

Exchange Traded Funds

ETF primer picks: the top baskets to own

ETF Research

Smallcap quality, Japan, & defense ETFs for equity balance

One great advantage of ETFs, per our [ETF primer](#), is their ability to add balance back to core holdings. Many stock portfolios are skewed >60% to growth stocks. ETFs like these can diversify: 1) small cap quality (**CALF**) opts for profitability and has outperformed the benchmark by >5ppt per year (Exhibit 2); 2) currency-hedged Japan equities (**DXJ**) are tactically attractive, up 35% YTD; 3) the right basket of defense stocks (**PPA**) should benefit from the growing focus on national defense.

Own loans, gold, & nuclear ETFs for broad diversification

Bond benchmarks are often one big trade on lower inflation & interest rates. Investors can add senior loans (**SRLN**) and [raise credit exposure](#) for better diversification; loans have led Treasuries by >85% since Covid lows (Exhibit 6). Most investors also don't own enough real assets. Gold (**GLDM**) and nuclear (**URA**) are robust against stagflation; nuclear has outperformed the Nasdaq by 25% since 2018 (Exhibit 8).

Know what you own with BofA ETF Research as a guide

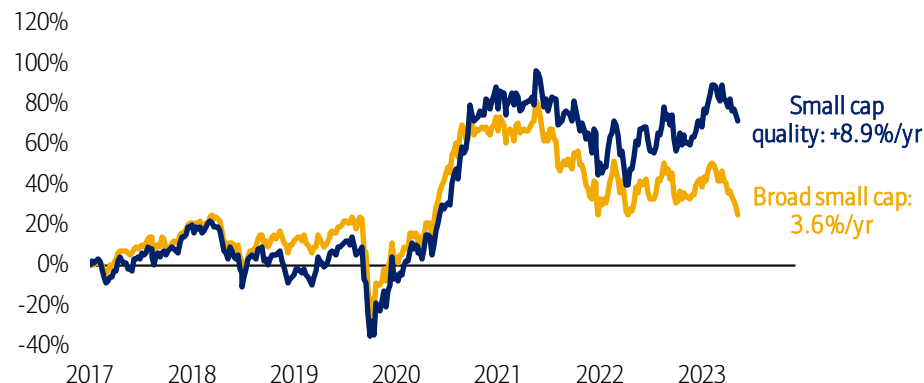
Well-designed ETFs outperform peers by 6% per year on average. BofA ETF Research rates >400 funds across 58 categories to identify which ones are best positioned. See page 4 for all our top-rated funds.

Our new primer explains the ETF universe

ETFs turn 30 this year and are improving with age. [In our new primer](#), we explain what an ETF is, and the fascinating story of a \$10 trillion market born from the carnage of Black Monday, 1987. Benefits abound for ETF investors with \$250bn saved since 2001 thanks to a tax-optimized structure.

Exhibit 2: Small cap quality has outperformed the broad index by 530bps per year since 2017

Cumulative total return of small cap quality (CALF) & broad small cap (IWM) ETFs



Source: BofA ETF Research, Bloomberg. Note: small cap quality = CALF; broad small cap = IWM

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31 October 2023

Exchange-Traded Funds
United States
Other Financials

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Exhibit 1: Top six ETF primer picks

1-FV rated ETFs in each category

Asset class	Category	Ticker
Equities	Small cap quality	CALF
Equities	Japan	DXJ
Equities	Defense	PPA
Fixed income	Loans	SRLN
Real assets	Gold	GLDM
Real assets	Nuclear energy	URA

Source: BofA ETF Research

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See our new ETF Primer: [The relentless hunt for diversification](#)

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Six ways to diversify with ETFs

Small cap quality (CALF) cuts out the junk

Today more than a third of small companies are unprofitable, a higher proportion than ever before (Exhibit 3).

Investors can diversify into smaller stocks without owning the struggling firms. The Pacer US Small Cap Cash Cows 100 ETF (CALF) owns companies with high free cash flow, a key measure of quality.

CALF has kept pace with large cap equities this year and has outperformed the Russell 2000 by more than 15 percentage points. CALF has led the small cap equity benchmark by 5.3% per year since inception (Exhibit 2).

Jill Hall thinks that [small cap quality is attractive](#) given risks from the high proportion of non-earners in the broader index and higher interest rates.

Stay nimble with currency hedged Japan equities (DXJ)

Japanese equities have rallied this year amid a strong earnings cycle. [Masashi Akutsu](#) flags attractive valuations and notes that a sharp downturn looks unlikely.

