

Exchange Traded Funds

Value is being vindicated

ETF Research

Top-rated value ETFs are choosy

We update our value ETF ratings and initiate coverage of 15 funds (\$318bn AUM total). Top-rated funds are selective, weighting more to stocks with clear value features and even shedding growthy stocks entirely. But not all value ETFs are alike: some have large exposure to mega-cap tech and/or offer little diversification to US market benchmarks. Top-rated funds are PWV, SPVU, PVAL and RPV; full fund descriptions start on page five.

Value ETFs are a menagerie...know what you own

The goal of value investing is to find companies with intrinsic worth greater than current market prices. Approaches to identifying value vary widely and can significantly affect returns. Index providers use as many as five different metrics to screen for value stocks (Exhibit 7). Some value indexes overlap 33% with growth benchmarks, while others offer targeted “pure value” exposure. “Know what you own” is crucial advice for ETFs, too.

Secular rebirth or cyclical ballast? Own value either way

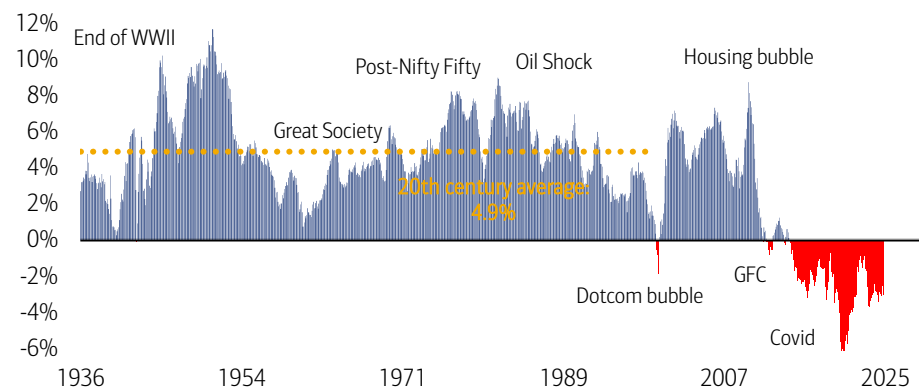
This year, Russell 1000 value stocks have outperformed growth by 6.9ppts. Investors expecting more macro volatility should raise allocations, as value stocks are often higher-quality dividend payers that can outperform in volatile markets.

If the next two decades look more like the 20th century, the macro shift from a “2% world to a 5% world” of structurally higher inflation & interest rates may flatter value stocks even more. Industrial production & CPI rising to 20th century norms would mean US value to outperform growth by 5ppt/year (Exhibit 2, and see Exhibit 3).

Note that even in a time of “humiliation” for broad value indexes, “pure value” ETFs have outperformed (Exhibit 11).

Exhibit 2: Unprecedented US value humiliation likely ends in the shift from a 2% to a 5% world

US value vs growth, rolling 10-year annualized return



Source: BofA Research Investment Committee, Fama-French value & growth indices

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12 May 2025

Exchange-Traded Funds
United States
Other Financials

Jared Woodard
Investment & ETF Strategist
BoFA
+1 646 855 2600
jared.woodard@bofa.com

John Glascock
Investment & ETF Strategist
BoFA
+1 646 855 3402
john.glascock@bofa.com

Phoebe Block
Investment & ETF Strategist
BoFA
+1 646 241 5941
phoebe.block@bofa.com

Exhibit 1: Four top rated funds have “pure value” features: see pg. 5

Ticker, rating, change

Ticker	Current	Prior	Change
SPVU	1-FV		Initiation
PWV	1-FV		Initiation
PVAL	1-FV		Initiation
RPV	1-FV	3-FV	Upgrade
AVLV	2-FV		Initiation
VLU	2-FV		Initiation
MGV	2-FV		Initiation
DFLV	2-FV		Initiation
FVAL	2-FV	2-FV	No change
VTV	2-FV	1-FV	Downgrade
SPVY	2-FV	1-FV	Downgrade
VOOV	2-FV		Initiation
IUSV	2-FV		Initiation
JAVA	2-FV		Initiation
IVE	2-FV		Initiation
IWX	2-FV		Initiation
FTA	3-FV		Initiation
IWD	3-FV		Initiation
VONV	3-FV		Initiation

Source: BofA Global Research, Bloomberg
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Value is being vindicated

In this report, we update our coverage of US value ETFs and maintain our Favorable ratings view on the category. Our colleagues across BofA Global Research identify several catalysts for relative outperformance in value stocks.

All roads lead back to value

In the April Global Fund Manager Survey, Michael Hartnett notes that over half of respondents expect companies with quality earnings, high dividend yield, and lower volatility to outperform (see [Global Fund Manager Survey: The Bear Necessities](#)). These characteristics are more intrinsic to value companies.

The US Equity Strategy team also prefers value stocks over growth given superior quality, higher yields, and less exposure to discretionary goods and services (see [S&P 500 Relative Value Cheat Sheet: Two new reasons to buy US large cap value](#)). Savita Subramanian's US Regime Indicator also suggests that high quality and inflation-protected income will outperform (see [Quantitative Profiles: Slowdown next?](#)).

Nigel Tupper finds that catalysts like weakening soft data can trigger large rotations when a major theme, like AI, becomes crowded and expensive. This helps explain the outperformance of value and its close factor-peers like dividend and quality, since the beginning of 2025 (see [Global Quantessential Style: Start of major rotation?](#)).

A simple macro indicator shows value leading by 5%/year

Inflation, industrial production, and oil production have historically explained most of the relative returns of value vs. growth ($r^2 = 0.67$). Reversion to long-term averages would suggest value leading growth by 5ppt per year in coming years (Exhibit 3 – see [The RIC Report: The Renaissance of Value](#)).

