Avantis Investors®
By American Century Investments®

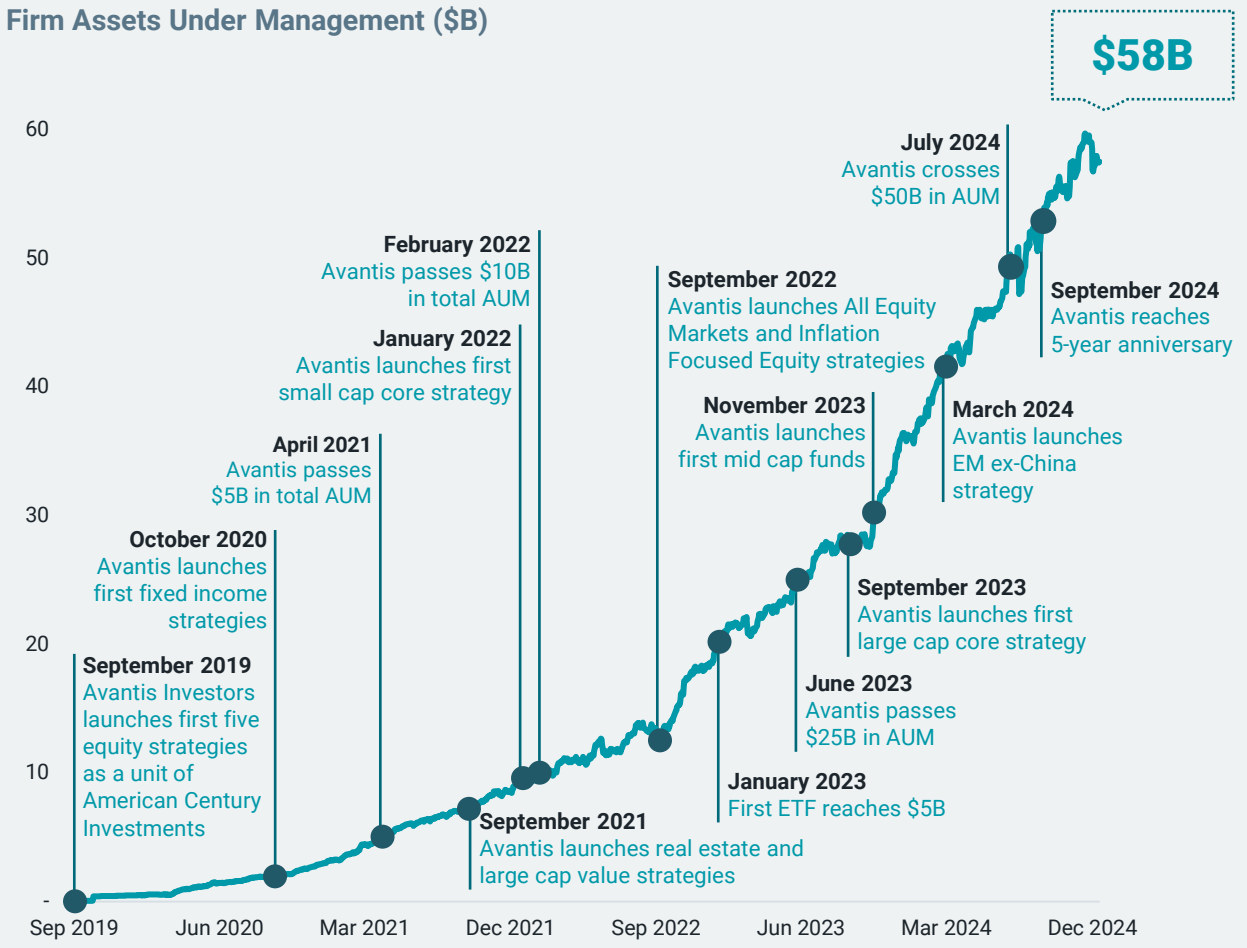
Where Can Indexes and Factors Fall Short?

February 27, 2025

Eduardo Repetto

Chief Investment Officer

Avantis Investors From Launch to Today



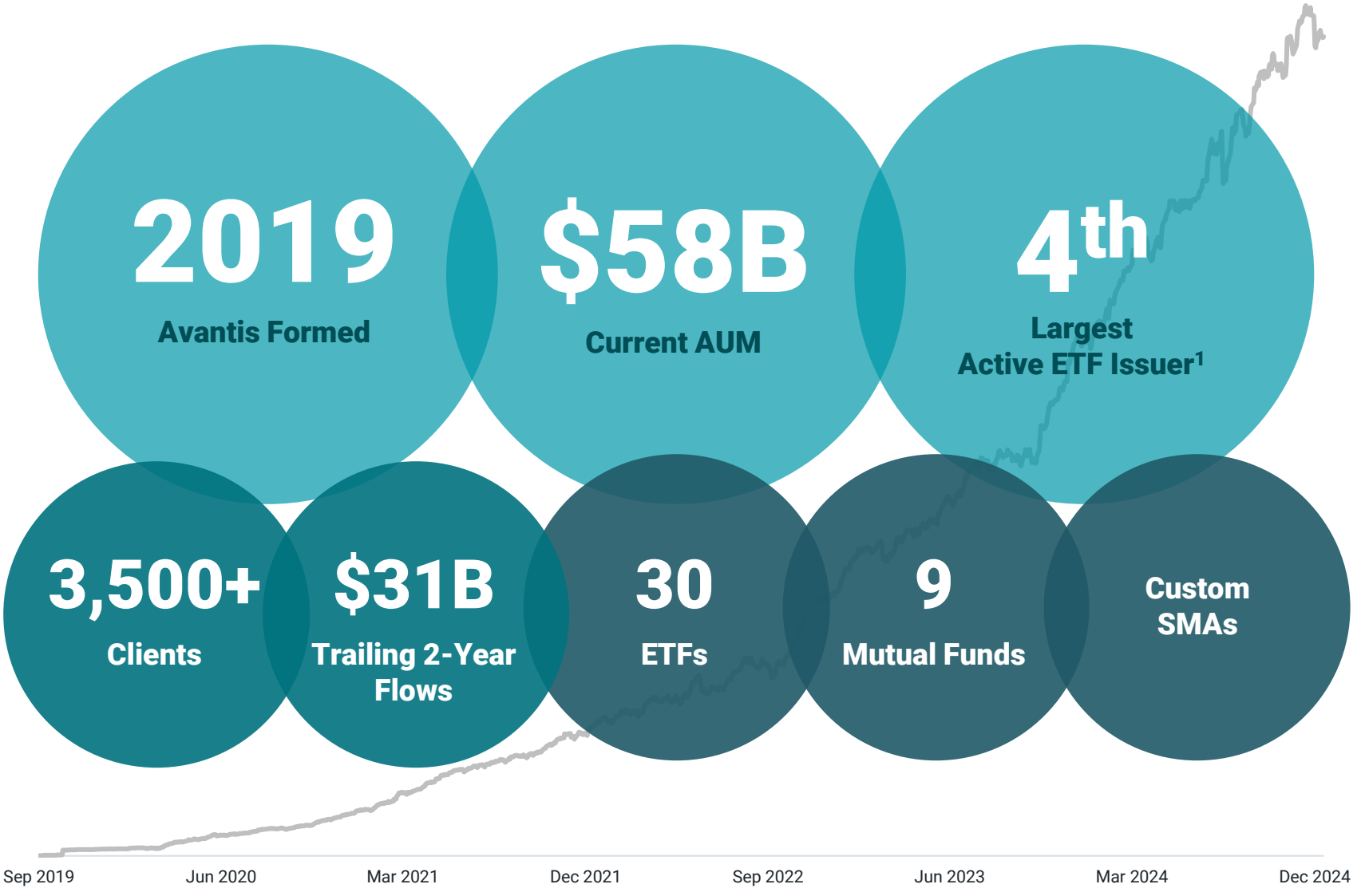
December 31, 2024

Avantis Investors

- $57.5B total AUM
- $17.6B net flows in 2024
- 30 strategies
  - 24 equity
  - 3 fixed income
  - 2 real assets
  - 1 global balanced
- 20 strategies over $100M
- 3,500+ institutional and advisory clients

Data as of 12/31/2024.

At Five Years: Avantis by the Numbers



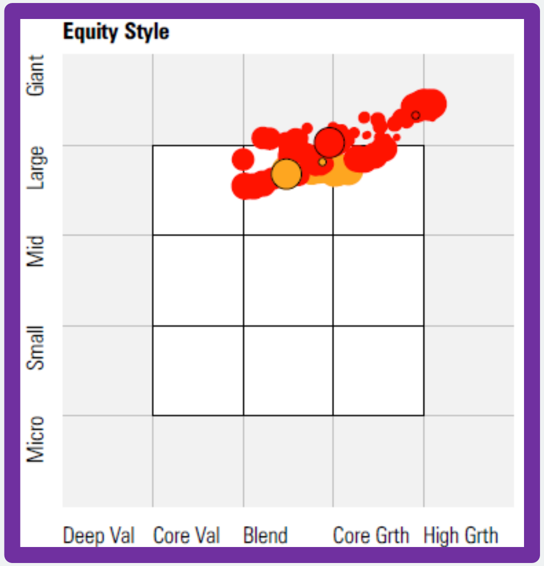
Data as of 12/31/2024 unless otherwise noted. 1. Based on AUM out of 328 ETF issuers overall and 279 active ETF issuers as of December 31, 2024.