The Japanese yen has also weakened sharply, trading now at three-decade lows. Unhedged US investors have gained 7% this year, while a currency-hedged fund link DXJ has rallied 35% (Exhibit 4).

For long-term investors we remain concerned about risks from the Bank of Japan's yield curve control policy, upside risks to inflation, and demographic disadvantages (see [Going global: markets to rent & markets to own](#)). For tactical investors, it is essential to watch corporate profits but the currency, too.

PPA is most aligned with BofA analysts on defense

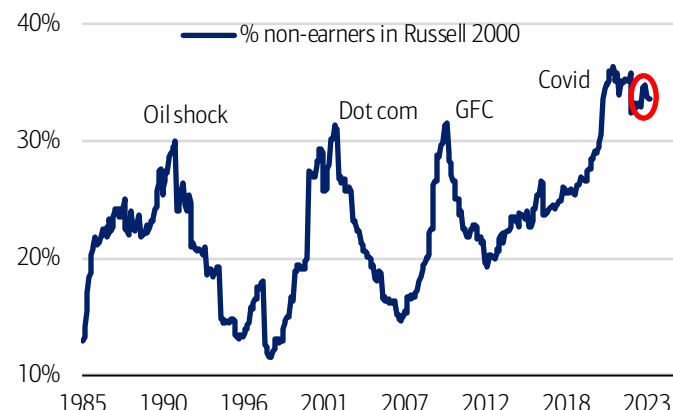
Fund design has accounted for a 70% return differential in aerospace & defense ETFs over the past decade (Exhibit 5). PPA is less concentrated than ITA, with less exposure to Ron Epstein's underperform-rated stocks (see [The ETF Angle: Dodge this "value trap" in defense ETFs](#)).

Defense investment outlays are at [all-time highs](#) and rose >8% YoY through September 2023. Our strategists expect a strong spending environment to endure as the US government pushes to [modernize its technology](#).

Ongoing global conflicts also suggest scope for more defense spending despite stretched fiscal deficits. US defense spending is expected to rise from 3-5% to 5-8% of nominal GDP (see the latest [BofA FAQs](#) on developments in the Middle East.)

Exhibit 3: 34% of broad small cap equities are unprofitable

% of companies in the Russell 2000 with no earnings

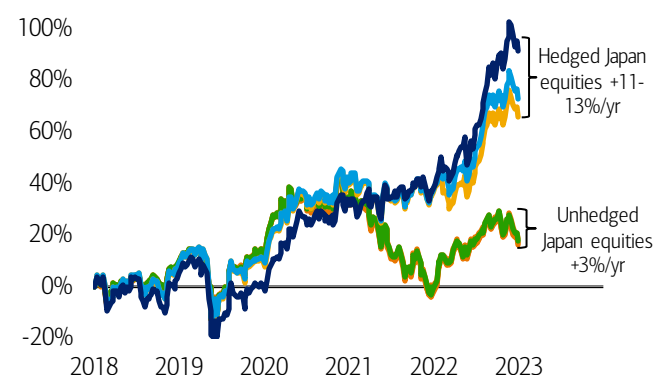


Source: BofA Equity & Quant Strategy, FactSet, BofA ETF Research

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Exhibit 4: Hedged Japan equity ETFs mitigate historic yen weakness

Cumulative total returns for hedged and unhedged Japan equity ETFs

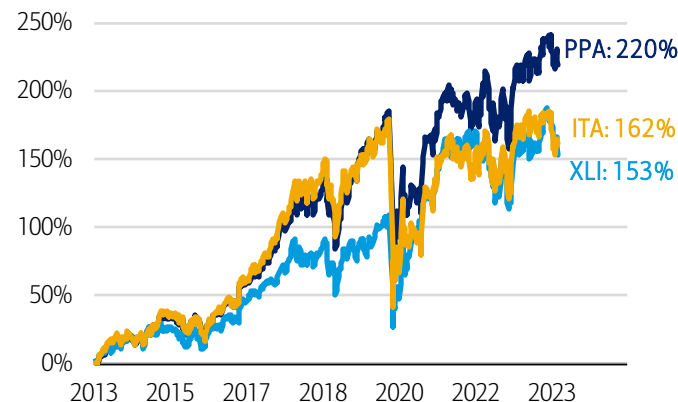


Source: BofA ETF Research, Bloomberg

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Exhibit 5: PPA is our top pick for defense ETFs

Cumulative total returns for defense & industrials ETFs



Source: BofA ETF Research, Bloomberg

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Loans & credit outperform bonds in a 5% world (SRLN)

Senior loan ETFs have led long-term US Treasuries by >85% since Covid lows, thanks to lower interest rate risk and attractive credit exposure (Exhibit 6).

