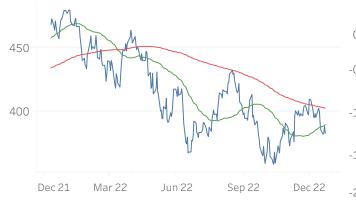
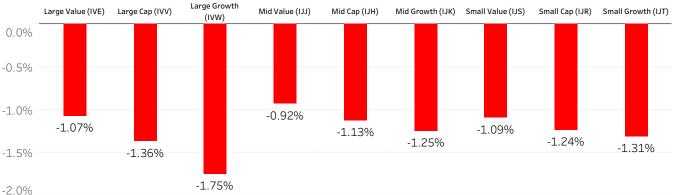


U.S. Size & Style Performance

December 22, 2022

Large Cap Blend (S&P 500) IVV





U.S. Size & Style 1-Day Performance

Mid Cap Blend (S&P 400) IJH



Small Cap Blend (S&P 600) IJR



Size & Style 1-Day Performance Leaders

Ticker	Fund	
SPC	CrossingBridge Pre-Merger SPAC ETF	0.29%
CLRG	IQ Chaikin U.S. Large Cap ETF	0.20%
PABU	iShares Paris-Aligned Climate MSCI USA ETF	0.11%
ONOF	Global X Adaptive U.S. Risk Management ETF	0.02%
PTLC	Pacer Trendpilot US Large Cap ETF	-0.05%
LVHD	Franklin U.S. Low Volatility High Dividend Index ETF	-0.18%
PEY	Invesco High Yield Equity Dividend Achievers ETF	-0.24%
SHE	SPDR MSCI USA Gender Diversity ETF	-0.28%
CDL	VictoryShares US Large Cap High Dividend Volatility Wt	-0.36%
SPHD	Invesco S&P 500 High Dividend Low Volatility ETF	-0.37%

Size & Style 1-Day Performance Laggards

Ticker	Fund	
SPHB	Invesco S&P 500 High Beta ETF	-2.60%
XOUT	GraniteShares XOUT US Large Cap ETF	-2.51%
BUZZ	VanEck Social Sentiment ETF	-2.50%
QQQ	Invesco QQQ Trust	-2.45%
QQQM	Invesco NASDAQ 100 ETF	-2.41%
IPO	Renaissance IPO ETF	-2.37%
JEPQ	J.P. Morgan Nasdaq Equity Premium Income ETF	-2.34%
LCG	Sterling Capital Focus Equity ETF	-2.28%
MGK	Vanguard Mega Cap Growth ETF	-2.19%
WINN	Harbor Long-Term Growers ETF	-2.17%

200 Day Moving Average

Size & Style Most Overbought

	Ticker	Fund	
_	SPC	CrossingBridge Pre-Merger SPAC ETF	63.93
	LVHD	Franklin U.S. Low Volatility High Dividend Index ETF	52.03
_	DURA	VanEck Durable High Dividend ETF	51.26
	ABEQ	Absolute Select Value ETF	50.63
_	ONOF	Global X Adaptive U.S. Risk Management ETF	50.45
	SPLV	Invesco S&P 500 Low Volatility ETF	50.35
_	XRLV	Invesco S&P 500 ex-Rate Sensitive Low Volatility ETF	49.66
	ALTL	Pacer Lunt Large Cap Alternator ETF	48.92
	HUSV	First Trust Horizon Managed Volatility Domestic ETF	48.82
	CGDV	Capital Group Dividend Value ETF	48.19

Size & Style Most Oversold

	Ticker	Fund	
)%	PTLC	Pacer Trendpilot US Large Cap ETF	20.48
.%	ACSI	American Customer Satisfaction ETF	31.82
%	LSAT	Leadershares Alphafactor Tactical Focused ETF	32.16
%	JMEE	JPMorgan Market Expansion Enhanced Equity ETF	32.44
%	BUZZ	VanEck Social Sentiment ETF	33.67
'%	FFTY	Innovator IBD 50 ETF	34.26
%	NZUS	SPDR MSCI USA Climate Paris Aligned ETF	34.59
%	QVML	Invesco S&P 500 QVM Multi-factor ETF	34.62
%	NUMV	Nuveen ESG Mid-Cap Value ETF	34.68
'%	WBIG	WBI BullBear Yield 3000 ETF	34.91



U.S. Size & Style Flows

Large-Cap 30-Day Rolling Flows



Mid-Cap 30-Day Rolling Flows



Small-Cap 30-Day Rolling Flows



	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Large Cap, Beta Growth, Beta	25	\$1,197B	(\$0.97B)	\$26.73B	\$40.80B	\$78.21B
Large Cap, Beta Growth, Beta: Growth	10	\$217B	\$0.02B	\$10.17B	\$15.63B	\$21.75B
Large Cap, Beta Growth, Beta: Value	11	\$222B	(\$10.00B)	\$1.78B	\$1.76B	\$20.30B
Mid Cap, Beta, Beta	10	\$178B	(\$1.47B)	\$4.88B	\$6.62B	\$12.11B
Mid Cap, Beta, Beta: Growth	6	\$32B	(\$0.30B)	\$0.36B	\$1.14B	\$0.78B
Mid Cap, Beta, Beta: Value	6	\$40B	(\$2.96B)	\$1.09B	\$1.03B	\$1.87B
Small Cap, Beta, Beta	13	\$188B	(\$1.45B)	\$3.67B	\$4.16B	\$1.64B
Small Cap, Beta, Beta: Growth	7	\$31B	(\$0.02B)	\$1.07B	\$0.96B	\$1.29B
Small Cap, Beta, Beta: Value	7	\$49B	(\$1.85B)	\$1.35B	(\$0.20B)	(\$1.94B)

