

Name		Description	Extender	Trading Vehicle	AUM, 2023 \$billion	Volume \$million	Monthly Expense bps	Half Spread bps	Fund Expense bps	Mgmt. Fee bps
Statistics sourced from yahoo.com during November and December 2023.										
49 Constituent Universe										
1	Utilities	S&P 500 Utilities Total Return Index 55 (with GFD Extension)	XLU	XLU	13	1,000	7	0.8	10	50
2	DJ Industrials	Dow Jones Industrials Total Return Index (with GFD Extension)	DIA	DIA	28	1,000	10	2.4	16	50
3	DJ Transport	Dow Jones Transportation Average Return Index (with GFD Extension)	IYT	IYT	900	33,000	15	3.8	40	50
4	Industrials	S&P 500 Industrials Total Return Index 20	XLI	XLI	14	900	6	0.5	10	50
5	Energy	Energy Industry Sector (1 of 10), French Data Library, cap weighted	XLE	XLE	39	1,800	6	0.6	10	50
6	Technology	French Data Library, Industrial Sector HiTec10, cap-weighted. Not included in Brown's Nov 2023 release.	XLK	XLK	48	1,000	4	(0.6)	10	50
7	Materials	French Data Library. Average of Chems48, Rubbr48, BldMt48, Gold48, Mines48, Boxes48 and Steel48; pseudo cap-weighted	XLB	XLB	5	450	6	0.7	10	50
8	Communication Services	French Data Library. Average of Books30 and Telcm30; cap-weighted	XLC	XLC	13	400	6	0.7	10	50
9	Financial	French Data Library. Finan17; cap-weighted	XLF	XLF	30	1,300	8	1.6	10	50
10	Consumer Staples	French Data Library. Food17; cap-weighted	XLP	XLP	16	800	6	0.7	10	50
11	HealthCare	French Data Library. Hlth30; cap-weighted	XLV	XLV	38	1,200	6	0.4	10	50
12	Consumer Discretionary	French Data Library. Average of Games30, Hshld30, Clths30, Txtls30, Autos30, Servs30, Rtail30 and Meals30; cap-weighted	XLY	XLY	18	800	11	2.9	10	50
13	Value	French Data Library. Monthly portfolios formed on Book-to-Market. Lowest 10% Price/Book, cap-weighted	RPV	RPV	2	10	8	0.7	35	50

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14	SmlCap	French\ Data Library. Portfolios formed on Size; smallest 30%.	> 1997	VB	110	125	6	0.8	4	50
15	USREIT	US real estate. VGSIX from 2004; prefaced with NAREIT "All REITS" index.	VSIGX	VNQ	57	370	8	0.7	26	50
16	QQQ	QQQ from 1999; prefaced by XNDX	QQQ	QQQ	195	20,000	6	0.1	20	50
17	MTUM	French monthly portfolios formed on momentum. Top decile, cap-weighted. MSCI USA Mom Idx 1995-2013	MTUM	MTUM	8	60	9	1.7	15	50
18	Australia	Australia ASX Accumulation Index-All Ordinaries (with GFD Extension)	EWA	EWA	2	40	13	2.4	50	50
19	Canada	MSCI Canada	EWC	EWC	3	60	11	1.4	50	50
20	France	France CAC All-Tradable Total Return Index (with GFD Extension)	EWQ	EWQ	0.9	17	11	1.4	53	50
21	Germany	Germany CDAX Total Return Index (with GFD extension)	DAX	DAX	0.05	0.2	51	22.6	21	50
22	Japan	Japan Topix Total Return Index (with GFD Extension)	EWJ	EWJ	12	350	10	0.9	50	50
23	India	S&P CNX Nifty 50 Total Return Index (with GFD Extension) India	INDA	INDA	0.05	130	12	1.1	64	50
24	Mexico	MSCI Mexico	EWX	EWX	2	151	10	0.8	50	50
25	UK	UK FTSE All-Share Return Index (with GFD extension)	FLGB	FLGB	0.6	4	13	4.3	9	50
26	Brazil	Brazil	EWZ	EWZ	5	660	12	1.7	58	50
27	China	China Large-Cap	FXI	FXI	5	830	14	1.9	74	50
28	Hong Kong	Hong Kong	EWX	EWX	0.6	50	14	2.9	50	50
29	South Korea	South Korea	EWY	EWY	4	170	11	0.9	58	50
30	Switzerland	iShares MSCI Switzerland	EWL	EWL	1	27	13	2.2	58	50
31	Taiwan	Taiwan	EWT	EWT	3	90	11	1.1	58	50
32	Sml Foreign	MSCI EAFE Small Cap	SCZ	SCZ	9	77	9	0.8	40	50
33	EMHiDiv	Emerging Markets High Dividend	DEM	DEM	3	14	12	1.3	63	50
34	RiskFree	French Risk Free Rate, thru Aug 2023	US1M-	Individual Bills	1500		4	0.2	0	50

