

ISHARES S&P 500 GROWTH ETF (IVW.P)

Equity ETF / Large-Cap Growth Funds

Detailed ETF Report

Report Date: 16-Oct-2023

Last Close 69.78 (USD)	Net Asset Value 69.78	Assets 33.8B (USD)	52-Week High 72.87	Expense Ratio 0.18%	Annual Dividend 0.56 (USD)	1-Mo Price Return -2.2%
13-10-2023 NYSE ARCA Exchange	Avg Daily Vol 1.6M	Inst Ownership 64.2%	52-Week Low 56.37	Index Beta 1.00	Dividend Yield 0.80%	3-Mo Price Return -1.8%

OVERALL SCORE

OVERALL SCORE
10

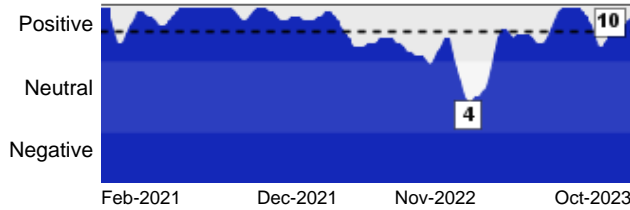
POSITIVE OUTLOOK: IVW is currently among an exclusive group of 429 Equity ETFs awarded our highest score of 10.

Score Averages

Large-Cap Growth Funds: **7.2**

Equity ETFs: **5.8**

Overall Score Trend (4-Week Moving Avg)



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	8	9	9	10	10	
SCHG.P	8	9	9	9	9	
IWF.P	9	9	9	8	8	
QQQ.OQ	8	9	9	9	8	
VUG.P	8	8	9	9	8	

HIGHLIGHTS

- The score for iShares S&P 500 Growth ETF has been on a positive trend from 7 to 10 over the past 10 weeks.
- The recent change in the Overall Score was primarily due to an improvement in the Technical component score.

THEMES

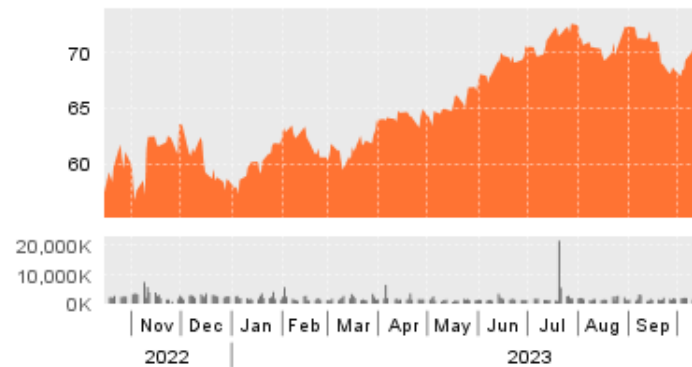
Smart Beta (Multifactor) Index Tracking (Optimized)

KEY ATTRIBUTES

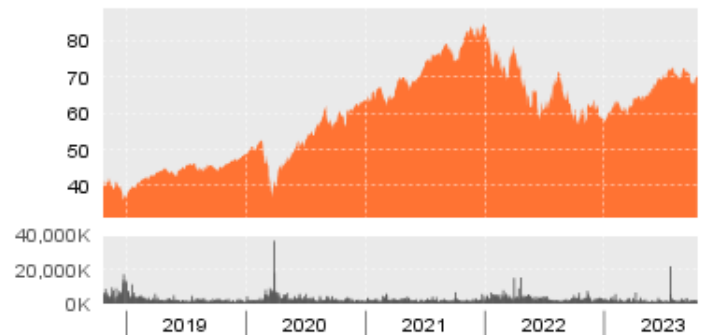
Structure	Exchange Traded Fund
Exchange Ticker	IVW
Management Approach	Active
Management Company	BlackRock Fund Advisors
Custodian	Bank of New York Mellon
Domicile	USA
Launch Date	22-05-2000
Geographical Focus	United States of America
Index	S&P 500 Growth Total Return Index
Tracking Error (1-Year)	0.00%

PRICE AND VOLUME CHARTS

1-Year Price Return: 19.4%



5-Year Price Return: 67.4%



OBJECTIVE

The Fund seeks investment results corresponding generally to price and yield performance, before fees and expenses, of the S&P 500/BARRA Growth Index. Uses a replication strategy to track the Index. The Index is a subset of the S&P 500 Index and consists of firms with the highest price-to-book ratios in the Index.



ISHARES S&P 500 GROWTH ETF (IVW.P)

Equity ETF / Large-Cap Growth Funds

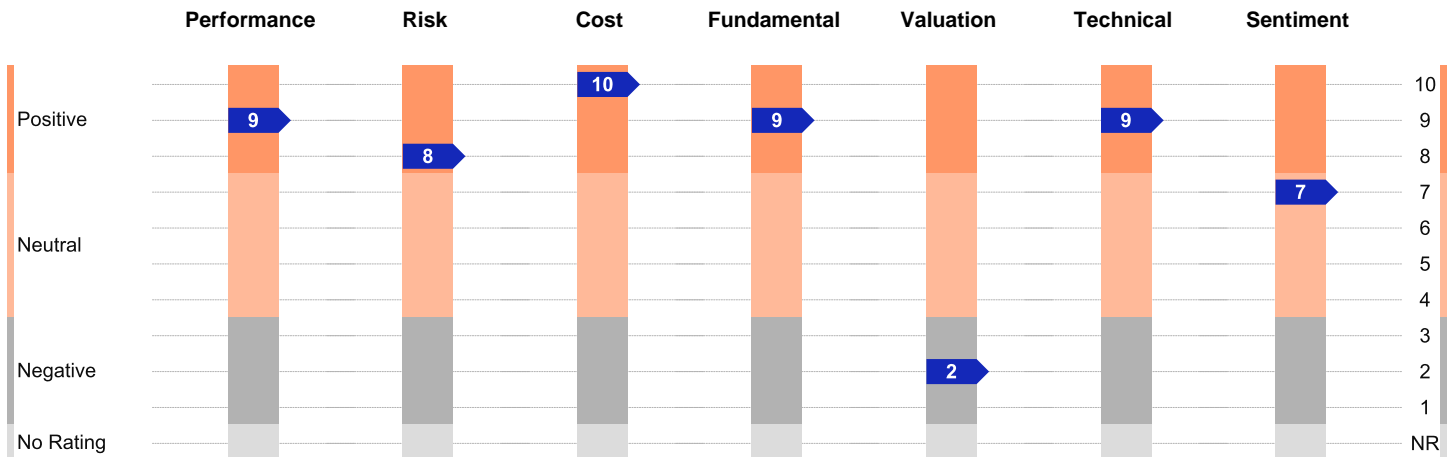
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INDICATOR COMPONENTS

OVERALL
SCORE
10

The **OVERALL SCORE** combines the quantitative analysis of seven investment decision making components for equity ETFs: Performance, Risk, Cost, Fundamental, Valuation, Technical, and Sentiment. A weighted average of the underlying component ratings is determined based on the asset type of the ETF. The weighted average is then quasi-normally distributed to rank the equity ETFs by region on a 1 to 10 scale, with 10 being most favorable. These seven factors may be evaluated differently using alternative methodologies and the importance of individual factors may vary across ETF asset types and investment objectives. Additional criteria should always be used to evaluate an exchange-traded fund.