SRLN, our top loan fund pick, offers a >9% indicated yield. The average asset in SRLN resets its interest rate every 42 days, helping payouts keep pace with rate changes. Leveraged loans are also a core holding in our [Dynamic Prudent Yield strategy](#), which is built to endure a secular shift to higher yields and inflation in the years ahead.

The world has changed: debt, demographics, and de-globalization are driving the shift from a [2% to 5% world](#). But most portfolios are still positioned for lower yields and inflation. The “diversified” US Aggregate Bond index has gotten more sensitive to interest rates and inflation over the past decade.

Add gold for an uncorrelated stagflation hedge (GLDM)

Gold ETFs are the consummate inflation and risk-off hedge for long-term investors. Gold has one of the lowest correlations to equities across all asset classes today and has averaged 0% correlation since the late 1960s.

Gold has remained resilient despite the recent rise in real yields. The last time US 10-year real yields were above 2.5%, gold traded around \$700/oz (Exhibit 7).

Central banks increased gold buying by 150% last year to >1,100 tons, the highest level in 55 years. The surge in bullion buying suggests that global sovereigns could be looking to diversify holdings away from mainstays like the dollar (see [Exchange Traded Funds: The new case for gold](#)).

Gold ETFs are a straightforward way for investors to raise exposure to real assets as financial assets come under pressure.

Reinvigorated real assets boost nuclear > Nasdaq (URA)

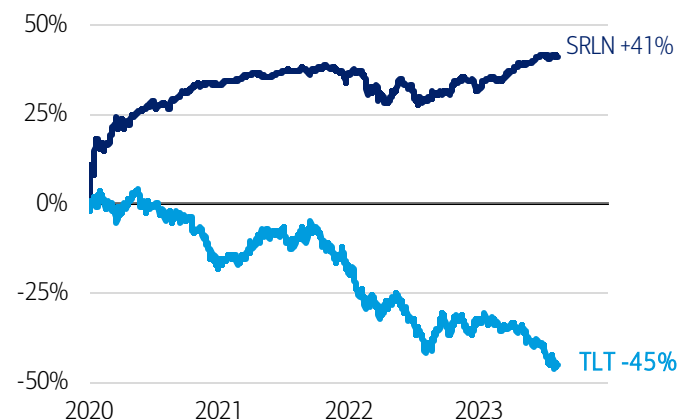
URA, the Global X Uranium ETF, has outperformed US tech stocks by 25% since Oct 2018 (Exhibit 8). URA holds a unique combination of real assets (uranium) & equities (miners, utilities, etc.) that can bolster future outperformance.

Supply / demand imbalances in uranium have supported the move higher this year. Lawson Winder expects [uranium deficits through the end of 2024](#) with global production not increasing until 2025.

Nuclear power is cleaner, cheaper, and safer than conventional “renewable” energy sources. Nuclear energy is also a proven and scalable technology that delivers 93% of the time it’s supposed to. Wind offers just 35% of advertised power while solar works less than 25% of the time (for more surprising statistics, The RIC Report: The nuclear necessity, May 9, 2023).

Exhibit 6: Loans are the best bet when rates are higher for longer

Cumulative total returns since Covid lows

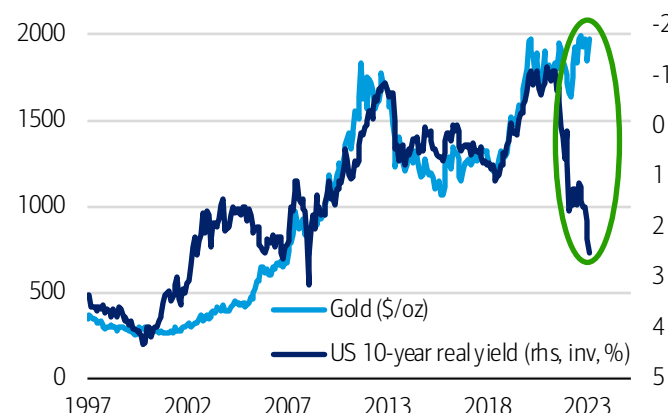


Source: BofA ETF Research, Bloomberg

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Exhibit 7: Gold has stayed resilient despite higher real yields

