

INVESTMENT PERFORMANCE ATTRIBUTION OF THE U.S. SMALL-SIZE VALUE MUTUAL FUNDS USING FAMA-FRENCH FIVE-FACTOR MODEL

KORENAK Boris¹, STAKIC Nikola²

¹ *Investometrix, Toronto (CANADA)*

² *Singidunum University, Belgrade (SERBIA)*

Emails: korenak.boris@investometrixgroup.com; nstakic@singidunum.ac.rs

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ABSTRACT

The purpose of this study is to get an insight into the investment performance of the U.S. small-size value mutual funds. The Fama-French five-factor model was used to perform the regression of the portfolio returns composed out of the mutual funds with the chosen investment theme, as well as the regression at the individual level for 64 analyzed mutual funds, against the model's factors. The study covers the period from January 2010 until November 2021, using monthly returns. Our findings suggest that the factors from the original three-factor models are in line with the expectations and there is no presence of the potential style drift. In addition, the operating profit factor shows the expected causality relation. However, the exposure relating to the investing factor is slightly negative and may be surprising to a certain extent, having in mind the stated value style. Investment performance attribution of the portfolio explained the portfolio returns in the relation to the factors and found out that there is a statistically significant underperformance. Positive contributors to the investment performance are, in the presented order of the importance, market premium, as well as portfolio tilt towards stocks of the companies with the strong operating profit, small-capitalization, and aggressive investing policy. Lastly, value-style tilt led to negative performance contribution because the style was out of favor.

Keywords: *Investment performance attribution, Fama-French five-factor model, mutual funds' performance, investment style*

INTRODUCTION

This study intends to explain the investment performance of mutual funds that follow a small-size value theme by providing insight into the fundamental factors. The component of the investment performance evaluation process that needs to be applied to accommodate the stated aim is known as investment performance attribution. To conduct investment performance attribution, it is necessary to identify the components of the excess return in relation to the appropriate benchmark. Various attribution models are used to fulfill this goal. However, all the models can be categorized into two groups, that are used for investment performance attribution.

The first group utilizes asset-based models. These types of models can be based on the holdings data or transaction data. Within this model group, the most used models are Brinson models, such as Brinson-Fackler (1985) and Brinson-Hood-Beebower (1986) models [2], [3]. Asset-based models require, in addition to returns of the portfolio and benchmark, inputs regarding the portfolio and benchmark, with the predefined frequency. In the case of the transaction-based model, the whole history of the trading transaction needs to be accessible. To avoid unexplained residuals, that are especially prominent in the

portfolios that deploy strategies with the high turnover and whose underlying exhibits high volatility, a transaction-based approach is preferred over a holdings-based approach [16]. One of the most recent studies that used asset-based models was performed by Korenak B. and Stakic N. (2021), that applied this group of models to attribute investment performance of the portfolios that are weighted according to the value and growth styles and composed out of the U.S. sector mutual funds [13].

The second model group uses the regression type models, which are known as the factor-based models. These models decompose the relative contributors to the excess return of several different fundamental factors. This provides the ability to quantify the impact of specific active investment decisions in the portfolio context, which can result in either added or lost value. In our research, we use Fama-French five-factor model (Eugene F. Fama and Kenneth R. French, 2015), to evaluate the investment performance of the small size value mutual funds [9]. The literature review section provides a chronological overview of the mentioned model development, as well as its application in the research that followed.

LITERATURE REVIEW

The most used factor model, partially due to its simplicity, is Capital Asset Pricing Model (CAPM) introduced by Jensen, M.C., Black, F., and Scholes, M.S. (1972), despite that it failed many empirical tests (Eugene F. Fama and Kenneth R. French, 2004) [1], [6]. This is a single factor model that explains expected return using the market premium as a factor.

As an extension to the CAPM, Fama and French (1993) three-factor model identifies common risk factors in the returns on stocks and bonds [8]. Regarding stock-market, three factors were identified: an overall market factor, same as in CAPM, and additional factors related to firm size, small minus big (SMB), and book-to-market equity, high-minus-low book-to-market ratio (HML). According to the model extension, there are stock return premiums for the stocks that have small market capitalization and the ones that can be characterized as value-style stocks based on a high book-to-market ratio.