U.S. Size & Style Landscape Flows

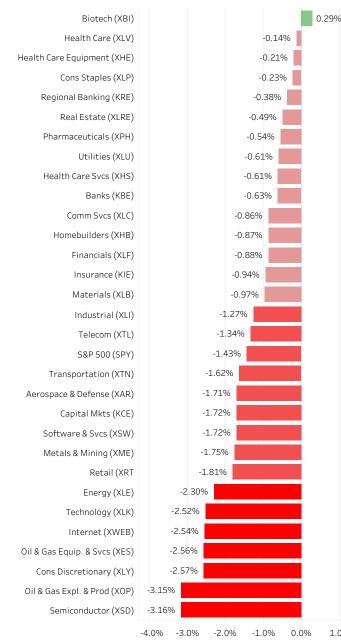
U.S. Size & Style Flow Leaders

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
SPY	SPDR S&P 500 ETF Trust	\$0.94B	\$16.82B	\$11.49B	(\$1.72B)	\$365.72B
QQQ	Invesco QQQ Trust	\$0.56B	(\$1.73B)	(\$1.01B)	\$1.42B	\$148.61B
IWF	iShares Russell 1000 Growth ETF	\$0.35B	\$2.95B	\$3.30B	\$3.44B	\$60.09B
VYM	Vanguard High Dividend Yield Index ETF	\$0.21B	\$1.32B	\$4.11B	\$8.76B	\$49.94B
VIG	Vanguard Dividend Appreciation ETF	\$0.21B	\$1.58B	\$1.82B	\$3.58B	\$65.59B
IWV	iShares Russell 3000 ETF	\$0.21B	\$0.74B	\$0.74B	\$0.39B	\$10.86B
SPYD	SPDR Portfolio S&P 500 High Dividend ETF	\$0.17B	\$0.03B	\$0.12B	\$3.07B	\$7.82B
VTHR	Vanguard Russell 3000 ETF	\$0.15B	\$0.33B	\$0.43B	\$0.42B	\$1.53B
IWO	iShares Russell 2000 Growth ETF	\$0.15B	\$0.52B	\$0.20B	\$0.45B	\$9.59B
SPLV	Invesco S&P 500 Low Volatility ETF	\$0.14B	(\$0.15B)	\$0.79B	\$2.66B	\$10.73B

U.S. Size & Style Flow Laggards

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
IVE	iShares S&P 500 Value ETF	(\$4.23B)	\$0.66B	\$0.35B	\$2.71B	\$24.65B
SPYV	SPDR Portfolio S&P 500 Value ETF	(\$4.09B)	\$2.09B	\$1.47B	\$3.25B	\$15.08B
IUSV	iShares Core S&P US Value ETF	(\$2.37B)	\$0.65B	\$1.22B	\$1.69B	\$12.73B
IVV	iShares Core S&P 500 ETF	(\$2.02B)	\$2.87B	\$6.90B	\$23.36B	\$292.61B
IJJ	iShares S&P Mid-Cap 400 Value ETF	(\$1.56B)	\$0.20B	\$0.28B	(\$0.63B)	\$7.37B
VO	Vanguard Mid-Cap ETF	(\$1.33B)	\$0.89B	\$1.76B	\$3.86B	\$50.42B
RPV	Invesco S&P 500 Pure Value ETF	(\$1.15B)	\$0.17B	(\$0.03B)	\$0.98B	\$3.52B
VTV	Vanguard Value ETF	(\$0.98B)	(\$3.86B)	(\$1.80B)	\$10.91B	\$99.57B
SLYV	SPDR S&P 600 Small Cap Value ETF	(\$0.98B)	\$0.08B	\$0.11B	\$0.25B	\$3.94B
VOOV	Vanguard S&P 500 Value ETF	(\$0.89B)	\$0.19B	\$0.12B	\$0.71B	\$3.04B

S&P Sector & Industry 1 Day Performance



Select Sector SPDRs Technicals

Ticker	Fund Name	% From 52W High	% From 52W Low	% Abv/Below 50 SMA	% Abv/Below 200 SMA	RSI (14D)
XLV	Health Care Select Sector SPDR Fund	-4.77%	13.45%	1.66%	3.87%	49.59
XLP	Consumer Staples Select Sector SPDR Fund	-7.17%	12.47%	1.56%	1.39%	48.15
XLI	Industrial Select Sector SPDR Fund	-8.18%	18.07%	1.18%	3.83%	46.69
XLU	Utilities Select Sector SPDR Fund	-10.15%	14.09%	2.78%	-1.59%	49.88
XLE	Energy Select Sector SPDR Fund	-10.32%	42.54%	-4.51%	4.70%	42.71
XLB	Materials Select Sector SPDR Fund	-13.88%	15.83%	0.05%	-1.36%	42.83
XLF	Financial Select Sector SPDR Fund	-18.49%	11.46%	-1.61%	-0.91%	41.73
SPY	SPDR S&P 500 ETF Trust	-19.17%	6.78%	-1.94%	-4.86%	40.74
XLK	Technology Select Sector SPDR Fund	-26.24%	6.79%	-3.09%	-8.29%	40.17
XLRE	Real Estate Select Sector SPDR Fund	-27.37%	8.82%	-1.28%	-11.61%	40.88
XLY	Consumer Discretionary Select Sector SPDR Fund	-36.80%	0.00%	-8.24%	-16.21%	30.19
XLC	Communication Services Select Sector SPDR Fund	-38.53%	4.25%	-3.63%	-14.93%	40.13

