

Determining the
Most Suitable
Benchmark(s) for
the Liberty
University Student
Asset Management
Fund



SAM Fund Background

- Student-led organization that invests a portion of Liberty University's endowment
- Seeks to develop future leaders in finance, invest with a Biblical worldview, and outperform its benchmark
- The Fund is broken down into 5 sectors: Consumer Goods, Financial Services, Healthcare, Industrials, and Technology
- Historically, the Fund has considered itself to be value-oriented

SAM Fund Background

- Since its inception, the LU Student Asset Management (SAM) Fund has benchmarked its performance against the S&P 500, as established in the Fund's by-laws
- Observed tremendous downside capture but lack of upside capture relative to the S&P 500

Industry Relevance

- Of the nearly 3,000 mutual funds surveyed by Professors Kevin Mullally and Andrea Rossi, 37% of them changed their benchmark at least once over the sample period of 2006 to 2018 (2022, p. 4)
- Very little regulation over this process
 - SEC guidance is limited to the requirement that the benchmark must be “an appropriate broad-based securities market index” (Zweig, 2022)

Research Framework

- Index Calculation
- Sector Allocation
- Industry Prominence
- Geographical Presence
- Style Factor
- Size Factor
- Correlation
- Beta

Qualitative Research

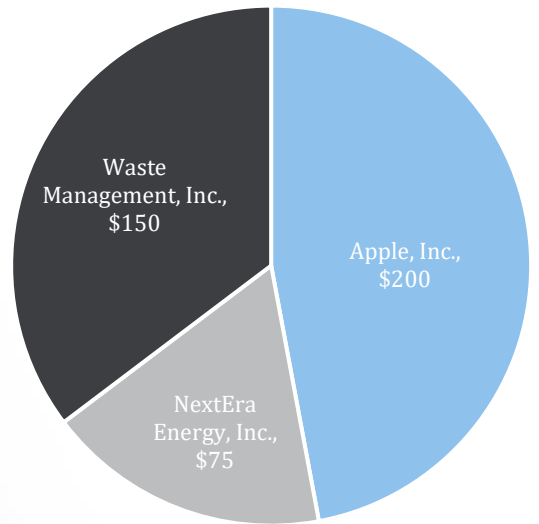
Index Calculation

- The Dow Jones is a price-weighted index (Lin et. al., 2021)
- All other indices in consideration are value-weighted
- Price-weighted indices lack viability as benchmarks (Shoven & Sialm, 2000)