PEER ANALYSIS

Currency in USD

Overall Score	RIC	Price (13-10-2023)	52-Week Low	52-Week High	Net Assets	Avg Daily Volume	1-Mo Price Return	6-Mo Price Return	1-Yr Price Return	Expense Ratio	Dividend Yield	1-Yr Index Beta	1-Yr Standard Deviation
8	QQQ.OQ	365.28	259.08	387.98	196.6B	52.2M	-2.4%	14.4%	35.9%	0.20%	0.59%	1.13	20.61
8	VUG.P	278.19	206.72	295.07	89.3B	811,923	-2.9%	11.5%	29.3%	0.04%	0.60%	1.09	19.36
8	IWF.P	272.27	207.91	286.96	69.2B	1.4M	-2.5%	11.1%	27.9%	0.19%	0.73%	1.00	17.61
10	IVW.P	69.78	56.37	72.87	33.8B	1.6M	-2.2%	7.8%	19.4%	0.18%	0.80%	1.00	15.66
9	SCHG.P	74.62	53.82	78.50	18.8B	1.0M	-2.0%	13.8%	32.9%	0.04%	0.46%	1.06	18.98
10	SPYG.P	60.44	48.84	63.08	18.6B	1.4M	-2.2%	7.8%	19.4%	0.05%	1.1%	1.00	15.64
9	QQQM.OQ	150.27	106.57	159.57	14.2B	1.2M	-2.4%	14.4%	35.9%	0.15%	0.66%	1.13	20.63
9	MGK.P	232.79	167.13	245.22	13.7B	317,695	-2.7%	13.6%	32.8%	0.07%	0.67%	1.12	20.12
9	VONG.OQ	70.06	53.47	73.80	13.5B	902,968	-2.5%	11.1%	28.0%	0.08%	0.76%	1.00	17.60
10	IUSG.OQ	96.50	78.60	101.04	13.4B	414,164	-2.3%	7.3%	18.8%	0.04%	1.1%	1.00	15.61
10	VOOG.P	251.73	203.36	262.62	7.8B	96,055	-2.2%	7.8%	19.5%	0.10%	1.1%	1.00	15.66
9.1	Average	174.72	131.08	184.25	44.4B	5.6M	-2.4%	11.0%	27.2%	0.10%	0.78%	1.05	17.95

PEER LISTING

IWF.P	iShares:Russ 1000 Gr ETF	IUSG.OQ	iShares:Core S&P US Gr
VOOG.P	Vanguard S&P 500G;ETF	VONG.OQ	Vanguard Rus 1000 GI;ETF
MGK.P	Vanguard MC Gro;ETF	VUG.P	Vanguard Gro Idx;ETF
SCHG.P	Schwab Str:US LC Gro ETF	SPYG.P	SPDR Ptf S&P 500 Growth
QQQ.OQ	Invesco QQQ Trust 1	QQQM.OQ	Invesco NASDAQ 100



FACTOR EXPOSURES

Factor exposures identified by the Verus Analytics risk factor model as compared to similar peers.



TOP 10 HOLDINGS

Holdings Date: 30-09-2023

				STOCK REPORTS PLUS SCORES			
RIC	Holding Name	Weight	1-Year Return	Average Score	Earnings Score	Fundamental Score	Risk Score
AAPL.OQ	Apple Inc ORD	12.70%	25.1%	4	5	7	9
MSFT.OQ	Microsoft Corp ORD	6.87%	39.9%	7	9	8	9
NVDA.OQ	NVIDIA Corp ORD	5.42%	280%	7	10	9	6
GOOGL.OQ	Alphabet Inc Class A ORD	3.92%	38.7%	6	5	10	9
TSLA.OQ	Tesla Inc ORD	3.49%	13.3%	5	6	10	5
GOOG.OQ	Alphabet Inc Class C ORD	3.36%	39.0%	NR	NR	NR	NR
AMZN.OQ	Amazon.com Inc ORD	2.68%	15.3%	5	7	7	8
XOM.N	Exxon Mobil Corp ORD	2.38%	7.9%	10	9	9	9
UNH.N	UnitedHealth Group Inc ORD	2.36%	5.8%	9	7	7	10
LLY.N	Eli Lilly and Co ORD	2.16%	83.4%	3	5	2	8
Sum of Top 10 Holding Weights		45.35%					

HOLDINGS SUMMARY

Total Holdings: 241
1-Year Turnover: 34%

Market Capitalization

Holdings Date: 30-09-2023



Region

United States	97.58%
Europe (ex-UK)	1.10%
United Kingdom	0.56%
Unidentified	0.53%
North America Ex US	0.20%
MENA	0.04%

Sector

Technology	46.36%
Healthcare	17.07%
Consumer Cyclical	11.37%
Energy	7.37%
Consumer Non-Cyclicals	5.23%
Industrials	4.65%
Financials	4.18%
Basic Materials	1.92%
Not Classified - Non Equity	0.85%
Non Classified Equity	0.52%
Utilities	0.47%
Telecommunications Services	0.25%



PERFORMANCE

POSITIVE OUTLOOK: Strong performance based on a combination of consistent returns and capital preservation.

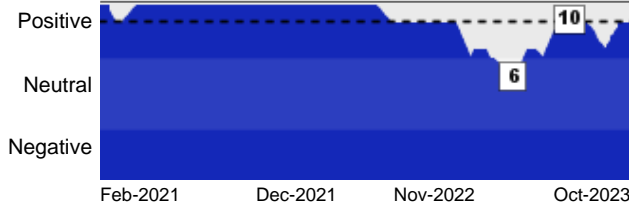
PERFORMANCE
9

Performance Score Averages

Large-Cap Growth Funds: **8.1**

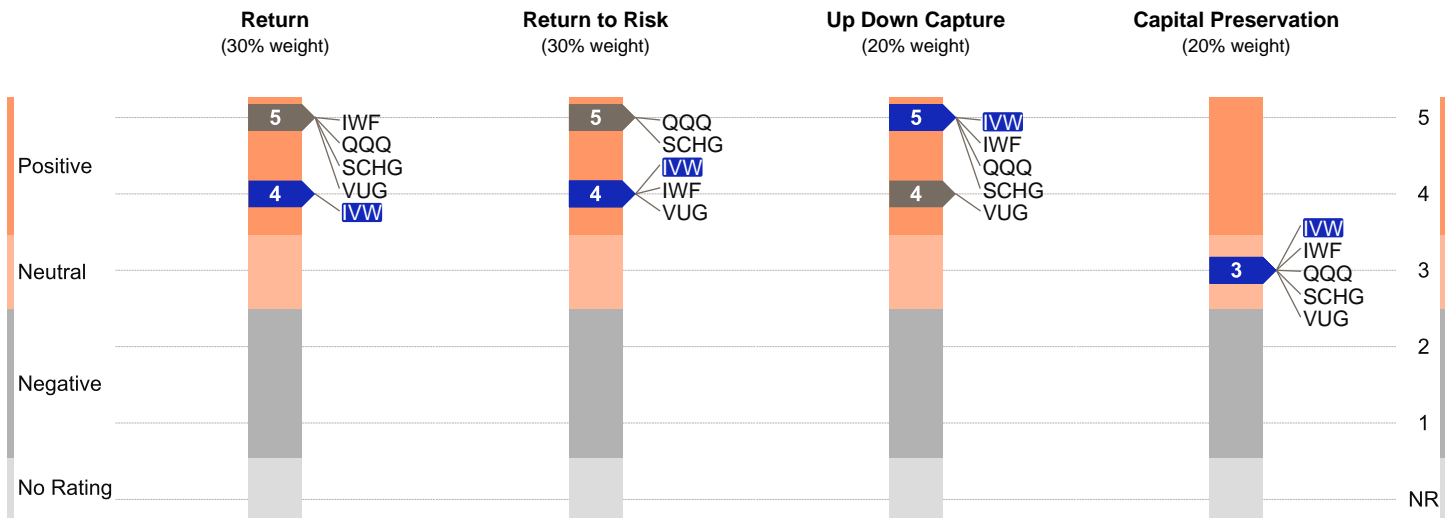
Equity ETFs: **5.1**

Performance Score Trend (4-Week Moving Avg)