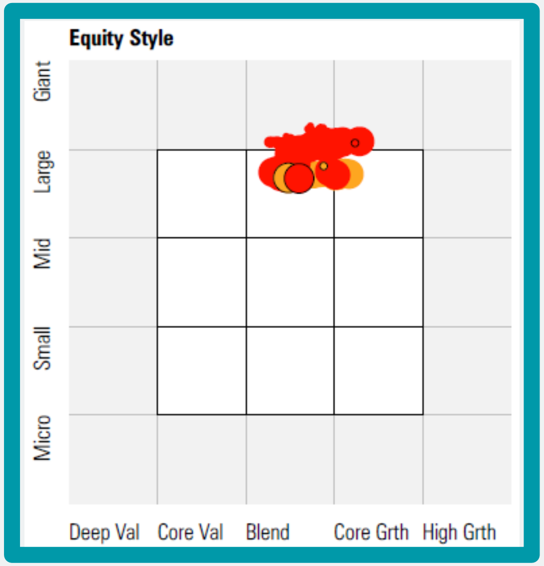
Agenda

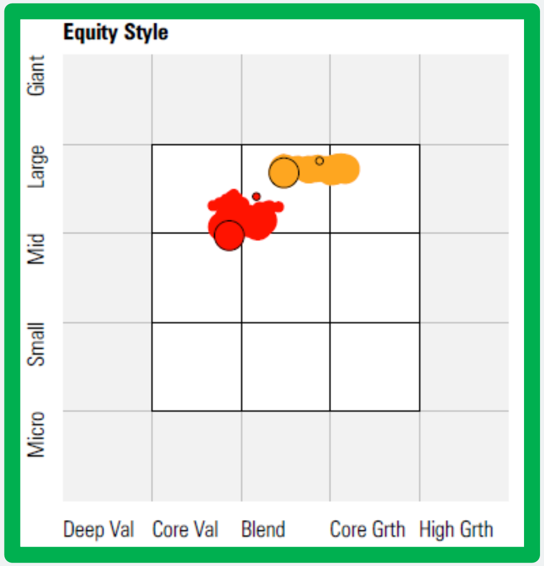
1. Some Factor Trivia
2. Design and Implementation Issues
3. Factors vs. Fundamentals
4. Thinking About Factors as an Allocator

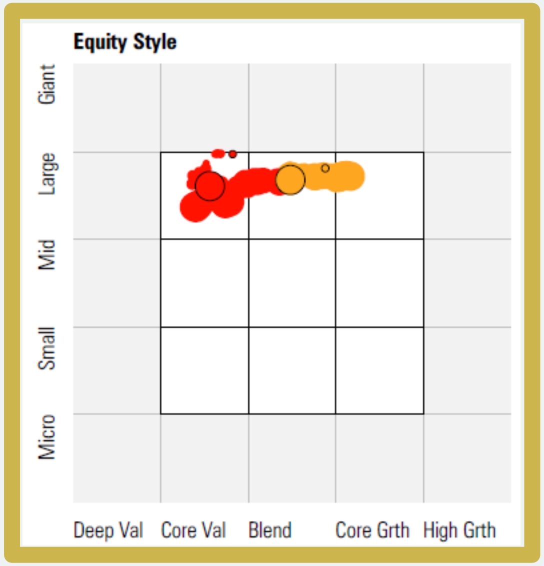
Some Factor Trivia

Guess the Factors Being Displayed in Red









Momentum

Low Volatility

Value

Quality

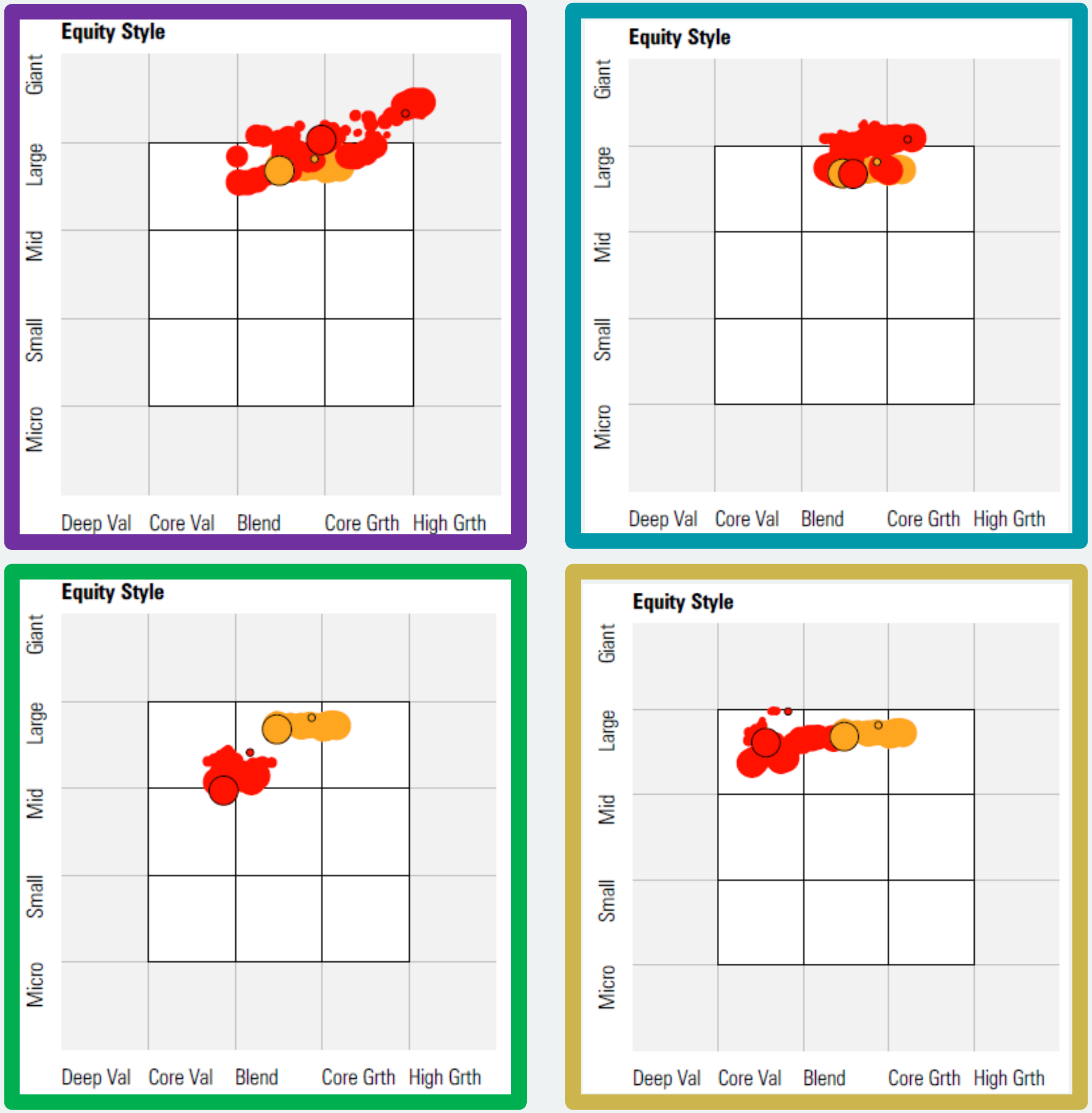
Equal Weight

Multi-factor

Russell 3000 Index

Source: Morningstar. Sample data shown for illustrative purposes only.

