Using Style Index Momentum to Generate Alpha

Abstract

Russell style indexes exhibit significant momentum, particularly after medium term out- and underperformance. The existence of this momentum produces a diversified, index-based low-cost means to exploit momentum by incorporating relative style index performance into tactical allocation strategies. Such style index momentum trading strategies have outperformed on both a raw and risk-adjusted return basis, with the long minus short portfolio generating an average 9.25% annual return over the 34-year period analyzed. Although the excess returns vary, they are robust through time and after controlling for potentially confounding effects. Additionally, the returns are not driven by any single style index and portfolio reconstruction is, on average, required every six months.

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Introduction

Prior research has shown the ability of various momentum strategies to generate excess returns at the firm, industry, and country level, but little research has been done using investment style data at the index level. (Swinkels [2004] provides an informative survey of the momentum literature.) Our paper extends this literature by examining whether momentum extends to Russell style indexes. This contribution is meaningful because it provides a diversified, index-based low-cost trading strategy to exploit such momentum.

At the firm level, Lewellen [2002] shows that stocks partitioned based on size and book-to-market ratio exhibit momentum as strong as that in individual stocks and industries. Also, Chen and De Bondt [2004] provide evidence of style momentum within the S&P-500 index by constructing portfolios based on style criteria. However, constructing such portfolios can be costly, significantly eroding returns. Our focus is on indexes easily represented by exchanged traded funds, thereby producing a significant cost advantage and providing a low expense, diversified means to exploit style momentum by incorporating relative style index performance into tactical allocation strategies.

Using Russell Large-Cap and Small-Cap style index data, Arshanapalli, Switzer, and Panju [2007] develop a market timing strategy using a multinomial timing model based on macroeconomic and fundamental public information. While their multinomial model does include prior market return variables to time their style index allocation decisions, their paper is significantly different from ours in several ways. First, they do not focus on the importance on style index momentum, nor do they discuss the significance of the prior market return variables in their model. Secondly, the beauty of our market-timing strategy is its simplicity. Only the raw, prior return of the Russell style indexes is required to make the asset allocation decision. In

contrast, Arshanapalli, Switzer, and Panju [2007] require variables such as the Change in the Conference Board Consumer Confidence Index, U.S. Bond Default Premium, U.S. Bond Horizon Premium, S&P 500 Earnings Yield Gap, Change in the Consumer Price Index, etc. to construct their model. Further, their model requires generating conditional probabilities using a multinomial logit and the assigning of arbitrary cutoff probabilities when constructing trading rules. Additionally, Arshanapalli, Switzer, and Panju [2007] do not analyze short or long minus short portfolios, nor do they consider Russell Mid-Cap Value/Growth portfolios. Lastly, the vast majority of their analysis covers a shorter time period, 1979-2000 versus 1972-2005, which fails to include the two most severe, post-War World II market declines, specifically the 1973-1974 and 2000-2002 crashes. The inclusion of those time periods further verifies the robustness of our analysis.

We are also motivated to test the existence of style index momentum due to the proliferation of style index benchmarks. Both Lipper and Morningstar use style benchmarks to rate mutual fund performance. Our decision to focus specifically on Russell style indexes was influenced by their popularity, as of 2006, 54.5% of institutionally managed U.S. equity funds (over $3.8 trillion in assets) were benchmarked against Russell indexes[1].

Furthermore, Barberis and Shleifer [2003] provide a theoretical basis for our analysis. They model an economy with fundamental traders and positive feedback traders that chase relative style returns. The results being that "[p]rices deviate substantially from fundamental values as styles become popular or unpopular" (p. 190). Our results, using Russell style index data, provide additional support for their model.

Style Index Data and Portfolio Structure

Using monthly data from January 1969 to December 2005, we examine momentum across a broad range of economic and market conditions. For the years 1969 to 1996 we use the constructed style index data from Chan, Karceski, and Lakonishok [2000][2]. For years 1997 to 2005 we use the actual Russell index data. Indexes are the Russell 2000 Growth (Value) for Small-Cap Growth (Value), the Russell Mid-Cap Growth (Value) for Mid-Cap Growth (Value), and the Russell Top 200 Growth (Value) for Large-Cap Growth (Value). For the remainder of this paper these portfolios will be denoted by SG, SV, MG, MV, LG, and LV, respectively. Note, in total the data covers 37 years, but the results cover a 34-year period due to our analysis of 36-month formation period performance.