Another extension to the model is the Carhart (1997) four-factor model, which uses momentum as an additional factor [14]. Nicholas Addai Boamah (2015) applied the Fama–French and Carhart models on the South African stock market (SASM) [15]. The study examined the ability of the models to capture size, book-to-market, and momentum effects on the SASM. The author offered the evidence that size, book-to-market, and momentum effects exist on the SASM; also, the small- and high-book-to-market stocks portfolios, respectively, appear riskier than the big- and low- book-to-market stocks portfolios.

One of the most prominent examples of the multi-factor model is Fama and French (2015) five-factor model. The five-factor model extends the three-factor Fama-French model by adding two factors: robust-minus-weak profitability (RMW) and conservative-minus-aggressive investment (CMA). According to model extensions, there are additional stock return premiums for the companies that have a higher level of profitability and for the ones who invest conservatively. The authors also concluded that with the addition of profitability and investment factors, the value factor of the previously used three-factor Fama-French model becomes redundant for describing average returns in the sample that they examined.

In the following paper Eugene F. Fama and Kenneth R. French (2016) shown that positive exposures to RMW and CMA (stock returns that behave like those of profitable firms that invest conservatively) capture the high average returns associated with the low market beta, share repurchases, and low stock return volatility, and vice versa [7].

The study that followed covered the international markets application of the Fama-French five-factor model concluded that the average stock returns for North America, Europe, and the Asia Pacific increase with the book-to-market ratio (B/M) and profitability and are negatively related to investment [10]. That is in the line with the original conclusions from the prior studies. On another side, what is also common with the previous research conducted by Fama and French the model's main problem is failure to capture fully the low average returns of small stocks whose returns behave like those of low profitability firms that invest aggressively.

The paper published by Foye J. (2018) studied whether the new Fama-French five-factor model can offer a better description of emerging market equity returns than the three-factor model [11]. The study covered three different geographic regions, across 18 emerging markets. The findings suggest that the five-factor model consistently outperforms the three-factor model in Eastern Europe and Latin America.

On another side, a profitability or investment premium cannot be distinguished in the Asian factors and the five-factor model fails to provide an improved description of equity returns in the region.

The study conducted by Dutta A. (2019) came to a similar conclusion that the five-factor specification is more powerful than the three-factor specification [4]. However, the findings also suggest that if the book-to-market factor is excluded from the five-factor model, the four-factor model documents almost similar power to the five-factor model.

In one of the most recent published studies that used the Fama-French Five-Factor Model, Ebubekir Mollaahmetoğlu (2021) tested model validity for Istanbul and German Stock Exchanges [5]. Findings suggest that there is not enough evidence to support the explanation power of the five-factor model. The author argues that the four-factor model would be a better fit for the stock returns listed at the Istanbul stock exchange. He also concluded that the contraction of the model's factors would be a better fit for the German stocks.

Horváth, D. and Wang, Y.-L. (2021) pointed out that the Fama-French five-factor model performed poorly during the Covid-19 outbreak [12]. The comparison was made to the financial crisis of 2008 when the model also drastically lost its explanation power based on the coefficient of determination.

DATA AND METHODOLOGY

DATA

The study included 64 U.S. small-cap value mutual funds. Investment performance was analyzed at the individual funds level, as well as at the aggregate portfolio level composed out of mentioned funds.

Time criteria for inclusion of the mutual funds were based on the inception date of the still existing mutual funds that have stated a small-cap value investment strategy. As the final inception date, we chose the beginning of the year 2010. The reason for that is that most of the market shock impact was already passed, and the recovery stage had been already presented for some time. The end date of the research is 30th November 2021, and the monthly returns were used.

The following represents the ticker symbols for the mutual funds that are included in the research: ABYSX, ADKXS, AVALX, SCVIX, ESPAX, AVFIX, ASVIX, ANCIX, AUERX, BPSCX, BRSVX, BRUSX, BRSEX, QUSVX, SBVAX, SSCVX, CSMIX, NSVAX, CSCVX, CUSIX, DFSVX, DFFVX, DASCX, DEVLX, DHSCX, DNSVX, QRSVX, VSFAX, FCPVX, DRSVX, FRMCX, FRVLX, GSITX, MXLSX, SSUIX, HSMYX, HRTVX, HRVIX, KSDIX, HWSIX, HUSIX, ICMAX, VSCAX, PSOPX, JASCX, JSIVX, LMVYX, LRSCX, MMVYX, MAVKX, NWUIX, NWHFX, NOSGX, FSCCX, OFSAX, OISVX, PCSVX, TASVX, USBNX, PVFIX, PPVIX, SVPIX, PSLAX, and RMVIX.