Guess the Factors Being Displayed in Red



Momentum

Low Volatility

Value

Quality

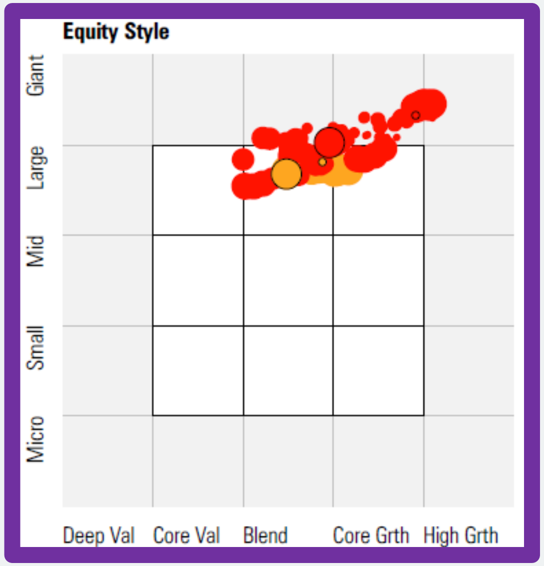
Equal Weight

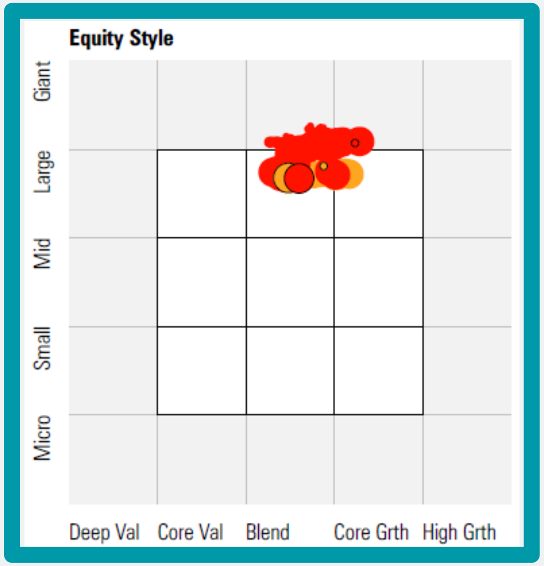
Multi-factor

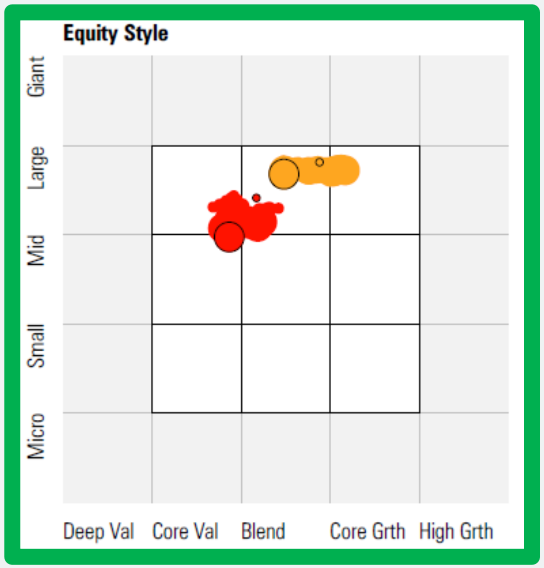
Russell 3000 Index

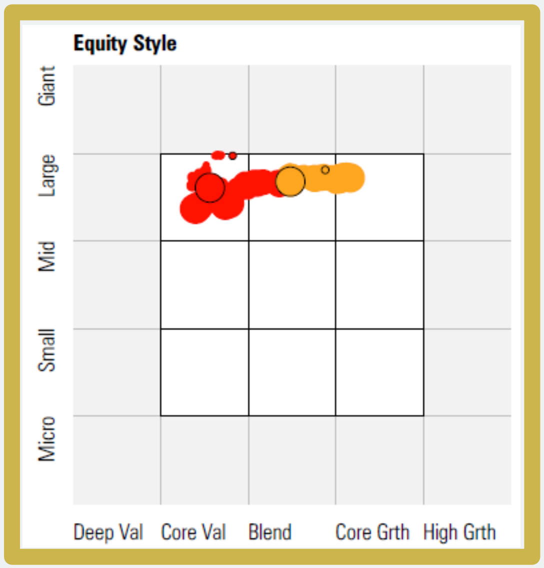
Source: Morningstar. Sample data shown for illustrative purposes only.

Guess the Factors Being Displayed in Red









Momentum

Low Volatility

Value

Quality

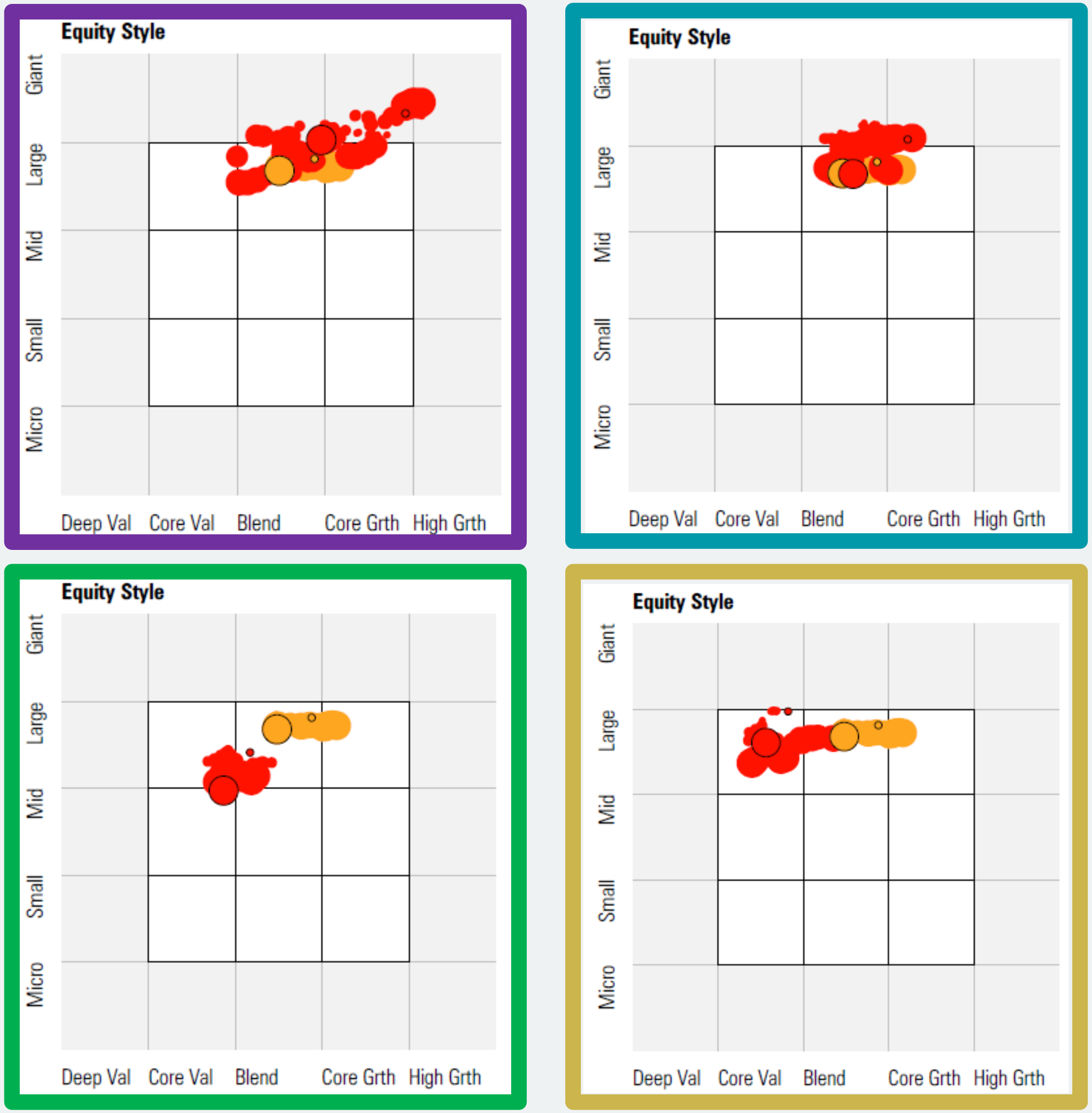
Equal Weight

Multi-factor

Russell 3000 Index

Source: Morningstar. Sample data shown for illustrative purposes only.