To view the extent to which momentum may exist, we analyze various formation periods to rank each of the six indexes based on their return over that period of time. For each index held we then calculated subsequent returns for various holding periods. An example would be a 24,6 portfolio, which means we ranked the style indexes based on 24 month prior performance, then held each single style index portfolio[3] for 6 months based on its formation period performance. After the style index is held for 6 months, indexes are re-ranked on prior 24 month performance then a single index is again selected and held for another 6 months with the process continuing for the time period covered. The top (bottom) ranked portfolio would consist of the style indexes selected, and held in 6 month increments, through time based on the highest (lowest) performance in the 24-month formation period.

Profitability of Various Style Index Momentum Strategies

To analyze the performance of style index momentum based trading strategies, we rank the style indexes based on formation period performance, then buy the top performing index and short the bottom performing index. The long top minus short bottom (Long-Short) position is

then held for the designated holding period. Exhibit 1 reports the average monthly returns to Long-Short portfolios across various portfolio formation and holding periods.

Exhibit 1: Monthly Average Returns of Russell Style Indexes Long-Short Portfolios

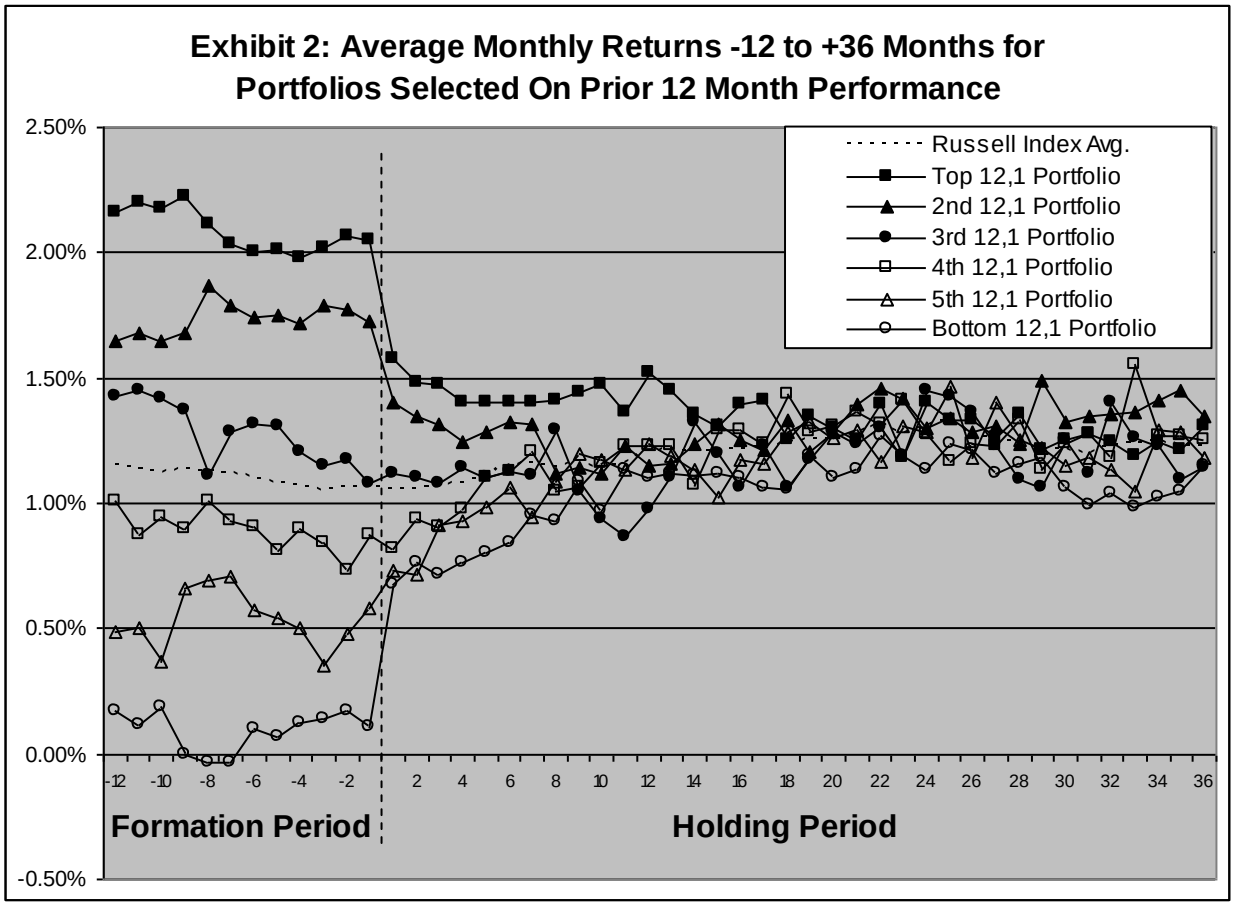
	Holding Period					
Formation Period	1	3	6	12	24	36
1	0.59%	0.54%	0.26%	0.54%	0.12%	0.22%
	(2.71)	(2.43)	(1.20)	(2.41)	(0.54)	(0.96)
3	0.69%	0.28%	0.21%	0.43%	0.01%	-0.17%
	(2.97)	(1.26)	(0.92)	(1.92)	(0.06)	(-0.81)
6	0.54%	0.48%	0.41%	0.55%	0.29%	0.30%
	(2.45)	(2.19)	(1.87)	(2.49)	(1.31)	(1.46)
12	0.85%	0.79%	0.68%	0.71%	0.22%	0.19%
	(3.70)	(3.52)	(3.09)	(3.15)	(1.03)	(0.93)
24	0.67%	0.61%	0.55%	0.60%	0.43%	0.30%
	(3.06)	(2.85)	(2.65)	(2.92)	(2.04)	(1.44)
36	0.46%	0.37%	0.45%	0.45%	0.23%	0.25%
	(2.10)	(1.73)	(2.12)	(2.16)	(1.11)	(1.13)