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
QQQ.OQ	9	10	10	10	10	
SCHG.P	7	10	10	10	10	
IVW.P	7	9	9	9	9	
IWF.P	7	10	10	9	9	
VUG.P	7	9	9	9	9	

PERFORMANCE INDICATORS



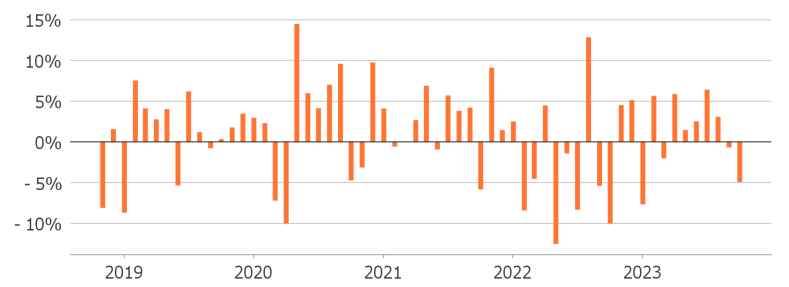
	Annualized		5-Year		5-Year		5-Year
1-Year Total Return	19.6%	Return to Risk Ratio	0.17	Up Capture	107.0%	Max Loss	-12.5%
3-Year Total Return	6.6%	Sharpe Ratio	0.11	Down Capture	101.7%	Max Drawdown	-30.5%
5-Year Total Return	10.3%	Sortino Ratio	0.10				

HIGHLIGHTS

- The current Performance Score for iShares S&P 500 Growth ETF is 9 compared to the Large-Cap Growth Funds classification average of 8.1.
- The 1-year total return for IVW is 19.6% as compared to a higher average of 27.4% for its 10 similar peers.
- When compared to the United States equity market over the last 4 years, IVW captures upside of 107.0% and captures downside of 101.7%.

MONTHLY RETURNS

Positive months represent 66.7%, 55.6%, and 61.7% of the 1-year, 3-year, and 5-year time periods.



RISK

POSITIVE OUTLOOK: Historically lower risk based on ample liquidity, low volatility, and/or diversified holdings.

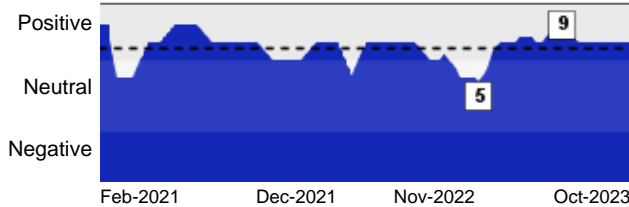
RISK
8

Risk Score Averages

Large-Cap Growth Funds: **4.9**

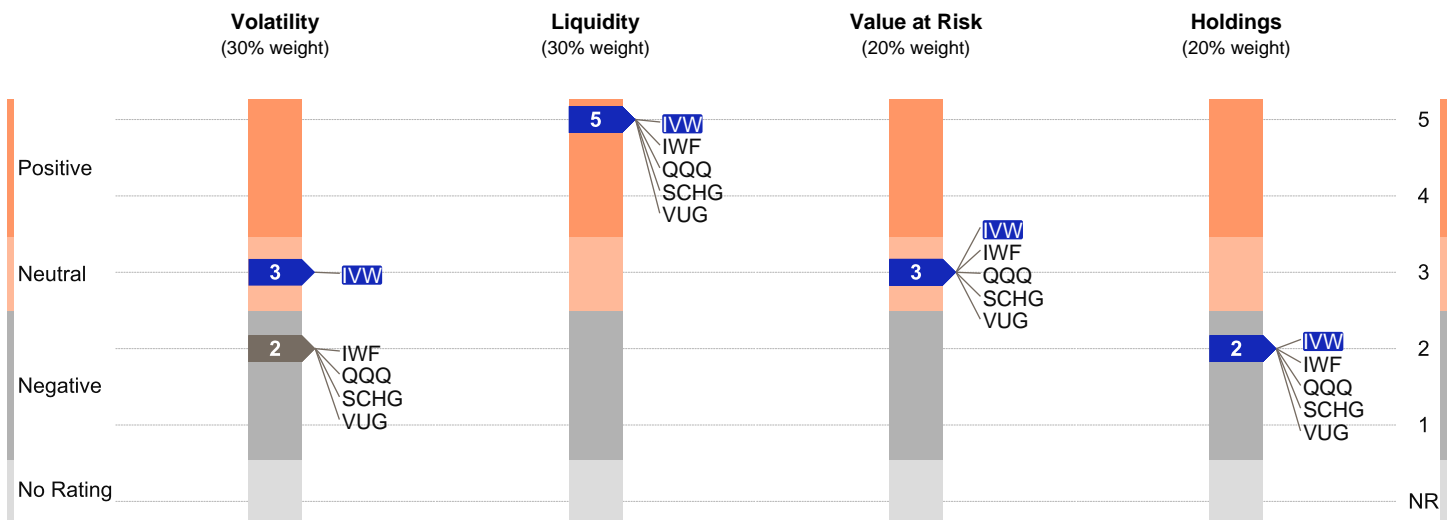
Equity ETFs: **5.8**

Risk Score Trend (4-Week Moving Avg)



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	8	8	8	8	8	
IWF.P	7	8	8	6	6	
QQQ.OQ	7	6	6	6	6	
SCHG.P	7	6	6	6	6	
VUG.P	7	6	8	6	6	

RISK INDICATORS



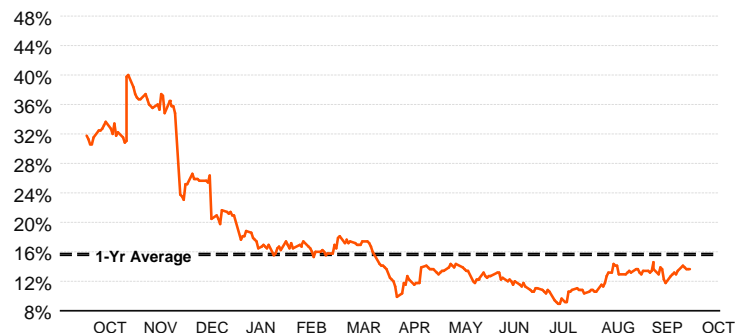
1-Year Std Deviation	15.7%	Avg Daily Volume (Last 90 Days)	2.0M	Largest 1-Day Decline (Last 3 Years)	-5.2%	Concentration (Herfindahl Index)	0.0333
3-Year Std Deviation	20.5%	Outstanding Shares	494M	Largest 1-Month Decline (Last 3 Years)	-15.8%	Diversification (Top 10 Holdings)	45.35%
Largest Intra-Day Swing (Last 90 Days)	2.4%	Days With Change in Outstanding Shares (Last Year)	159			Holdings Risk Score (1 to 10)	8.8
Largest Intra-Day Swing (Last 3 Years)	6.6%						