Guess the Factors Being Displayed in Red



Momentum

Low Volatility

Value

Quality

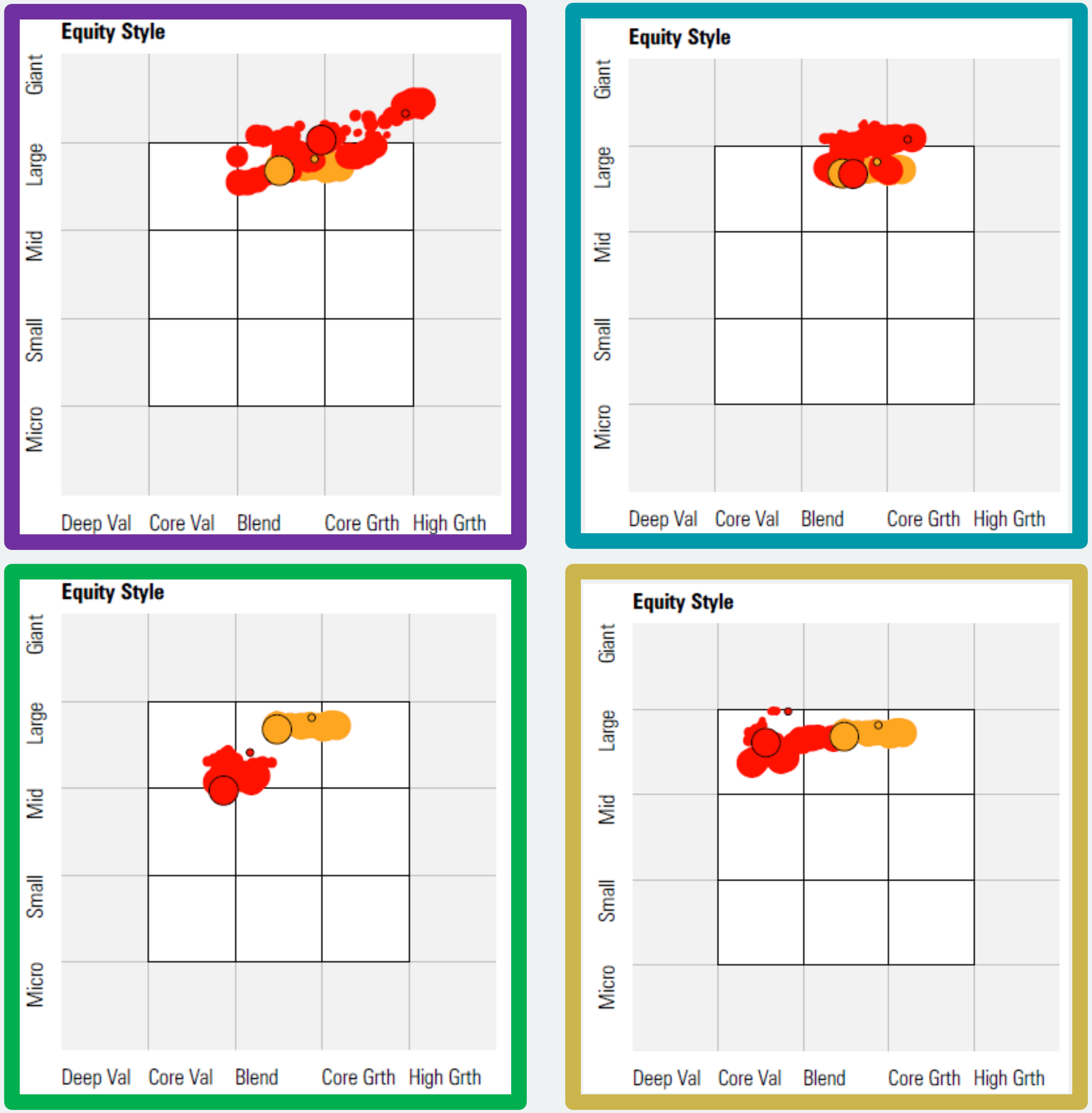
Equal Weight

Multi-factor

Russell 3000 Index

Source: Morningstar. Sample data shown for illustrative purposes only.

Guess the Factors Being Displayed in Red



Momentum

Low Volatility

Value

Quality

Equal Weight

Multi-factor

● Russell 3000 Index

Source: Morningstar. Sample data shown for illustrative purposes only.

Choosing Factors

Which of these indexes has the highest active share with the S&P 500 Index?

a. S&P 500 Value Index
b. S&P 500 Momentum Index
c. S&P 500 Quality Index
d. S&P 500 Equal Weighted Index
e. S&P 500 Low Volatility Index
f. S&P 500 Quality Value Momentum Index

Choosing Factors

Which of these indexes has the highest active share with the S&P 500 Index?

a. S&P 500 Value Index
b. S&P 500 Momentum Index
c. S&P 500 Quality Index
d. S&P 500 Equal Weighted Index
e. S&P 500 Low Volatility Index (81%)
f. S&P 500 Quality Value Momentum Index

Choosing Factors

Which of these indexes has the lowest active share with the S&P 500 Index?

a. S&P 500 Value Index
b. S&P 500 Momentum Index
c. S&P 500 Quality Index
d. S&P 500 Equal Weighted Index
e. S&P 500 Low Volatility Index
f. S&P 500 Quality Value Momentum Index

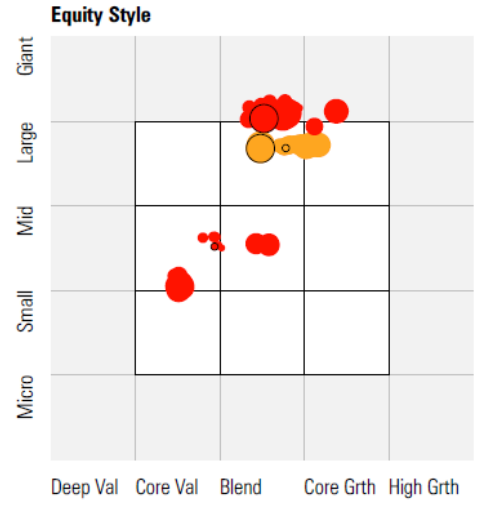
Choosing Factors

Which of these indexes has the lowest active share with the S&P 500 Index?

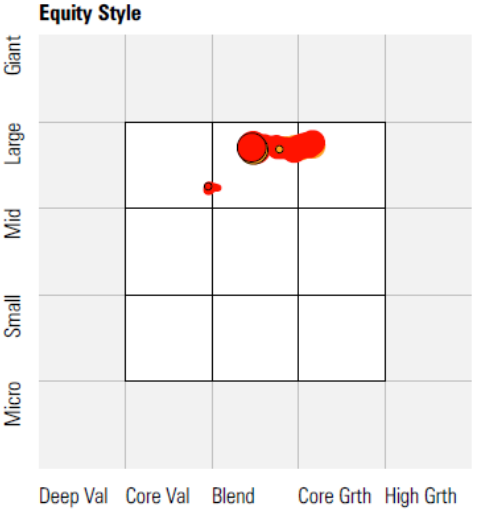
a. S&P 500 Value Index (37%)
b. S&P 500 Momentum Index (66%)
c. S&P 500 Quality Index (72%)
d. S&P 500 Equal Weighted Index (53%)
e. S&P 500 Low Volatility Index (81%)
f. S&P 500 Quality Value Momentum Index (14%)

Multi-Factor Faces Similar Labeling Issues

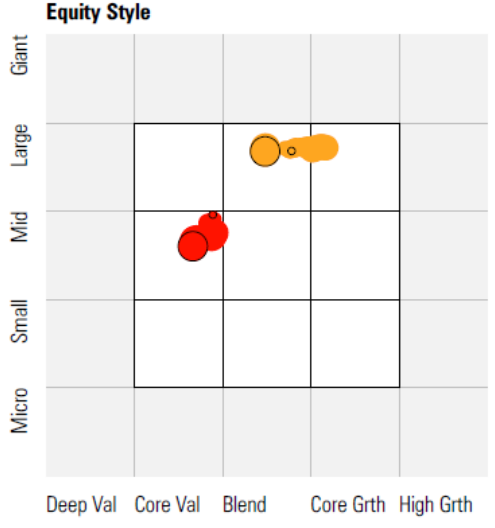
Russell 1000 Dynamic Multifactor Index



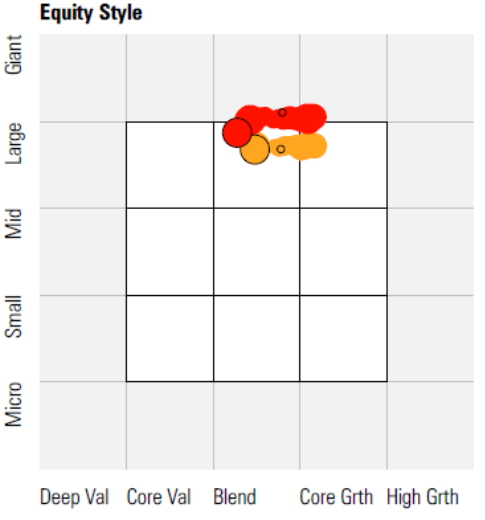
STOXX U.S. Equity Factor Index



JPMorgan Diversified Factor US Equity Index



S&P 500 QVM Top 90% MF Index



These are all holdings-based style trails of multi-factor index-based strategies with large cap core benchmarks.

- Active share versus the Russell 1000 Index ranges from ~**20%** to ~**70%**
- Number of holdings ranged from **<300** to **>700**
- 2024 turnover ranged from **15%** to **267%**
- Realized annualized tracking error versus the Russell 1000 Index over the last 3 years ranged from **<1.75%** to **>7.5%**

Source: Morningstar. Sample data shown for illustrative purposes only.

Multi-Factor Strategy

Imagine A Two Theme (Value and Quality) Equally Weighted Multifactor Strategy

Value defined by 4 variables equally weighted:

- Earnings yield (Net Income/MCap),
- Book/Price,
- Free Cash Flow/Price,
- Dividend Yield

Quality defined by 10 variables equally weighted:

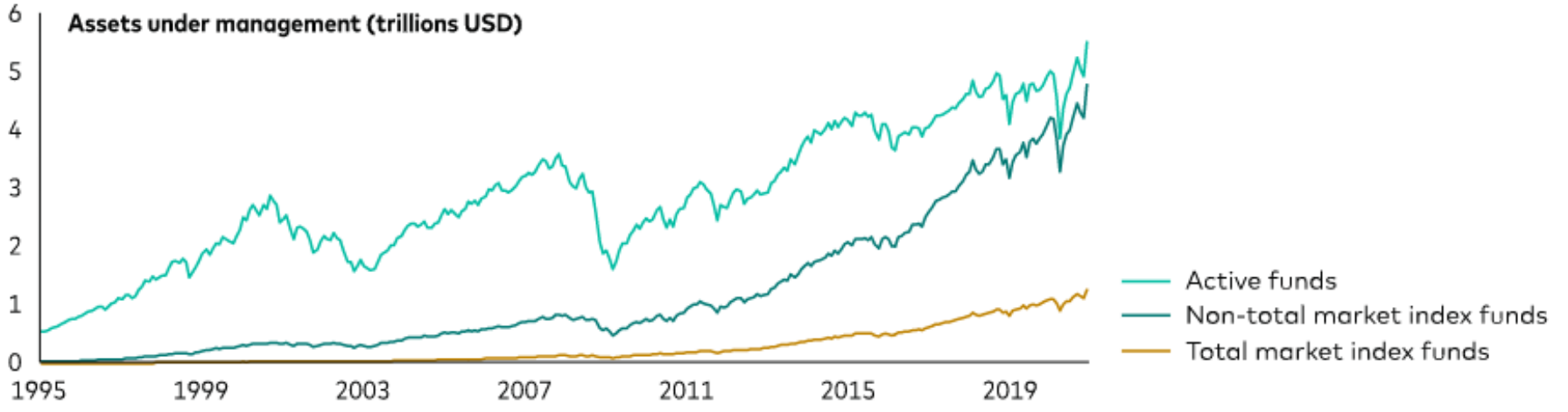
- ROE (Net Income/Book Value)
- Cash Flow ROI
- Free Cash Flows/Sales
- Cash Flows/Interests Paid
- Free Cash Flows/Current Liabilities
- Cash Flow/Total Debt
- Low Volatility
- Change in Accruals
- Balance Sheet Operating Accruals/Total Assets
- Accruals/Net Operating Assets

What is the outcome of this security selection process?

