	0.34		0.25	5.82	-	N
511260 CH	SSE 10-Yr T-bond	22	↑	7.5	0.04		0.42	-	-	N
00784B TT	Fubon FTSE Asian Broad Idx China IG	22		-	0.20		-	-	-	N
511600 CH	Huaan Ririxin Monetary Mkt Fund	20	↓	2.9	0.00		-	0.50	-	N
520021 KS	MiraeAsset US Senior Loan 100 ETN 38	19		0.0	0.12		0.80	3.45	-	N
295000 KS	KBSTAR KTB 10Y Ftrs	19		0.1	0.05		0.07	-	-	N
520020 KS[C]	MiraeAsset US Senior Loan 100 ETN H 37	18		0.0	-		0.90	6.61	-	N
9199 HK	CSOP China 5-Yr Tsy Bond	18		0.0	-		0.49	2.65	-	N
83199 HK	CSOP China 5-Yr Tsy Bond	17		0.0	0.21		0.49	0.44	-	N
3199 HK	CSOP China 5-Yr Tsy Bond	17		0.0	0.33		0.49	2.67	-	N
YTMQF3 AU	XTB Units QAN 7.75% May-22	17	↑	0.0	-		-	-	-	N
114460 KS	KITM Kldx TB	16		0.3	0.06		0.15	-	-	N
00695B TT	Umbrella Fund- Fubon 7-10 Yrs US Tsy	16	↓	0.5	0.10		-	1.98	-	N
YTMAWC AU	XTB Units AWC 5.5% Nov-19	16	↑	0.0	-		-	-	-	N
159005 CH	China Unv Quick Gains Mmk	15	↓	117.1	0.00		-	0.42	-	N
302190 KS	MIRAE ASSET TIGER KTB 3-10	15		1.3	0.05		0.07	-	-	N
550047 KS	NH QV -2X 10Y KTB Ftrs ETN 47	15		0.0	0.12		0.40	-	-2x	N
183700 KS	KBSTAR Fixed Income Balanced	14		0.0	0.15		0.20	0.55	-	N
00787B TT	Yuanta US 10+ IG Healthcare Bond	14		-	0.10		0.40	-	-	N
YTMAZJ AU	XTB Units AZJ 5.75% Oct-20	14		0.0	0.72		-	-	-	N
YTMLL1 AU	XTB Units LLC 6% May-20	13		0.0	0.64		-	-	-	N
00741B TT	Fubon 1-5 Yrs US High Yield Bond Ex China	13		0.3	0.43	190	-	-	-	N
YTMQF2 AU	XTB Units QAN 7.5% Jun-21	13		0.0	-		-	-	-	N
YTMF08 AU	XTB Units BOQ BBSW+1.07% Nov-19	12	↑	0.0	-		-	-	-	N
YTMF09 AU	XTB Units MQG BBSW+1.10% Mar-20	12	↑	0.0	-		-	-	-	N
YTMAGL AU	XTB Units AGL 5% Nov-21	12	↑	0.0	-		-	-	-	N