Sector & Industry 1 Day Performance Leaders

Ticker	Fund	
FBT	First Trust NYSE Arca Biotechnology Index Fund	0.45%
XBI	SPDR S&P BIOTECH ETF	0.29%
KBWY	Invesco KBW Premium Yield Equity REIT ETF	0.26%
IAT	iShares U.S. Regional Banks ETF	0.21%
IBB	iShares Biotechnology ETF	0.07%
FXH	First Trust Health Care AlphaDEX Fund	0.05%
RHS	Invesco S&P 500 Equal Weight Consumer Staples	-0.03%
RYH	Invesco S&P 500 Equal Weight Health Care ETF	-0.07%
VHT	Vanguard Health Care ETF	-0.10%
IYK	iShares U.S. Consumer Staples ETF	-0.12%

Sector & Industry 1 Day Performance Laggards

Ticker	Fund	
SOXQ	Invesco PHLX Semiconductor ETF	-4.13%
SOXX	iShares Semiconductor ETF	-4.04%
FTXL	First Trust Nasdaq Semiconductor ETF	-3.65%
PSI	Invesco Dynamic Semiconductors ETF	-3.64%
QTEC	First Trust NASDAQ-100 Technology Sector Index Fund	-3.51%
FXN	First Trust Energy AlphaDEX Fund	-3.36%
PXI	Invesco DWA Energy Momentum ETF	-3.18%
XSD	SPDR S&P Semiconductor ETF	-3.16%
XOP	SPDR S&P Oil & Gas Exploration & Production ETF	-3.15%
IEO	iShares U.S. Oil & Gas Exploration & Production ETF	-3.09%

Sector & Industry Most Overbought

Ticker	Fund	
FBT	First Trust NYSE Arca Biotechnology Index Fund	58.15
FXH	First Trust Health Care AlphaDEX Fund	56.23
ITB	iShares U.S. Home Construction ETF	54.31
XBI	SPDR S&P BIOTECH ETF	53.79
PTH	Invesco DWA Healthcare Momentum ETF	52.39
RYH	Invesco S&P 500 Equal Weight Health Care ETF	52.36
KBWP	Invesco KBW Property & Casualty Insurance ETF	52.02
IBB	iShares Biotechnology ETF	51.78
IHE	iShares U.S. Pharmaceuticals ETF	51.68
IEZ	iShares U.S. Oil Equipment & Services ETF	51.34

Sector & Industry Most Oversold

	Ticker	Fund	
ò	XLY	Consumer Discretionary Select Sector SPDR Fund	30.19
5	JPRE	JPMorgan Realty Income ETF	30.70
ò	VCR	Vanguard Consumer Discretionary ETF	31.93
5	FDIS	Fidelity MSCI Consumer Discretionary Index ETF	32.09
ò	IYC	iShares U.S. Consumer Discretionary ETF	33.12
5	NURE	Nuveen Short-Term REIT ETF	33.93
5	KBWY	Invesco KBW Premium Yield Equity REIT ETF	34.20
ò	XRT	SPDR S&P Retail ETF	34.22
5	XTN	SPDR S&P Transportation ETF	34.74
5	KBWR	Invesco KBW Regional Banking ETF	35.47

* ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify

1.0%

U.S. Sector Landscape

U.S. Sector & Industry 1-Week Flows

\$557M

500M

1 Week (Custom SQL Query22)

Oil & Gas Exploration & Production	
Banks: Regional	\$256M
Software	\$211M
Retail	\$163M
Aerospace & Defense	\$58M
Homebuilding	\$34M
Metals & Mining	\$23M
Infrastructure	\$9M
Oil & Gas Equipment & Services	\$6M
Mortgage REITs	\$4M
BDCs	\$3M
Food & Beverage	\$2M
Construction & Engineering	\$0M
Media & Entertainment	\$0M
MLPs: Note	(\$3M)
Health Care Providers & Services	(\$3M)
Pharmaceuticals	(\$4M)
Natural Gas	(\$11M)
Insurance	(\$13M)
Leisure & Recreation	(\$14M)
Transportation	(\$16M)
Midstream	(\$25M)
Health Care Equipment & Supplies	(\$31M)
Banks	(\$32M)
Semiconductors	(\$32M)
MLPs: C-Corp	(\$50M)
Biotech	(\$289M)
	-500M 0M 500