METHODOLOGY

The first version of the Fama-French model was an extension to the industry prevailing model at the time, mainly to its simplicity. It was a single factor model, known as the CAPM. The only factor it considers is the difference between market and risk-free return.

In addition to market premium, the researchers argued that two more factors possess explanation power. First, out two being the size of the company, observed through market capitalization. Later is a proxy for the value investment style, and it is a book-to-market ratio. The rationalization behind the inclusion of the additional factors is that small companies on average should outperform their large peers, at the same time companies that have higher book-to-market ratios should outperform the ones with the lower ratios.

Acronym SMB stands for the small minus big (market capitalization) and HML stands for the high minus low (book-to-market ratio).

$$R_{it} - R_{ft} = a_i + b_i(R_{Mt} - R_{ft}) + s_iSMB_t + h_iHML_t + e_{it}$$

In the year 2015, authors revisited their original model and proposed an extension to it. Two additional factors have been added.

$$R_{it} - R_{ft} = a_i + b_i(R_{Mt} - R_{ft}) + s_iSMB_t + h_iHML_t + r_iRMW_t + c_iCMA_t + e_{it}$$

In practice, there are different ways how the factors can be obtained. We present the 2x3 approach to do so. The mentioned approach is based on six size/book-to-market, six size/operating profitability, and six size/investment portfolios. Size factor can be obtained as the average return on the nine small-size portfolios minus the average return on the nine large-size portfolios.

$SMB(B/M) = 1/3 (\text{Small Value} + \text{Small Neutral} + \text{Small Growth}) - 1/3 (\text{Big Value} + \text{Big Neutral} + \text{Big Growth})$

$SMB(OP) = 1/3 (\text{Small Robust} + \text{Small Neutral} + \text{Small Weak}) - 1/3 (\text{Big Robust} + \text{Big Neutral} + \text{Big Weak})$

$SMB(INV) = 1/3 (\text{Small Conservative} + \text{Small Neutral} + \text{Small Aggressive}) - 1/3 (\text{Big Conservative} + \text{Big Neutral} + \text{Big Aggressive})$

So, the SMB factor is a simple average of the previously obtained components.

$SMB = 1/3 (SMB(B/M) + SMB(OP) + SMB(INV))$

The rest of the factors can be obtained in the following way.

$HML = 1/2 (\text{Small Value} + \text{Big Value}) - 1/2 (\text{Small Growth} + \text{Big Growth})$

$RMW = 1/2 (\text{Small Robust} + \text{Big Robust}) - 1/2 (\text{Small Weak} + \text{Big Weak})$

$CMA = 1/2 (\text{Small Conservative} + \text{Big Conservative}) - 1/2 (\text{Small Aggressive} + \text{Big Aggressive})$

The following thresholds have been used to construct the factors. SMB is based on the median company size of NYSE. HML is based on the book-to-market 30th and 70th NYSE percentiles. RMW is based on the operating profit 30th and 70th NYSE percentiles. CMA is based on the conservative investing 30th and 70th NYSE percentiles. Other inputs used in the regression models are market return (Rm), based on the return of the listed companies on the NYSE, AMEX, and NASDAQ, and the risk-free rate (Rf) that uses the Treasury bill rate as a proxy.

RESULTS AND DISCUSSION

Results of the Fama-French five-factor model are presented in Table 1 at the aggregate portfolio level.

In addition, results at the individual level are presented for all 64 analyzed investment funds (Appendix I). At the aggregate portfolio level, there is a coefficient of determination of 98.9% and a slightly lower adjusted coefficient of determination of 98.8%. F-stat shows a high value and corresponding low p-value. There is no presence of significant autocorrelation and heteroscedasticity. All five factors have high t-stat values that lead to a significance level with the upper limit of 0.001. So, we can be confident that the factors have the explanation power. When the market premium is high the portfolio performs well, as expected.

Also, periods when small-size stocks outperform large-size stocks lead to a favorable outcome for the portfolio return. The same is true in the case when value style stocks outperform growth style stocks.

This is the line with the stated investment strategy of the mutual funds that are analyzed. So, it can be noticed that style drift is not present, at least at the aggregate portfolio level.