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
GOVT AU	SPDR S&P/ASX AU Gov Bond Fund	12		0.0	0.17		0.22	0.02	-	N
00734B TT	Taishin Jp Morgan EMing Mkts IG Bond Fund	12		0.8	0.24		0.56	-	-	N
82813 HK	Chinaamc Bbg Barclays Tsy + Policy Bank	11		0.0	0.28	347	0.30	-	-	N
2813 HK	Chinaamc Bbg Barclays Tsy + Policy Bank	11		0.0	0.38	347	0.30	-	-	N
305080 KS	MIRAE ASSET TIGER 10Y U.S. Tsy NOTE Ftrs	11		0.1	0.11		0.29	-	-	N
2512 JP[C]	Next Funds Intl Bond	11	↑	0.0	0.27		0.12	1.85	-	N
0131G17C JP	Next Funds Intl Bond	11		-	-		0.12	2.14	-	N
00775B TT	Shin Kong FTSE 15 Yrs IG USD Corp Bond	11		-	0.45		-	-	-	N
83079 HK	CICC Bbg Barclays China Tsy 1-10 Yrs	11		-	-	95	0.35	-	-	N
3079 HK	CICC Bbg Barclays China Tsy 1-10 Yrs	11		-	0.51	95	0.35	-	-	N
00797B TT	CTBC China Corp 5+ Yr USD IG Bond	11		-	0.11		0.40	-	-	N
LICGSLT IN	LIC MF G-SEC Long Term	10		0.0	2.64		0.25	1.61	-	N
550046 KS	NH QV 2X 10Y KTB Ftrs ETN 46	10		0.0	0.10		0.40	-	+2x	N
2511 JP	Next Funds Intl Citi WGBI ex Jpn UnHdgd	9	↑	0.0	0.22		0.12	3.05	-	N
0131F17C JP	Next Funds Intl Citi WGBI ex Jpn UnHdgd	9		-	-		0.12	3.54	-	N
239660 KS	Hanw ha Arirang Credit Bond 50	9	↓	5.2	0.01		0.14	0.08	-	N
284430 KS	SS KODEX 200 US Tsy notes Balanced	9		0.0	0.16		0.35	1.12	-	N
167860 KS	Kiw oom KOSEF 10Y KTB Lev	8		0.1	0.06		0.30	-	+2x	N
YTMDX1 AU	XTB Units DXS 4.75% Nov-25	8	↑	0.0	-		0.40	-	-	N
302170 KS	MIRAE ASSET TIGER KTB 3Y Ftrs Inv	8		0.1	0.05		0.07	-	-1x	N
302200 KS	MIRAE ASSET TIGER KTB 3-10 Ftrs Inv	8		0.0	0.08		0.07	-	-1x	N
2510 JP	Next Funds Jpn Bond NOMURA-BPI	8	↑	0.0	0.16	8,113	0.07	0.06	-	N
0131E17C JP	Next Funds Jpn Bond NOMURA-BPI	8		-	-	8,113	0.07	-	-	N
302180 KS	MIRAE ASSET TIGER KTB 10Y Ftrs Inv	7		0.4	0.05		0.07	-	-1x	N
302210 KS	MIRAE ASSET TIGER KTB 3-10 Ftrs Inv 2X	7		0.0	0.09		0.15	-	-2x	N
152380 KS	SS KODEX 10 Yr Korea Tsy Bond Ftr	7	↑	0.0	0.04		0.25	0.04	-	N
YTMQF1 AU	XTB Units QAN 6.5% Apr-20	7		0.0	-		-	-	-	N
00792B TT	Cap Ice 15 + Yr Single-A US Corp	7		-	0.26		0.25	-	-	N
1486 JP	Listed Idx Fund US Bond No Crncy Hdg	7	↓	0.0	0.35		0.10	1.87	-	N
00793B TT	Cap Ice 15 + Yr Aaa-A US Healthcare	7		-	0.12		0.25	-	-	N
511280 CH	China AMC SSE 3-5 Yrs Med & Hy Yield	6		0.0	4.02		0.33	-	-	N
3122 HK	CSOP China Ultra ST Bond	6		0.0	0.33		0.53	2.77	-	N
83122 HK	CSOP China Ultra ST Bond	6		0.0	-		0.53	0.23	-	N
YTMMG2 AU	XTB Units MGR 3.5% Sep-23	6	↑	0.0	-		0.40	-	-	N
267490 KS[C]	KBSTAR US Tsy Long Bond Ftrs Lev SYNTH	6		0.0	0.25		0.50	-	+2x	N
XARO AU[C A]	ActiveX Ardea Real Outcome Bond Fund	6		-	0.12		0.50	-	-	N
267500 KS[C]	KBSTAR US Tsy Long Ftrs Inv 2X SYNTH H	6		0.0	0.29		0.50	-	-2x	N
YTMF11 AU	XTB Units WBC BBSW+0.90% Jul-20	6	↑	0.0	-		-	-	-	N
304660 KS[C]	SS KODEX Ultra T-bond Ftrs H	5		0.0	0.16		0.30	-	+1x	N
176710 KS	KyoboAXA POWER KTB - Bond	5		0.0	0.06		0.15	-	-	N
295020 KS	KBSTAR KTB 10Y Ftrs Inv	5		0.0	0.12		0.07	-	-1x	N
267440 KS[C]	KBSTAR US Tsy Long Bond Ftrs H	5		0.0	0.30		0.40	8.34	-	N
298340 KS	Hanw ha ARIRANG KTB 3Y Ftrs	5		0.6	0.05		0.10	-	-	N
DLIQETF IN	DSP Liquid	5		0.4	0.52		0.47	0.06	-	N
267450 KS[C]	KBSTAR US Tsy Long Bond Ftrs Inv H	5		0.0	0.39		0.40	-	-1x	N
YTMGP1 AU	XTB Units APT 3.75% Oct-23	5	↑	0.0	-		0.40	-	-	N
304670 KS[C]	SS KODEX Ultra T-bond Ftrs Inv H	5		0.0	0.27		0.30	-	-1x	N
289670 KS	Hanw ha Arirang KTB 10Y Ftrs	5		0.9	0.03		0.13	0.09	-	N
511310 CH	Fullgoal CSI 10-Yr T-bond Idx Fund	5	↓	0.0	1.71		-	-	-	N
308620 KS	SS KODEX T-note Ftrs	5		0.0	0.23		0.30	-	-	N
YTMMGR AU	XTB Units MGR 5.75% Sep-20	4		0.0	0.46		-	-	-	N
292770 KS	SS KODEX 3Y F-KTB Inv	4	↓	0.1	0.05		0.07	-	-1x	N
299080 KS	KIM Kldx KTB Ftrs Inv	4		0.2	0.02		0.05	-	-1x	N
YTMTL1 AU	XTB Units TLS 4.00% Sep-22	4	↑	0.0	-		0.40	-	-	N
299070 KS	KIM Kldx LKTB Ftrs Inv	4		0.1	0.03		0.05	-	-1x	N
YTMAPA AU	XTB Units APA 7.75% Jul-20	4		0.0	-		-	-	-	N
511290 CH	Guangfa Shanghai 10Y T-BOND Invstmnt	4	↓	0.1	8.70		-	-	-	N
YTMAST AU	XTB Units AST 5.75% Jun-22	4		0.0	-		-	-	-	N
YTMWE1 AU	XTB Units WES 4.75% Mar-20	4		0.0	0.61		-	-	-	N
YTMAP1 AU	XTB Units GPT 3.657% Aug-26	4	↑	0.0	-		0.40	-	-	N
00688L TT	Cathay US Tsy 20+ YR Lev 2X	4		0.1	0.39		0.86	-	+2x	N
00681R TT	Yuanta Daily US Tsy 20+ Yr Bond Bear 1X	4		0.0	0.44		0.91	-	-1x	N
00689R TT	Cathay US Tsy 20+ YR Inv 1X	4		0.2	0.29		0.81	-	-1x	N
RELGILT IN	Reliance Long Term Gilt	3		0.0	0.52		0.04	1.62	-	N
SBIGILT IN	SBI-ETF 10 Yr Gilt	3		0.0	6.54		0.05	1.86	-	N
YTMNA1 AU	XTB Units NAB 4% Dec-21	3		0.0	-		-	-	-	N
00745B TT	Fubon China Policy Bank Bond 0-1	3		0.2	0.45		-	-	-	N
YTMSG1 AU	XTB Units SGP 8.25% Nov-20	3		0.0	0.70		-	-	-	N
YTMVC1 AU	XTB Units VCX 4% Apr-27	3		0.0	-		0.40	-	-	N
190150 KS	Hanw ha ARIRANG Barbell Bond	3	↓	0.0	0.05		0.14	0.04	-	N
YTMTLS AU	XTB Units TLS 7.75% Jul-20	3		0.0	0.61		-	-	-	N
00680L TT	Yuanta Daily US Tsy 20+ Yr Bond Bull 2X	3	↓	0.0	0.26		0.96	-	+2x	N
2519 JP	Next Funds EM Bond JPM EMBI Plus UnHdgd	2		0.0	0.31		0.19	-	-	N
01312187 JP	Next Funds EM Bond JPM EMBI Plus UnHdgd	2		-	-		0.19	-	-	N
YTMSCG AU	XTB Units SCG 5% Oct-19	2	↓	0.0	0.46		-	-	-	N
YTMAS2 AU	XTB Units AST 4.4% Aug-2027	2		0.0	-		0.40	-	-	N
YTMF10 AU	XTB Units NAB BBSW+0.80% Jun-20	2		0.0	-		-	-	-	N
511950 CH	GF Tianli Traded Mmk	2	↓	0.0	0.26		-	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
[2] ↑/↓ - Significant increase / decrease in shares outstanding in last one year
[A] Actively managed ETFs
[C] Currency hedged ETFs