Gold futures price vs US 10-year real yield

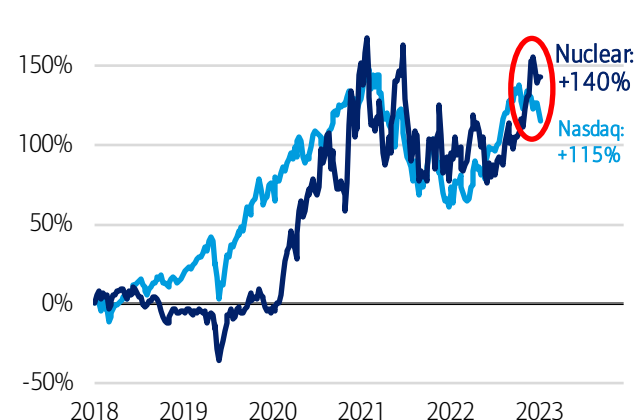


Source: BofA ETF Research, Bloomberg

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Exhibit 8: Nuclear outshines the Nasdaq 100 in a 5% world

Cumulative 5-year total returns



Source: BofA ETF Research, Bloomberg. Note: nuclear = URA; Nasdaq 100 = QQQ

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Exhibit 9: BofA top-rated fixed income and commodity ETFs

1-rated fixed income and commodity ETFs by category, AUM, Sortino ratio (3Y), annual total return

Ticker	Name	AUM (\$bn)	Rating	Category	Sub-Category	Sortino ratio (3Y)	Ann. return (3Y)
GLDM	SPDR Gold MiniShares Trust	6.0	1-FV	Commodity	Gold	-0.15	2%
IAUM	iShares Gold Trust Micro	0.9	1-FV	Commodity	Gold	n.a.	n.a.
CWB	SPDR Bloomberg Convertible Securities ETF	3.4	1-FV	Fixed Income	Convertible Bonds	0.07	0%
ICVT	iShares Convertible Bond ETF	1.3	1-FV	Fixed Income	Convertible Bonds	0.07	0%
VVOB	Vanguard Emerging Markets Government Bond ETF	3.2	1-FV	Fixed Income	Emerging Market Bonds	-0.53	-5%
EMLC	VanEck J. P. Morgan EM Local Currency Bond ETF	2.9	1-FV	Fixed Income	Emerging Market Bonds	-0.44	-3%
EMBD	Global X Emerging Markets Bond ETF	0.1	1-FV	Fixed Income	Emerging Market Bonds	-0.42	-3%
FALN	iShares Fallen Angels USD Bond ETF	1.2	1-FV	Fixed Income	High Yield Corporates	-0.01	1%
ANGL	VanEck Fallen Angel High Yield Bond ETF	2.3	1-FV	Fixed Income	High Yield Corporates	0.00	1%
SRLN	SPDR Blackstone Senior Loan ETF	4.2	1-FV	Fixed Income	Leveraged loans	0.29	4%
HYMB	SPDR Nuveen Bloomberg HY Municipal Bond ETF	1.9	1-FV	Fixed Income	Municipal Bonds	-0.40	-3%
MUB	iShares National Muni Bond ETF	34.4	1-FV	Fixed Income	Municipal Bonds	-0.67	-2%
SMMU	PIMCO Short Term Municipal Bond Active ETF	0.5	1-FV	Fixed Income	Municipal Bonds	-0.86	0%
JMST	JPMorgan Ultra-Short Municipal Income ETF	2.5	1-FV	Fixed Income	Municipal Bonds	-1.50	1%
FMHI	First Trust Municipal High Income ETF	0.5	1-FV	Fixed Income	Municipal Bonds	-0.34	-2%
HYD	VanEck High Yield Muni ETF	2.5	1-FV	Fixed Income	Municipal Bonds	-0.51	-3%
PFF	iShares Preferred & Income Securities ETF	11.9	1-FV	Fixed Income	Preferreds	-0.20	-3%
PFFD	Global X US Preferred ETF	2.1	1-FV	Fixed Income	Preferreds	-0.40	-5%
PFXF	VanEck Preferred Securities ex Financials ETF	1.2	1-FV	Fixed Income	Preferreds	0.03	-1%
SCHO	Schwab Short-Term U.S. Treasury ETF	12.2	1-NV	Fixed Income	US Government bonds	-1.34	-1%
SCHR	Schwab Intermediate-Term U.S. Treasury ETF	7.4	1-NV	Fixed Income	US Government bonds	-1.34	-5%
BIL	SPDR Bloomberg 1-3 Month T-Bill ETF	37.2	1-NV	Fixed Income	US Government bonds	-0.68	2%
VGSH	Vanguard Short-Term Treasury ETF	22.3	1-NV	Fixed Income	US Government bonds	-1.44	-1%
SHV	iShares Short Treasury Bond ETF	21.8	1-NV	Fixed Income	US Government bonds	-1.00	2%
TLT	iShares 20+ Year Treasury Bond ETF	39.9	1-NV	Fixed Income	US Government bonds	-1.35	-17%