Two more factors need to be considered. The operating profit factor shows a relatively low coefficient but with statistical significance, meaning when the returns on the high profitable stocks outperform their peers the impact is positive for the aggregate portfolio. The investing factor indicates that the portfolio slightly underperforms when the stocks of the companies with more conservative investing activity overperform their more aggressive investing peers. Directional impact of the last-mentioned factor can be surprising having in mind that one can argue that most of the value-style characterized companies pursue the conservative investing policy.

Table 1. Small-Size Value Mutual Funds Portfolio Fama-French Five-Factor Model Results
(Jan 2010-Nov 2021)

<i>Factors</i>	Rm-Rf	SMB	HML	RMW	CMA	Annual Alpha	R²	F-stat
<i>coefficient</i>	0.94	0.71	0.41	0.11	-0.14	-1.37%	98.9%	2409.6
<i>t-stat</i>	72.589	29.743	18.891	3.555	-3.804	-2.207		
<i>p-value</i>	0.000	0.000	0.000	0.001	0.000	0.029		

Source: by the Authors

Annualized alpha is negative, and it is -1.37%, also it shows a statistically significant t-stat of -2.207.

This means that the portfolio of the small-size value stocks had been underperforming at a significant magnitude consistently. To get a better insight into the investment performance of the portfolio composed

out of the small-size value mutual funds it is necessary to decompose the tracking record. To do that we use the performance attribution results (Table 2).

Starting with the market premium, the outperformance of the stock market in relation to the risk-free proxy created a quite favorable environment for the portfolio returns. At the same time outperformance of the small to large stocks created an additional layer of positive return to the portfolio due to its bias to the small-cap stocks.

Value style delivered lower returns to the growth style, judging by the book-to-market ratio. Due to exposure to stocks with a relatively high book-to-market ratio, the value was lost. Exposure to stocks of the companies that have strong operating profit together with the outperformance of these stocks to their peers resulted in the added value. The stocks of the companies with conservative investing have underperformed. However, due to the negative exposure to this factor, the value was added.

Table 2. Small-Size Value Mutual Funds Portfolio Performance Attribution
(Jan 2010-Nov 2021)

<i>Name</i>	Rm-Rf	SMB	HML	RMW	CMA	Total	Annual Alpha	R²
<i>Portfolio</i>	114.95	1.32	-11.30	2.23	0.23	95.96	-1.37%	98.9%
<i>Factor Premiums (BPS)</i>	122.04	1.87	-27.85	21.01	-1.59			

Source: by the Authors

CONCLUSION

The findings lead to a twofold set of conclusions. The first pertains to the Fama-French five-factor model application itself. The later set of findings pertains to the performance attribution of the analyzed portfolio and its components.

Within the span of the observed eleven years, the market premium is still the main factor to explain the investment performance of the small-size value mutual funds. Positive relation with the factors, from the three-factor model, is in line with the expectation due to the investment theme of the mutual funds that were analyzed. Based on that we can conclude that there is no presence of the style drift. However, when we take into consideration additional factors, the impact is less prominent. In the case of the investing factor, it can be viewed as surprising due to its direction. To a certain extent, the last-mentioned factor might suggest a possible inconsistency to the value strategy, because the more conservative investment policy is closer to the companies that are perceived as value stocks.

When it comes to the investment performance attribution it is straightforward to conclude which factors were in favor and due to mutual funds' theme exposures over time the given performance was delivered. Positive contributors to the investment performance are, in the presented order of the importance, market premium, as well as portfolio tilt towards stocks of the companies with the strong operating profit, small-capitalization, and aggressive investing policy. On the other side, value-style tilt led to negative performance contributions because the style was out of favor. Lastly, the aggregate portfolio underperformed with the statistically significant negative excess return.