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J.P.Morgan

Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
Fixed Income Funds										
YTMTL2 AU	XTB Units TLS 4% Apr-27	2		0.0	-		0.40	-	-	N
159926 CH	Harvest CSI Gilt-Edged Medium Term Tsy	1	↓	0.0	3.70		-	1.06	-	N
YTMVCX AU	XTB Units VCX 3.5% Apr-24	1		-	-		0.40	-	-	N
226810 KS	Kyobo AXA Power ST	1	↓	0.0	0.27		0.12	0.05	-	N
YTMF14 AU	XTB Units BOQ BBSW+1.02% Nov-16	1		-	-		0.20	-	-	N
YTMBH1 AU	XTB Units BHP 3% Mar-20	1		0.0	-		-	-	-	N
YTMF05 AU	XTB Units NAB BBSW+0.85% May-19	1	↑	0.0	-		-	-	-	N
YTMWB1 AU	XTB Units WBC 3.5% Jul-20	1		0.0	-		-	-	-	N
YTMF17 AU	XTB Units AMP BBSW+1.35% May-21	1		-	-		-	-	-	N
YTMF15 AU	XTB Units NAB BBSW+0.80% Feb-23	1		-	-		0.20	-	-	N
YTMF13 AU	XTB Units ANZ BBSW+1.00% Mar-22	0		-	-		0.20	-	-	N
YTMF16 AU	XTB Units WBC BBSW+0.81% Oct-22	0		-	-		0.20	-	-	N
00832B TT	Umbrella Fund - Shin Kong US Tsy 20+ Yr	-		-	-		-	-	-	N
00831B TT	Umbrella Fund - Shin Kong US Tsy 1-3 Yr	-		-	-		-	-	-	N
Commodity Funds										
GLD SP	SPDR Gold Shrs	30,774		1.4	0.06		0.40	0.00	-	N
1672 JP	ETFS Physical Gold	6,681		0.0	2.21		0.39	1.18	-	N
518880 CH	Huaan Yifu Gold	738		194.4	0.04		2.60	0.20	-	N
1673 JP	ETFS Physical Silver	709		0.0	-		0.49	1.19	-	N
1690 JP	ETFS WTI Crude Oil	652		0.0	1.79	2	0.49	1.14	-	N
1540 JP	Jpn Physical Gold	607		1.2	0.12		0.40	0.00	-	N
1694 JP	ETFS Nickel	536	↑	0.0	-	2	0.49	1.14	-	N
159937 CH	Bosera Gold Exchange Trade Open-End	467		16.2	0.04		0.60	0.21	-	N
GOLD AU	S Physical Gold	455		1.3	0.15		0.39	1.67	-	N
GBEES IN	Reliance Gold BeES	425		0.6	0.07		1.18	-	-	N
500019 KS[C]	Shinhan Lev WTI Ftrs ETN H 19	342		3.4	0.09		1.05	-	+2x	N
2038 JP	Next Notes NikkeiTOCOM Levd Crude Oil	332	↓	5.1	0.09		0.80	-	+2x	N
1674 JP	ETFS Physical Platinum	331		0.0	7.22		0.49	1.19	-	N
1687 JP	ETFS Agriculture	257		0.0	2.72	10	0.49	1.20	-	N
1693 JP	ETFS Copper	240		0.0	3.09	2	0.49	1.15	-	N
1684 JP	ETFS All Commodities	213	↓	0.0	-	24	0.49	1.22	-	N
1671 JP	Simplex WTI	195	↓	2.0	0.05		0.85	-	-	N
159934 CH	E Fund Gold Open-end Securities Invstmnt	184		18.7	0.04		-	0.21	-	N
00672L TT	Yuanta S&P GSCI Crude Oil 2X ER Ftrs	167	↑	19.2	0.06		1.15	-	+2x	N
KOGOLD IN	Kotak Gold	157		0.1	0.20		1.00	-	-	N
SGETS IN	SBI-ETF Gold	152		0.1	0.17		1.23	-	-	N
1699 JP	Next Funds Nomura Crude Oil	146	↓	2.9	0.24		0.50	-	-	N
1675 JP	ETFS Physical Palladium	118		0.0	10.06		0.49	1.20	-	N
3081 HK	ValGold	97		0.2	0.39		0.10	0.29	-	N
1327 JP	EasyETF S&P GSCI TM Capped Commodity	96		0.0	1.20		3.30	0.04	-	N
1676 JP	ETFS Physical PM Basket	91	↓	0.0	-		0.44	1.19	-	N
1541 JP	Jpn Physical Platinum	90		0.4	0.13		0.50	0.01	-	N
530031 KS	Samsung Lev WTI Crude Oil Ftrs ETN 31	83		1.4	0.13		0.75	-	+2x	N
132030 KS[C]	SS KODEX Gold Ftrs Special Asset	74	↑	0.7	0.08		0.68	7.89	-	N
UTIGOL IN	UTI-Gold	63		0.0	0.30		1.09	-	-	N
HDFGOLD IN	HDFC Gold	63		0.1	0.20		1.11	-	-	N
1695 JP	ETFS Wheat	62	↓	0.0	1.77	2	0.49	1.14	-	N
QAU AU[C]	BetaShares Gold Bullion Crncy Hdgd	55	↑	0.2	0.24		0.59	7.17	-	N
500015 KS[C]	Shinhan WTI Ftrs ETN H 15	54		0.0	0.18		0.75	-	-	N
530037 KS	Samsung Lev Natural GAS Ftrs ETN 37	53		0.8	0.11		0.85	-	+2x	N
500031 KS[C]	Shinhan Lev Natural Gas Ftrs ETN H 31	51		1.2	0.07		1.05	-	+2x	N
00642U TT	Yuanta S&P GSCI Crude Oil ER Ftrs	50		2.1	0.06		1.15	2.76	-	N
1685 JP	ETFS Energy	47		0.0	-	7	0.49	1.40	-	N
518800 CH	Guotai Gold	47	↑	15.5	0.04		0.60	0.21	-	N
130680 KS[C]	Mirae Asset TIGER WTI Ftrs	45	↓	0.9	0.14		0.70	-	-	N
1328 JP	Gold-Price-Linked	43		0.1	0.38		0.50	4.63	-	N
1689 JP	ETFS Natural Gas	43		0.1	-	2	0.49	1.14	-	N
ETPMAG AU	S Physical Silver	43		0.1	0.34		0.49	1.66	-	N
2039 JP	Next Notes NikkeiTOCOM Inv Crude Oil	41	↑	0.5	0.20		0.80	-	-1x	N
512400 CH	China Southern CSI SWS Nonferrous	41	↑	1.0	0.18		1.10	-	-	N
1542 JP	Jpn Physical Silver	39		0.1	0.17		0.50	0.01	-	N
00693U TT	Paradigm S&P GSCI Soybeans ER Ftrs	35	↑	0.4	0.09		1.15	2.96	-	N
00635U TT	Yuanta S&P GSCI Gold ER Ftrs	34	↑	0.4	0.07		1.15	2.95	-	N
137610 KS[C]	Mirae Asset TIGER Agriculture Ftrs	34		0.1	0.23		0.70	-	-	N
00673R TT	Yuanta S&P GSCI Crude Oil 1x Inv ER Ftrs	33	↓	1.0	0.09		1.15	-	-1x	N
1696 JP	ETFS Corn	31	↓	0.0	1.51	2	0.49	1.15	-	N
1692 JP	ETFS Aluminium	29	↓	0.0	-	2	0.49	1.15	-	N
00708L TT	Yuanta S&P GSCI Gold 2x Levd ER Ftrs	27	↑	0.7	0.08		1.15	-	+2x	N
550042 KS[C]	NH QV 2X WTI Crude Oil Ftrs ETN H 42	26		0.4	0.30		1.00	-	+2x	N
510008 KS[C]	Daishin Iron Ore Ftrs ETN H 8	25		0.0	0.50		1.90	-	-	N
500014 KS[C]	Shinhan Inv Corn Ftrs ETN H 14	24		0.0	0.31		0.75	-	-1x	N
500030 KS[C]	Shinhan Inv 2X Silver Ftrs ETN H 30	24		0.0	0.22		1.05	-	-2x	N
510010 KS[C]	Daishin 2X Inv Nickel Ftrs ETN H 10	24		0.0	0.36		1.50	-	-2x	N
520003 KS	MiraeAsset Commodity Ftrs ETN H 3	24		0.0	-		0.90	8.61	-	N
3175 HK	Samsung S&P GSCI Crude Oil ER Ftrs	23		0.2	0.34		1.48	9.82	-	N
520009 KS[C]	MiraeAsset Levd Crude Oil Ftrs ETN H 9	23		0.0	0.16		0.98	-	+2x	N