HIGHLIGHTS

- The Risk Score of 8 for iShares S&P 500 Growth ETF is better than the Large-Cap Growth Funds classification average of 4.8.
- IVW does not have clear indicators of stability or volatility and has a largest intra-day swing of 6.6% and a largest 1-month decline of -15.8% over the last three years.
- Based on trading volume, bid ask spread, and primary market activity, liquidity is not a concern for iShares S&P 500 Growth ETF.

ANNUALIZED VOLATILITY

Standard deviation of rolling 30-day price changes



COST Currency in USD

POSITIVE OUTLOOK: Lower cost based on expense ratios, bid ask spreads, and/or higher trading volume.

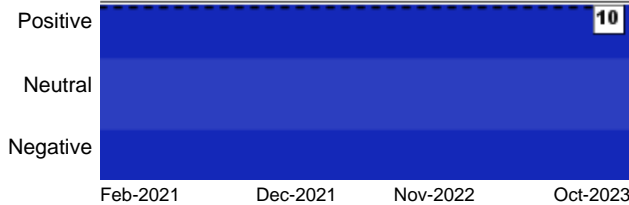
COST
10

Cost Score Averages

Large-Cap Growth Funds: **6.9**

Equity ETFs: **6.0**

Cost Score Trend (4-Week Moving Avg)



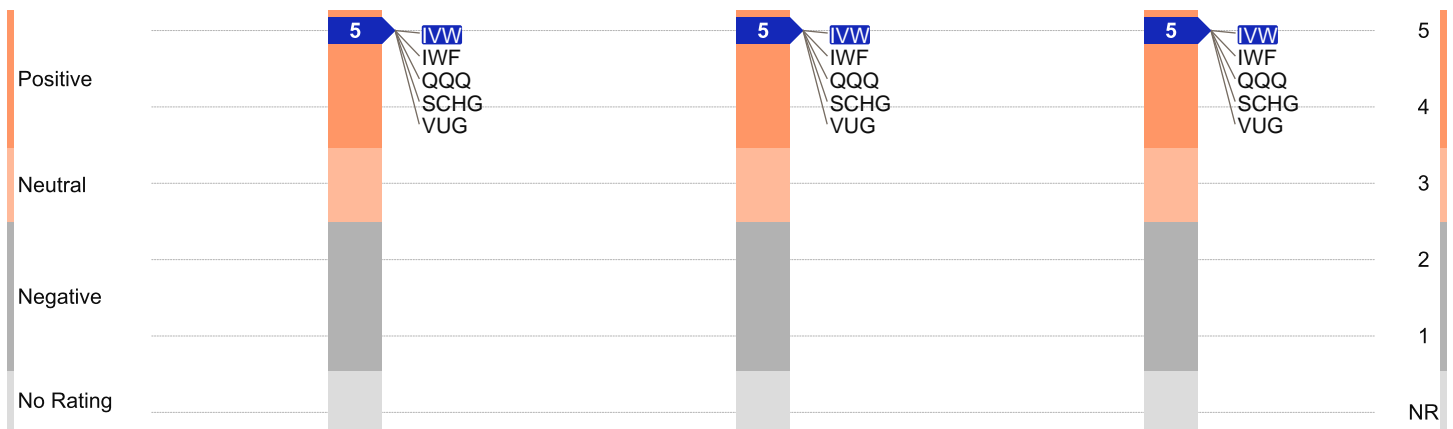
Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	10	10	10	10	10	
IWF.P	10	10	10	10	10	
QQQ.OQ	10	10	10	10	10	
SCHG.P	10	10	10	10	10	
VUG.P	10	10	10	10	10	

COST INDICATORS

Expense Ratio
(50% weight)

Trading Volume
(20% weight)

Bid Ask Spread
(30% weight)



Expense Ratio
Net Ratio: 0.18%

Trading Volume
10-Day Average: 1.3M
90-Day Average: 2.0M
90-Day Median: 1.5M

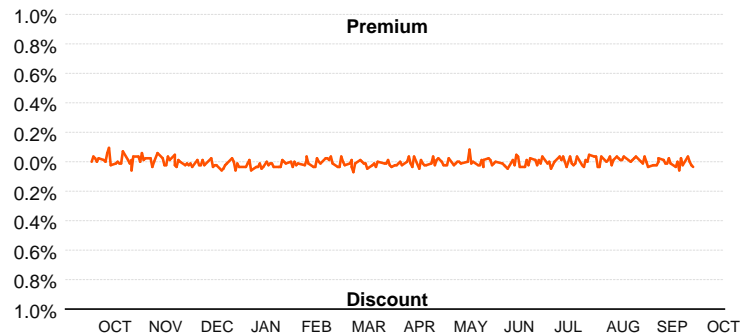
Bid Ask Spread (Last 90 Days)
Average Value: 0.01
Average Percent: 0.02%

HIGHLIGHTS

- The Cost Score of 10 for iShares S&P 500 Growth ETF is better than the Large-Cap Growth Funds classification average of 6.9.
- The expense ratio of 0.18% for IVW is lower than the expense ratio for any of its 10 similar peers. The average expense ratio for the peers is 0.10%.
- In recent months, the bid ask spread for IVW has been relatively narrow, which implies a smaller contribution to the overall cost of ownership.
- IVW tends to trade at a discount to NAV (net asset value).

PREMIUM/DISCOUNT

The variability of close prices at a premium or a discount to the net asset value over the last year.



FUNDAMENTAL

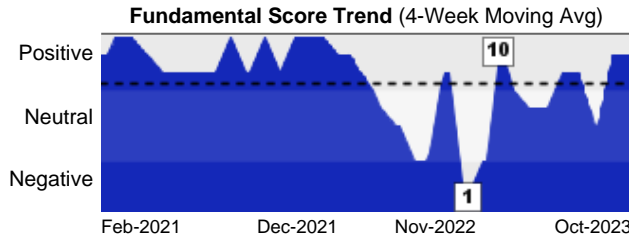
FUND-AMENTAL
9

POSITIVE OUTLOOK: Strong earnings or fundamentals according to Stock Reports Plus scores for equity holdings.