REFERENCES

- [1] Black, F., Jensen, M. C. and Scholes, M. (1972) 'The capital asset pricing model: some empirical tests', *Studies in the theory of capital markets*: New York, NY [u.a.], pp. 79-121. Available at: <https://ezproxy.nb.rs:2076/login.aspx?direct=true&db=edszbw&AN=EDSZBW379448416&site=eds-live> (Accessed: 4 February 2022).
- [2] Brinson, G. P. and Fachler, N. (1985) 'Measuring non-U.S. equity portfolio performance', *Journal of Portfolio Management*, 11(3), pp. 73-78. Available at: <https://ezproxy.nb.rs:2076/login.aspx?direct=true&db=edb&AN=15198407&site=eds-live> (Accessed: 4 February 2022).
- [3] Brinson, G. P., Hood, L. R. and Beebower, G. L. (1986) 'Determinants of Portfolio Performance', *Financial Analysts Journal*, 42(4), pp. 39-44. doi: 10.2469/faj.v42.n4.39.
- [4] Dutta, A. (2019) 'Does the Five-Factor Asset Pricing Model Have Sufficient Power?', *Global Business Review*, 20(3), pp. 684-691. doi: 10.1177/0972150919837060.

- [5] Ebubekir Mollaahmetoğlu (2021) 'Fama-French Five-Factor Asset Pricing Model: Testing Validity for Borsa Istanbul and German Stock Exchange', *İşletme Araştırmaları Dergisi*, 12(4). Available at: <https://ezproxy.nb.rs:2076/login.aspx?direct=true&db=edsdoj&AN=edsdoj.32944622bc8948e2a6edbe90cd5e3db4&site=eds-live> (Accessed: 3 February 2022).
- [6] Eugene F. Fama and Kenneth R. French (2004) 'The Capital Asset Pricing Model: Theory and Evidence', *The Journal of Economic Perspectives*, 18(3), pp. 25-46. Available at: <https://ezproxy.nb.rs:2076/login.aspx?direct=true&db=edsjsr&AN=edsjsr.3216805&site=eds-live> (Accessed: 4 February 2022).
- [7] Eugene F. Fama and Kenneth R. French (2016) 'Dissecting Anomalies with a Five-Factor Model', *The Review of Financial Studies*, 29(1), pp. 69-103. Available at: <https://ezproxy.nb.rs:2076/login.aspx?direct=true&db=edsjsr&AN=edsjsr.43866012&site=eds-live> (Accessed: 3 February 2022).
- [8] Fama, E. F. and French, K. R. (1993) 'Common risk factors in the returns on stocks and bonds', *Journal of Financial Economics*, 33(1), pp. 3-56. doi: 10.1016/0304-405X(93)90023-5.
- [9] Fama, E. F. and French, K. R. (2015) 'A five-factor asset pricing model', *Journal of Financial Economics*, 116(1), pp. 1-22. doi: 10.1016/j.jfineco.2014.10.010.
- [10] Fama, E. F. and French, K. R. (2017) 'International tests of a five-factor asset pricing model', *Journal of Financial Economics*, 123(3), pp. 441-463. doi: 10.1016/j.jfineco.2016.11.004.
- [11] Foye, J. (2018) 'A comprehensive test of the Fama-French five-factor model in emerging markets', *Emerging Markets Review*, 37, pp. 199-222. doi: 10.1016/j.ememar.2018.09.002.
- [12] Horváth, D. and Wang, Y.-L. (2021) 'The examination of Fama-French Model during the Covid-19', *Finance Research Letters*, 41. doi: 10.1016/j.frl.2020.101848.
- [13] Korenak B. and Stakic N. (2021) 'Beyond the Returns – the U.S. Mutual Funds Value and Growth Style Weighted Sector Portfolios Investment Performance Attribution', *Economic Analysis*, Vol. 54, No. 2, Institute of Economic Sciences. doi: 10.28934/ea.21.54.2, pp. 1-19.
- [14] Mark M. Carhart (1997) 'On Persistence in Mutual Fund Performance', *The Journal of Finance*, 52(1), pp. 57-82. doi: 10.2307/2329556.
- [15] Nicholas Addai Boamah (2015) 'Robustness of the Carhart four-factor and the Fama-French three-factor models on the South African stock market', *Review of Accounting and Finance*, 14(4), pp. 413-430. doi: 10.1108/RAF-01-2015-0009.
- [16] Spaulding, D. D. (2018) 'Transaction- vs. Holdings-based Attribution: The Differences are not so Clear, but Quite Important', *Journal of Performance Measurement*, 22(3), pp. 49-76. Available at: <https://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=130404021&site=eds-live> (Accessed: 4 February 2022).