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Commodity Funds										
144600 KS[C]	SS KODEX Silver Ftrs Special Asset	23	↑	0.1	0.22		0.68	-	-	N
520010 KS[C]	MiraeAsset Crude Oil Ftrs ETN H 10	23		0.0	0.12		0.75	-	-	N
500018 KS[C]	Shinhan Copper Ftrs ETN H 18	22		0.0	0.37		0.75	-	-	N
2036 JP	Next Notes NikkeiTOCOM Levd Gold	22		0.1	0.30		0.80	-	+2x	N
500024 KS[C]	Shinhan Inv Soybeans Ftrs ETN H 24	22		0.0	0.25		0.81	-	-1x	N
500021 KS[C]	Shinhan Natural Gas Ftrs ETN H 21	21		0.0	0.16		0.81	-	-	N
225130 KS[C]	KIM Kldx Synth-Gold Ftrs Lev - H	21	↑	0.5	0.11		0.49	-	+2x	N
1688 JP	ETFS Grains	20		0.0	2.40	5	0.49	1.19	-	N
OOO AU[C]	BetaShares Crude Oil Idx Synthetic	20		0.2	0.54		0.69	7.11	-	N
500022 KS[C]	Shinhan Inv Natural Gas Ftrs ETN H 22	19		0.1	0.23		0.81	-	-1x	N
500027 KS[C]	Shinhan Inv 2X WTI Ftrs ETN H 27	18		0.6	0.16		1.05	-	-2x	N
530056 KS[C]	Samsung Inv 2X Gold Ftrs ETN H 56	18		0.0	0.08		1.05	-	-2x	N
550029 KS	NH QV Alternative Energy ETN 29	18		0.0	0.40		1.20	0.03	-	N
500016 KS[C]	Shinhan Gold Ftrs ETN H 16	18		0.1	0.18		0.75	8.24	-	N
530036 KS	Samsung Inv 2X WTI Crude Oil Ftrs ETN 36	18		0.2	0.18		0.75	-	-2x	N
510007 KS[C]	Daishin 2X Nickel Ftrs ETN H 7	17		0.2	0.25		1.50	-	+2x	N
500007 KS[C]	Shinhan Inv Silver Ftrs ETN H 7	17		0.1	0.17		0.75	-	-1x	N
500006 KS[C]	Shinhan Inv Gold Ftrs ETN H 6	16		0.2	0.18		0.75	-	-1x	N
530055 KS[C]	Samsung Lev Gold Ftrs ETN H 55	16		0.0	0.09		1.05	-	+2x	N
500004 KS[C]	Shinhan Brent Ftrs ETN H 4	16		0.0	0.34		0.75	-	-	N
AXGOLD IN	AXIS GOLD	16	↓	0.0	0.63		1.10	-	-	N
500008 KS[C]	Shinhan Inv Copper Ftrs ETN H 8	15		0.1	0.16		0.75	-	-1x	N
IDBIGLD IN	IDBI Gold	15		0.0	1.08		0.50	-	-	N
500003 KS[C]	Shinhan Inv WTI Ftrs ETN H 3	15		0.0	0.20		0.75	-	-1x	N
500017 KS[C]	Shinhan Silver Ftrs ETN H 17	15		0.2	0.18		0.75	-	-	N
510005 KS[C]	Daishin 2X Zinc Ftrs ETN H 5	14		0.4	0.34		1.50	-	+2x	N
ICPGOLD IN	ICICI Prudential Gold Fund	14		0.0	0.46		1.00	-	-	N
GLD TB	KTAM Gold Tracker	14	↑	0.0	0.61		1.61	3.20	-	N
00738U TT	Yuanta Djci Silver ER Ftrs	13		0.2	0.16		1.15	-	-	N
500005 KS[C]	Shinhan Inv Brent Ftrs ETN H 5	13		0.0	0.85		0.75	-	-1x	N
500023 KS[C]	Shinhan Soybeans Ftrs ETN H 23	13		0.0	0.33		0.81	-	-	N
1697 JP	ETFS Soybeans	12	↓	0.0	-	2	0.49	1.15	-	N
550027 KS	NH QV Agriculture ETN 27	12		0.0	0.61		1.20	0.03	-	N
BSLGOLD IN	Aditya Birla Sun Life Gold	11		0.0	1.44		1.03	-	-	N
500013 KS[C]	Shinhan Corn Ftrs ETN H 13	11		0.0	0.23		0.75	-	-	N
510009 KS[C]	Daishin Inv Iron Ore Ftrs ETN H 9	11		0.0	0.63		1.90	-	-1x	N
510001 KS[C]	Daishin WTI Oil Ftrs ETN H 1	11		0.0	0.15		0.73	-	-	N
261220 KS[C]	SS KODEX WTI Oil Ftrs H	10	↑	0.7	0.08		0.35	-	-	N
GOLDETF MK	TradePlus Shariah Gold Tracker	10		0.0	1.55		-	0.09	-	N
500029 KS[C]	Shinhan Lev Silver Ftrs ETN H 29	10		0.4	0.15		1.05	-	+2x	N