In the longer term, a secular shift from the “2% world” of record-low inflation and interest rates to a “5% world” more similar to the 20th century could also spark a return of the outperformance of value stocks (see [The RIC Report: Fair value in a 5% world](#)).

Add value for more balance

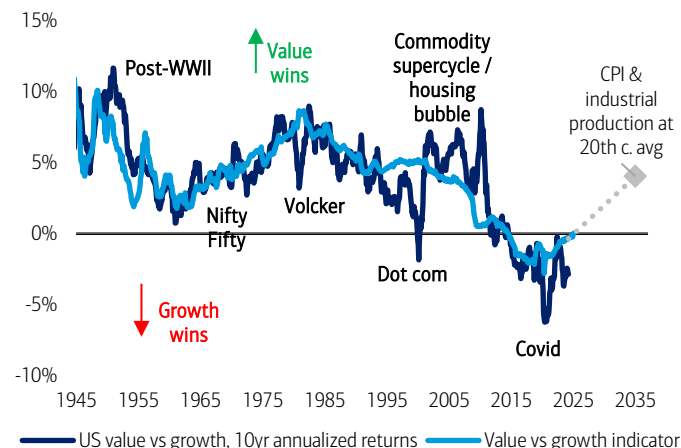
Value stocks have outperformed growth by 6.9% year-to-date, continuing a pattern of relative resilience when markets falter. Value stocks outperformed after Nifty Fifty and Dot Com peaks, and in 2022 at the onset of the Fed's hiking campaign.

But many equity benchmarks are still heavily weighted toward the growth factor. 70% of the top 1000 US stocks by market cap are priced for high-growth futures, with price-to-sales ratios above 3x. That's well above the 35-40% historical average (Exhibit 4). Just 7% of stocks have a price-to-earnings ratio below 10x.

Investors have doubled down on their growth exposure, with >\$114bn of inflows to growth ETFs since 2022, more than double the \$51bn of value ETF inflows over the same period (Exhibit 5). Investors looking for more portfolio balance can add value ETFs to mitigate exposure to crowded, growth-heavy equity indexes.

Exhibit 3: Value retakes the lead in a 5% world

US value vs growth, 10-year annualized returns vs macro indicator



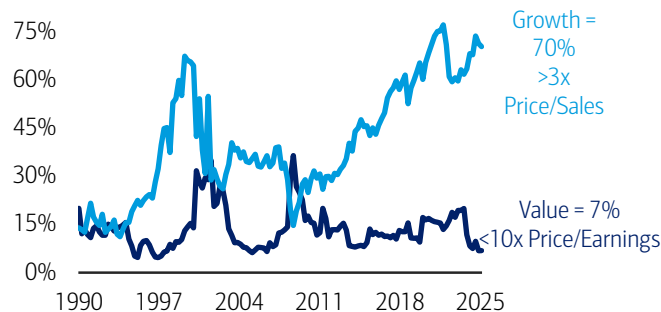
Source: BofA Research Investment Committee, Bloomberg, Fama French value & growth indices. Note: indicator uses 10-yr avg US CPI (y/y%), 10-year chg in US industrial production, & 10-yr chg in US crude oil production (inverse). 20th c. avg = 1945-1999

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Exhibit 4: Stocks are still priced for growth

Total index weight of value and growth stocks

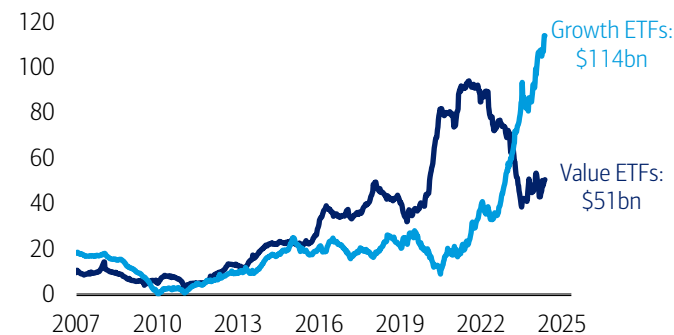


Source: BofA Research Investment Committee, Factset. Note = we screen for top 1000 US stocks by market cap.

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Exhibit 5: Inflows to growth have surged since 2022

3-year rolling cumulative flows of value and growth ETFs



Source: BofA Global Research, Bloomberg

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Not just price vs. earnings: defining value

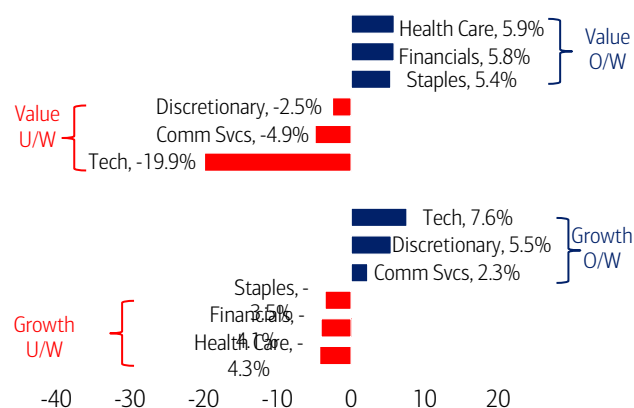
Benjamin Graham, the father of value investing, derived a company's intrinsic value based on fundamentals like assets, earnings, and dividends. Many investors still follow the core tenets of value investing but approaches to identifying value vary widely.

Exhibit 7 shows examples of six index providers and the criteria they use to construct value indexes. Most providers use historical ratios like price-to-earnings or price-to-book, while some incorporate consensus expectations for future earnings or sales growth.

Most providers will also select from a broad universe of stocks (e.g., the Russell 1000 index) and categorize stocks as 'value' or 'growth' based on their favored criteria. At the sector level, this process creates some big differences vs. the broad index weights: the average value ETF is overweight health care, financials, and staples, and underweight tech, communication services, and consumer discretionary (Exhibit 6).