The t-statistic, reported in parentheses, is the mean return divided by its standard error.

Results are generally positive and statistically significant, especially for the shorter holding periods. Long-Short returns across various formation periods peak at 12 months of prior performance. Across various holding periods the Long-Short returns peak at 1 month. Therefore, top performing Long-Short portfolio was 12,1 with an average monthly return of 0.85% (p-value < 1%). Based on these results, the remainder of the paper focuses on portfolios composed of one style index with a 12 month formation and 1 month holding period. While this 12,1 portfolio was the highest performer for the 34 year period, when various time periods were analyzed it was not always the top performer[4]. However, the top performing strategy was consistently driven by medium-term momentum with prior performance in the 8 to 14 month range.

Exhibit 2 shows the monthly level and persistence of the return outperformance and underperformance for the six portfolios selected based on the ranking of their prior 12 month performance relative to the average of the six Russell indexes. The average monthly return is

presented for each of the 12 months of the formation period and for 36 months after each style index is ranked. For the top and bottom ranked portfolios the average cumulative 12 month prior return was 28.10% and 1.12%, respectively. For the first month of the holding period the average return for the top and bottom portfolios was 1.57% and 0.68%, respectively.



All portfolios revert back to the mean, but the portfolio with greatest (lowest) prior 12 month relative performance exhibits the greatest outperformance (underperformance) persistence. This persistence is particularly pronounced for the top style index ranked by 12 month formation period performance, which continues to outperform all other portfolios for 14 months. Also, the top and bottom ranked portfolios have the greatest spread between portfolio performance and the average index return in the first month of the holding period, which is consistent with the results in Exhibit 1.

Performance of 12,1 Style Index Momentum Portfolios

Exhibit 3 reports the annualized results for six 12,1 portfolios, Long-Short 12,1 portfolio, the six Russell indexes used to build those portfolios, and other indexes for comparison. As predicted by style index momentum, the 12,1 portfolio performance increases monotonically with prior 12 month performance. The Long-Short 12,1 portfolio has an annualized return of 9.25% and a Beta estimate of -0.01. The top 12,1 also outperforms all of the Russell style indexes and other indexes on return, Sharpe ratio, Treynor ratio, and Jensen's alpha.

More importantly, on a risk-adjusted basis the six ranked 12,1 portfolios improve monotonically with prior 12 month performance. The Sharpe ratio, Treynor ratio, and Jensen's alpha all show such improvement, indicating that style index momentum not only provides excess raw returns, but excess returns on a risk-adjusted basis as well.