Issues in Design and Implementation

What's Driven the Growth in Indexing?

Non-total market index funds capture the majority of index fund assets



Notes: The chart shows the development of assets under management in the categories of non-total market index funds, total market index funds, and active funds. Time period observed: January 1995 to December 2020.

Sources: Vanguard calculations, based on data from Morningstar, Inc.

Source: https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/new-form-of-active-investing.html

What is Truly "Passive"?

In "Truly Passive" there is no security selection

Market Portfolio = Only Truly Passive

Once we deviate from the market, "someone" is selecting securities

Market Capitalization Asset Class Indexing	**Strategic Beta**	**Active**
=	=	=
Security Selection by Index House	**Rules-Based Active Screening/Weighting**	**Rules-Based and/or Discretionary Active Screening Weighting**
+	+	+
Passive Implementation	**Passive Implementation**	**Active Implementation**

Active/Strategic Beta/Passive Framework is credited to Ben Johnson at Morningstar.

What's in a Name?

U.S. Large Cap Value Index Returns (%) Ranked from Highest to Lowest (2009-2024)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
S&P	Wilshire	Wilshire	S&P	CRSP	Russell	Wilshire	Morningstar	CRSP	CRSP	S&P	Wilshire	CRSP	Morningstar	S&P	CRSP
Russell	CRSP	CRSP	Russell	Russell	CRSP	CRSP	S&P	Wilshire	Wilshire	Wilshire	Russell	MSCI	CRSP	Morningstar	Wilshire
CRSP	Russell	Morningstar	CRSP	S&P	Wilshire	Morningstar	Russell	S&P	Morningstar	Russell	CRSP	Russell	S&P	Russell	Russell
Wilshire	Morningstar	MSCI	Wilshire	Morningstar	S&P	MSCI	CRSP	MSCI	MSCI	CRSP	S&P	S&P	Wilshire	CRSP	Morningstar
MSCI	S&P	Russell	Morningstar	MSCI	MSCI	S&P	MSCI	Morningstar	Russell	Morningstar	MSCI	Wilshire	MSCI	Wilshire	MSCI
Morningstar	MSCI	S&P	MSCI	Wilshire	Morningstar	Russell	Wilshire	Russell	S&P	MSCI	Morningstar	Morningstar	Russell	MSCI	S&P
MAX - MIN RETURN															

U.S. Small Cap Value Index Returns (%) Ranked from Highest to Lowest (2009-2024)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Morningstar	CRSP	CRSP	Wilshire	S&P	CRSP	Wilshire	Russell	CRSP	Wilshire	S&P	Wilshire	Morningstar	Morningstar	CRSP	CRSP
CRSP	Wilshire	S&P	CRSP	CRSP	Morningstar	CRSP	S&P	S&P	CRSP	Wilshire	CRSP	S&P	CRSP	Wilshire	Wilshire
Wilshire	Morningstar	Morningstar	Morningstar	Morningstar	Wilshire	MSCI	Morningstar	MSCI	S&P	CRSP	Russell	MSCI	MSCI	S&P	Morningstar
MSCI	S&P	MSCI	S&P	Russell	S&P	S&P	Wilshire	Morningstar	Russell	Russell	S&P	Wilshire	S&P	MSCI	MSCI
S&P	Russell	Wilshire	Russell	Wilshire	MSCI	Russell	MSCI	Russell	MSCI	MSCI	MSCI	Russell	Wilshire	Russell	Russell
Russell	MSCI	Russell	MSCI	MSCI	Russell	Morningstar	CRSP	Wilshire	Morningstar	Morningstar	Morningstar	CRSP	Russell	Morningstar	S&P
MAX - MIN RETURN															

Data over the 15-year period from 1/1/2009-12/31/2024. Source: Morningstar. Return periods greater than one year are annualized. It is not possible to invest directly in an index. **Past performance is no guarantee of future results.**

What's in a Name? Answer: Not Enough

U.S. Large Cap Value Index Returns (%) Ranked from Highest to Lowest (2009-2024)

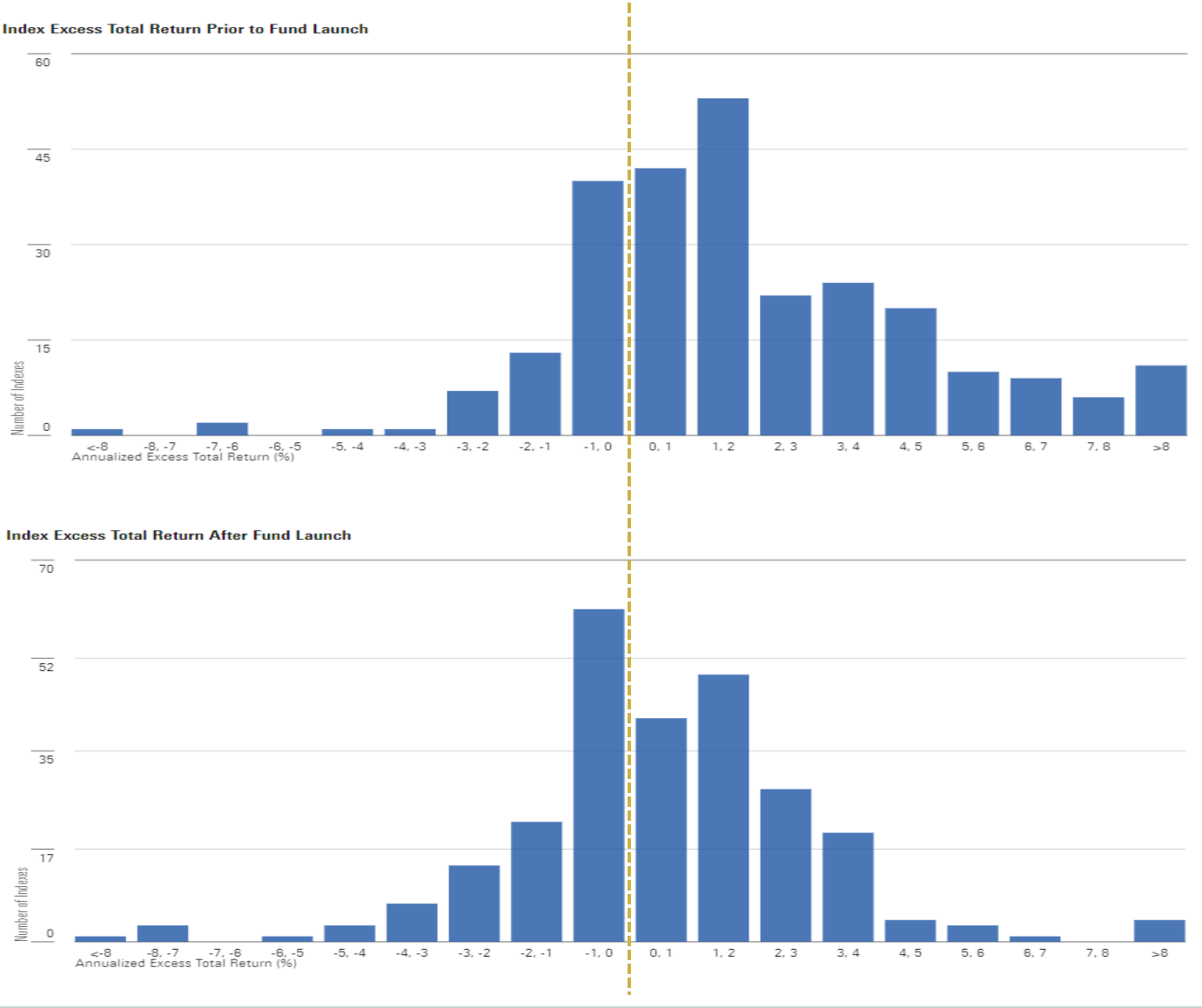
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	S&P 21.18	Wilshire 16.56	Wilshire 3.74	S&P 17.68	CRSP 33.34	Russell 13.45	Wilshire -0.79	Morningstar 20.01	CRSP 17.16	CRSP -5.40	S&P 31.93	Wilshire 7.37	CRSP 26.51	Morningstar -0.35	S&P 22.23	CRSP 16.00
	Russell 19.69	CRSP 16.06	CRSP 1.43	Russell 17.51	Russell 32.53	CRSP 13.29	CRSP -0.86	S&P 17.40	Wilshire 16.31	Wilshire -5.94	Wilshire 27.72	Russell 2.80	MSCI 26.29	CRSP -2.01	Morningstar 11.76	Wilshire 15.01
	CRSP 18.42	Russell 15.51	Morningstar 1.35	CRSP 16.71	S&P 31.99	Wilshire 13.00	Morningstar -2.13	Russell 17.34	S&P 15.36	Morningstar -6.90	Russell 26.54	CRSP 2.26	Russell 25.16	S&P -5.22	Russell 11.46	Russell 14.37
	Wilshire 16.98	Morningstar 15.17	MSCI 0.64	Wilshire 14.56	Morningstar 31.78	S&P 12.36	MSCI -2.82	CRSP 16.93	MSCI 14.42	MSCI -7.96	CRSP 25.85	S&P 1.36	S&P 24.90	Wilshire -5.51	CRSP 9.17	Morningstar 14.10
	MSCI 16.91	S&P 15.10	Russell 0.39	Morningstar 14.06	MSCI 31.22	MSCI 11.36	S&P -3.13	MSCI 15.83	Morningstar 14.25	Russell -8.27	Morningstar 25.53	MSCI 0.05	Wilshire 24.53	MSCI -6.96	Wilshire 9.17	MSCI 13.55
	Morningstar 16.39	MSCI 13.46	S&P -0.48	MSCI 13.96	Wilshire 30.24	Morningstar 9.37	Russell -3.83	Wilshire 15.44	Russell 13.66	S&P -8.95	MSCI 24.61	Morningstar -1.65	Morningstar 23.28	Russell -7.54	MSCI 8.35	S&P 12.29
MAX - MIN RETURN	4.78	3.10	4.22	3.72	3.10	4.08	3.04	4.57	3.49	3.55	7.31	9.01	3.24	7.18	**13.88**	3.72