Exhibit 6: Value and growth funds have very different sector exposures

Average sector weight for value & growth ETFs vs the S&P 500



Source: BofA Global Research, Bloomberg. Note = U/W = underweight; O/W = overweight

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Exhibit 7: Most value indexes screen for stocks from a mix of 7 metrics

Different metrics used by index providers to construct 'value' screens

	Includes future and trailing measures	Russell / FTSE	CRSP	Fidelity	S&P	Dow Jones	Intellidex
Value metrics	Price/earnings or earnings yield		X		X	X	X
	Price/book (or tangible book)	X	X	X	X	X	X
	Price/sales	X	X		X		X
	Price/cash flow or FCF yield			X			X
	Dividend yield		X			X	X
	EBITDA to EV			X			
	Earnings or revenue growth	X		X		X	

Source: BofA Global Research, Company Filings from Russell/FTSE, CRSP, Fidelity, Standard & Poor's, Dow Jones, and Intellidex

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Sometimes a company can be “value” and “growth”

Value and growth are not always mutually exclusive categories. For example, Amazon trades at 3.1x price/sales, which makes it look fairly valued vs. the 2.9x S&P 500 average. But Amazon also trades at 30x price to earnings, well above the S&P 500 average of 24.5x.

The value index screening process can therefore lead to some overlap where indexes hold stocks with both value and growth characteristics. About one third of the S&P 500 Value Index (SPYV) constituents by market cap can be found in the S&P 500 Growth Index (SPYG), and vice versa (Exhibit 8).

High-flyers like Microsoft and Apple are in the S&P 500 Growth index, as would be expected. But they’re also currently in the S&P 500 Value index, which might be surprising to some.

“Pure value” has outperformed in 2025

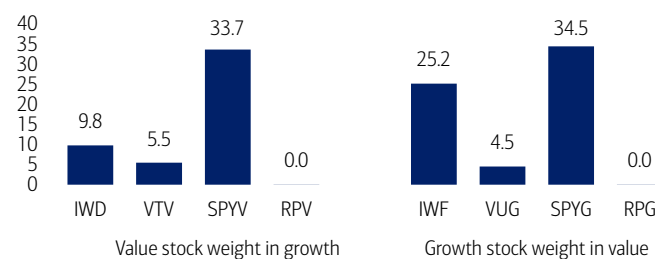
Some fund providers offer more targeted, “pure value” baskets of stocks. In our view, a “pure value” approach has 1. more exposure to stocks with the highest value scores; 2. less exposure to stocks with high growth scores; and 3. less overlap with the index universe being screened.

For example, Standard & Poor’s publishes Pure Value and Pure Growth indexes with associated ETFs, e.g. in Exhibit 10, and we highlight more funds with a “pure value” approach in our fund descriptions below (Exhibit 9 & Exhibit 11).

Note that even in a time of “humiliation” for broad value indexes since the 2020 Covid lows, “pure value” ETFs have outperformed in both absolute and risk-adjusted terms (Exhibit 10).

Exhibit 8: Some stocks are considered value and growth

Percentage of stock overlap in value & growth funds from the same provider, by index weight

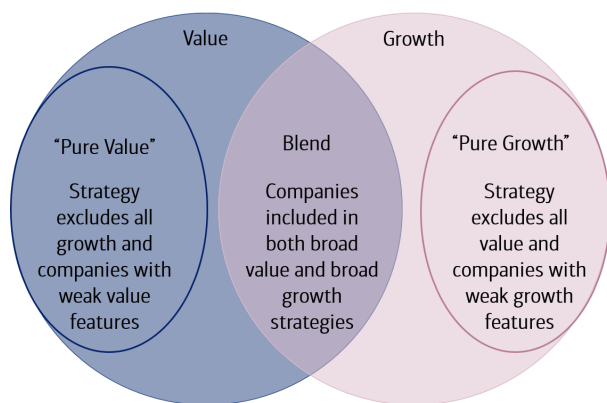


Source: BofA Global Research, Bloomberg. Note: IWD = iShares Russell 1000 Value ETF, VTV = Vanguard Value ETF; SPYV = SPDR Portfolio S&P 500 Value ETF; RPV = Invesco S&P 500 Pure Value ETF; IWF = iShares Russell 1000 Growth ETF, VUG = Vanguard Growth ETF; SPYG = SPDR Portfolio S&P 500 Growth ETF; RPG = Invesco S&P 500 Pure Growth ETF.

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Exhibit 9: “Pure” factor strategies are highly selective compared to generic factor benchmarks

Illustration of “Pure Value” and “Pure Growth” constituent selection

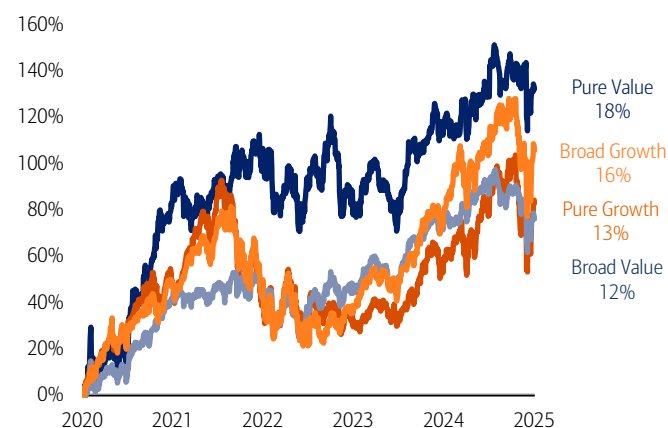


Source: BofA Global Research

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Exhibit 10: S&P 500 Pure Value has led S&P 500 Pure Growth by ~500bps/yr since 2020

Cumulative total returns of Pure Value and Pure Growth indexes



Source: BofA Global Research, Bloomberg. Note: Pure value = S&P 500 Pure Value Total Return Index; Pure growth = S&P 500 Pure Growth Total Return Index, Broad growth = S&P 500 Growth Index, Broad Value = S&P 500 Value Index; Daily data since

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Value ETFs – Favorable View

We update our coverage of four value ETFs and initiate coverage of 15 more. With \$318bn in assets under management, value funds vary significantly in construction and management.