0.5. Sector Lanuscape						
	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Communication Services		\$11B	(\$70M)	\$329M	(\$92M)	(\$1,229M)
Consumer Discretionary	12	\$20B	\$3M	(\$322M)	(\$1,024M)	(\$6,791M)
Consumer Staples	10	\$30B	\$126M	\$1,485M	\$2,526M	\$8,147M
Energy	32	\$80B	\$920M	\$1,544M	(\$1,728M)	\$925M
Financials	26	\$58B	\$146M	\$386M	(\$761M)	(\$10,977M)
Health Care	23	\$98B	(\$22M)	\$3,056M	\$4,149M	\$11,717M
Industrial	13	\$30B	\$66M	\$747M	(\$156M)	(\$2,215M)
Materials	9	\$13B	(\$52M)	(\$366M)	(\$2,640M)	(\$1,280M)
Multi-Sector	19	\$13B	\$22M	(\$452M)	(\$1,939M)	(\$6,849M)
Real Estate	25	\$59B	(\$130M)	(\$495M)	(\$1,721M)	(\$3,506M)
Technology	23	\$114B	\$211M	\$3,081M	\$1,900M	\$162M
Utilities	9	\$26B	(\$88M)	(\$609M)	\$1,170M	\$5,284M

IIS Sector Landscape

U.S. Sector & Industry Flow Leaders

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
ХОР	SPDR S&P Oil & Gas Exploration & Production E	\$554M	\$533M	\$14M	(\$313M)	\$4,826M
XLE	Energy Select Sector SPDR Fund	\$346M	\$554M	(\$735M)	(\$478M)	\$40,358M
XLV	Health Care Select Sector SPDR Fund	\$271M	\$1,387M	\$2,144M	\$7,647M	\$42,259M
KRE	SPDR S&P Regional Banking ETF	\$259M	\$27M	(\$144M)	(\$1,133M)	\$2,974M
IGV	iShares Expanded Tech-Software Sector ETF	\$204M	\$809M	\$480M	\$694M	\$4,560M
VGT	Vanguard Information Technology ETF	\$191M	\$259M	\$135M	\$353M	\$40,507M
XRT	SPDR S&P Retail ETF	\$163M	\$126M	(\$154M)	(\$287M)	\$389M
ITB	iShares U.S. Home Construction ETF	\$92M	\$73M	(\$43M)	(\$947M)	\$1,446M
IBB	iShares Biotechnology ETF	\$85M	\$411M	\$408M	\$338M	\$9,012M
IYR	iShares U.S. Real Estate ETF	\$68M	\$169M	(\$150M)	(\$1,062M)	\$3,964M

U.S. Sector & Industry Flow Laggards

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUN
XBI	SPDR S&P BIOTECH ETF	(\$366M)	\$989M	\$538M	\$2,920M	\$8,045M
VNQ	Vanguard Real Estate ETF	(\$292M)	(\$893M)	(\$1,502M)	(\$2,592M)	\$33,680N
XLK	Technology Select Sector SPDR Fund	(\$173M)	\$703M	\$952M	\$1,114M	\$39,123N
XLC	Communication Services Select Sector SPDR Fu	(\$112M)	\$293M	(\$249M)	(\$1,054M)	\$7,940N
XLY	Consumer Discretionary Select Sector SPDR Fu	(\$90M)	(\$360M)	(\$486M)	(\$3,036M)	\$12,959N
XLU	Utilities Select Sector SPDR Fund	(\$84M)	(\$298M)	\$725M	\$3,606M	\$16,503N
XLB	Materials Select Sector SPDR Fund	(\$75M)	(\$280M)	(\$1,274M)	(\$1,753M)	\$5,324N
ХНВ	SPDR S&P Homebuilders ETF	(\$58M)	(\$66M)	(\$223M)	(\$1,032M)	\$841N
AMLP	Alerian MLP ETF	(\$46M)	(\$1M)	(\$69M)	\$447M	\$6,233N
VCR	Vanguard Consumer Discretionary ETF	(\$39M)	(\$141M)	(\$325M)	(\$1,208M)	\$3,875N



U.S. Sector Rolling 30-Day Flows

December 22, 2022







Evolving Consumer (SOCL)

Clean Energy: Wind (FAN)

Digital Infrastructure (SRVR)

eSports & Video Games (ESPO

Global Thematic Segment 1-Day Performance

0.66%

-0.13%

-0.41%

-0.81%

-0.91%

-1.14%

-1.18%

-1.22%

-1.27% -1.29%

-1.46%

-1.51%

-1.53%

-1.64% -1.84%

-1.88%

-1.99% -2.23%

-2.32%

-2.40%

-2.93% -3.26%

-3.38%

-3.39%

-3.44% -3.60%

-3.92%

-3.98%

Biotech ..

Water (PHO)

Space (UFO)

Big Data (AIQ)

Genomics (ARKG)

Cyber Security (HACK)

Digital Payments (IPAY)

Robotics & AI (ROBO)

Connectivity (FIVG)

Blockchain (BLOK) 3D Printing (PRNT)

Casinos & Gaming (BETZ)

Cloud Computing (SKYY)

Clean Energy: Solar (TAN)

Industrial Revolution (ARKQ)

Advanced Materials (REMX)

NextGen Transportation (DRIV)

Online Retail (IBUY)

Clean Energy (PBW) Disruptive Tech (ARKW)