Fundamental Score Averages

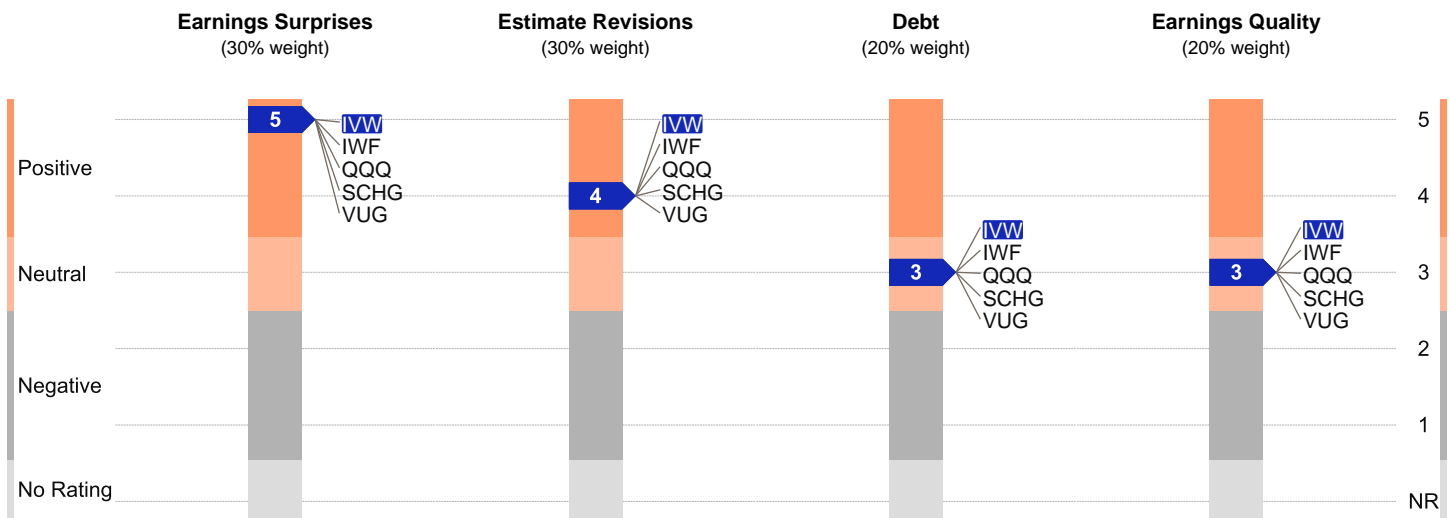
Large-Cap Growth Funds: 9.1

Equity ETFs: 5.8



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	6	5	9	9	9	
IWF.P	9	5	9	9	9	
QQQ.OQ	6	8	10	10	9	
SCHG.P	6	5	9	9	9	
VUG.P	6	5	10	9	9	

FUNDAMENTAL INDICATORS



Weighted Average of Stock Reports Plus Scores (1 to 10) for Equity Holdings

Earnings Surprises	7.5	Estimate Revisions	6.0	Debt	5.7	Earnings Quality	5.7
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Holdings Portfolio (238 Securities)

1-Yr EPS Growth	13.2%	1-Yr Dividend Growth	18.6%	Debt-to-Capital	0.4%	1-Yr Return on Assets	15.2%
3-Yr EPS Growth	22.8%	3-Yr Dividend Growth	12.8%	Dividend Payout	40.4%	3-Yr Return on Assets	14.7%

HIGHLIGHTS

- The Fundamental Score for iShares S&P 500 Growth ETF has been relatively volatile over the last year.
- The equity holdings for IVW have 4.3 times more positive earnings surprises than negative earnings surprises over the last four reporting periods.
- Of analyst earnings estimates for equity holdings of IVW, 41.7% of them were raised while 58.3% of the estimates were lowered over the last four weeks.
- Of the 57 exchange traded funds within the Large-Cap Growth Funds classification, iShares S&P 500 Growth ETF is among 37 ETFs that pay a dividend with an average yield of 0.80%. The fund's current dividend yield is 0.80%.



VALUATION

NEGATIVE OUTLOOK: Relatively higher valuation ratios for the equity holdings.

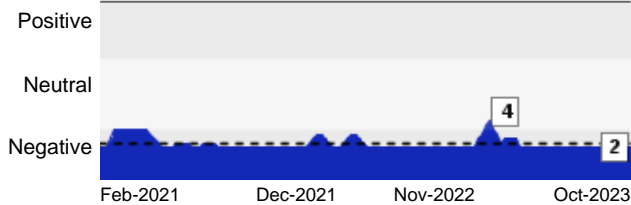
VALUATION
2

Valuation Score Averages

Large-Cap Growth Funds: 1.6

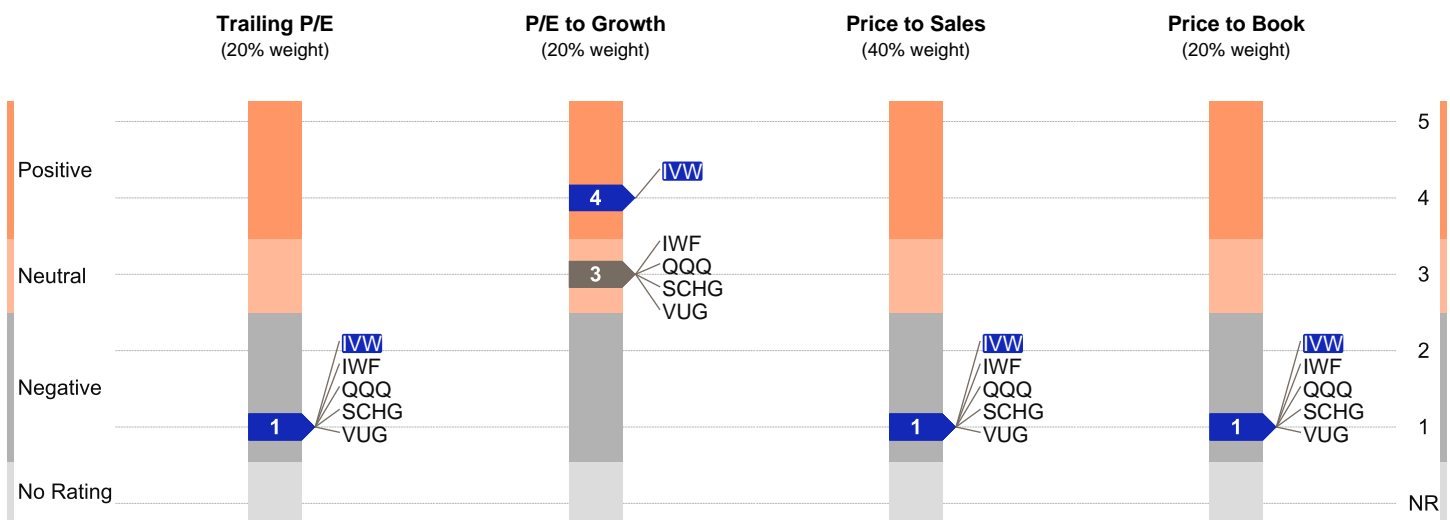
Equity ETFs: 5.4

Valuation Score Trend (4-Week Moving Avg)



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	2	2	2	2	2	
IWF.P	2	1	1	1	1	
QQQ.OQ	1	1	1	1	1	
SCHG.P	2	2	1	1	1	
VUG.P	1	1	1	1	1	