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Appendix I

Fama-French Five-Factor Model Results for the Individual Small-Size Value Mutual Funds (Jan 2010-Nov 2021)

Name	Weight	Rm-Rf	t(Rm-Rf)	SMB	t(SMB)	HML	t(HML)	RMW	t(RMW)	CMA	t(CMA)	Annual Alpha	t(Alpha)	R ²
AB Discovery Value Advisor	1.56%	1.02	41.00	0.54	11.95	0.47	11.30	0.08	1.38	-0.18	-2.48	-1.24%	-1.04	96.14%
Adirondack Small Cap	1.56%	0.94	25.88	0.76	11.53	0.36	5.95	0.06	0.66	-0.03	-0.27	-2.37%	-1.36	92.00%
Aegis Value I	1.56%	0.96	8.77	0.66	3.29	0.50	2.76	0.31	1.22	0.20	0.65	0.62%	0.12	56.53%
Allspring Small Company Value Admin	1.56%	0.95	38.72	0.76	17.06	0.45	11.14	0.10	1.80	-0.21	-2.92	-0.20%	-0.17	96.36%
Allspring Special Small Cap Value A	1.56%	0.91	38.89	0.72	16.87	0.32	8.26	0.14	2.59	-0.08	-1.18	-0.55%	-0.49	96.15%
American Beacon Small Cp Val R5	1.56%	1.02	54.73	0.75	22.04	0.47	15.30	0.10	2.34	-0.21	-4.00	-1.46%	-1.64	98.05%
American Century Small Cap Value Inv	1.56%	0.98	38.84	0.69	14.94	0.43	10.22	0.09	1.61	-0.18	-2.54	-0.12%	-0.10	96.09%
Ancora MicroCap I	1.56%	0.84	18.36	0.88	10.62	0.41	5.43	-0.01	-0.06	-0.07	-0.57	0.34%	0.15	87.70%
Auer Growth	1.56%	1.09	18.98	0.48	4.56	0.42	4.43	-0.21	-1.63	-0.17	-1.06	-7.33%	-2.66	83.45%
Boston Partners Small Cap Value II Inv	1.56%	0.97	41.87	0.66	15.62	0.45	11.82	0.12	2.33	-0.25	-3.74	-1.70%	-1.53	96.60%
Bridgeway Small-Cap Value	1.56%	0.95	22.24	0.87	11.16	0.30	4.26	0.03	0.30	0.38	3.09	1.22%	0.60	90.10%
Bridgeway Ultra-Small Company	1.56%	1.10	21.33	0.95	10.05	0.19	2.22	-0.13	-1.12	0.29	1.93	-3.26%	-1.31	88.45%
Bridgeway Ultra-Small Company Market	1.56%	0.96	26.58	1.10	16.64	0.16	2.68	-0.26	-3.14	0.23	2.26	0.60%	0.35	93.62%
CCM Small/Mid-Cap Impct Val Fd Advisor	1.56%	1.01	21.23	0.57	6.59	0.54	6.84	0.32	2.97	-0.53	-3.90	-2.95%	-1.29	87.40%
ClearBridge Small Cap Value A	1.56%	1.05	41.82	0.73	15.79	0.48	11.59	0.00	0.05	-0.19	-2.60	-3.90%	-3.23	96.65%
Columbia Select Small Cap Value A	1.56%	1.05	34.77	0.60	10.97	0.33	6.64	0.07	0.96	-0.31	-3.55	-2.58%	-1.78	94.53%
Columbia Small Cap Value I A	1.56%	0.95	43.96	0.84	21.35	0.47	13.08	0.14	2.84	-0.18	-2.97	-1.16%	-1.12	97.30%
Columbia Small Cap Value II Inst	1.56%	1.02	48.30	0.75	19.48	0.34	9.73	0.04	0.80	-0.10	-1.61	-1.02%	-1.01	97.39%
CornerCap Small-Cap Value Investor	1.56%	0.93	33.94	0.81	16.17	0.36	7.90	0.16	2.52	-0.05	-0.64	-0.11%	-0.08	95.30%
Cullen Small Cap Value I	1.56%	0.93	19.66	0.65	7.54	0.51	6.58	0.02	0.15	-0.22	-1.67	-2.78%	-1.23	87.01%