Exhibit 3: Performance of 12,1 Portfolios, Russell Style Indexes, and Other Indexes from Jan. 1972 to Dec. 2005 (t-statistics are in parentheses)

	Portfolio	Annual Return	Sharpe Ratio	Treynor Ratio	Standard Deviation (Annualized)	Jensen's Alpha (Annualized)	Beta Estimate
12,1 Portfolios	Top	18.77%	0.65	0.119	19.51%	7.22% (4.12)	1.07 (34.64)
	2nd	16.54%	0.57	0.103	18.44%	5.31% (3.31)	1.02 (35.85)
	3rd	13.07%	0.42	0.072	16.83%	2.14% (1.75)	0.97 (44.14)
	4th	9.13%	0.16	0.028	19.13%	-1.71% (-1.20)	1.09 (41.91)
	5th	7.93%	0.10	0.017	18.58%	-2.82% (-2.16)	1.07 (44.63)
	Bottom	7.40%	0.07	0.012	19.45%	-3.23% (-2.08)	1.09 (38.06)
	Long Top - Short Bottom	9.25%	0.20	-2.178	16.01%	4.43% (1.57)	-0.01 (-0.29)

Exhibit 3 (Continued): Performance of 12,1 Portfolios, Russell Style Indexes, and Other Indexes from Jan. 1972 to Dec. 2005 (t-statistics are in parentheses)

	Portfolio	Annual Return	Sharpe Ratio	Treynor Ratio	Standard Deviation (Annualized)	Jensen's Alpha (Annualized)	Beta Estimate
Russell Indexes	Small-Cap Value	16.09%	0.56	0.106	17.95%	5.25%	0.95
						(2.97)	(30.25)
	Small-Cap Growth	9.84%	0.16	0.028	23.74%	-1.46%	1.33
						(-0.76)	(38.07)
	Mid-Cap Value	14.75%	0.55	0.097	15.77%	3.93%	0.90
						(3.21)	(41.10)
	Mid-Cap Growth	10.88%	0.23	0.038	20.98%	-0.74%	1.26
						(-0.63)	(58.64)
	Large-Cap Value	12.26%	0.43	0.075	14.45%	1.85%	0.83
						(1.75)	(43.49)
	Large-Cap Growth	8.69%	0.15	0.025	17.74%	-2.15%	1.05
						(-1.98)	(52.59)
Other Indexes	EW of Russell Indexes	12.42%	0.38	0.060	16.90%	N/A	N/A
	S & P 500	7.64%	0.10	N/A	15.29%	N/A	N/A
	CRSP VW w/ Distributions	11.10%	0.32	N/A	15.75%	N/A	N/A
	30-Day Treasury Bill	6.06%	0.00	N/A	0.87%	N/A	N/A

Using Fama-French 3-factor models we further analyze the top, bottom, and Long-Short 12,1 portfolio returns over the 34 year period[5]. Exhibit 4 reports a monthly alpha of 0.53% (6.60% annualized) for the top 12,1 portfolio and -0.41% (-4.81% annualized) for the bottom 12,1 portfolio, both statistically significant with p-values < 1%. The Long-Short portfolio produced a monthly alpha of 0.45% (5.56% annualized) which was statistically significant at the 5% level. These results again provide evidence of momentum in style indexes even after controlling for market, size, and book-to-market factors.

Exhibit 4: Fama-French Three-Factor Model Coefficients For 12,1 Portfolios (t-statistics are in parentheses)

12,1 Portfolio	Alpha (Monthly)	$R_m - R_f$	SMB	HML	Adj R-Sq
Top	0.53%	0.96	0.46	-0.06	0.80
	(4.06)	(31.65)	(10.73)	(-1.56)	
Bottom	-0.41%	1.09	0.21	0.16	0.80
	(-3.19)	(36.31)	(4.89)	(3.86)	
Long-Short	0.45%	-0.13	0.26	-0.22	0.05
	(1.98)	(-2.35)	(3.39)	(-3.04)	

Allocation and Average Return of Selected Style Indexes

Each of the six 12,1 portfolios' allocation (Panel A) and contribution to returns (Panel B) of the six Russell indexes are reported in Exhibit 5. For the top performing portfolio, and for all 12,1 portfolios, the largest allocation was the SV at 34.1%. This means that SV had the largest prior 12 month performance 34.1% of the time and was therefore held in the 12,1 portfolio 34.1% of the 34 year period analyzed. The SV was also the highest performing style index over the 34 year period analyzed, but was not the leading average return contributor to the 12,1 portfolio performance. The largest contributor was MG, followed by SG, LV, then SV, with average monthly returns of 2.11%, 1.97%, 1.78%, and 1.69%, respectively. This indicates that the momentum exhibited is not simply a SV phenomenon. For the bottom performing 12,1 portfolio the largest allocation was the LG at 32.8% and the smallest was the MV at 3.7% with average monthly returns of 0.11% and 0.70%, respectively.