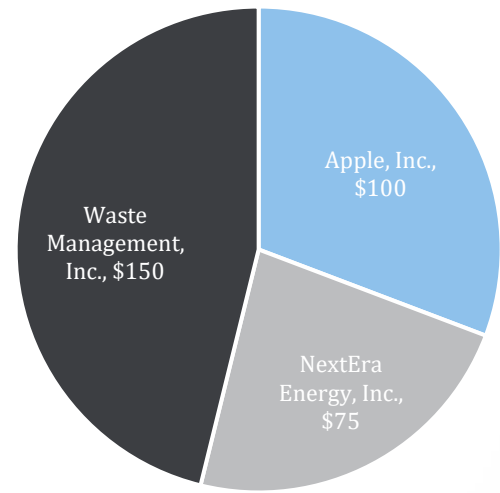
Price-Weighted Index Example

Before Apple, Inc. Stock Split

After Apple, Inc. Stock Split

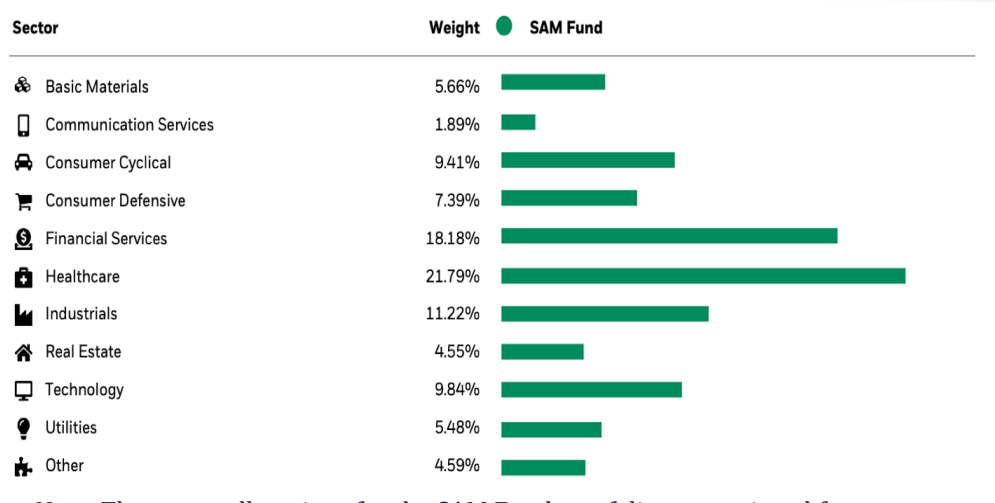


2 for 1 Apple, Inc. Stock Split



Sector Allocation

- The SAM Fund portfolio is severely underweight in technology when compared with the NASDAQ (~50%), S&P 500 (27.3%), MSCI (26.0%), Russell 1000 (25.1%), and the Russell 3000 (24.2%)
- Value indices tend to have the most representative allocations



Note. The sector allocations for the SAM Fund portfolio are retrieved from Morningstar in collaboration with Blackrock's 360 Evaluator. CC BY Blackrock.

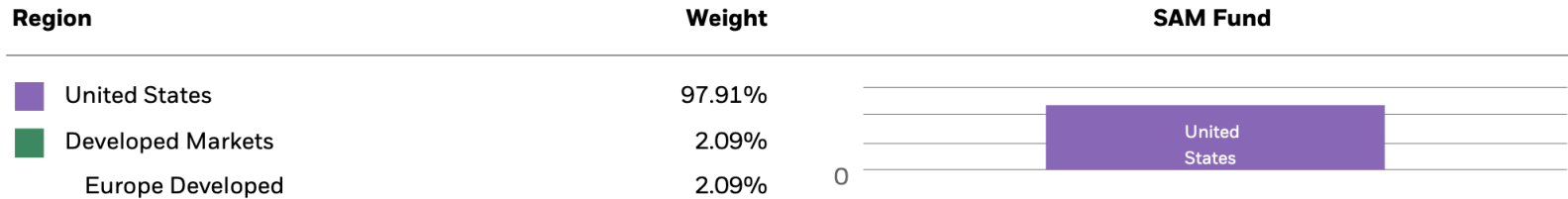
Industry Prominence

- The S&P 500, the NASDAQ, and the Dow Jones are widely considered to be the most relevant indices
- The S&P is commonly viewed as the premier benchmark for the financial industry (Segelstrom, 2021)

Dow	32,799.27	-57.19	-0.17%	▼
S&P 500	3,991.27	4.90	0.12%	▲
Nasdaq	11,570.76	40.43	0.35%	▲
VIX	19.17	-0.42	-2.14%	▼
Gold	1,818.60	-1.40	-0.08%	▼
Oil	76.53	-1.05	-1.35%	▼

Note. From the home page of the MarketWatch website, n.d., retrieved from <https://www.marketwatch.com>. CC BY MarketWatch.

Geographical Presence

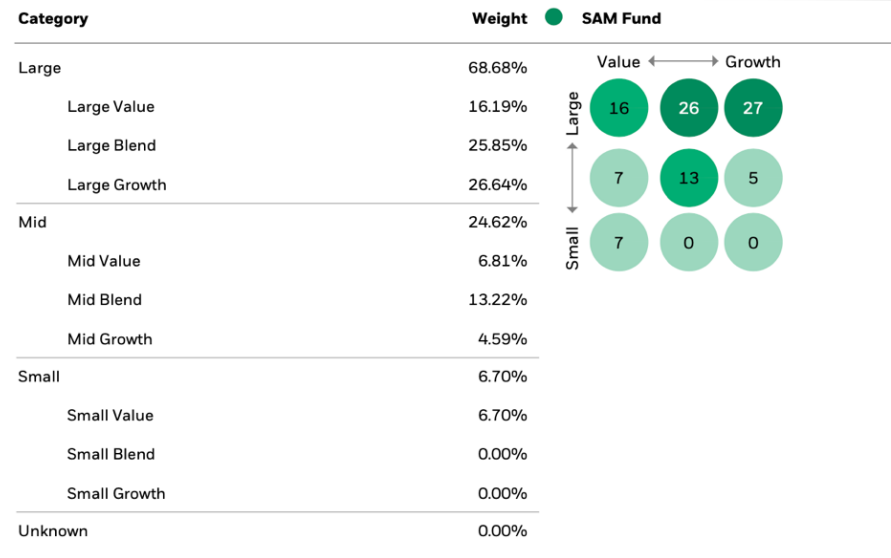


Note. The equity region characteristics for the SAM Fund portfolio are retrieved from Morningstar in collaboration with Blackrock's 360 Evaluator. CC BY Blackrock.