Source: BofA ETF Research, Bloomberg

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Exhibit 10: BofA top-rated equity ETFs

1-rated equity ETFs by category, AUM, Sortino ratio (3Y), annual total return

Ticker	Name	AUM (\$bn)	Rating	Category	Sub-Category	Sortino ratio (3Y)	Ann. return (3Y)
PPA	Invesco Aerospace & Defense ETF	2.1	1-FV	Industry	Aerospace & Defense	0.84	15%
IHI	iShares U.S. Medical Devices ETF	4.5	1-FV	Industry	Health Care Equipment & Services	-0.04	-3%
KIE	SPDR S&P Insurance ETF	0.6	1-FV	Industry	Insurance	0.98	16%
IAK	iShares U.S. Insurance ETF	0.4	1-FV	Industry	Insurance	1.07	20%
XME	SPDR S&P Metals & Mining ETF	1.6	1-FV	Industry	Metals & Mining	1.13	28%
URA	Global X Uranium ETF	2.1	1-FV	Industry	Metals & Mining	1.20	37%
MLPA	Global X MLP ETF	1.4	1-FV	Industry	MLP	1.66	36%
MLPX	Global X MLP & Energy Infrastructure ETF	0.9	1-FV	Industry	MLP	1.37	31%
IHE	iShares US Pharmaceuticals ETF	0.5	1-FV	Industry	Pharmaceuticals	0.25	4%
PPH	VanEck Pharmaceutical ETF	0.4	1-FV	Industry	Pharmaceuticals	0.61	11%
IGV	iShares Expanded Tech-Software Sector ETF	5.7	1-FV	Industry	Software & Services	0.17	3%
FLCA	Franklin FTSE Canada ETF	0.3	1-FV	International Equity	Canada	0.51	9%
FNDE	Schwab Fundamental EM Large Company ETF	4.8	1-FV	International Equity	Emerging Markets	0.47	7%
VWO	Vanguard FTSE Emerging Markets ETF	68.4	1-FV	International Equity	Emerging Markets	-0.06	-2%
EMXC	iShares MSCI Emerging Markets ex China ETF	6.6	1-FV	International Equity	Emerging Markets	0.24	4%
IEMG	iShares Core MSCI Emerging Markets ETF	66.6	1-FV	International Equity	Emerging Markets	-0.08	-2%
PXH	Invesco FTSE RAFI Emerging Markets ETF	1.1	1-FV	International Equity	Emerging Markets	0.30	4%
XCEM	Columbia EM Core ex-China ETF	0.5	1-FV	International Equity	Emerging Markets	0.33	5%
INDY	iShares India 50 ETF	0.7	1-FV	International Equity	India	0.94	12%
EPI	WisdomTree India Earnings Fund	1.4	1-FV	International Equity	India	1.20	18%
HEWJ	iShares Currency Hedged MSCI Japan ETF	0.2	1-FV	International Equity	Japan	1.20	17%
DXJ	WisdomTree Japan Hedged Equity Fund	3.0	1-FV	International Equity	Japan	1.89	25%
DBJP	Xtrackers MSCI Japan Hedged Equity ETF	0.3	1-FV	International Equity	Japan	1.19	17%
EWV	iShares MSCI Mexico ETF	1.2	1-FV	International Equity	Latin America	1.04	20%
EWZ	iShares MSCI Brazil ETF	5.0	1-FV	International Equity	Latin America	0.47	12%
FLBR	Franklin FTSE Brazil ETF	0.1	1-FV	International Equity	Latin America	0.46	12%
EIDO	iShares MSCI Indonesia ETF	0.4	1-FV	International Equity	Single-country Emerging Market	0.73	6%
EWY	iShares MSCI South Korea ETF	3.3	1-FV	International Equity	Single-country Emerging Market	-0.02	-4%
KSA	iShares MSCI Saudi Arabia ETF	0.7	1-FV	International Equity	Single-country Emerging Market	0.47	11%