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35	ShtGov	Treasuries with maturities less than one year. Avg TBill & 3-yr Govt before 2007.	Synthetic	SHV	20	300	6	0.5	15	50
36	3mTBill	GFD Indices USA Total Return T-Bill Index	US3M-	Individual Bills	81		4	0.2	0	50
37	3-yr Government	USA 3-year Government Note Return Index	VFISX	SHY	26	320	7	0.6	15	50
38	5-yr Government	USA 5-year Government Note Total Return Index	IEI	IEI	13	220	6	0.4	15	50
39	10-yr Government	GFD Indices USA 10-year Government Bond Total Return Index	IEF	IEF	27	800	6	0.6	15	50
40	Long Government	USA 30-year Government Bond Return Index	VUSTX	VGLT	11	100	6	0.9	4	50
41	TIPS	BofA Merrill Lynch US Inflation-Linked Treasury Total Return Index	TIP	TIP	21	3310	7	0.5	19	50
42	Corporate Bonds	Dow Jones Corporate Bond Total Return Index (with GFD Extension). Current maturity is about 12 years. US Aggregate Bond Idx is its Benchmark	VCIT	VCIT	37	500	6	0.6	7	50
43	Long Corporate	GFD Indices USA Total Return AAA Corporate Bond Index	VCLT	VCLT	6	100	6	0.7	4	50
44	Long Zeros	PIMCO 25+ Year Zero Coupon US Treasury	ZROZ	ZROZ	1	8	26	10.4	15	50
45	IGBond	Intermediate government bonds. IEI from 2007 prefaced by Ibbotson's IGBond	IEI	IEI	13	220	6	0.4	15	50
46	Junk Bonds	Bank of America Merrill Lynch US High Yield Master II Total Return Index Value	VWEHX	HYG	14	2800	10	0.7	49	50
47	Foreign Bonds	GFD Indices All-World x/USA Countries Government Bond GDP-weighted Return	BNDX	BNDX	85	110	7	1.0	7	50
48	World Bonds	GFD Indices World Government Bond GDP-weighted Return Index	BWX	BWX	0.8	10	12	2.3	35	50
49	Commodity Blend	66.67% DBC + 33.33% UNG		DBC & UNG			22			