VALUATION INDICATORS



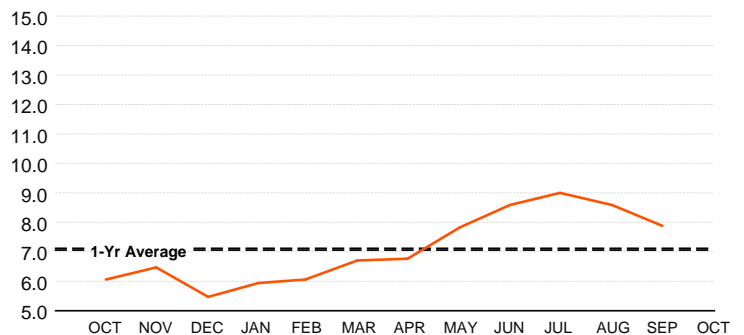
Holdings Portfolio (238 Securities)

Trailing P/E	32.9	P/E to Growth	1.6	Price to Sales	7.9	Price to Book	12.6
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HIGHLIGHTS

- The current Valuation Score for iShares S&P 500 Growth ETF is 2 compared to the Large-Cap Growth Funds classification average of 1.5.
- With a Trailing P/E of 32.9 and 5-year growth in earnings of 20.8%, the P/E to Growth value for IVW is 1.6.
- The 1-year EPS growth of 13.2% for IVW is higher than the average of 6.5% for its 10 similar peers.
- The current Price to Sales of 7.9 for IVW is near its 1-year average of 7.1.

PRICE TO SALES



TECHNICAL Currency in USD

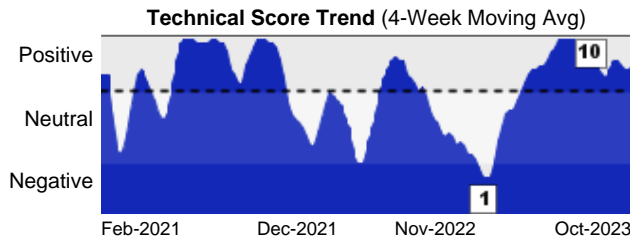
POSITIVE OUTLOOK: Strong recent or longer-term price performance.



Technical Score Averages

Large-Cap Growth Funds: **8.6**

Equity ETFs: **5.2**



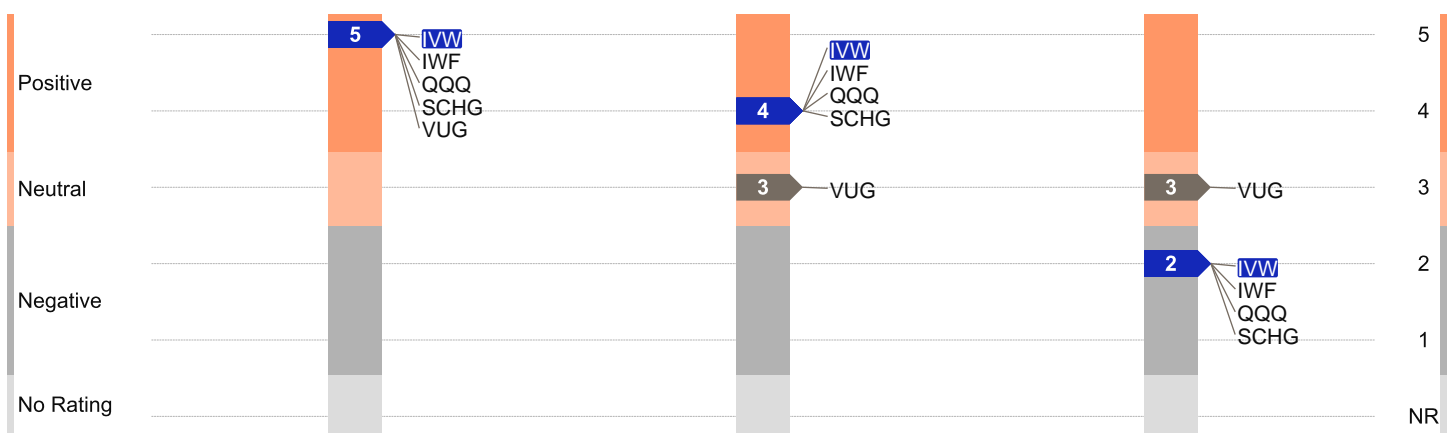
Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
IVW.P	9	10	8	9	9	
IWF.P	9	10	8	9	9	
QQQ.OQ	9	10	9	9	9	
SCHG.P	9	10	8	9	9	
VUG.P	9	10	8	9	9	

TECHNICAL INDICATORS

Long-Term - Relative Strength
(60% weight)

Medium Term - Moving Average
(30% weight)

Short Term - Overbought/Oversold
(10% weight)

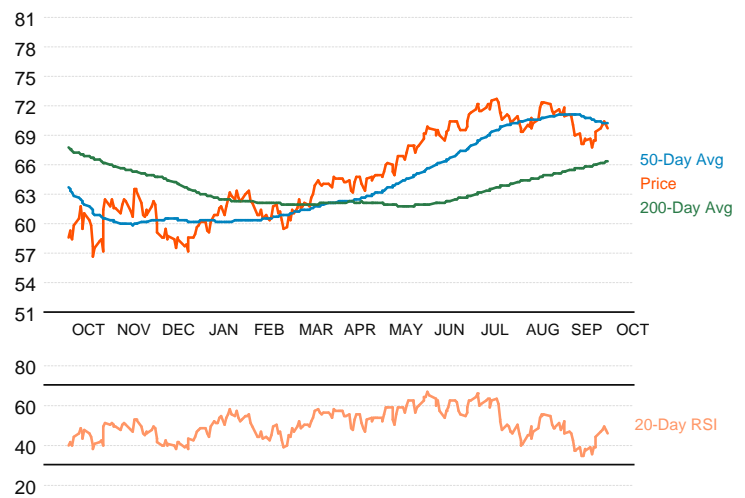


50-Day RSI	51.2	20-Day Moving Average	69.26	10-Day RSI	52.5
200-Day RSI	49.8	50-Day Moving Average	70.27	20-Day RSI	49.3

HIGHLIGHTS

- The Technical Score for iShares S&P 500 Growth ETF has been relatively volatile over the last year.
- On 13-10-2023, IVW closed at 69.78 USD, 4.2% below its 52-week high and 23.8% above its 52-week low.
- IVW shares are currently trading 0.70% below their 50-day moving average of 70.27, and 5.1% above their 200-day moving average of 66.37.
- The 20-day RSI value for iShares S&P 500 Growth ETF does not indicate either an overbought or oversold condition in the short term.

PRICE PERFORMANCE



SENTIMENT

NEUTRAL OUTLOOK: Mixed or neutral indications from investors.