Exhibit 10: BofA top-rated equity ETFs

1-rated equity ETFs by category, AUM, Sortino ratio (3Y), annual total return

Ticker Name		AUM (\$bn)	Rating	Category	Sub-Category	Sortino ratio (3Y)	Ann. return (3Y)
IYK	iShares US Consumer Staples ETF	1.3	1-FV	Sector	Consumer Staples	0.68	10%
FENY	Fidelity MSCI Energy Index ETF	1.6	1-FV	Sector	Energy	1.94	51%
XLE	Energy Select Sector SPDR Fund	38.1	1-FV	Sector	Energy	1.96	50%
VDE	Vanguard Energy ETF	8.0	1-FV	Sector	Energy	1.94	51%
RSPG	Invesco S&P 500 Equal Weight Energy ETF	0.6	1-FV	Sector	Energy	1.92	56%
XLF	Financial Select Sector SPDR Fund	27.7	1-FV	Sector	Financials	0.66	12%
RSPF	Invesco S&P 500 Equal Weight Financials ETF	0.2	1-FV	Sector	Financials	0.56	10%
FHLC	Fidelity MSCI Health Care Index ETF	2.8	1-FV	Sector	Health Care	0.34	6%
XLV	Health Care Select Sector SPDR Fund	35.7	1-FV	Sector	Health Care	0.48	8%
VHT	Vanguard Health Care ETF	15.2	1-FV	Sector	Health Care	0.34	6%
IYH	iShares U.S. Healthcare ETF	2.8	1-FV	Sector	Health Care	0.39	7%
DIVB	iShares Core Dividend ETF	0.2	1-FV	Single Factor	Buybacks	0.64	11%
PKW	Invesco BuyBack Achievers ETF	1.6	1-FV	Single Factor	Buybacks	0.80	14%
SCHD	Schwab US Dividend Equity ETF	45.5	1-FV	Single Factor	Dividend	0.76	10%
SPYD	SPDR Portfolio S&P 500 High Dividend ETF	5.8	1-FV	Single Factor	Dividend	0.67	12%
YVM	Vanguard High Dividend Yield ETF	45.7	1-FV	Single Factor	Dividend	0.71	11%
HDV	iShares Core High Dividend ETF	9.5	1-FV	Single Factor	Dividend	0.68	11%
FDL	First Trust Morningstar Dividend Leaders Index	3.8	1-FV	Single Factor	Dividend	0.73	12%
SCHG	Schwab U.S. Large-Cap Growth ETF	18.6	1-FV	Single Factor	Growth	0.39	9%
YMI	Vanguard International High Dividend Yield ETF	6.2	1-FV	Single Factor	International Dividend	0.61	11%
IHDG	WisdomTree Int'l Hedged Quality Dividend Growth	1.7	1-FV	Single Factor	International Dividend	0.45	9%
GCOW	Pacer Global Cash Cows Dividend ETF	1.6	1-FV	Single Factor	International Dividend	0.84	16%
QLV	Flexshares US Quality Low Volatility Index Fund	0.2	1-FV	Single Factor	Quality	0.49	9%
COWZ	Pacer US Cash Cows 100 ETF	15.2	1-FV	Single Factor	Quality	1.07	22%
SPYV	SPDR Portfolio S&P 500 Value ETF	15.7	1-FV	Single Factor	Value	0.75	13%
VTV	Vanguard Value ETF	94.2	1-FV	Single Factor	Value	0.74	12%
MOAT	VanEck Morningstar Wide Moat ETF	10.3	1-FV	Single Factor	Value	0.68	12%
SCHM	Schwab U.S. Mid-Cap ETF	9.0	1-FV	Size	Mid Cap	0.46	6%
VO	Vanguard Mid-Cap ETF	49.3	1-FV	Size	Mid Cap	0.37	5%
VBK	Vanguard Small-Cap Growth ETF	12.3	1-FV	Size	Small Cap Equity	0.04	-3%
VBR	Vanguard Small-Cap Value ETF	22.5	1-FV	Size	Small Cap Equity	0.71	12%
CALF	Pacer US Small Cap Cash Cows 100 ETF	3.9	1-FV	Size	Small Cap Equity	0.96	18%
KBE	SPDR S&P Bank ETF	1.0	1-NV	Industry	Banks	0.42	5%
KBWB	Invesco KBW Bank ETF	1.2	1-NV	Industry	Banks	0.25	1%