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Broadly Diversified (omitted)										
1	S&P500	S&P 500 Total Return Index (with GFD extension)	VFINX	VOO	866	1,600	5	0.4	4	50
2	MSCI EAFE European	Larger cap foreign stocks excluding US and Canada. MSCI EAFE Idx from 1970	VTMGX	VEA	160	430	7	1.2	5	50
3	Stocks	European Stocks	VEURX	VGK	23	170	7	0.9	11	50
4	Pacific Stocks	Pacific Stocks	VPACX	VPL	9	30	5	-	10	50
5	Emerging Markets	Emerging Markets	VEIEX	VWO	350	340	7	1.3	8	50
6	Total Foreign	Foreign stock market, including small cap. FIGRX 1989-2011.	FIGRX	VXUS	96	140	7	0.9	7	50
7	Total US Stocks	Total US stock market, including small cap. 70% SP500 plus 30% SmlCap 1989-2002	Synthetic	VTI	1400	752	5	0.2	3	50
Replace Commodities with Blend (net decrease of 2)										
1	Reuters Commodity Idx	Reuters CRB Total Return Index (with GFD extension)	DBC	PDBC	6	60	16	3.4	60	50
2	WT Intermediate	West Texas Intermediate Oil Price (US\$/Barrel) (with GFD Extension)	DBO	DBO	0.3	18	14	1.7	75	50
3	NG Futures	NYMEX Natural Gas Futures Contract (USD Per MM BTU)	UNG	UNG	1	100	33	9.9	106	50
GDX, SLV, GLD (omit)										
1	Gold Index	S&P/TSX Capped Gold Index (with GFD extension)	GDX	GDX	11	640	15	5.1	7	50
2	Silver	Silver Cash Price (US\$/Ounce) (with GFD Extension)	SLV	SLV	10	350	13	2.3	50	50
3	Gold	Gold Bullion Price-New York (US\$/Ounce) (with GFD Extension)	GLD	GLD	55	1400	8	0.3	40	50
Low Capacity (omit)										
1	Belgium	Belgium	EWK	EWK	0.02	0.1	32	12.1	50	50
2	Denmark	OMX Copenhagen All-Share Gross Index (with GFD Extension) Denmark	EDEN	EDEN	0.2	1	36	13.9	53	50

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3	Finland	Finland OMX Helsinki All-Share Gross Index	EFNL	EFNL	0.02	0.1	38	14.5	53	50
4	Ireland	ISEQ All-Share Total Return Index (with GFD Extension) Ireland	EIRL	EIRL	0.09	0.3	31	11.6	50	50
5	Italy	Italy MIB Return Index (with GFD Extension)	EWI	EWI	0.3	15	11	1.5	50	50
6	New Zealand	New Zealand SE Gross All-Share Index (with GFD Extension)	ENZL	ENZL	0.1	0.7	67	29.4	50	50
7	Netherlands	Netherlands All-Share Return Index (with GFD extension)	EWN	EWN	0.2	8	11	1.2	50	50
8	Spain	Barcelona SE-30 Return Index (with GFD extension) Spain	EWP	EWP	0.6	12	12	1.7	50	50
9	Sweden	Sweden OMX Stockholm Benchmark Gross Index (GFD extension)	EWD	EWD	0.3	7	12	1.6	54	50
10	S. Africa	Johannesburg SE All-Share Return Index (with GFD Extension)	EZA	EZA	0.3	7	33	12.1	58	50
11	Palladium	Palladium (USD per Troy Ounce) (with GFD Extension)	PALL	PALL	0.2	3	40	15.3	60	50
12	Platinum	Platinum Cash Price (US\$/Ounce) (with GFD Extension)	PPLT	PPLT	0.9	7	29	10.0	60	50
13	Precious Metals	ETFS Physical Precious Metals Basket Shares (GLTR)	GLTR	GLTR	0.9	3	20	5.6	60	50
14	Agriculture	World Bank Agriculture Commodity Price Index	DBA	DBA	0.8	8	16	2.3	85	50
15	Wheat #2	Wheat #2 Cash Price (US Dollars/Bushel) (with GFD Extension)	WEAT	WEAT	0.2	4	30	8.8	100	50
16	Base Metals	Base metals (zinc, copper, aluminum)	DBB	DBB	0.2	3	21	5.4	75	50
Other										
	Shops	Shops Industry Sector (1 of 10), French Data Library, cap weighted	Not included because no landing ETF was identified							
	2xSP500	2X the MONTHLY performance of the S&P500 Total Return	Synthetic	SSO	4	234	13	0.8	91	50