U.S. Small Cap Value Index Returns (%) Ranked from Highest to Lowest (2009-2024)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	Morningstar 40.28	CRSP 27.18	CRSP 0.01	Wilshire 21.52	S&P 39.98	CRSP 10.63	Wilshire -4.36	Russell 31.74	CRSP 11.83	Wilshire -12.04	S&P 24.54	Wilshire 6.16	Morningstar 31.79	Morningstar -6.60	CRSP 15.91	CRSP 12.42
	CRSP 37.81	Wilshire 26.76	S&P -1.38	CRSP 20.50	CRSP 38.47	Morningstar 10.03	CRSP -4.64	S&P 31.32	S&P 11.51	CRSP -12.27	Wilshire 23.08	CRSP 5.75	S&P 30.95	CRSP -9.27	Wilshire 15.35	Wilshire 11.51
	Wilshire 37.45	Morningstar 25.96	Morningstar -1.84	Morningstar 18.30	Morningstar 35.71	Wilshire 9.09	MSCI -5.89	Morningstar 27.96	MSCI 8.44	S&P -12.64	CRSP 22.76	Russell 4.63	MSCI 29.77	MSCI -10.33	S&P 14.89	Morningstar 9.67
	MSCI 29.21	S&P 24.72	MSCI -4.72	S&P 18.21	Russell 34.52	S&P 7.54	S&P -6.67	Wilshire 27.68	Morningstar 8.40	Russell -12.86	Russell 22.39	S&P 2.53	Wilshire 29.24	S&P -11.04	MSCI 14.77	MSCI 8.82
	S&P 22.85	Russell 24.50	Wilshire -5.34	Russell 18.05	Wilshire 33.80	MSCI 6.64	Russell -7.47	MSCI 26.62	Russell 7.84	MSCI -13.60	MSCI 21.27	MSCI 1.20	Russell 28.27	Wilshire -14.22	Russell 14.65	Russell 8.05
	Russell 20.58	MSCI 24.21	Russell -5.50	MSCI 17.69	MSCI 32.73	Russell 4.22	Morningstar -8.65	CRSP 24.82	Wilshire 7.42	Morningstar -16.61	Morningstar 19.96	Morningstar 1.01	CRSP 28.15	Russell -14.48	Morningstar 14.58	S&P 7.56
MAX - MIN RETURN	**19.70**	2.97	5.51	3.82	7.25	6.41	4.28	6.92	4.41	4.57	4.57	5.16	3.64	7.88	1.33	4.86

Data over the 15-year period from 1/1/2009-12/31/2024. Source: Morningstar. Return periods greater than one year are annualized. It is not possible to invest directly in an index. **Past performance is no guarantee of future results.**

Pre-Launch vs. Post-Launch



Research from Morningstar shows how indexes that index funds are tracking have performed pre- fund launch and post- fund launch.

- **75% of indexes** beat their Morningstar Category Index over the five years prior to the fund launch, with a median outperformance of **140 bps per year**.
- In the five years following launch, those numbers shrank to **57% and 39 bps per year**.

Source: Mining for Alpha With Index Funds, Dan Sotiroff (Morningstar), July 2023

Factors vs. Fundamentals

The Factor Craze – Evolution

In what year was the first single-factor model developed?

a. 1949
b. 1964
c. 1981
d. 1993

The Factor Craze – Evolution

In what year was the first single-factor model developed?

a. 1949
b. 1964 – CAPM (Sharpe)
c. 1981
d. 1993

The Factor Craze – Evolution

How many factors have been documented today?

a. 100
b. 200
c. 400
d. 1,000

The Factor Craze – Evolution

How many factors have been documented today?

a. 100
b. 200
c. 400 – *A Census of the Factor Zoo* (Harvey/Liu, 2019)
d. 1,000

400 Factors…and Counting

Data availability has allowed researchers and practitioners to "search" for patterns using historical data

- most of these patterns have no reason to exist – they happened randomly in the past
- Some factors provide benefits (but not increased expected returns), e.g. Low volatility
- Some factors may not be directly implementable but can enhance expected returns, e.g. momentum

What should investors do to cut through the factor noise?

See A Census of the Factor Zoo, Harvey/Liu (2019)

We Should Consider Valuation

Use the learnings from asset pricing and factor research but within a valuation framework.

$\text{Price} = \text{Equity} + \frac{\text{Profits}}{\text{Discount Rate}}$	$\frac{\text{Equity}}{\text{Price}}$ AND $\frac{\text{Profits}}{\text{Equity}}$
Expected returns (discount rates) are a function of:	**Differences in expected returns across securities are captured in valuation ratios**
Prices	**Need to define**
Current equity	**Equity (modified B/M)**
Expected profits	**Profits (cash-based operating profitability)**

Goal is to find reliable proxies for equity and profits that incorporate enhancements to have a more robust approach.

Implications for Expected Returns

	All Companies	Low-Low	High-High	Low-High	High-Low
Large Caps	12.12	10.63	16.27	12.15	11.92
Mid Caps	13.47	11.18	17.13	13.13	13.07
Small Caps	14.32	8.53	19.44	14.66	15.02
Premium vs. Market		−	+	=	≈

Source: Avantis Investors and Sunil Wahal, CRSP/Compustat, U.S. Securities, 1973-2023

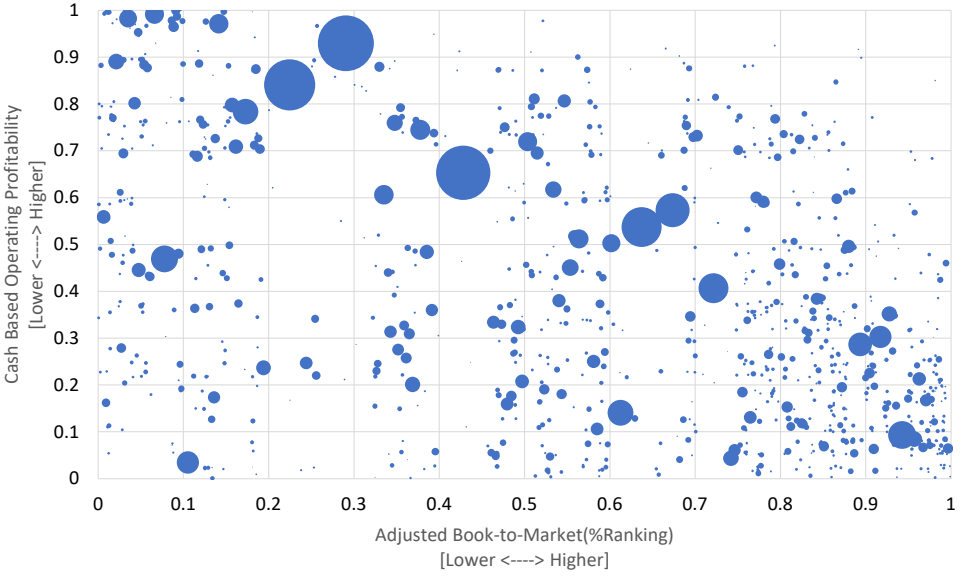
What Exposure do Indexes and Factors Offer Through The Lens of Fundamentals?

What Exposure Do Factor Indexes Offer?