RING	iShares MSCI Global Gold Miners ETF	0.4	1-NV	Industry	Gold Miners	-0.34	-9%
GDX	VanEck Gold Miners ETF/USA	11.4	1-NV	Industry	Gold Miners	-0.27	-7%
ITB	iShares U.S. Home Construction ETF	1.7	1-NV	Industry	Homebuilders	0.49	12%
OIH	VanEck Oil Services ETF	2.4	1-NV	Industry	Oil & Gas Equipment & Services	1.67	52%
PXE	Invesco Energy Exploration & Production ETF	0.2	1-NV	Industry	Oil & Gas Exploration & Production	1.95	68%
SMH	VanEck Semiconductor ETF	9.2	1-NV	Industry	Semiconductor	0.72	17%
FNDP	Schwab Fundamental Int'l Large Company	10.3	1-NV	International Equity	Developed Markets ex-US	0.69	12%
SCHF	Schwab International Equity ETF	29.8	1-NV	International Equity	Developed Markets ex-US	0.29	6%
SPDW	SPDR Portfolio Developed World ex-US ETF	15.6	1-NV	International Equity	Developed Markets ex-US	0.26	5%
VEA	Vanguard FTSE Developed Markets ETF	105.4	1-NV	International Equity	Developed Markets ex-US	0.28	5%
EFA	iShares MSCI EAFE ETF	44.4	1-NV	International Equity	Developed Markets ex-US	0.30	6%
HEFA	iShares Currency Hedged MSCI EAFE ETF	3.4	1-NV	International Equity	Developed Markets ex-US	0.86	13%
IEFA	iShares Core MSCI EAFE ETF	91.8	1-NV	International Equity	Developed Markets ex-US	0.27	5%
DBEF	Xtrackers MSCI EAFE Hedged Equity ETF	4.2	1-NV	International Equity	Developed Markets ex-US	0.83	13%
EDIV	SPDR S&P Emerging Markets Dividend ETF	0.3	1-NV	International Equity	Emerging Market Equities – Factors	0.84	11%
EWX	SPDR S&P Emerging Markets SmallCap ETF	0.8	1-NV	International Equity	Emerging Market Equities – Factors	0.63	9%
EELV	Invesco S&P Emerging Markets Low Volatility ETF	0.7	1-NV	International Equity	Emerging Market Equities – Factors	0.50	7%
EMGF	iShares Emerging Markets Equity Factor	0.6	1-NV	International Equity	Emerging Markets	-0.01	0%
FEZ	SPDR EURO STOXX 50 ETF	2.1	1-NV	International Equity	Europe	0.40	10%
EZU	iShares MSCI Eurozone ETF	5.7	1-NV	International Equity	Europe	0.33	7%
HEZU	iShares Currency Hedged MSCI Eurozone ETF	0.3	1-NV	International Equity	Europe	0.71	13%
HEDJ	WisdomTree Europe Hedged Equity Fund	1.3	1-NV	International Equity	Europe	0.62	12%
DBEU	Xtrackers MSCI Europe Hedged Equity ETF	0.4	1-NV	International Equity	Europe	0.69	13%
VEU	Vanguard FTSE All-World ex-US ETF	32.8	1-NV	International Equity	Global ex-US	0.21	4%
XLI	Industrial Select Sector SPDR Fund	13.8	1-NV	Sector	Industrials	0.65	10%
RSPN	Invesco S&P 500 Equal Weight Industrials ETF	0.5	1-NV	Sector	Industrials	0.72	12%
XLB	Materials Select Sector SPDR Fund	5.2	1-NV	Sector	Materials	0.45	8%
FXZ	First Trust Materials AlphaDEX Fund	0.5	1-NV	Sector	Materials	0.79	18%
XLRE	Real Estate Select Sector SPDR Fund	4.1	1-NV	Sector	Real Estate	0.11	2%
ICF	iShares Cohen & Steers REIT ETF	1.8	1-NV	Sector	Real Estate	0.10	1%