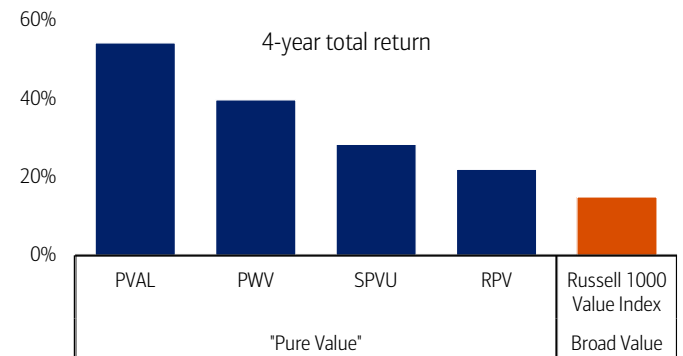
Top-rated funds including PWV, SPVU, PVAL, and RPV exhibit “pure value” characteristics, with large differences from their underlying benchmark (Exhibit 11).

BofA Equity Analyst Buy-Rated stock exposure, earnings revision ratios, and relative valuation are fundamental measures used to rank funds in our value category.

Our valuation criteria draw on research from our colleagues in [US Equity Strategy](#) and [Global Quantitative Strategy](#). The valuation measures scores funds on price to earnings (P/E), enterprise value to free cash flow (EV/FCF), enterprise value to EBITDA (EV/EBITDA), and price to sales (P/S).

Exhibit 11: “Pure Value” ETFs have outperformed since 2021 with highly selective strategies

Total returns since May 2021 for 1-rated, “Pure Value” ETFs



Source: BofA Global Research, Bloomberg; Start date 5/26/2021, PVAL inception date
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Exhibit 12: US large cap value ETF ratings and model criteria

Summary of covered ETF Efficiency, Technical, and Fundamental characteristics

Rating change	New?	Ticker	Name	Total Rating score	Efficiency		Technical		Fundamental		
					Expense ratio	Constituent average daily value traded (\$mn)	Price momentum	Sortino ratio	Buy rated stock exposure ratio	Value rank (lower is better)	Earnings revision ratio
Initiation	X	SPVU	Invesco S&P 500 Enhanced Value ETF	1-FV 82	0.13%	450	-1.2%	0.49	52%	1	-0.14
Initiation	X	PWV	Invesco Large Cap Value ETF	1-FV 79	0.53%	682	-0.5%	0.71	77%	4	0.08
Initiation	X	PVAL	Putnam Focused Large Cap Value ETF	1-FV 75	0.56%	834	-0.3%	0.85	67%	7	-0.15
Upgrade		RPV	Invesco Exchange-Traded Fund Trust - Invesco S&P 500 Pure Value ETF	1-FV 63	0.35%	290	-1.2%	0.41	37%	2	-0.25
Initiation	X	AVLV	Avantis US Large Cap Value ETF	2-FV 58	0.15%	1393	-3.1%	0.48	64%	6	-0.25
Initiation	X	VLV	SPDR S&P 1500 Value Tilt ETF	2-FV 56	0.12%	1672	-1.6%	0.56	60%	8	-0.24
Initiation	X	MGV	Vanguard Mega Cap Value ETF	2-FV 53	0.07%	792	-1.9%	0.73	63%	14	-0.24
Initiation	X	DFLV	Dimensional US Large Cap Value ETF	2-FV 51	0.22%	597	-2.8%	0.40	60%	5	-0.37
No change		FVAL	Fidelity Value Factor ETF	2-FV 49	0.16%	5079	-2.2%	0.53	61%	9	-0.34
Downgrade		VTV	Vanguard Value ETF	2-FV 49	0.04%	647	-1.9%	0.64	59%	11	-0.32
Downgrade		SPYV	SPDR Portfolio S&P 500 Value ETF	2-FV 42	0.04%	2278	-2.7%	0.66	64%	18	-0.36
Initiation	X	JAVA	JPMorgan Active Value ETF	2-FV 42	0.44%	640	-1.6%	0.60	59%	10	-0.39
Initiation	X	VOOV	Vanguard S&P 500 Value ETF	2-FV 41	0.07%	2240	-2.8%	0.66	63%	17	-0.36
Initiation	X	IUSV	iShares Core S&P U.S. Value ETF	2-FV 40	0.04%	2158	-2.8%	0.63	59%	16	-0.33
Initiation	X	IVE	iShares S&P 500 Value ETF	2-FV 40	0.18%	2279	-2.7%	0.66	64%	19	-0.36
Initiation	X	IWX	iShares Russell Top 200 Value ETF	2-FV 40	0.20%	776	-0.9%	0.60	64%	15	-0.25
Initiation	X	FTA	First Trust Large Cap Value AlphaDEX Fund	3-FV 38	0.58%	303	-2.8%	0.37	48%	3	-0.37
Initiation	X	IWD	iShares Russell 1000 Value ETF	3-FV 31	0.19%	559	-1.3%	0.46	63%	12	-0.27
Initiation	X	VONV	Vanguard Russell 1000 Value	3-FV 31	0.07%	565	-1.4%	0.46	58%	13	-0.28
		Average			0.21%	1426	-1.9%	0.60	61%	10.1	-0.27

Source: BofA Global Research, Factset, Bloomberg. Total score out of 100 possible points; Note: Sortino Ratio start date begins in November 2021 to use the longest data history available for all funds or passive underlying ETF indexes.