520011 KS[C]	MiraeAsset Inv Crude Oil Ftrs ETN H 11	10		0.0	0.25		0.75	-	-1x	N
500040 KS	Shinhan Lev Copper Ftrs ETN 40	10		0.0	0.22		1.05	-	+2x	N
500038 KS	Shinhan Inv 2X Gold Ftrs ETN 38	10		0.0	0.09		1.05	-	-2x	N
530063 KS[C]	Samsung Lev Copper Ftrs ETN H 63	9		-	0.13		1.05	-	+2x	N
530038 KS	Samsung Inv 2X Natural GAS Ftrs ETN 38	9		0.8	0.18		0.85	-	-2x	N
500037 KS	Shinhan Lev Gold Ftrs ETN 37	9		0.0	0.10		1.05	-	+2x	N
500032 KS[C]	Shinhan Inv 2X Natural Gas Ftrs ETN H 32	9		1.6	0.25		1.05	-	-2x	N
530061 KS[C]	Samsung Lev Silver Ftrs ETN H 61	9		-	0.19		1.05	-	+2x	N
1691 JP	ETFS Gasoline	9	↑	0.0	-	2	0.49	1.14	-	N
319640 KS[C]	Mirae Asset TIGER Gold Ftrs H	8		-	0.08		0.39	-	-	N
530062 KS[C]	Samsung Inv 2X Silver Ftrs ETN H 62	8		-	0.64		1.05	-	-2x	N
530064 KS[C]	Samsung Inv 2X Copper Ftrs ETN H 64	8		-	0.15		1.05	-	-2x	N
QTGOLD IN	Quantum Gold Fund	8		0.0	0.39		1.03	-	-	N
160580 KS	Mirae Asset TIGER Physical Copper	7		0.0	0.47		0.85	-	-	N
500041 KS	Shinhan Inv 2X Copper Ftrs ETN 41	7		0.0	0.27		1.05	-	-2x	N
510003 KS[C]	Daishin Nickel Ftrs ETN H 3	7		0.0	0.23		0.90	-	-	N
138920 KS[C]	SS KODEX Soybeans Ftrs Special Asset	7	↑	0.1	0.21		0.68	-	-	N
550043 KS[C]	NH QV -2X WTI Crude Oil Ftrs ETN H 43	7		0.1	0.77		1.00	-	-2x	N
83168 HK	Hang Seng RMB Gold	7		0.0	-		0.15	4.14	-	N
1543 JP	Jpn Physical Palladium	7		0.1	0.86		0.50	0.04	-	N
510002 KS[C]	Daishin Zinc Ftrs ETN H 2	7		0.0	0.24		0.90	-	-	N
QCB AU[C]	BetaShares Commodity Basket Synthetic	6		0.0	2.11		1.29	7.15	-	N
232590 KS[C]	KIM Kldx Synth-Gold Ftrs Inv2X	6		0.0	0.18		0.49	-	-2x	N
510004 KS[C]	Daishin Inv Zinc Ftrs ETN H 4	6		0.0	0.35		0.90	-	-1x	N
217770 KS[C]	Mirae Asset TIGER WTI Inv H	6		0.1	0.12		0.70	-	-1x	N
510006 KS[C]	Daishin Inv Nickel Ftrs ETN H 6	5		0.0	0.35		0.90	-	-1x	N
ETPMPM AU	S Physical PM Basket	5	↑	0.0	0.40		0.44	-	-	N
271060 KS[C]	SS KODEX Grains Ftrs H	5		0.0	0.21		0.55	-	-	N
TGOLDETF TB	Thanachart Gold	5		0.0	0.29		1.08	3.43	-	N
3097 HK	Mirae S&P Crude Oil Ftrs Enhanced ER	5	↓	0.0	0.61		0.99	0.44	-	N
REGGOLD IN	Invesco India Gold	5		0.0	4.53		1.00	-	-	N
2037 JP	Next Notes NikkeiTOCOM Inv Gold ETN	4		0.0	0.35		0.80	-	-1x	N
138910 KS[C]	SS KODEX Copper Ftrs Special Asset	4		0.0	0.29		0.68	-	-	N
280940 KS[C]	SS KODEX Gold Inv Ftrs H	4		0.0	0.27		0.45	-	-1x	N
271050 KS[C]	SS KODEX WTI Crude Oil Ftrs Inv H	4	↑	0.1	0.10		0.35	-	-1x	N
139320 KS[C]	Mirae Asset TIGER Precious Metal Ftrs	4		0.0	0.36		0.70	8.11	-	N
00674R TT	Yuanta S&P GSCI Gold 1x Inv ER Ftrs	3	↓	0.0	0.17		1.15	-	-1x	N
00715L TT	Paradigm SP GSCI Brent Crude 2X ER Ftrs	3	↓	0.1	0.29		1.15	2.44	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
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[A] Actively managed ETFs
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Asia-Pacific Listed ETFs