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1-rated equity ETFs by category, AUM, Sortino ratio (3Y), annual total return

Ticker Name		AUM (\$bn)	Rating	Category	Sub-Category	Sortino ratio (3Y)	Ann. return (3Y)
USRT	iShares Core US REIT ETF	1.8	1-NV	Sector	Real Estate	0.28	4%
XLU	Utilities Select Sector SPDR Fund	13.2	1-NV	Sector	Utilities	0.14	1%
FXU	First Trust Utilities AlphaDEX Fund	0.2	1-NV	Sector	Utilities	0.24	3%
SPY	SPDR S&P 500 ETF Trust	391.2	1-NV	Size	Large Cap Market Cap	0.51	10%
VOO	Vanguard S&P 500 ETF	316.4	1-NV	Size	Large Cap Market Cap	0.51	10%
IVV	iShares Core S&P 500 ETF	334.9	1-NV	Size	Large Cap Market Cap	0.51	10%
FNDX	Schwab Fundamental U.S. Large Company ETF	11.3	1-NV	Size	Large Cap Non Market Cap	0.81	15%
DIA	SPDR Dow Jones Industrial Average ETF Trust	26.7	1-NV	Size	Large Cap Non Market Cap	0.47	10%
PRF	Invesco FTSE RAFI US 1000 ETF	5.7	1-NV	Size	Large Cap Non Market Cap	0.74	13%
RSP	Invesco S&P 500 Equal Weight ETF	38.0	1-NV	Size	Large Cap Non Market Cap	0.61	10%
TECB	iShares US Tech Breakthrough Multisector ETF	0.3	1-NV	Thematic	Artificial Intelligence	0.25	5%
AIQ	Global X Artificial Intelligence & Technology ETF	0.6	1-NV	Thematic	Artificial Intelligence	0.25	4%
BOTZ	Global X Robotics & Artificial Intelligence ETF	1.9	1-NV	Thematic	Artificial Intelligence	-0.07	-6%
ICLN	iShares Global Clean Energy ETF	2.6	1-NV	Thematic	Clean Energy	-0.14	-12%
ESGU	iShares ESG Aware MSCI USA ETF	11.4	1-NV	Thematic	ESG Broad	0.43	8%
USSG	Xtrackers MSCI USA ESG Leaders Equity ETF	1.2	1-NV	Thematic	ESG Broad	0.52	10%
VOTE	TCW Transform 500 ETF	0.5	1-NV	Thematic	ESG Broad	n.a.	n.a.
XBI	SPDR S&P Biotech ETF	5.1	1-UF	Industry	Biotechnology	-0.43	-17%
BBH	VanEck Biotech ETF	0.4	1-UF	Industry	Biotechnology	-0.04	-1%
XRT	SPDR S&P Retail ETF	0.3	1-UF	Industry	Retail	0.52	7%
KBA	KraneShares Bosera MSCI China A 50 Connect ETF	0.3	1-UF	International Equity	China	-0.30	-10%
ASHR	Xtrackers Harvest CSI 300 China A-Shares ETF	1.9	1-UF	International Equity	China	-0.32	-10%
XLC	Communication Services Select Sector SPDR Fund	13.2	1-UF	Sector	Communication Services	0.18	4%
VOX	Vanguard Communication Services ETF	3.1	1-UF	Sector	Communication Services	0.10	1%
FDIS	Fidelity MSCI Consumer Discretionary Index ETF	1.1	1-UF	Sector	Consumer Discretionary	0.25	4%
VCR	Vanguard Consumer Discretionary ETF	4.2	1-UF	Sector	Consumer Discretionary	0.29	4%
FTEC	Fidelity MSCI Information Technology Index ETF	6.8	1-UF	Sector	Information Technology	0.48	12%
XLK	Technology Select Sector SPDR Fund	47.0	1-UF	Sector	Information Technology	0.54	15%
VGT	Vanguard Information Technology ETF	48.6	1-UF	Sector	Information Technology	0.47	12%
PTF	Invesco Dorsey Wright Technology Momentum	0.3	1-UF	Sector	Information Technology	0.29	3%

Source: BofA ETF Research, Bloomberg

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Exhibit 11: ETFs mentioned

Ticker, Name, Rating, and Price of ETFs mentioned in this report

Ticker Name	Rating	Price
CALF	Pacer US Small Cap Cash Cows 100 ETF	1-FV 39.41
DXJ	WisdomTree Japan Hedged Equity Fund	1-FV 85.29
PPA	Invesco Aerospace & Defense ETF	1-FV 80.06
SRLN	SPDR Blackstone Senior Loan ETF	1-FV 41.56
GLDM	SPDR Gold MiniShares Trust	1-FV 39.58
URA	Global X Uranium ETF	1-FV 25.76

Source: BofA ETF Research, Bloomberg

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Buy	80	19.61%	Buy	53	66.25%
Hold	317	77.70%	Hold	241	76.03%
Sell	11	2.70%	Sell	7	63.64%

^{R1} Exchange-traded funds (ETFs), or the ETF providers, that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only ETFs. An ETF rated 1-FV is included as a Buy; an ETF rated 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF or 2-UF is included as a Hold; and an ETF rated 3-UF is included as a Sell.

EXCHANGE-TRADED FUNDS (ETF) INVESTMENT OPINION KEY: Opinions reflect both an Outlook Rating and a Category Rating. OUTLOOK RATINGS reflect the analyst's assessment of the ETF's attractiveness relative to other ETFs within its category (including sector, region, asset class, thematic, and others). There are three outlook ratings: 1 - the ETF is more attractive than covered peers in the same category over the next 12 months; 2 - the ETF is similarly attractive to covered peers in the same category over the next 12 months; and 3 - the ETF is less attractive than covered peers in the same category over the next 12 months. CATEGORY RATINGS, indicators of the analyst's view of the ETF's category and which incorporate published views of BofA Global Research department analysts, are: FV - Favorable view, NV - Neutral view and UF - Unfavorable view.

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