DFA US Small Cap Value I	1.56%	1.04	64.27	0.84	28.36	0.49	18.14	0.12	3.25	0.00	-0.10	-1.22%	-1.57	98.65%
DFA US Targeted Value I	1.56%	1.06	69.55	0.74	26.64	0.50	19.89	0.12	3.56	-0.07	-1.55	-1.09%	-1.50	98.77%
Dean Small Cap Value	1.56%	0.94	30.19	0.65	11.44	0.47	9.17	0.16	2.19	-0.14	-1.61	-1.46%	-0.98	93.80%
Delaware Small Cap Value A	1.56%	0.96	37.67	0.61	13.17	0.46	10.90	0.17	2.97	-0.25	-3.42	-0.85%	-0.70	95.73%
Diamond Hill Small Cap Inv	1.56%	0.83	29.48	0.45	8.80	0.53	11.42	0.17	2.65	-0.47	-5.79	-0.97%	-0.72	93.35%
Dunham Small Cap Value N	1.56%	0.86	35.95	0.73	16.62	0.43	10.88	0.23	4.26	-0.14	-2.05	-0.72%	-0.62	95.89%
FPA Queens Road Small Cap Value	1.56%	0.66	23.78	0.54	10.61	0.17	3.67	0.17	2.70	-0.03	-0.34	0.38%	0.29	90.00%
Federated Hermes Clover Small Value A	1.56%	0.97	42.20	0.65	15.50	0.45	11.87	0.04	0.82	-0.27	-4.07	-1.76%	-1.60	96.66%
Fidelity Small Cap Value	1.56%	0.90	30.24	0.55	10.09	0.43	8.77	0.07	1.01	-0.10	-1.20	1.10%	0.77	93.51%
Foundry Partners Fdmtl Sm Cp Val Inv	1.56%	0.96	42.22	0.63	15.26	0.47	12.52	0.19	3.67	-0.23	-3.47	-2.74%	-2.51	96.63%
Franklin MicroCap Value A	1.56%	0.73	20.79	0.89	13.89	0.42	7.22	0.20	2.46	-0.03	-0.31	0.55%	0.32	91.07%
Franklin Small Cap Value A	1.56%	0.97	31.10	0.64	11.18	0.37	7.27	0.12	1.69	-0.08	-0.94	-1.45%	-0.97	93.72%
Goldman Sachs Small Cp Val Insights Instl	1.56%	0.94	40.98	0.80	19.02	0.35	9.15	0.14	2.58	-0.06	-0.85	-0.45%	-0.41	96.67%
Great-West Small Cap Value Inv	1.56%	0.93	41.01	0.64	15.33	0.37	9.83	0.12	2.27	-0.20	-3.07	-0.97%	-0.89	96.35%
Guggenheim Small Cap Value Inst	1.56%	0.94	33.98	0.64	12.65	0.41	9.05	-0.01	-0.11	-0.03	-0.33	-2.35%	-1.77	94.97%
Hartford Small Cap Value Y	1.56%	0.96	36.05	0.75	15.29	0.34	7.67	0.21	3.40	-0.16	-2.15	-1.49%	-1.16	95.46%
Heartland Value Investor	1.56%	0.90	26.48	0.74	11.77	0.31	5.49	0.05	0.68	-0.21	-2.11	-3.04%	-1.85	92.18%
Heartland Value Plus Investor	1.56%	0.92	22.15	0.71	9.29	0.26	3.76	-0.12	-1.31	0.19	1.61	-2.03%	-1.02	89.04%
Keeley Small Cap Dividend Value I	1.56%	0.87	32.69	0.77	15.68	0.42	9.48	0.22	3.65	-0.12	-1.58	-0.41%	-0.32	95.12%
Hotchkis&Wiley Small Cap Value I	1.56%	1.09	33.48	0.78	13.12	0.59	10.97	-0.04	-0.54	-0.08	-0.89	-0.24%	-0.15	95.18%
Huber Small Cap Value Inv	1.56%	0.96	21.61	0.66	8.16	0.53	7.16	-0.15	-1.43	-0.25	-1.99	-1.27%	-0.60	89.12%
Intrepid Endurance Investor	1.56%	0.54	14.43	0.26	3.80	0.08	1.23	0.15	1.75	0.04	0.38	-2.31%	-1.30	71.85%
Invesco Small Cap Value A	1.56%	1.22	30.19	0.74	9.96	0.66	9.84	0.04	0.47	-0.56	-4.85	-1.74%	-0.90	93.63%