Ticker	ETF Name	Total Assets ($M)		Average 6M Daily Volume ($M)	Average bid-offer spread (%)	Stocks in Und. Index (#)	Exp. Ratio (%)	1Y Tracking Error(%)	Fund Leverage	Options Liquidity
	Commodity Funds									
00763U TT	Paradigm DJ Copper ER Ftrs	3		-	0.33		1.15	-	-	N
139310 KS [C]	Mirae Asset TIGER Metal Ftrs	3		0.0	0.61		0.70	-	-	N
1682 JP	Next Funds Nikkei-TOCOM Platinum Idx Linked	3		0.0	1.10		0.45	1.05	-	N
3135 HK	CSOP WTI Oil Annual Roll December Ftrs ER	2	↓	0.0	0.48		1.08	0.51	-	N
QAG AU [C]	BetaShares Agriculture Synthetic	2		0.0	1.30		1.44	7.18	-	N
00716R TT	Paradigm SP GSCI Brent Crude 1X Inv ER Ftrs	2	↓	0.0	0.99		1.15	2.93	-	N
CRGETF IN	Canara Robeco Gold	2		0.0	4.52		1.00	-	-	N
ETPMPD AU	S Physical Palladium	1	↑	0.0	0.92		0.49	1.70	-	N
ETPMPT AU	S Physical Platinum	1	↑	0.0	0.68		0.49	1.67	-	N
1683 JP	One Gold	0		0.0	3.13		0.45	0.17	-	N
314700 KS	NH-Amundi HANARO Agri Business	-		-	0.28		0.50	-	-	N
	Currency Funds									
HTZJTMB CH	Huatai Zijin Tiantianjin Traded Mmk	372		-	-		-	-	-	N
BILL AU	iShares Core Cash	290	↑	1.2	0.01		0.07	0.02	-	N
272580 KS [A]	Mirae Asset Tiger Money Mkt Active	285	↓	0.1	0.01		0.09	0.05	-	N
USD AU	BetaShares US Dollar	240	↓	1.6	0.10		0.45	-	-	N
166024 CH	ZhongOu Hengli 3-Yr Regular Mixed Eq Inv	98		0.4	0.20		-	-	-	N
3096 HK	CSOP US Dollar Money Mkt	58		-	0.06		0.70	-	-	N
9096 HK	CSOP US Dollar Money Mkt	58		-	-		0.70	-	-	N
ISEC AU	iShares Enhanced Cash	58	↑	0.4	0.02		0.12	0.05	-	N
225800 KS	Kiwoom KOSEF Synth-USD Ftrs Lev	50	↓	1.0	0.10		0.64	-	+2x	N
HJPN AU [C]	BetaShares WisdomTree Jpn	37		0.2	0.30		0.58	-	-	N
138230 KS	Kiwoom KOSEF USD Ftrs	33	↓	0.7	0.08		0.37	0.08	-	N
HEUR AU [C]	BetaShares WisdomTree Europe	27	↓	0.1	0.27	139	0.58	7.88	-	N
230480 KS	Kiwoom KOSEF Synth-USD Ftrs Inv 2X	25	↑	0.5	0.09		0.64	-	-2x	N
500011 KS [C]	Shinhan Dollar Idx Ftrs ETN H 11	18		0.0	0.14		0.81	7.43	-	N
511670 CH	Huatai Zijin Tiantianjin Traded Mmk	17	↓	4.1	0.00		-	-	-	N
500012 KS [C]	Shinhan Inv Dollar Idx Ftrs ETN H 12	16		0.0	0.16		0.81	-	-1x	N
POU AU	BetaShares British Pound	13	↓	0.1	0.08		0.45	-	-	N
139660 KS	Woori KOSEF USD Ftrs Inv	9		0.4	0.10		0.49	-	-1x	N
292560 KS	Mirae Asset Tiger JPYKRW Ftrs	8		0.1	0.30		0.25	0.58	-	N
YANK AU [C]	BetaShares Strong US Dollar Hdg Fund	7	↓	0.2	0.54		1.38	-	+2.19x	N
292570 KS	Mirae Asset Tiger JPYKRW Ftrs Lev	6	↓	0.1	0.19		0.47	-	+2x	N
292580 KS	Mirae Asset Tiger JPYKRW Ftrs Inv	6	↓	0.0	0.58		0.47	-	-1x	N
292590 KS	Mirae Asset Tiger JPYKRW Ftrs Inv 2X	6	↓	0.0	0.40		0.47	-	-2x	N
ZUSD AU	ETFS Enhanced USD Cash	5	↓	0.2	0.13		0.30	-	-	N
00683L TT	Yuanta S&P US Dollar 2x Lev ER Ftrs	4	↓	0.1	0.27		0.95	-	+2x	N
EEU AU	BetaShares Euro	4	↓	0.0	0.21		0.45	-	-	N
00706L TT	Yuanta S&P Japanese Yen 2x Lev ER Ftrs	4		0.0	0.28		0.95	-	+2x	N
00707R TT	Yuanta S&P Japanese Yen 1x Inv ER Ftrs	3		0.0	0.71		0.95	-	-1x	N
00682U TT	Yuanta S&P US Dollar ER Ftrs	3	↓	0.0	0.30		0.65	3.00	-	N
AUDS AU	BetaShares Strong AU Dollar Hdg Fund	3	↑	0.1	0.67		1.38	-	-	N
00684R TT	Yuanta S&P US Dollar 1x Inv ER Ftrs	2		0.0	0.23		0.95	-	-1x	N
MONY AU	UBS IQ Cash	1	↑	0.0	-		0.18	0.23	-	N
	Asset Allocation									
VDBA AU [C]	Vanguard Diversified Balanced Idx	66	↑	0.3	0.24		0.27	-	-	N
GROW AU [A]	Schroder Real Return Fund	38		0.1	0.62		0.90	-	-	N
VDCO AU [C]	Vanguard Diversified Conservative Idx	25	↑	0.1	0.25		0.27	-	-	N