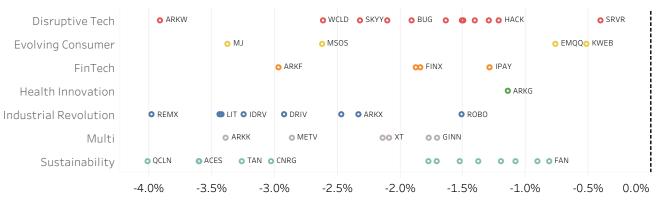
Cannabis (MJ) Multi-Theme (ARKK)

FinTech (FINX)

Smart Infrastructure (GRID)

Global Thematic Performance

December 22, 2022



Global Thematic 1-Day Performance Landscape

Global Thematic 1-Day Performance Leaders

Ticker	Fund	
SBIO	ALPS Medical Breakthroughs ETF	0.66%
BTEC	Principal Healthcare Innovators ETF	-0.07%
SOCL	Global X Social Media ETF	-0.13%
HTEC	ROBO Global Healthcare Technology and Innovation ETF	-0.19%
GNOM	Global X Genomics & Biotechnology ETF	-0.31%
GDOC	Goldman Sachs Future Health Care Equity ETF	-0.33%
SRVR	Pacer Data & Infrastructure Real Estate ETF	-0.41%
KWEB	KraneShares CSI China Internet ETF	-0.52%
RNRG	Global X Renewable Energy Producers ETF	-0.53%
IDNA	iShares Genomics Immunology and Healthcare ETF	-0.58%

Global Thematic 1-Day Performance Laggards

Ticker	Fund	
QCLN	First Trust Nasdaq Clean Edge Green Energy Index Fund	-4.01%
REMX	VanEck Rare Earth/Strategic Metals ETF	-3.98%
ARKW	ARK Next Generation Internet ETF	-3.92%
ACES	ALPS Clean Energy ETF	-3.61%
PBW	Invesco WilderHill Clean Energy ETF	-3.60%
ARKQ	ARK Autonomous Technology & Robotics ETF	-3.44%
LIT	Global X Lithium & Battery Tech ETF	-3.43%
ARKK	ARK Innovation ETF	-3.39%
HAIL	SPDR S&P Kensho Smart Mobility ETF	-3.38%
MJ	ETFMG Alternative Harvest ETFMG Alternative Harvest	-3.38%

Thematic Most Overbought

Ticker	Fund	
KWEB	KraneShares CSI China Internet ETF	61.94
EMQQ	EMQQ The Emerging Markets Internet & Ecommerce ETF	55.25
SOCL	Global X Social Media ETF	54.91
BTEC	Principal Healthcare Innovators ETF	50.46
SBIO	ALPS Medical Breakthroughs ETF	50.20
HERO	Global X Video Games & Esports ETF	48.70
GNOM	Global X Genomics & Biotechnology ETF	48.65
HTEC	ROBO Global Healthcare Technology and Innovation ETF	48.27
GDOC	Goldman Sachs Future Health Care Equity ETF	47.84
FAN	First Trust Global Wind Energy ETF	47.75

Thematic Most Oversold

Ticker	Fund	
YOLO	AdvisorShares Pure Cannabis ETF	24.53
MJUS	ETFMG U.S. Alternative Harvest ETF	26.12
MSOS	AdvisorShares Pure US Cannabis ETF	27.35
LIT	Global X Lithium & Battery Tech ETF	27.78
BLCN	Siren ETF Trust Siren Nasdaq NexGen Economy ETF	28.04
MJ	ETFMG Alternative Harvest ETFMG Alternative Harvest	29.06
REMX	VanEck Rare Earth/Strategic Metals ETF	29.58
QCLN	First Trust Nasdaq Clean Edge Green Energy Index Fund	30.07
HAIL	SPDR S&P Kensho Smart Mobility ETF	30.77
KARS	KraneShares Electric Vehicles & Future Mobility Index ETF	30.84
	YOLO MJUS MSOS LIT BLCN MJ REMX QCLN HAIL	YOLO AdvisorShares Pure Cannabis ETF MJUS ETFMG U.S. Alternative Harvest ETF MSOS AdvisorShares Pure US Cannabis ETF LIT Global X Lithium & Battery Tech ETF BLCN Siren ETF Trust Siren Nasdaq NexGen Economy ETF MJ ETFMG Alternative Harvest ETFMG Alternative Harvest REMX VanEck Rare Earth/Strategic Metals ETF QCLN First Trust Nasdaq Clean Edge Green Energy Index Fund HAIL SPDR S&P Kensho Smart Mobility ETF

* ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify

0.00%



Ticker Fund

ARK Innovation ETF

Global Thematic Flows

Thematic 1 Week Flow Leaders

Ticker	Fund	
PBW	Invesco WilderHill Clean Energy ETF	\$28M
TARK	AXS 2X Innovation ETF	\$11M
WCLD	WisdomTree Cloud Computing Fund	\$7M
GNOM	Global X Genomics & Biotechnology ETF	\$5M
IZRL	ARK Israel Innovative Technology ETF	\$4M
SAMT	Strategas Macro Thematic Opportunities ETF	\$3M
ACES	ALPS Clean Energy ETF	\$2M
GINN	Goldman Sachs Innovate Equity ETF	\$2M
ARKW	ARK Next Generation Internet ETF	\$2M
DTEC	ALPS Disruptive Technologies ETF	\$2M