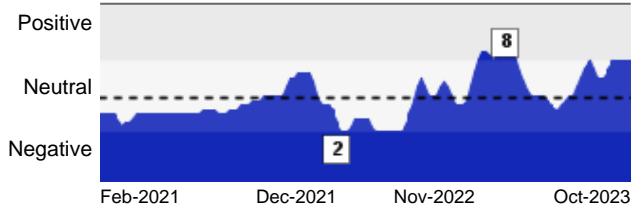


Sentiment Score Averages

Large-Cap Growth Funds: 7.2

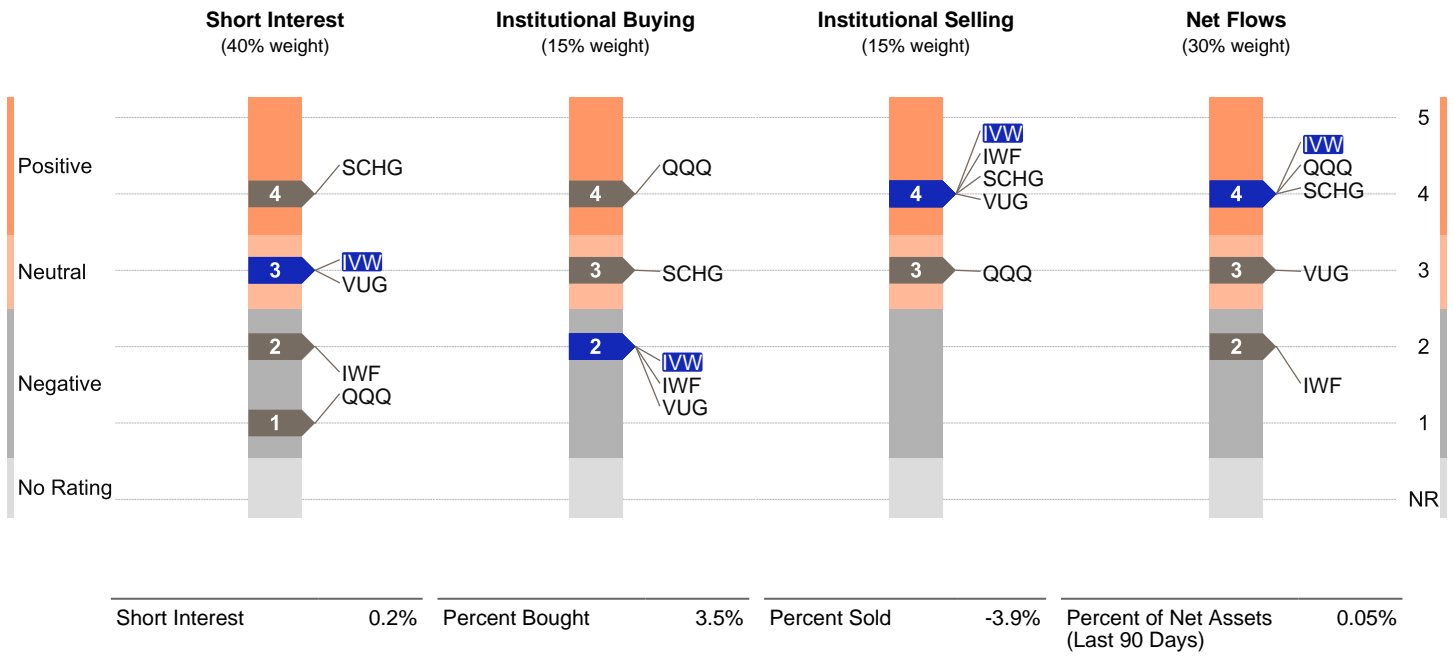
Equity ETFs: 5.6

Sentiment Score Trend (4-Week Moving Avg)



Peers	-6M	-3M	-1M	-1W	Current	1Y Trend
SCHG.P	8	8	7	7	8	
IVW.P	5	7	7	7	7	
VUG.P	8	7	5	8	5	
QQQ.OQ	2	4	4	4	4	
IWF.P	3	6	5	4	3	

SENTIMENT INDICATORS



HIGHLIGHTS

- The current Sentiment Score for iShares S&P 500 Growth ETF is 7 compared to the Large-Cap Growth Funds classification average of 7.2.
- Short interest is low for IVW with only 0.19% of shares sold short by investors, indicating positive sentiment and an expectation the ETF price will rise.
- IVW experienced net inflows of 0.05% over the past 90 days and surpassed the average of 0.03% for its 10 similar peers.
- The institutional ownership of IVW is 64.2%. JPMorgan Private Bank is the top institutional holder with 7.9% of outstanding shares.

TOP INSTITUTIONAL HOLDERS

Institution Name	Inst. Type	% O/S	Shares Held	Reported Date
JPMorgan Private Bank	Inv Mgmt	7.9%	39.2M	30-06-2023
Morgan Stanley Smith	Inv Mgmt	5.6%	27.7M	30-06-2023
Edward Jones	Brokerage	3.6%	17.8M	30-06-2023
Envestnet Asset	Inv Mgmt	2.8%	14.0M	30-06-2023
BofA Global Research (US)	Brokerage	2.5%	12.3M	30-06-2023



DETAILED REPORT TIPS

The Detailed ETF Report from LSEG is a comprehensive analysis of an exchange-traded fund that includes a proprietary ETF Rating along with underlying component indicators and supportive data elements. The report is updated daily, although some of the data elements are updated weekly, monthly, or quarterly. The ratings are calculated weekly, and Lipper is the primary source of the ETF data used in the report.

Overall Score

The ETF Reports Plus Overall Score combines a quantitative analysis of seven investment decision making components for equity ETFs - Performance, Risk, Cost, Fundamental, Valuation, Technical, and Sentiment. A weighted average of the underlying component ratings is calculated. The weighted average is then quasi-normally distributed to rank each of the equity ETFs by region on a scale of 1 to 10, with 10 being most favorable. A score of 8 to 10 is considered positive, 4 to 7 is neutral, and 1 to 3 is negative. These seven factors may be evaluated differently using alternative methodologies, and the importance of individual factors may vary across ETF asset types and investment objectives. Additional criteria should always be used to evaluate an exchange-traded fund.

An ETF must have at least three component scores available and at least two values available among its Performance, Risk and Cost component ratings to receive an Overall Score. Approximately 90% of the ETFs within the coverage universe meet the criteria to generate a score.

Indicator Components

The seven components that comprise the ETF rating are displayed. Like the overall rating, the component rating scale is 1 to 10, with 10 being best. An ETF will receive an 'NR' for No Rating if the required data elements or criteria are not met. A detailed section for each component is included in the report.

Indicator Trends

Within each component section, historical score trends are displayed, typically using a 4-week moving average over a timeframe of the past year. The dotted line indicates the average of the scores over the past year. The most recent occurrences of the best and worst scores are also displayed on the chart in grey boxes to put the current score into historical context.

Next to the trend chart for the ETF, current score averages are included, along with peer ETF comparisons of values from 6 months ago, 3 months ago, 1 month ago, the most recent value from 1 week ago, and the current score. The four closest classification peers are presented based on largest assets under management (AUM) values.

Peer Analysis

- The Lipper US Mutual Fund and Global Classification schema are used for peer identification and comparisons. They are designed to track and display the primary asset type and strategy of an ETF.
- The Peer Analysis section of the report compares the fund to its ten closest peers. The peers are selected from the classification based on largest AUM values. The peer listing may have fewer than ten ETFs if there are fewer than ten ETFs available within the same classification.

Highlights

The automated text-generation system from LSEG creates highlights summarizing the most noteworthy data. The bullets will vary by ETF and will change from week to week as different criteria are met.

Holdings Analysis

When detailed holdings information is available, the factor exposures, top 10 position data, and a holdings summary are displayed for the ETF.