[1] Option Liquidity (H / M / L / N - High / Medium / Low / None)
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Notes

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The following is an incomplete list of possible risks of investing in ETFs. Not all of the risks will apply to each investment in ETFs and the applicable risks will depend on the particular ETFs invested in and the particular facts and circumstances and investment objectives of the individual investor.

Commodities Risk. Certain ETFs invest in commodities. The commodities industries can be significantly affected by the level and volatility of commodity prices; world events including international monetary and political developments; import controls and worldwide competition; exploration and production spending; and tax and other government regulations and economic conditions.

Concentration Risk. An ETF may, at various times, concentrate in the securities of a particular industry, group of industries, or sector, and when a fund is overweighted in an industry, group of industries, or sector, it may be more sensitive to any single economic, business, political, or regulatory occurrence than a fund that is not overweighted in an industry, group of industries, or sector.

Costs of Investing in Underlying ETFs. Certain ETFs invest in other ETFs, and will bear a pro rata portion of the underlying ETFs' expenses (including operating costs and management fees).

Credit Risk. An ETF could be subject to the risk that a decline in the credit quality of a portfolio investment could cause the ETF's share price to fall. The ETF could lose money if the issuer or guarantor of a portfolio investment or the counterparty to a derivatives contract fails to make timely principal or interest payments or otherwise honor its obligations.

Early Closing Risk. An unanticipated early closing of the exchange on which an ETF's shares trade may result in a shareholder's inability to buy or sell shares of the ETF on that day.

Emerging Markets Risk. There is an increased risk of price volatility associated with an ETF's investments in emerging market countries, which may be magnified by currency fluctuations relative to the U.S. dollar.

Equity Risk. The prices of equity securities in which an ETF may invest rise and fall daily. These price movements may result from factors affecting individual companies, industries or the securities market as a whole.

Fixed Income Risk. An ETF's investments in fixed income securities are subject to the risk that the securities may be paid off earlier or later than expected. Either situation could cause the ETF to hold securities paying lower-than-market rates of interest, which could hurt the ETF's yield or share price.

Foreign Currency Risk. Currency movements may negatively impact the value of an ETF's underlying securities, even when there is no change in the value of the security in the issuer's home country.

Foreign Securities Risk. An ETF's investments in securities of foreign issuers involve certain risks including, but not limited to, risks of adverse changes in foreign economic, political, regulatory and other conditions, or changes in currency exchange rates or exchange control regulations (including limitations on currency movements and exchanges). In certain countries, legal remedies available to investors may be more limited than those available with respect to investments in the United States. In addition, the securities of some foreign companies may be less liquid and, at times, more volatile than securities of comparable U.S. companies.

High Yield Risk. Certain ETFs may invest in high yield securities and unrated securities of similar credit quality (commonly known as "junk bonds"). High yield securities generally pay higher yields (greater income) than investment in higher quality securities; however, high yield securities and junk bonds may be subject to greater levels of interest rate, credit and

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liquidity risk than funds that do not invest in such securities, and are considered predominantly speculative with respect to an issuer's continuing ability to make principal and interest payments.

Income Risk. An ETF may derive dividend and interest income from certain of its investments. This income can vary widely over the short- and long-term. If prevailing market interest rates drop, distribution rates of an ETF's income producing investments may decline, which then may adversely affect the ETF's value.

Interest Rate Risk. An ETF's investments in fixed income securities are subject to the risk that interest rates rise and fall over time.

Investment Risk. An investment in an ETF is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Jurisdiction Risk. US-listed ETFs may not be marketed to foreign investors in certain jurisdictions, and vice versa.

Liquidity Risk. The market for certain investments may become illiquid under adverse or volatile market or economic conditions, making those investments difficult to sell. The market price of certain investments may fall dramatically if there is no liquid trading market. The lack of liquidity in an ETF can result in its value being more volatile than its underlying portfolio securities.

Loss of Money. Loss of money is a risk of investing in an ETF.

Market Risk. Due to market conditions, an ETF's investments may fluctuate significantly from day to day. This volatility may cause the value of your investment in the Fund to decrease.

Strategy Risk. ETFs use different strategies, all of which are associated with different risks. For example, an equities-based ETF may use a large-capitalization, mid-capitalization, small-capitalization or other type of strategy.

Tracking Error Risk. Although many ETFs may seek to match the returns of an index, an ETF's return may not match or achieve a high degree of correlation with the return of its applicable index.

Trading Risks. An ETF faces numerous market trading risks, including the potential lack of an active market for its shares, losses from trading in secondary markets, and disruption in the creation/redemption process of the ETF. Any of these factors may lead to the ETF's shares trading at a premium or discount to net asset value ("NAV"), which may be material. In certain markets, ETF prices have dropped precipitously and experienced greater volatility than prices of other stocks.

Risks of Common Option Strategies

Risks to Strategies: Not all option strategies are suitable for investors; certain strategies may expose investors to significant potential losses. We have summarized the risks of selected derivative strategies. For additional risk information, please call your sales representative for a copy of the Option Clearing Corporation's "Characteristics and Risks of Standardized Options" or visit https://www.theocc.com/components/docs/riskstoc.pdf. We advise investors to consult their tax advisors and legal counsel about the tax implications of these strategies. Please also refer to option risk disclosure documents.

Put Sale. Investors who sell put options will own the underlying asset if the asset's price falls below the strike price of the put option. Investors, therefore, will be exposed to any decline in the underlying asset's price below the strike potentially to zero, and they will not participate in any price appreciation in the underlying asset if the option expires unexercised.

Call Sale. Investors who sell uncovered call options have exposure on the upside that is theoretically unlimited.

Call Overwrite or Buywrite. Investors who sell call options against a long position in the underlying asset give up any appreciation in the underlying asset's price above the strike price of the call option, and they remain exposed to the downside of the underlying asset in the return for the receipt of the option premium.

Booster. In a sell-off, the maximum realized downside potential of a double-up booster is the net premium paid. In a rally, option losses are potentially unlimited as the investor is net short a call. When overlaid onto a long position in the underlying asset, upside losses are capped (as for a covered call), but downside losses are not.

Collar. Locks in the amount that can be realized at maturity to a range defined by the put and call strike. If the collar is not costless, investors risk losing 100% of the premium paid. Since investors are selling a call option, they give up any price appreciation in the underlying asset above the strike price of the call option.

Call Purchase. Options are a decaying asset, and investors risk losing 100% of the premium paid if the underlying asset's price is below the strike price of the call option.

Put Purchase. Options are a decaying asset, and investors risk losing 100% of the premium paid if the underlying asset's price is above the strike price of the put option.