- All the benchmarks picked were exclusively U.S.-based, except for the NASDAQ (Bajpai, 2021)
- The SAM Fund portfolio has 97.9% domestic exposure

Style Factor

- Style factor refers to the orientation of a portfolio (value vs. growth)
- The Fund's Large Blend component leans toward value rather than growth
- Value indices are more reflective of the SAM Fund's style



Note. The equity style tilts for the SAM Fund portfolio are retrieved from Morningstar in collaboration with Blackrock's 360 Evaluator. CC BY Blackrock.

Size Factor

- Size refers to the market capitalizations of index components
- SAM Fund generally looks for well-established companies – a 68.7% tilt toward large-cap is indicative of this
- The Russell 2000 and Russell 2000 Value are small- and mid-cap indices (FTSE Russell, 2023)
- Indices that are primarily large-cap focused are most reflective of the SAM Fund portfolio

Category	Weight	SAM Fund		
		Value ←		→ Growth
Large	68.68%			
Large Value	16.19%	16	26	27
Large Blend	25.85%			
Large Growth	26.64%			
Mid	24.62%			
Mid Value	6.81%	7	13	5
Mid Blend	13.22%			
Mid Growth	4.59%			
Small	6.70%			
Small Value	6.70%	7	0	0
Small Blend	0.00%			
Small Growth	0.00%			
Unknown	0.00%			

Note. The equity style tilts for the SAM Fund portfolio are retrieved from Morningstar in collaboration with Blackrock's 360 Evaluator. CC BY Blackrock.

Quantitative Research

Correlation

Statistical Correlation	
Russell 1000 Value	0.9596
S&P 500 Value	0.9583
S&P 500	0.9515
Russell 3000	0.9495
Russell 1000	0.9491
MSCI US Index	0.9483
Dow Jones	0.9388
Russell 2000	0.8974
Russell 2000 Value	0.8912
NASDAQ	0.8795

- Presents size and direction of a relationship between 2+ variables (Dolvin et al., 2021)
- Correlation of 1 represents perfect correlation
- Value indices generally have stronger correlation to the SAM Fund's portfolio

Note. Weekly returns for equity indices retrieved from FactSet database.

Beta

Beta	
NASDAQ	1.2764
Russell 2000	1.1707
MSCI US Index	1.1492
Russell 3000	1.1490
Russell 1000	1.1476
S&P 500	1.1312
Russell 2000 Value	1.0709
Russell 1000 Value	1.0130
S&P 500 Value	0.9715
Dow Jones	0.9683

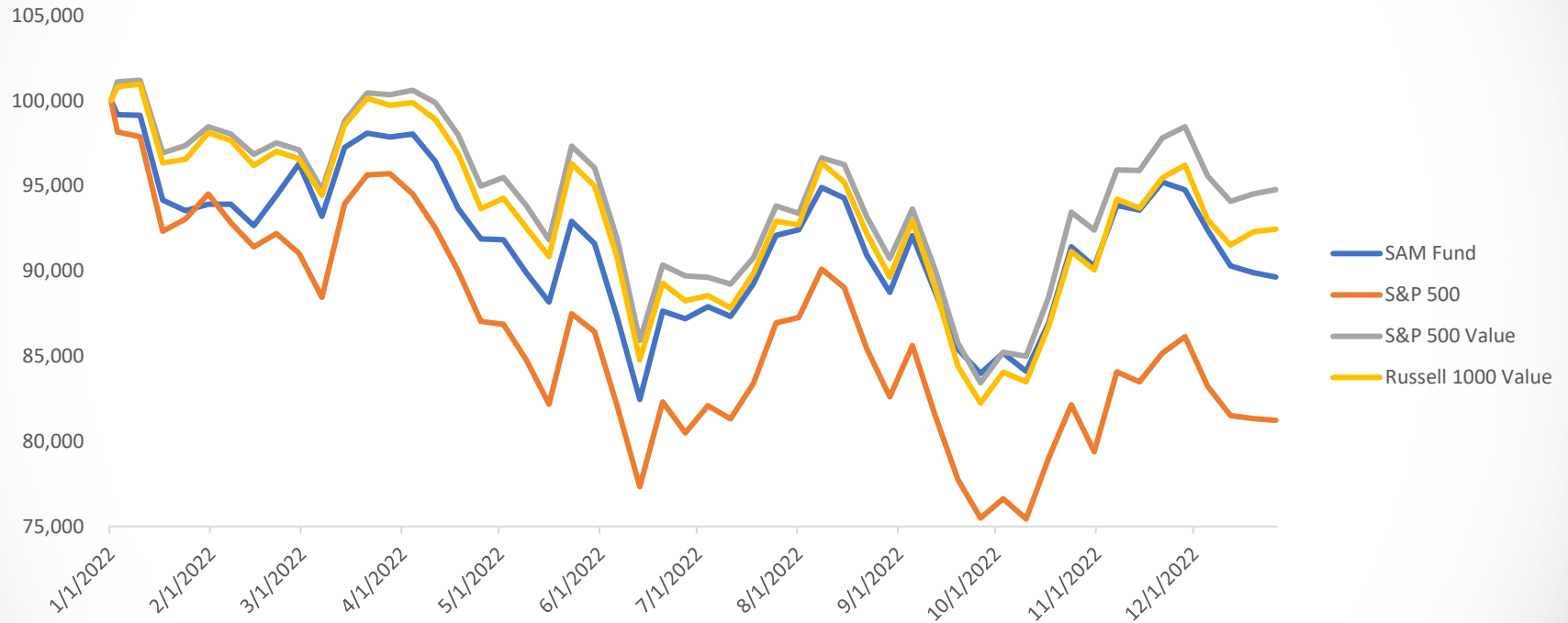
- Beta measures risk of an equity within a well-diversified portfolio (Kyre et al., 2018)
- A beta of 1 means the volatility of the benchmark equals the volatility of SAM Fund
- Value benchmarks tend to have betas closest 1