JPMorgan Small Cap Value I	1.56%	0.95	47.00	0.80	21.83	0.38	11.46	0.06	1.31	-0.02	-0.40	-0.87%	-0.90	97.51%
James Small Cap	1.56%	0.89	23.77	0.70	10.33	0.31	5.01	0.40	4.69	-0.24	-2.29	-2.93%	-1.64	90.09%
Janus Henderson Small Cap Value L	1.56%	0.78	31.84	0.52	11.54	0.39	9.71	0.13	2.23	-0.27	-3.79	-0.85%	-0.72	94.27%
Lord Abbett Focused Small Cap Value I	1.56%	0.97	26.09	0.96	14.09	0.50	8.06	0.20	2.39	-0.50	-4.72	-0.03%	-0.02	93.08%
Lord Abbett Small Cap Value A	1.56%	1.01	36.55	0.69	13.66	0.36	7.89	0.10	1.51	-0.28	-3.51	-3.67%	-2.76	95.39%
MassMutual Small Company Val Svc	1.56%	0.95	45.86	0.74	19.37	0.46	13.43	0.13	2.70	-0.19	-3.26	-1.17%	-1.17	97.33%
Mutual of America Small Cap Value	1.56%	0.85	33.70	0.65	14.08	0.36	8.62	0.13	2.21	-0.17	-2.34	-1.48%	-1.22	94.99%
Nationwide Amer Cntry Sm Cp Inc R6	1.56%	1.06	63.67	0.73	24.17	0.46	16.57	0.15	3.85	-0.12	-2.49	-2.25%	-2.83	98.49%
Nationwide Bailard Cognvt Val M	1.56%	0.91	31.78	0.78	14.96	0.36	7.64	0.21	3.16	-0.16	-1.90	-0.50%	-0.36	94.62%
Northern Small Cap Value	1.56%	0.91	41.66	0.71	17.71	0.38	10.45	0.12	2.47	-0.08	-1.33	-1.26%	-1.20	96.69%
Nuveen Small Cap Value I	1.56%	1.00	35.54	0.73	14.24	0.53	11.49	0.20	3.10	-0.32	-3.97	-1.30%	-0.97	95.59%
Olstein Strategic Opportunities A	1.56%	1.11	28.92	0.72	10.24	0.33	5.23	0.15	1.75	-0.08	-0.72	-2.71%	-1.47	92.48%
Optimum Small-Mid Cap Value Instl	1.56%	1.02	41.98	0.52	11.67	0.37	9.14	0.08	1.45	-0.13	-1.89	-4.06%	-3.48	96.09%
PACE Small/Medium Co Value Equity P	1.56%	1.04	43.44	0.58	13.37	0.34	8.56	0.04	0.71	-0.15	-2.22	-2.44%	-2.12	96.42%
PGIM Quant Solutions Small-Cap Val Z	1.56%	1.02	35.91	0.89	17.08	0.62	13.21	0.37	5.67	-0.31	-3.80	-1.83%	-1.34	96.09%
Pear Tree Polaris Small Cap Ord	1.56%	0.92	30.29	0.74	13.43	0.37	7.48	0.18	2.63	-0.31	-3.62	-2.81%	-1.94	93.97%
Pinnacle Value	1.56%	0.39	10.68	0.28	4.25	0.29	4.86	0.02	0.24	-0.07	-0.70	0.92%	0.52	68.97%
Principal SmallCap Value II Instl	1.56%	0.98	59.57	0.72	23.92	0.39	14.40	0.07	1.94	-0.12	-2.58	-1.00%	-1.27	98.31%
ProFunds Small Cap Value Inv	1.56%	0.97	53.49	0.85	25.71	0.37	12.40	0.13	3.20	0.01	0.25	-1.84%	-2.12	98.07%
Putnam Small Cap Value A	1.56%	0.97	40.38	0.82	18.52	0.51	12.65	0.16	2.89	-0.25	-3.56	-0.86%	-0.74	96.75%
RBC Microcap Value I	1.56%	0.82	34.66	0.86	19.93	0.41	10.40	0.19	3.48	-0.16	-2.42	1.45%	1.28	96.09%
Small-Size Value Mutual Funds Portfolio	100.00%	0.94	72.59	0.71	29.74	0.41	18.89	0.11	3.55	-0.14	-3.80	-1.37%	-2.21	98.88%