Factor Exposures

A traditional four factor risk model (adaptation of Fama French Carhart) is utilized to estimate market beta, size, style, and momentum exposures. The exposure values are decile ranked and displayed alongside an average value for the ETF's peer group. This allows the user to evaluate whether the ETF is likely to achieve the desired exposure within a portfolio.

Top 10 Holdings

The top 10 positions of the ETF are displayed with their respective weights, 1-year returns, and key Stock Reports Plus scores. This provides additional insight into the fundamentals of the largest holdings.

Holdings Summary

Holdings are segmented and displayed by market capitalization, geographic region, and sector, which provides additional information about the exposure and performance drivers of the ETF.

Performance

The Performance Rating is based on a combination of four indicators: returns (30% weight), return to risk (30%), up down capture (20%), and capital preservation (20%). Equal quintiles are used to rank each indicator on a 1 to 5 scale, with 5 being most favorable. The Performance Rating is an equal decile rank of 1 to 10 of the weighted average roll up of the indicator ranks. A stock needs to have at least two of the four performance indicators, with one of the available indicators being either return or return to risk, to receive a score.

Return Indicator

Quintile ranking of the weighted average of annualized 5-year, 3-year and 1-year total return ranks by asset type and region.

Return to Risk Indicator

Proprietary rank and combination of Sharpe, Sortino and return to risk ratios measured over 5 years, 3 years and 1 year by asset type and region.

Up Down Capture Indicator

Utilizing the most recent 60 months of price returns (minimum of 36 months), the participation in both up-market and down-market environments is calculated as a percentage.

Capital Preservation Indicator

Combination of percentile ranking by asset type and region of maximum drawdown and maximum loss measured over the longest of 1 year, 3 years or 5 years.

Risk

The Risk Rating is based on a combination of four indicators: volatility (30% weight), liquidity (30%), value at risk (20%) and holdings risk (20%). Depending on the indicator and underlying data distribution, either fixed breakpoints or quintiles are used to rank each indicator on a 1 to 5 scale, with 5 being most favorable. The Risk Rating is an equal decile rank of 1 to 10 of the weighted average roll up of the indicator ranks. An ETF needs to have at least three of the four risk indicators present to receive a score.

Volatility Indicator

Weighted average ranking, according to fixed breakpoints, of annualized volatility measured over both long term (3 years) and short term (3 months).

Liquidity Indicator

Weighted average ranking, according to fixed breakpoints, of secondary market liquidity, bid ask spreads, and primary market liquidity.

Value at Risk Indicator

Weighted average rank, according to fixed breakpoints, of the historical probability of outsized downward price movement, measured daily, weekly, and monthly over the past 3 years.

Holdings Indicator

Weighted average rank, according to fixed breakpoints, of the Herfindahl Index of all holdings, sum of top 10 position weights, and weighted average of Stock Reports Plus Risk scores for equity holdings.

Cost

The Cost Rating is based on a combination of three indicators: expense ratio (50% weight), trading volume (20%), and bid ask spread (30%). Depending on the indicator and underlying data distribution either fixed breakpoints or quintiles are used to rank each indicator on a 1 to 5 scale, with 5 being most favorable. The Cost Rating is an equal decile rank, by asset type and region, of 1 to 10 of the weighted average roll up of the indicator ranks. An ETF needs to have data for the expense ratio indicator to receive a score.

Expense Indicator

Quintile ranking of the expense ratio by asset type and region. A lower expense ratio value receives a higher rank.

Trading Volume Indicator

Quintile ranking, according to fixed breakpoints, of secondary market liquidity as measured in US Dollars.

Bid Ask Spread Indicator

Quintile ranking, according to fixed breakpoints, of the percentage spread between daily bid and ask prices measured over the prior 3 months.

Fundamental

The Fundamental Rating displays ETFs on a scale of 1 to 10 with 10 being awarded to the ETFs with the best weighted average holdings-based Stock Reports Plus scores. It combines four indicators: earnings surprises (30% weight), estimate revisions (30%), debt (20%) and earnings quality (20%). Then, equal deciles are used to rank each ETF across the full universe. An ETF needs to have all four indicators to receive a score.

Earnings Surprises Indicator

Fixed breakpoint 1 to 5 ranking of the weighted average of Stock Reports Plus earnings surprise scores for the equity holdings.

Estimate Revisions Indicator

Fixed breakpoint 1 to 5 ranking of the weighted average of Stock Reports Plus estimate revision scores for the equity holdings.

Debt Indicator

Fixed breakpoint 1 to 5 ranking of the weighted average of Stock Reports Plus debt scores for the equity holdings.

Earnings Quality Indicator

Fixed breakpoint 1 to 5 ranking of the weighted average of Stock Reports Plus earnings quality scores for the equity holdings.

Valuation

The Valuation Component Rating for equity ETFs is based on a combination of four indicators: trailing P/E (20% weight), P/E to growth (20%), price to sales (40%), and price to book (20%). All indicators are based on the most recently reported holdings of the ETF. Equal quintiles are used to rank each indicator on a 1 to 5 scale, with 5 being most favorable. The Valuation Rating is an equal decile rank of 1 to 10 of the weighted average roll up of the indicator ranks. An ETF needs to have at least one of the four valuation indicators to receive a score.

Trailing P/E Indicator

Quintile ranking of the weighted average price to last 12 months earnings ratio for the portfolio of holdings.

P/E to Growth Indicator

Quintile ranking of the weighted average P/E to earnings growth rate measured over the past 5 years for the portfolio of holdings.

Price to Sales Indicator

Quintile ranking of the weighted average price to last 12 months revenue multiple for the portfolio of holdings.

Price to Book Indicator

Quintile ranking of the weighted average price to book value ratio for the portfolio of holdings.

Technical

The Technical Rating is based on a combination of three price momentum performance indicators: long-term relative strength (60% weight), medium term moving average (30%), and short-term overbought or oversold (10%). Equal deciles are then used to rank each ETF by region on a scale of 1 to 10, with 10 being most favorable. An ETF needs to have data for the long-term relative strength indicator to receive a score.

Long-Term Relative Strength Indicator

Weighted average combination of 200-day, 50-day and 10-day relative strength indexes quintile ranked by region.

Medium-Term Moving Average Indicator

Quintile rank of the ratio of the 20-day moving average price relative to the 50-day moving average price.

Short-Term Overbought/Oversold Indicator

Assessment of the degree to which an ETF is overbought or oversold based on the most recent closing price compared to the prior 20 days. A fixed breakpoint ranking on a 1 to 5 scale is utilized.

Sentiment

The Sentiment Rating is based on a combination of four indicators aimed at assessing broad investor opinion of the ETF: short interest (40% weight), institutional buying (15%), institutional selling (15%), and net flows (30%). An equal distribution is used to rank each ETF across region and asset type on a scale of 1 to 10, with 10 being most favorable. A stock needs to have at least one of the short interest or net flows indicators to receive a score. If short interest data is not available, weights are adjusted accordingly, and the net flows indicator must be available to receive a Sentiment Rating.

Short Interest Indicator

Quintile ranking by region and asset type of the ratio of shares sold short to shares outstanding.

Institutional Buying and Selling Indicators

Quintile ranking by region and asset type of the ratio of the number of shares bought/sold by institutions to shares outstanding.

Net Flows Indicator

Quintile ranking by region and asset type of Lipper's measure of total net flows in/out of the ETF.

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