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Identifying “pure value” in BofA Value ETF coverage

Our 1-rated ETFs have “pure value” strategies. “Pure value” strategies can be identified by 1.) observing distinct top holdings 2.) less overlap with an underlying universe by weight and company count.

Distinct constituents

In Exhibit 13, we show top holdings and concentration of value funds in BofA coverage. Top rated fund and “pure value” ETF SPVU’s top holdings are Berkshire Hathaway, Exxon, and Wells Fargo. These companies are distinct from broad, large cap benchmarks



and conventional value ETFs. We note that the narrow scope of the strategy results in higher concentration, and investors should be conscious of duplicative single-stock exposures.

Traditional value funds like VOOV and SPYV have similar top holdings to broad large cap benchmarks, employing a less rigorous value strategy. Top holdings Apple, Microsoft, and Amazon may cause overlapping exposures with other core large cap funds holding similar companies.

Low overlap

Exhibit 14 highlights the overlap of value ETF holdings compared to large cap benchmark holdings by weight and number of constituents. 1-rated, “pure value” fund, RPV, the lowest overlap by weight with the S&P 500 and Russell 1000. For example, RPV has a 3.4% weight to CVS, while CVS makes up 0.18% of the S&P 500 index. This would contribute to 0.18% of the total overlap (8%) for RPV. RPV also only holds 107 of 500 total constituents in its underlying universe (S&P 500).

On the contrary, IVE has a 7% exposure to Apple, while the S&P 500 allocates a slightly lower 6.2% to the company. This adds 6.2% to the total overlap of IVE.

In general, we find that top rated, “pure value” funds RPV, SPVU, PVAL, and PWV average 11% overlap with major large cap benchmarks, while 2-rated and 3-rated funds average 46% overlap by weight.

Some ETFs have signs of “pure value” characteristics but are not “pure value” strategies. FTA, for example, has unique top holdings and low overlap by weight to large cap benchmarks. FTA is less selective, however, compared to RPV, SPVU, PVAL, and PWV. FTA holds 172 S&P 500 companies, much broader than “pure value” funds, in our view.

Exhibit 13: Some value funds have high exposure to large cap core top holdings, including the Magnificent 7

Value ETFs in BofA coverage: Concentration and top holdings

Ticker	Concentration			Top holdings		
	Top 10	Top 5	Top 3			
FTA	10%	5%	3%	NEM - 1%	XYZ - 1%	HPE - 1%
IWD	18%	12%	9%	BRK/B - 4%	JPM - 3%	XOM - 2%
VONV	18%	12%	9%	BRK/B - 4%	JPM - 3%	XOM - 2%
VLU	18%	11%	7%	AMZN - 3%	BRK/B - 2%	XOM - 2%
VTV	22%	13%	9%	BRK/B - 4%	JPM - 3%	XOM - 2%
AVLV	23%	15%	9%	AAPL - 3%	JPM - 3%	META - 3%
RPV	24%	13%	9%	CVS - 3%	CNC - 3%	F - 3%
DFLV	24%	16%	11%	JPM - 5%	XOM - 4%	BRK/B - 3%
JAVA	25%	15%	9%	MGMXX - 3%	WFC - 3%	PM - 3%
IUSV	27%	20%	16%	AAPL - 7%	MSFT - 6%	AMZN - 3%
MGV	27%	17%	11%	BRK/B - 4%	JPM - 4%	XOM - 3%
IWX	28%	19%	14%	BRK/B - 6%	JPM - 4%	XOM - 3%
VOOV	28%	21%	16%	AAPL - 8%	MSFT - 6%	AMZN - 3%
SPYV	29%	21%	17%	AAPL - 7%	MSFT - 6%	AMZN - 3%
IVE	29%	21%	17%	AAPL - 7%	MSFT - 6%	AMZN - 3%
PWV	34%	17%	11%	PM - 4%	XOM - 4%	JPM - 3%
PVAL	35%	19%	12%	C - 4%	WMT - 4%	XOM - 4%
FVAL	37%	26%	19%	AAPL - 7%	MSFT - 6%	NVDA - 6%
SPVU	40%	24%	16%	BRK/B - 6%	XOM - 5%	WFC - 5%

Source: BofA Global Research, Bloomberg

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Exhibit 14: Value ETFs average 37% overlap with S&P 500 and Russell 1000

Value ETFs in BofA coverage: Overlap with S&P 500 and Russell 1000 by constituent count and weight

Ticker	Weight	Overlap		Weight	Constituents
		S&P 500	Russell 1000		
RPV	8%	107	8%	107	
SPVU	11%	97	10%	97	
PVAL	12%	41	12%	42	
PWV	14%	48	13%	49	
FTA	18%	172	18%	184	
AVLV	28%	137	28%	247	
JAVA	28%	122	28%	149	
DFLV	30%	256	30%	335	
MGV	35%	126	33%	126	
IWX	38%	157	36%	159	
VTV	44%	312	42%	327	
VONV	49%	434	52%	867	
IWD	49%	434	52%	867	
FVAL	52%	103	49%	120	
VLU	59%	503	61%	859	
VOOV	63%	399	60%	396	
IUSV	63%	399	63%	621	
SPYV	64%	398	60%	395	
IVE	64%	399	60%	396	

Source: BofA Global Research, Bloomberg

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Top rated funds:

- SPVU, the Invesco S&P 500 Enhanced Value ETF, is a market cap weighted fund that identifies funds based on the highest “value score”. The value score includes



earnings yield, price to book value, and price to sales value. The strategy will include the top ~100 securities, limiting exposure to companies that could be considered both value and growth, aligning closely with a “pure value” strategy.