Russell 1000 Index

Cash Based Operating Profitability	Low		Adjusted BtM		High	
High	6.3%	12.2%	1.0%	0.3%	0.1%	19.9%
	4.5%	3.3%	9.0%	2.1%	1.0%	19.9%
	4.1%	0.9%	6.3%	10.8%	2.0%	24.1%
	2.5%	3.2%	3.5%	2.2%	7.1%	18.5%
Low	2.2%	0.4%	3.2%	4.0%	7.6%	17.5%
	19.7%	20.0%	23.1%	19.5%	17.8%	100.0%

Higher ER	45.7%
Neutral	25.8%
Lower ER	28.5%



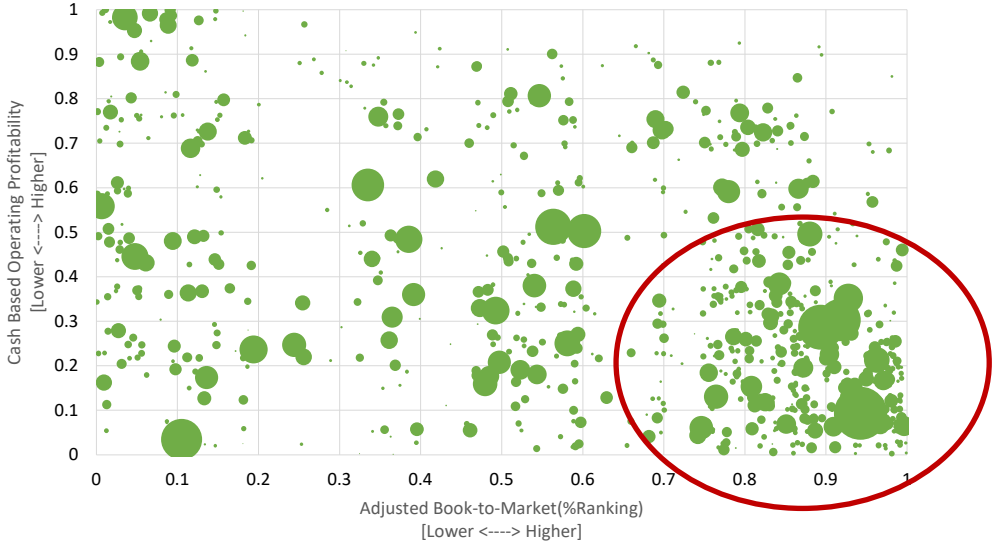
Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Exposure Do Factor Indexes Offer?

Russell 1000 Value Index

Cash Based Operating Profitability	Low (Adjusted BtM)				High (Adjusted BtM)	
High	4.7%	0.3%	1.3%	0.5%	0.1%	6.9%
	2.3%	3.1%	1.4%	3.1%	1.9%	11.8%
	4.9%	1.8%	8.1%	3.1%	4.1%	22.0%
	4.8%	3.3%	5.4%	3.6%	14.7%	31.8%
Low	4.0%	0.4%	3.9%	3.8%	15.4%	27.5%
	20.7%	8.9%	20.0%	14.1%	36.3%	100.0%

Higher ER	30.4%
Neutral	34.9%
Lower ER	34.6%



Russell 1000 Index

Higher ER	45.7%
Neutral	25.8%
Lower ER	28.5%

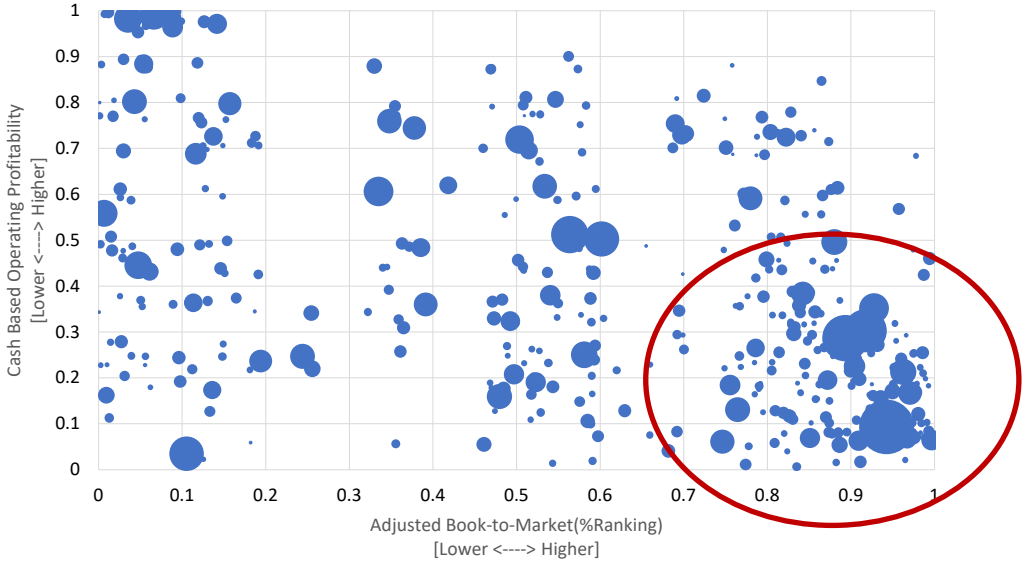
Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Exposure Do Factor Indexes Offer?

S&P 500 Value Index

Cash Based Operating Profitability	Adjusted BtM: Low				High	
High	8.2%	0.3%	1.1%	0.3%	0.1%	10.2%
	3.3%	4.0%	3.6%	2.4%	1.9%	15.1%
	5.0%	1.0%	7.6%	3.6%	3.2%	20.3%
	4.2%	3.1%	4.7%	2.8%	15.0%	29.8%
Low	3.1%	0.1%	3.7%	3.4%	14.4%	24.7%
	23.8%	8.5%	20.7%	12.4%	34.5%	100.0%

Higher ER	31.5%
Neutral	36.9%
Lower ER	31.6%



Russell 1000 Index

Higher ER	45.7%
Neutral	25.8%
Lower ER	28.5%

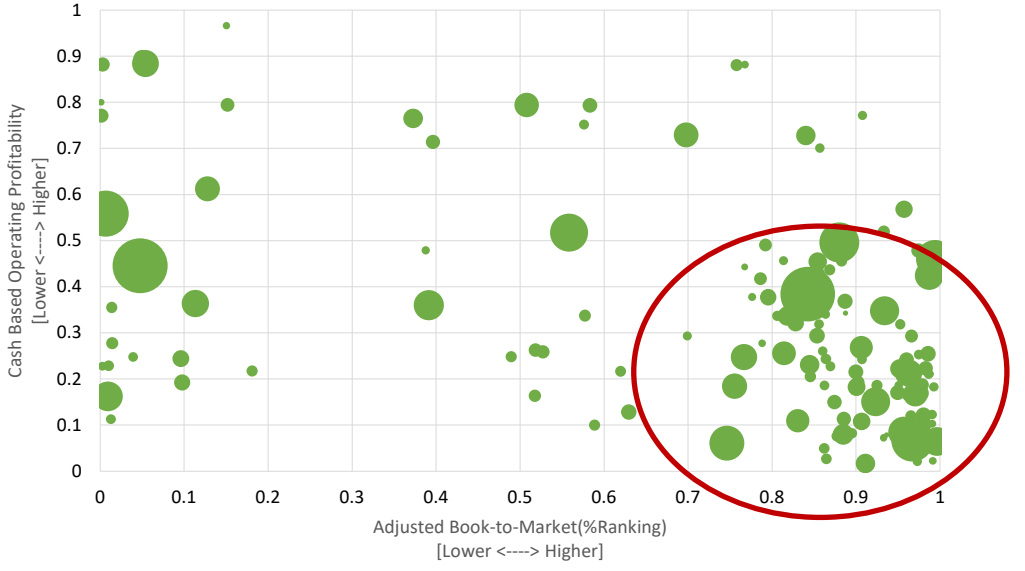
Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Exposure Do Factor Indexes Offer?

Value Factor Index

Cash Based Operating Profitability	Low (Adjusted BtM)				High (Adjusted BtM)	
High	3.1%	-	-	0.4%	-	3.5%
	2.0%	1.6%	0.6%	1.2%	1.1%	6.7%
	10.5%	0.1%	5.3%	0.8%	11.2%	27.9%
	4.8%	1.8%	1.3%	3.1%	23.0%	33.9%
Low	2.5%	-	0.7%	4.2%	20.8%	28.1%
	22.8%	3.6%	7.9%	9.7%	56.0%	100.0%

Higher ER	38.3%
Neutral	33.8%
Lower ER	27.9%



Russell 1000 Index

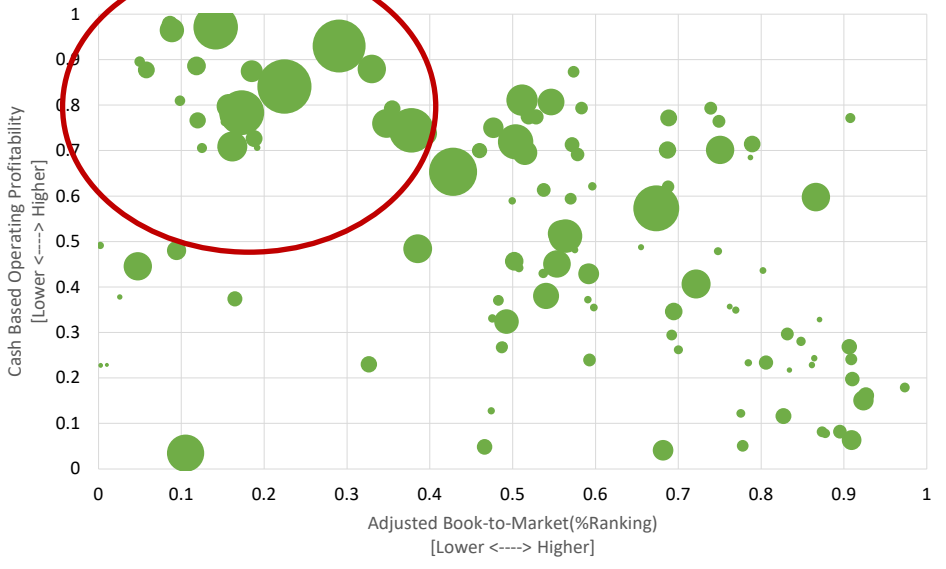
Higher ER	45.7%
Neutral	25.8%
Lower ER	28.5%

Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Exposure Do Factor Indexes Offer?