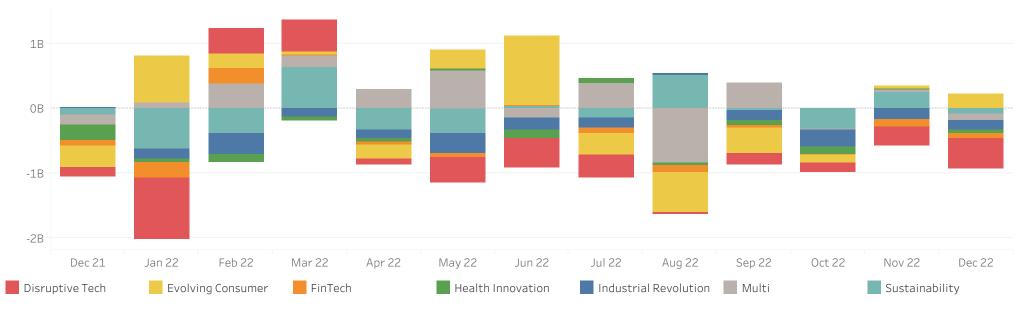
Segment	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Disruptive Tech	35	\$15B	(\$113M)	(\$908M)	(\$1,488M)	(\$2,583M)
Evolving Consumer	46	\$10B	(\$98M)	(\$49M)	(\$930M)	\$551M
FinTech	22	\$2B	(\$10M)	(\$202M)	(\$404M)	(\$557M)
Health Innovation	19	\$3B	(\$22M)	(\$132M)	(\$277M)	(\$831M)
Industrial Revolution	32	\$10B	(\$66M)	(\$641M)	(\$913M)	(\$2,104M)
Multi	41	\$13B	(\$154M)	\$259M	(\$320M)	\$1,105M
Sustainability	40	\$18B	(\$208M)	(\$222M)	\$316M	(\$989M)
Grand Total	235	\$71B	(\$672M)	(\$1,894M)	(\$4,017M)	(\$5,409M)

Thematic Landscape Assets & Flows

Thematic 1 Week Flow Laggards

(\$105M) Invesco Water Resources ETF PHO KWEB KraneShares CSI China Internet ETF (\$86M) Invesco Solar ETF (\$62M) TAN (\$53M) CIBR First Trust NASDAQ Cybersecurity ETF Global X Lithium & Battery Tech ETF (\$48M) LIT First Trust Nasdaq Clean Edge Smart GRID Infrastructure Index GRID (\$40M) ARKG ARK Genomic Revolution ETF (\$30M) First Trust Cloud Computing ETF SKYY (\$29M) BUG Global X Cybersecurity ETF (\$28M)

Thematic Monthly Flows



* ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day

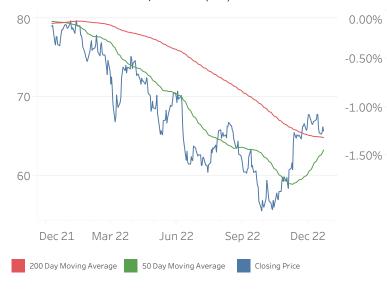
(\$202M)

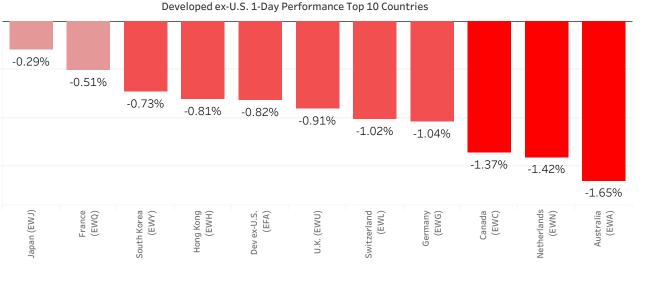


Developed Markets ex-U.S. Performance

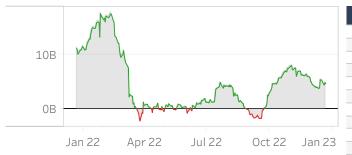
December 22, 2022

Developed ex-U.S. (EFA)





Developed ex-U.S. 30-Day Rolling Flows



Developed ex-U.S. 1-Day Performance Leaders

Ticker	Fund	
IMFL	Invesco International Developed Dynamic Multifactor ETF	0.85%
FSZ	First Trust Switzerland AlphaDEX Fund	0.61%
EWJV	iShares MSCI Japan Value ETF	0.53%
DFJ	WisdomTree Japan SmallCap Dividend Fund	0.50%
CIL	VictoryShares International Volatility Wtd ETF	0.41%
FJP	First Trust Japan AlphaDEX Fund	0.40%
FDT	First Trust Developed Markets ex-US AlphaDEX Fund	0.25%
GSID	Goldman Sachs MarketBeta International Equity ETF	0.14%
SCJ	iShares MSCI Japan Small-Cap ETF	0.07%
EDEN	iShares MSCI Denmark ETF	-0.09%

Developed ex-U.S. Most Overbought

Ti	cker	Fund	
E	DEN	iShares MSCI Denmark ETF	60.67
GI	REK	Global X MSCI Greece ETF	60.48
E\	NJV	iShares MSCI Japan Value ETF	59.47
D	FJ	WisdomTree Japan SmallCap Dividend Fund	59.23
E\	NН	iShares MSCI Hong Kong ETF	59.16
ID	v	iShares International Select Dividend ETF	58.43
UI	IVM	VictoryShares International Value Momentum ETF	58.23
IN	/IFL	Invesco International Developed Dynamic Multifactor ETF	58.20
D	TH	WisdomTree International High Dividend Fund	57.58
H	DEF	Xtrackers MSCI EAFE High Dividend Yield Equity ETF	56.85