SPVU has the best composite value score and a below average expense ratio. Its earnings revisions ratio is above average, and the fund has had below average drawdowns to start 2025. We initiate at 1-FV.

- PWV, the Invesco Large Cap Value ETF, uses 10 factors to bucket and isolate companies into factor and size categories, like other “pure value” style investing models. Stocks with overlapping value and growth scores, per their 10-factor methodology, are not included in the index. The fund assigns a 3.3% weight on average to the top 15 constituents, limiting the concentration relative to market cap weighted funds. PWV limits its constituents to 53 holdings, further evidence of a “pure value” strategy.

PWV is initiated at a 1-FV rating with the third best risk adjusted returns in our coverage, the best BofA Buy-rated stock exposure, and the only fund with a positive earnings revision ratio.

- PVAL, the Putnam Focused Large Cap Value ETF, is an actively managed ETF focused on capital growth and income. The proprietary strategy has the best risk adjusted returns in our coverage. PVAL has 46 holdings, suggesting a targeted active, “pure value” strategy.

Initiating at 1-FV, PVAL has the best risk adjusted returns in our coverage, above average BofA Buy-rated stock exposure, and has lower valuations on average relative to other funds in our coverage.

- RPV, the Invesco S&P 500 Pure Value ETF, measures its underlying universe using a value and a growth score. Taking the ratio of a value and growth score allows the strategy to screen for deep value companies that exhibit pure value characteristics. Like other 1-rated funds with a “pure value” focus, RPV only has 107 holdings.

Upgrading to 1-FV from 3-FV, RPV has the second-best value composite score. Above average price momentum in 2025 suggests that the value strategy is working as intended in growth/momentum led market corrections.

Other initiations and updates:

- AVLV, the Avantis US Large Cap Value ETF, uses an active strategy to identify value companies with the main goal of value appreciation. AVLV has 291 holdings and may not be a “pure value” strategy. AVLV has lower concentration relative to broad blend and growth indices, evidence of a value focus.

AVLV is among lower-fee options in our coverage. Despite some exposure to Apple and Meta, the fund ranks above average on valuation and above average exposure to BofA Buy-rated stocks. We initiate at 2-FV.

- VLU, the SPDR S&P 1500 Value Tilt ETF, has 1497 holdings and overweights stocks with low valuations within the companies selected.

Initiating at 2-FV, VLU’s limited selectivity relative to a pure value approach means that it could duplicate existing exposures with a core portfolio. The fund is near average on most fundamental and technical measures, but scores well in efficiency.

- MGIV, the Vanguard Mega Cap Value ETF, allows investors to gain exposure the largest value names in the US equity universe without major exposure to growth



names. MGIV is not highly selective, however, holding 140 of 200 mega cap names designated by Vanguard.

MGIV, due to its focus on mega cap companies, is below average in its value score but has above average risk adjusted returns. As one of the lowest fee options in our coverage, we initiate at 2-FV.

- DFLV, the Dimensional US Large Cap Value ETF, holds 342 companies, roughly 50% less companies relative to the Russell 1000 Value Index. An actively managed ETF, the fund focuses on targeting value companies likely to exhibit higher than expected returns. The breadth of exposure is wider than top rated funds with a “pure value” approach.

DFLV has below average risk adjusted returns, an average expense ratio, and above average value score. We initiate at 2-FV.

- FVAL, the Fidelity Value Factor ETF, utilizes a proprietary strategy to identify 130 value companies. Top constituents today include Tesla and Nvidia, as well as other Magnificent 7 names, albeit at a lower weight relative to large cap benchmarks.

FVAL has an average fundamental score but is below average on technical inputs. Top holdings are Apple, Microsoft, and Nvidia, suggesting that the fund is value-tilted, but not a pure value approach. We maintain our 2-FV rating.

- VTV, the Vanguard Value ETF, holds roughly 300 of the securities that are in its parent benchmark, suggesting that fund selection is less selective than “pure value” approaches. With 44% weight overlap with the S&P 500, weighting methodology is a key driver in value-factor expression.

VTM is tied for cheapest fund (expense ratio) in our coverage but has a below average value score, we downgrade to 2-FV.

- SPYV, the SPDR Portfolio S&P 500 Value ETF, holds roughly 398 of 500 S&P 500 companies and is market cap weighted.

Only excluding 102 companies from the S&P 500, SPYV may be a low-cost option but offers only minor tilts relative to the S&P 500. We downgrade to 2-FV.

- VOOV, the Vanguard S&P 500 Value ETF, is similar to SPYV and holds 399 of the companies in the S&P 500 and is market cap weighted.

VOOV has a higher expense ratio relative to VTM and SPYV for similar characteristics. We initiate at 2-FV.

- JAVA, the JPMorgan Active Value ETF, uses JP Morgan analyst opinions to identify attractively valued companies within each sector. The actively managed fund has 163 holdings and looks to implement a value strategy through its analyst ratings and stock selection.

JAVA's top holdings are the most unique relative to other large cap funds. Risk adjusted performance is below average and the fund's expense ratio is above average. We initiate at 2-FV, noting diversification features and low concentration.

- IVE, the iShares S&P 500 Value ETF, tracks the S&P 500 value index which holds over half of the S&P 500 index and is market cap weighted.



The fund's above average risk adjusted returns are partially due to exposure to large cap growth companies like Apple, Microsoft, and Amazon. Below average value scores suggest that IVE is value tilted, but not a highly selective expression of value. We initiate at 2-FV.

- IWX, the iShares Russell Top 200 Value ETF, holds 160 of the largest 200 companies in the Russell 1000, filtering out 40 companies with high growth criteria. IWX is not "pure value", but offers highly liquid, value tilted, mega cap exposure.

We initiate on IWX at 2-FV given its average scores across efficiency, technical, and fundamental measures.