Quality Factor Index

Cash Based Operating Profitability	Low (Adjusted BtM)				High (Adjusted BtM)	
High	9.1%	13.5%	3.8%	-	-	26.4%
	8.9%	8.7%	12.8%	3.9%	0.2%	34.4%
	2.5%	1.7%	8.4%	7.8%	1.8%	22.1%
	0.6%	0.6%	4.1%	1.8%	2.0%	9.1%
Low	2.8%	-	0.6%	1.3%	3.3%	8.0%
	24.0%	24.4%	29.6%	14.8%	7.3%	100.0%



Higher ER	45.6%
Neutral	31.3%
Lower ER	23.1%

Russell 1000 Index

Higher ER	45.7%
Neutral	25.8%
Lower ER	28.5%

Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Exposure Do Factor Indexes Offer?

MSCI World ex USA

Cash Based Operating Profitability	Low				High	
	Adjusted BtM					
High	8.1%	3.2%	5.5%	1.3%	0.7%	18.9%
	5.7%	6.2%	5.2%	3.4%	1.9%	22.5%
	2.5%	4.8%	5.9%	4.1%	3.1%	20.4%
	2.4%	3.4%	3.3%	5.8%	5.9%	20.7%
Low	1.3%	2.2%	1.8%	4.6%	7.7%	17.6%
	20.0%	19.9%	21.7%	19.1%	19.3%	100.0%

Higher ER	34.3%
Neutral	33.7%
Lower ER	32.0%

MSCI World ex USA Value

Cash Based Operating Profitability	Low				High	
	Adjusted BtM					
High	3.5%	1.3%	6.8%	2.1%	1.1%	14.9%
	2.4%	5.2%	2.4%	4.8%	3.4%	18.2%
	1.0%	0.8%	5.6%	7.3%	5.0%	19.7%
	0.8%	2.8%	3.2%	8.2%	10.1%	25.0%
Low	1.2%	1.1%	1.1%	5.4%	13.5%	22.2%
	9.0%	11.1%	19.0%	27.8%	33.1%	100.0%

Higher ER	41.6%
Neutral	29.7%
Lower ER	28.8%

Source: Avantis Investors, data from Bloomberg as of September 30, 2024

What Issues Do Factor Indexes Face?

Let's see the effects of deviating from the market

U.S. Companies Sorted by Profitability and Book-to-Price

Cash-Based Operating Profitability	Adjusted Book-to-Price: Low				High	
High	6.4%	11.7%	1.1%	0.4%	0.1%	19.7%
	4.4%	3.4%	8.8%	2.2%	1.0%	19.8%
	4.0%	0.9%	6.4%	10.6%	2.1%	23.9%
	2.5%	3.2%	3.5%	2.4%	7.2%	18.8%
Low	2.2%	0.6%	3.3%	4.0%	7.6%	17.8%
	19.6%	19.8%	23.1%	19.5%	18.0%	100.0%

Source: Avantis, Bloomberg, U.S. companies represented by the Russell 3000 Index, September 30, 2024

What Issues Do Factor Indexes Face?

Shifting an allocation towards high B/P produces a shift to companies with low profitability.

U.S. Companies Sorted by Profitability and Book-to-Price

Cash-Based Operating Profitability	Adjusted Book-to-Price: Low				High
High	6.4%	11.7%	1.1%	0.4%	0.1%
	4.4%	3.4%	8.8%	2.2%	1.0%
	4.0%	0.9%	6.4%	10.6%	2.1%
	2.5%	3.2%	3.5%	2.4%	7.2%
Low	2.2%	0.6%	3.3%	4.0%	7.6%

Companies with High B/P tend to have Low Profitability

High Prof	0.6%
	5.7%
	11.4%
	39.9%
Low Prof	**42.4%**

Searching for a B/P premium, as suggested by the factor, produces a negative profitability premium.

Source: Avantis, Bloomberg, U.S. companies represented by the Russell 3000 Index, September 30, 2024

What Issues Do Factor Indexes Face?

Shifting an allocation towards high profitability produces a shift to companies with low B/P.

Companies with High Prof tend to have Low B/P

Low B/P				High B/P
32.3%	**59.5%**	5.7%	2.0%	0.5%

U.S. Companies Sorted by Profitability and Book-to-Price

Cash-Based Operating Profitability	Adjusted Book-to-Price: Low				High
High	6.4%	11.7%	1.1%	0.4%	0.1%
	4.4%	3.4%	8.8%	2.2%	1.0%
	4.0%	0.9%	6.4%	10.6%	2.1%
	2.5%	3.2%	3.5%	2.4%	7.2%
Low	2.2%	0.6%	3.3%	4.0%	7.6%

Searching for a profitability premium, as suggested by the factor, produces a negative B/P premium.

Source: Avantis, Bloomberg, U.S. companies represented by the Russell 3000 Index, September 30, 2024

Choosing Factors

- The creation of factor indexes and smart/strategic beta strategies tracking factor indexes increased the number of tools available to implement systematic factor tilts into asset allocations

- Many single factor indexes can run into similar challenges of style-based indexes

- Single and multi-factor strategies can become too “factor focused”, ignoring interaction effects and sacrificing diversification and other risk management principles unnecessarily

Implications for Asset Allocators

Implications for Expected Returns

	All Companies	Low-Low	High-High	Low-High	High-Low
Large Caps	12.12	10.63	16.27	12.15	11.92
Mid Caps	13.47	11.18	17.13	13.13	13.07
Small Caps	14.32	8.53	19.44	14.66	15.02
Premium vs. Market		−	+	=	≈

Source: Avantis Investors and Sunil Wahal, CRSP/Compustat, U.S. Securities, 1973-2023

Implications for Asset Allocation

Expectations from empirical evidence based on the valuation framework.

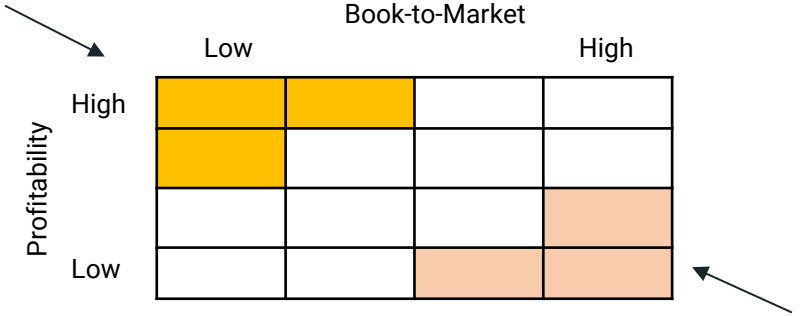
Exclude/Underweight to Increase Expected Returns

High price (low BtM) despite low profitability implies a low discount rate.

Select/Overweight to Increase Expected Returns

Low price (high BtM) despite high profitability implies a high discount rate.

High price (low BtM) due to high profitability. No expectations of high discount rate or high expected returns.



Low price (high BtM) due to low profitability, not a high discount rate. No expectations of high expected returns.

Thinking Beyond Factors and Indexes

Financial Science and Research on Asset Pricing and Factors taught us:

Certain stock characteristics are associated with premiums

Premiums can be linked to valuations

To create better portfolios:

We do not need the factors

factors are just one possible implementation of a concept

We need the underlying concepts we learned from research and their interactions

Bassu (1977), Stattman (1980), Banz (1981), Rosenberg (1985), Bhandari (1988)

Questions?

Appendix

Disclosures

Expected Returns: Valuation theory shows that the expected return of a stock is a function of its current price, its book equity (assets minus liabilities) and expected future profits, and that the expected return of a bond is a function of its current yield and its expected capital appreciation (depreciation). We use information in current market prices and company financials to identify differences in expected returns among securities, seeking to overweight securities with higher expected returns based on this current market information. Actual returns may be different than expected returns, and there is no guarantee that the strategy will be successful.

The opinions expressed are those of American Century Investments (or the fund manager) and are no guarantee of the future performance of any American Century Investments fund. This information is for educational purposes only and is not intended as investment advice.

This material has been prepared for educational purposes only. It is not intended to provide, and should not be relied upon for, investment, accounting, legal or tax advice.