10B 5B 0B

Feb 22 Mar 22 Apr 22 May : Jun 22 Jul 22

Jan 22

Dec 21

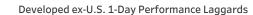
Developed ex-U.S. Monthly Flows

Aug 22

Oct 22 Nov 22

Dec 22

Sep 22



Ticker	Fund	
ISRA	VanEck Israel ETF	-1.91%
EWA	iShares MSCI Australia ETF	-1.65%
EIS	iShares MSCI Israel ETF	-1.49%
EWN	iShares MSCI Netherlands ETF	-1.42%
EWC	iShares MSCI Canada ETF	-1.37%
PBDM	Invesco PureBeta FTSE Developed ex-North America ETF	-1.33%
IVAL	Alpha Architect International Quantitative Value ETF	-1.33%
PIZ	Invesco DWA Developed Markets Momentum ETF	-1.33%
BBAX	JPMorgan BetaBuilders Developed Asia Pacific-ex Japan E	-1.33%
ток	iShares MSCI Kokusai ETF	-1.32%

Developed ex-U.S. Most Oversold

Fund	
iShares Currency Hedged MSCI Japan ETF	13.98
iShares Currency Hedged MSCI EAFE Small-Cap ETF	22.52
iShares Currency Hedged MSCI EAFE ETF	25.37
Xtrackers MSCI EAFE Hedged Equity ETF	26.69
iShares Currency Hedged MSCI Eurozone ETF	29.32
WisdomTree International Hedged Quality Dividend	30.40
Xtrackers MSCI Japan Hedged Equity ETF	31.00
iShares MSCI Israel ETF	34.55
Franklin FTSE Canada ETF	36.10
VanEck Israel ETF	36.61
	iShares Currency Hedged MSCI Japan ETF iShares Currency Hedged MSCI EAFE Small-Cap ETF iShares Currency Hedged MSCI EAFE ETF Xtrackers MSCI EAFE Hedged Equity ETF iShares Currency Hedged MSCI Eurozone ETF WisdomTree International Hedged Quality Dividend Xtrackers MSCI Japan Hedged Equity ETF iShares MSCI Israel ETF Franklin FTSE Canada ETF

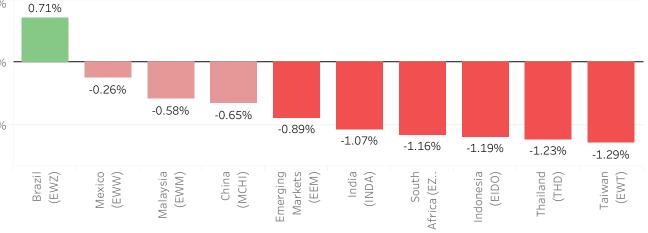


Emerging Markets Performance

December 22, 2022

Emerging (EEM)





Emerging 1-Day Performance Top 10 Countries

Emerging 30-Day Rolling Flows



Emerging 1-Day Performance Leaders

Ticker	Fund		Tic
EWZS	iShares MSCI Brazil Small-Cap ETF	1.11%	τu
FBZ	First Trust Brazil AlphaDEX Fund	0.91%	EP
FLBR	Franklin FTSE Brazil ETF	0.81%	FE
EWZ	iShares MSCI Brazil ETF	0.71%	PG
FLLA	Franklin FTSE Latin America ETF	0.27%	FN
EPOL	iShares MSCI Poland ETF	0.26%	FE
EPU	iShares MSCI Peru ETF	0.11%	MC
FLN	First Trust Latin America AlphaDEX Fund	0.10%	FX
ILF	iShares Latin America 40 ETF	0.00%	UE
TUR	iShares MSCI Turkey ETF	-0.19%	CX

Emerging Most Overbought

	Ticker	Fund	
6	TUR	iShares MSCI Turkey ETF	71.57
6	EPOL	iShares MSCI Poland ETF	66.20
6	FEMS	First Trust Emerging Markets Small Cap AlphaDEX Fu	60.42
6	PGJ	Invesco Golden Dragon China ETF	60.15
6	FNI	First Trust Chindia ETF	57.07
6	FEM	First Trust Emerging Markets AlphaDEX Fund	56.52
6	MCHI	iShares MSCI China ETF	55.32
6	FXI	iShares China Large-Cap ETF	55.23
6	UEVM	VictoryShares Emerging Markets Value Momentum E	54.39
6	CXSE	WisdomTree China ex-State-Owned Enterprises Fund	54.20

Emerging Monthly Flows



Emerging 1-Day Performance Laggards

Ticker	Fund	
NFTY	First Trust India NIFTY 50 Equal Weight ETF	-2.02%
RAYC	Rayliant Quantamental China Equity ETF	-1.88%
KSA	iShares MSCI Saudi Arabia ETF	-1.64%
ASHR	Xtrackers Harvest CSI 300 China A-Shares ETF	-1.59%
SMIN	iShares MSCI India Small Cap ETF	-1.58%
KBA	KraneShares Bosera MSCI China A 50 Connect Index ETF	-1.58%
ECH	iShares MSCI Chile ETF	-1.51%
LDEM	iShares ESG MSCI EM Leaders ETF	-1.47%
NUEM	Nuveen ESG Emerging Markets Equity ETF	-1.40%
FRDM	Freedom 100 Emerging Markets ETF	-1.36%