- IUSV, the iShares S&P 1500 Value ETF, has 700 holdings and expands its screening universe beyond the S&P 500 to the S&P 900, adding some midcap exposure. The fund is market cap weighted.

We initiate on IUSV at 2-FV given its similar strategies to VOOV and SPYV, only expanded onto the S&P 150 universe. Midcap exposure has not produced significantly different risk adjusted returns relative to similar large cap strategies, as IUSV is still concentrated in large cap names relative to mid-cap.

- FTA, the First Trust Large Cap Value AlphaDEX Fund, has exposure to 187 value companies. The fund is unique in its near-equal weight design. Value scores determined by Nasdaq determine company selection and FTA is rebalanced quarterly. FTA satisfied some "pure value" criteria; however company overlap by count (rather than weight) is broader than most "pure value" funds in our coverage.

FTA has the lowest concentration of value funds in our coverage and has low overlap with the S&P 500 and Russell 1000. While FTA could be a meaningful diversifier, risk adjusted returns are below most funds in our coverage in addition to having one of the highest expense ratios. We initiate at 3-FV.

- IWD, the iShares Russell 1000 Value ETF, excludes 130 growth-oriented companies from the Russell 1000 and is market cap weighted.

Russell benchmarked funds lack an earnings criterion that is included for S&P 500 based funds, as a result, constituents are lower quality on average. IWD has below average risk adjusted returns and a below average value score. We initiate at 3-FV.

- VONV, the Vanguard Russell 1000 Value ETF, is market cap weighted and holds 867 out of 1000 companies of the Russell large cap benchmark.

Similar to IWD, VONV has below average fundamental and technical scores. By weight, the fund has roughly 50% overlap to the Russell 1000, and we initiate at 3-FV.



Appendix: ETF rating methodology

BofA Global Research applies ratings to ETFs based on both the overall outlook for an ETF category (Favorable, Neutral or Unfavorable) and the strength of individual funds (1 being the best and 3 being the worst). Assessment of individual funds are broken into three categories: Efficiency, Technicals and Fundamentals. These first two groups use similar criteria across ETF categories:

- **Efficiency:** includes expense ratio, tracking error and liquidity
- **Technical:** focuses on price momentum and risk-adjusted returns via the Sortino Ratio (returns vs downside volatility).

Our **Fundamental** ranking is typically determined by a combination of fund exposure to BofA equity analyst Underperform-rated names, together with category specific metrics. For example, credit-focused funds might examine a fund's exposure to debt of varying credit ratings while an equity style category might examine underlying price-to-earnings and price-to-book ratios.

Understanding the small cap equity ETF model output

ETF reports typically include a ratings table summarizing the key elements used to rate ETFs within a category. We attempt to capture funds over a full economic cycle, and will rely on ETF underlying index data where live data is unavailable. ETF underlying index data uses the same methodology as the underlying product, and often has a near-perfect correlation to the ETF. ETF underlying index data is typically provided from the same provider as the ETF. We provide a description of each column below within the context of our value ETF model:

- **Rating:** The number represents the view on a specific fund (1=More Attractive, 2=Attractive; 3=Less Attractive). The letters represent the category outlook (FV=Favorable, NV=Neutral; UF=Unfavorable).
- **Total score:** Funds are rated on a 100-point scale. Each category (Efficiency, Technical and Fundamental) has points available equivalent to the category's weight in the ranking. For example, if Efficiency was 33% of the overall score, a fund could achieve a maximum of 33 points in the Efficiency category. Funds are ranked against each other to determine the number of points received per category. The scores for each category are then summed to arrive at the total score.
- **Fundamental rank:** Funds were ranked by:
 - 1.) BofA Analyst rating: Weight of buy rated constituents minus weight of underperform rated constituents, adjusted for the total weight of covered stocks.
 - 2.) Earnings revision ratio: Number of upward revisions (3m) minus the number of downward revisions, divided by the total number of constituents in a fund
 - 3.) Value composite rank (lower = better): Ranking funds on monthly average P/E, EV/FCF, EV/EBITDA, and P/S since November 2021. Taking an average of these four ranks, and reranking. 1 = best value exposure.
- **Price momentum:** Three simple moving averages are used to calculate price momentum. We weight and sum the percent that a fund's closing price is above or below each moving average. A higher weighted percentage = stronger momentum.
- **Sortino ratio:** is used to measure risk-adjusted returns by comparing average annualized returns to downside deviation over the same period. Funds that have shown the highest returns relative to average pullbacks receive a higher rank. Sortino ratio is as of November 2021, the start date for all active and passive ETFs having price data available via live history, mutual fund conversion, or underlying passive index.



- **Expense ratio:** The “all-in” net-expenses of a fund including management, interest, listing fees etc. as a percent of net assets under management.
- **Tracking error:** measures the difference in actual performance of a fund relative to its corresponding benchmark.
- **Average value traded:** The average number of shares traded daily multiplied by the price that they traded at over the past three months. A higher number indicates greater liquidity and better efficiency. Funds with an average value traded greater than the group’s median received a higher Efficiency score.
- **Bid/Ask spread:** The average difference, or spread, between bid and ask prices as a percentage of the price. A lower spread signals a more liquid, and efficient, fund.