Straddle or Strangle. The seller of a straddle or strangle is exposed to increases in the underlying asset's price above the call strike and declines in the underlying asset's price below the put strike. Since exposure on the upside is theoretically unlimited, investors who also own the underlying asset would have limited losses should the underlying asset rally. Covered writers are exposed to declines in the underlying asset position as well as any additional exposure should the underlying asset decline below the strike price of the put option. Having sold a covered call option, the investor gives up all appreciation in the underlying asset above the strike price of the call option.

Put Spread. The buyer of a put spread risks losing 100% of the premium paid. The buyer of higher-ratio put spread has unlimited downside below the lower strike (down to zero), dependent on the number of lower-struck puts sold. The maximum gain is limited to the spread between the two put strikes, when the underlying is at the lower strike. Investors who own the underlying asset will have downside protection between the higher-strike put and the lower-strike put. However, should the underlying asset's price fall below the strike price of the lower-strike put, investors regain exposure to the underlying asset, and this exposure is multiplied by the number of puts sold.

Call Spread. The buyer risks losing 100% of the premium paid. The gain is limited to the spread between the two strike prices. The seller of a call spread risks losing an amount equal to the spread between the two call strikes less the net premium received. By selling a covered call spread, the investor remains exposed to the downside of the underlying asset and gives up the spread between the two call strikes should the underlying asset rally.

Butterfly Spread. A butterfly spread consists of two spreads established simultaneously – one a bull spread and the other a bear spread. The resulting position is neutral, that is, the investor will profit if the underlying is stable. Butterfly spreads are established at a net debit. The maximum profit will occur at the middle strike price; the maximum loss is the net debit.

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Risks of Security Futures Transactions

Trading security futures contracts may not be suitable for all investors. You may lose a substantial amount of money in a very short period of time. The amount you may lose is potentially unlimited and can exceed the amount you originally deposit with your broker. This is because futures trading is highly leveraged, with a relatively small amount of money used to establish a position in assets having a much greater value. If you are uncomfortable with this level of risk, you should not trade security futures contracts.

General Risks

Trading security futures contracts involves risk and may result in potentially unlimited losses that are greater than the amount you deposited with your broker. As with any high risk financial product, you should not risk any funds that you cannot afford to lose, such as your retirement savings, medical and other emergency funds, funds set aside for purposes such as education or home ownership, proceeds from student loans or mortgages, or funds required to meet your living expenses.

Be cautious of claims that you can make large profits from trading security futures contracts. Although the high degree of leverage in security futures contracts can result in large and immediate gains, it can also result in large and immediate losses. As with any financial product, there is no such thing as a "sure winner."

Because of the leverage involved and the nature of security futures contract transactions, you may feel the effects of your losses immediately. Gains and losses in security futures contracts are credited or debited to your account, at a minimum, on a daily basis. If movements in the markets for security futures contracts or the underlying security decrease the value of your positions in security futures contracts, you may be required to have or make additional funds available to your carrying firm as margin. If your account is under the minimum margin requirements set by the exchange or the brokerage firm, your position may be liquidated at a loss, and you will be liable for the deficit, if any, in your account. Margin requirements are addressed in Section 4.

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Under certain market conditions, it may be difficult or impossible to liquidate a position. Generally, you must enter into an offsetting transaction in order to liquidate a position in a security futures contract. If you cannot liquidate your position in a security futures contracts, you may not be able to realize a gain in the value of your position or prevent losses from mounting. This inability to liquidate could occur, for example, if trading is halted due to unusual trading activity in either the security futures contract or the underlying security; if trading is halted due to recent news events involving the issuer of the underlying security; if systems failures occur on an exchange or at the firm carrying your position; or if the position is on an illiquid market. Even if you can liquidate your position, you may be forced to do so at a price that involves a large loss.

Under certain market conditions, it may also be difficult or impossible to manage your risk from open security futures positionsby entering into an equivalent but opposite position in another contract month, on another market, or in the underlying security. This inability to take positions to limit your risk could occur, for example, if trading is halted across markets due to unusual trading activity in the security futures contract or the underlying security or due to recent news events involving the issuer of the underlying security.

Under certain market conditions, the prices of security futures contracts may not maintain their customary or anticipated relationships to the prices of the underlying security or index. These pricing disparities could occur, for example, when the market for the security futures contract is illiquid, when the primary market for the underlying security is closed, or when the reporting of transactions in the underlying security has been delayed. For index products, it could also occur when trading is delayed or halted in some or all of the securities that make up the index.

You may be required to settle certain security futures contracts with physical delivery of the underlying security. If you hold your position in a physically settled security futures contract until the end of the last trading day prior to expiration, you will be obligated to make or take delivery of the underlying securities, which could involve additional costs. The actual settlement terms may vary from contract to contract and exchange to exchange. You should carefully review the settlement and delivery conditions before entering into a security futures contract. You may experience losses due to systems failures. As with any financial transaction, you may experience losses if your orders for security futures contracts cannot be executed normally due to systems failures on a regulated exchange or at the brokerage firm carrying your position. Your losses may be greater if the brokerage firm carrying your position does not have adequate back-up systems or procedures.

All security futures contracts involve risk, and there is no trading strategy that can eliminate it. Strategies using combinations of positions, such as spreads, may be as risky as outright long or short positions. Trading in security futures contracts requires knowledge of both the securities and the futures markets.

Day trading strategies involving security futures contracts and other products pose special risks. As with any financial product, persons who seek to purchase and sell the same security future in the course of a day to profit from intra-day price movements ("day traders") face a number of special risks, including substantial commissions, exposure to leverage, and competition with professional traders. You should thoroughly understand these risks and have appropriate experience before engaging in day trading.

Placing contingent orders, if permitted, such as "stop-loss" or "stop-limit" orders, will not necessarily limit your losses to the intended amount. Some regulated exchanges may permit you to enter into stop-loss or stop-limit orders for security futures contracts, which are intended to limit your exposure to losses due to market fluctuations. However, market conditions may make it impossible to execute the order or to get the stop price.

You should thoroughly read and understand the customer account agreement with your brokerage firm before entering into any transactions in security futures contracts. You should thoroughly understand the regulatory protections available to your funds and positions in the event of the failure of your brokerage firm. The regulatory protections available to your funds and positions in the event of the failure of your brokerage firm may vary depending on, among other factors, the contract you are trading and whether you are trading through a securities account or a futures account. Firms that allow customers to trade security futures in either securities accounts or futures accounts, or both, are required to disclose to customers the differences in regulatory protections between such accounts, and, where appropriate, how customers may elect to trade in either type of account.

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