Emerging Most Oversold

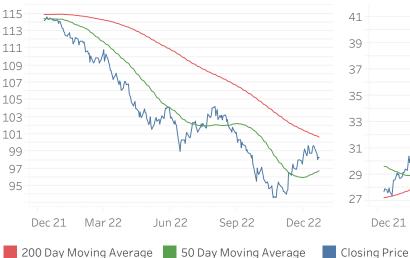
Ticker	Fund	
PIN	Invesco India ETF	18.32
KBA	KraneShares Bosera MSCI China A 50 Connect Index	24.44
EWT	iShares MSCI Taiwan ETF	26.97
QAT	iShares MSCI Qatar ETF	27.90
GLIN	VanEck India Growth Leaders ETF	29.72
INDY	iShares India 50 ETF	30.28
KSA	iShares MSCI Saudi Arabia ETF	31.26
RAYC	Rayliant Quantamental China Equity ETF	31.66
SMIN	iShares MSCI India Small Cap ETF	31.87
FLIN	Franklin FTSE India ETF	35.25

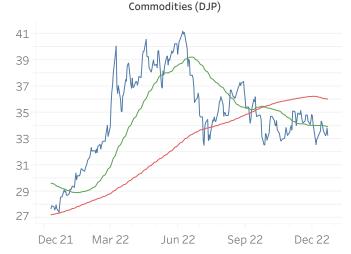


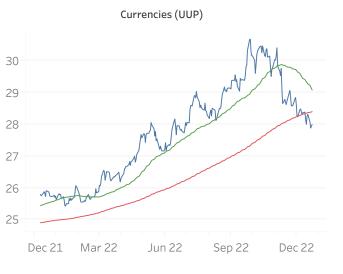
Fixed Income, Commodities & Currencies

December 22, 2022









Currencies Performance

Fixed Income Performance

Commodities Performance

Ticker Name 1 Day 1 Month YTD Ticker Name 1 Day 1 Month YTD Ticker Name 1 Month 1 Day -1.65% -4.45% 15.96% DJP **Broad Commodities** -11.84% -0.03% 1.35% AGG U.S. Aggregate -1.57% -8.83% 29.34% 0.14% -2.23% 10.17% DBE Energy UUP Long Dollar -0.53% -3.26% 24.54% US0 WTI Crude Oil SHY 1-3 Year Treasury Bonds -0.06% 0.74% -3.65% -0.66% -6.70% 29.22% BNO Brent Crude Oil IEF 7-10 Year Treasury Bonds -0.03% 0.98% -13.91% UNG Natural Gas -6.17% -30.81% 26.58% -0.22% 2.60% -8.76% UDN Short Dollar 0.15% -7.18% 33.89% UGA Gasoline -28.40% 20+ Year Treasury Bonds -0.02% 2.65% TLT 4.26% DBP Precious Metals -1.57% -3.43% -1.21% 2.89% GLD Gold -2.46% -0.14% 2.94% -7.50% FXE Euro -0.55% -11.64% TIP **TIPS Bonds** 0.62% 0.84% -1.72% 11.63% SLV Silver PPLT abrdn Physical Platin. -2.17% -1.72% 0.93% 0.00% 0.48% 0.92% FLOT Floating Rate Bonds PALL abrdn Physical Palla. -0.50% -9.77% -11.58% FXB British Pound Sterling -0.34% 1.35% -10.76% -0.03% 1.38% -16.41% DBB Base Metals -1.07% 1.21% -12.16% LQD Investment Grade Corporate CPER -1.47% 3.93% -16.46% Copper HYG High Yield Corporate -0.62% 0.22% -10.30% LD -0.96% -0.76% -3.65% Lead -0.52% 2.19% -3.01% FXF Swiss Franc -0.96% 12.76% 43.04% JJN Nickel -0.24% -1.66% 0.85% BKLN Senior Loan JJU -0.46% -2.23% -15.33% Aluminum JJT Tin -0.98% 12.59% -35.94% -1.06% -1.74% -17.59% PFF Preferred & Income Securities -0.03% 6.66% -13.51% FXY Japanese Yen 0.25% 1.14% 2.22% DBA Agriculture -0.15% 0.04% 21.96% CORN Corn 0.09% 0.95% -7.10% MUB Municipal Bonds -0.68% 1.62% 21.41% SOYB Soybeans Canadian Dollar -0.25% -1.83% -7.15% -0.15% 1.29% -10.65% -0.65% -5.75% 4.19% FXC WEAT Wheat MBB MBS 0.52% 3.17% 6.31% CANE Sugar -0.51% 2.18% -17.63% EMB Dollar Denominated EM Bonds -4.69% 2.66% -6.77% BAL Cotton 4.21% 9.18% -2.00% FXA Australian Dollar -0.59% 0.29% -8.42% NIB Cocoa -0.23% 2.79% -10.89% LEMB Local Currency EM Bond JO 0.02% 2.70% -21.02% Coffee

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