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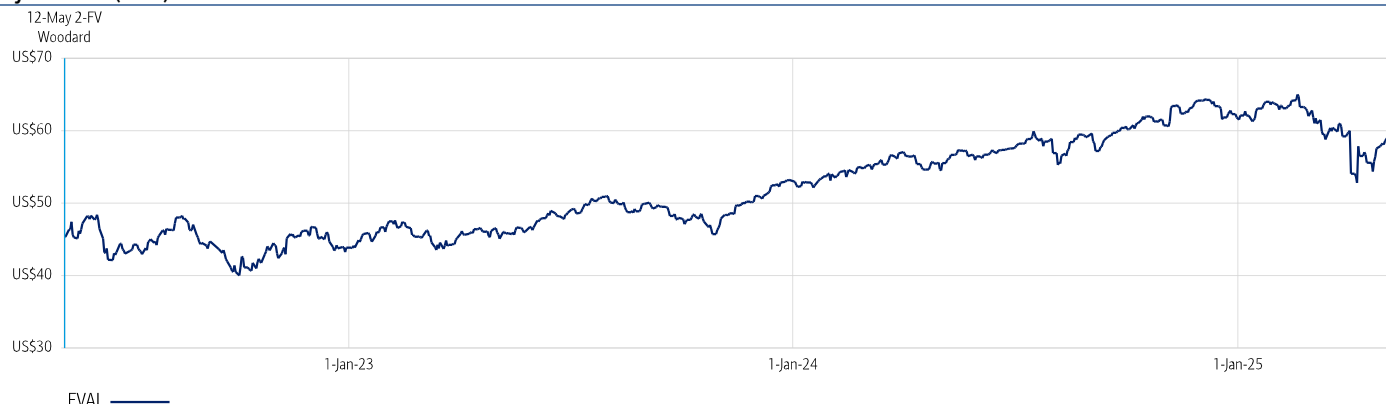
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Disclosures

Important Disclosures

Fidelity Value ETF (FVAL) Price Chart



1-FV, 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF, 2-UF, 3-UF – refer to Opinion Key below, NR: No Rating

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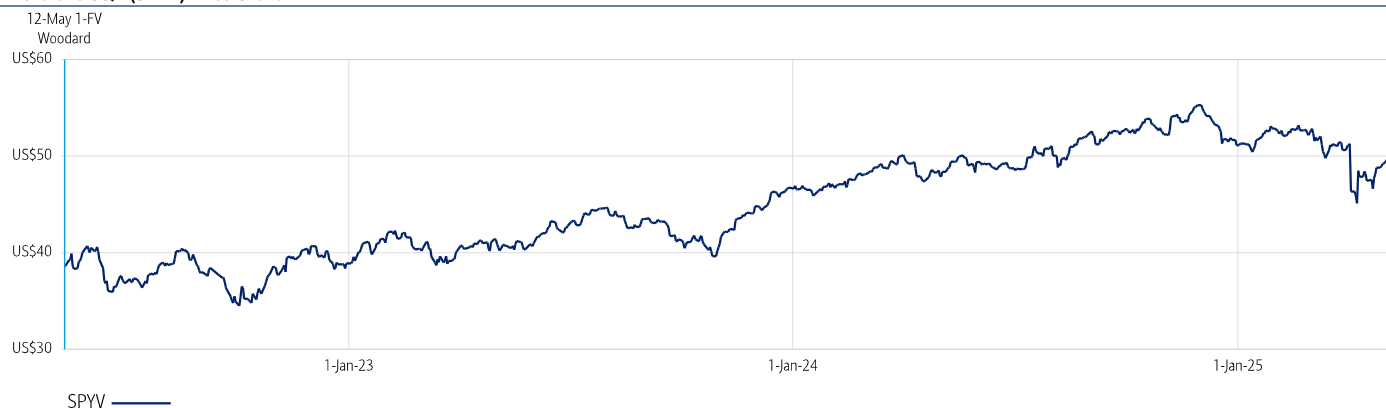
InvescoSP500 PureVal (RPV) Price Chart



1-FV, 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF, 2-UF, 3-UF – refer to Opinion Key below, NR: No Rating

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SPDR Portfolio S&P (SPYV) Price Chart



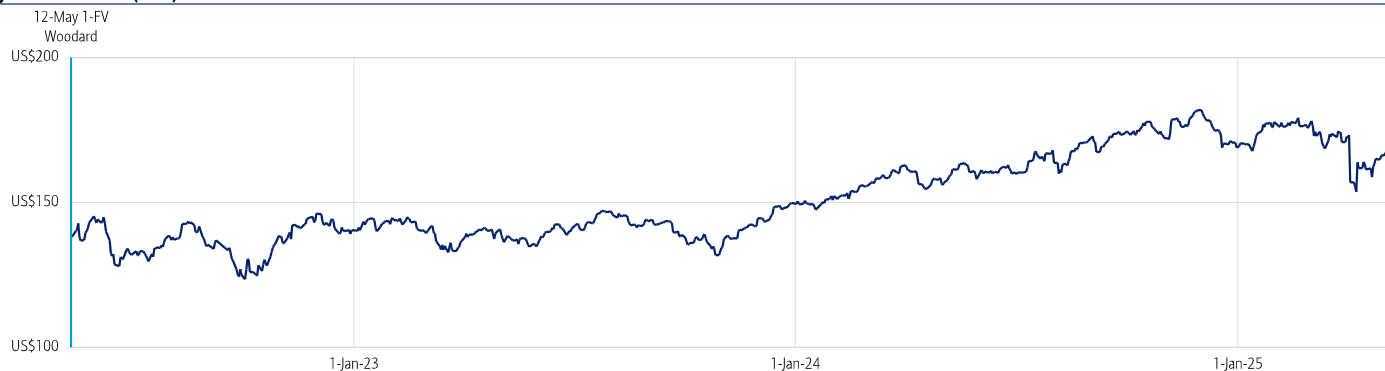
1-FV, 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF, 2-UF, 3-UF – refer to Opinion Key below, NR: No Rating

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SPDR Portfolio S&P (SPYV) Price Chart

Vanguard Value ETF (VTV) Price Chart



VTV

1-FV, 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF, 2-UF, 3-UF – refer to Opinion Key below, NR: No Rating

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Hold	423	74.87%	Hold	311	73.52%
Sell	11	1.95%	Sell	7	63.64%

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