Note. Weekly returns for equity indices retrieved from FactSet database.

Conclusion

	Russell 1000 Value	S&P 500 Value	S&P 500	Russell 3000	Russell 1000	MSCI US Index	NASDAQ	Dow Jones	Russell 2000 Value	Russell 2000
Qualitative										
Value-Weighted	X	X	X	X	X	X	X		X	X
Sector Allocation	X	X						X	X	X
Industry Prominence			X				X	X		
Geographical Presence	X	X	X	X	X	X		X	X	X
Style Factor	X	X		X				X	X	
Size Factor	X	X	X	X	X	X	X	X		
Quantitative										
Correlation	X	X	X	X	X	X		X		
Beta	X	X						X	X	
	7	7	5	5	4	4	3	7	5	3

Historical Growth of \$100,000



Weekly returns for equity indices retrieved from FactSet database.

References

- Bajpai, P. (2021, May 12). *What is the Nasdaq Composite, and what companies are in it?* <https://www.nasdaq.com/articles/what-is-the-nasdaq-composite-and-what-companies-are-in-it-2021-05-12>
- Blackrock. (2023). *Blackrock 360° Portfolio Summary*.
- Dolvin, S. D., Jordan, B. D., & Miller, T. W. (2021). *Fundamentals of investments: Valuation and management*. McGraw Hill Publishing.
- FactSet Research Systems. (n.d.). *Index Returns*. <https://www.factset.com/>
- FTSE Russell. (2023). Russell 2000 Index Factsheet <https://www.ftserussell.com/research/russell-2000-index-factsheet>
- Kyre, D. L., Lawrey, C. M., & Hunsader, K. J. (2018). Beta dispersion and portfolio returns. *Journal of Asset Management*, 19(3), 156-161. <https://doi.org/10.1057/s41260-017-0071-6>
- Lin, J., Selden, G. C., Shoven, J. B., & Sialm, C. (2021, March). *Replicating the Dow Jones Industrial Average*. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w28528/w28528.pdf
- MarketWatch. (n.d.). *Home Page*. <https://www.marketwatch.com>
- Mullally, K. & Rossi, A. (2022). Moving the goalposts? Mutual fund benchmark changes and performance manipulation. <http://dx.doi.org/10.2139/ssrn.4145883>
- Segelstrom, S. (2021, December 2). *Through the looking glass: Predicting S&P 500 constituent changes*. FactSet. <https://insight.factset.com/through-the-looking-glass-predicting-sp-500-constituent-changes>
- Shoven, J. B. & Sialm, C. (2000). The Dow Jones Industrial Average: The impact of fixing its flaws. *The Journal of Wealth Management*, 3(3), 9-18. <https://doi.org/10.3905/jwm.2000.320332>
- Zweig, J. (2022, August 19). *How to beat the stock market without even lying: Stock funds have been pulling a switcheroo to make their returns look better. When they don't measure up, they change how they measure*. The Wall Street Journal. <https://www.wsj.com/articles/stock-market-fund-benchmark-change-11660940613>

Questions?