Exhibit 5: Allocation and Average Return of Style Indexes Across 12,1 Portfolios Based on Prior 12 Month Performance

Panel A: Allocation of Style Indexes Across 12,1 Portfolios

Portfolio		SG	SV	MG	MV	LG	LV	Sum:
12,1	Top	15.4%	34.1%	5.9%	12.3%	23.3%	9.1%	100.0%
Portfolios	2nd	11.0%	20.1%	17.9%	27.2%	7.1%	16.7%	100.0%
Based on	3rd	13.2%	8.1%	18.4%	20.1%	11.3%	28.9%	100.0%
Formation	4th	15.2%	12.7%	23.3%	23.8%	9.6%	15.4%	100.0%
Period	5th	14.0%	12.0%	28.7%	13.0%	15.9%	16.4%	100.0%
Performance	Bottom	31.1%	13.0%	5.9%	3.7%	32.8%	13.5%	100.0%
	Sum:	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Panel B: Avg. Monthly Return of Style Indexes Across 12,1 Portfolios

Portfolio		SG	SV	MG	MV	LG	LV	Weighted Average
12,1	Top	1.97%	1.69%	2.11%	1.10%	1.29%	1.78%	1.60%
Portfolios	2nd	1.40%	1.54%	0.74%	1.54%	2.57%	1.36%	1.43%
Based on	3rd	0.11%	2.50%	1.50%	1.47%	1.82%	0.54%	1.15%
Formation	4th	-0.52%	1.11%	0.78%	1.87%	0.37%	1.05%	0.89%
Period	5th	2.04%	1.39%	0.69%	-0.48%	0.42%	0.79%	0.78%
Performance	Bottom	1.11%	-0.09%	2.36%	0.70%	0.11%	1.63%	0.76%
	Avg.:	1.02%	1.36%	1.36%	1.03%	1.10%	1.19%	1.10%

Persistence Through Time of 12,1 Portfolios

To succinctly show that the 34 year period results are not solely driven by a particular time period and are robust through time we report the top, bottom, and Long-Short 12,1 portfolios in Exhibit 6. Top is the 12,1 portfolio with the highest formation period performance, bottom is the 12,1 portfolio with the lowest formation period performance, and Long-Short is the difference. On an annualized return basis the returns for the periods analyzed vary from 3.08% to 13.71%, depending on the period analyzed, and averaged 9.25%. If you exclude the two largest return periods from ’72 to ’80 the Long-Short portfolio still returns an annualized 5.08%. On an individual calendar year basis, not reported for brevity, the worst Long-Short portfolio return was -20.35% in 2000 and the best was 50.11% in 1999.

Exhibit 6: Performance of 12,1 Portfolios Through Time

Panel A - Cumulative Returns

Period	# of months	Portfolio	Annualized Return	Standard Deviation (Annualized)	Jensen's Alpha (Annualized)	Beta Estimate
'01 to '05	60	Top	11.38%	15.8%	9.03%	0.81
		Bottom	4.59%	20.4%	2.50%	1.23
		Long-Short	4.31%	16.4%	4.19%	-0.41
'96 to '05	120	Top	16.07%	21.3%	6.70%	1.07
		Bottom	7.01%	20.4%	-1.53%	1.02
		Long-Short	6.34%	21.3%	4.61%	0.05
'91 to '05	180	Top	18.16%	18.5%	5.92%	1.06
		Bottom	10.30%	18.2%	-1.05%	1.04
		Long-Short	5.52%	18.2%	3.14%	0.02
'86 to '05	240	Top	16.01%	18.5%	4.36%	1.03
		Bottom	8.97%	19.2%	-2.16%	1.06
		Long-Short	4.90%	16.8%	2.03%	-0.03
'81 to '05	300	Top	16.57%	18.0%	4.43%	1.02
		Bottom	9.46%	18.8%	-2.19%	1.07
		Long-Short	5.08%	15.8%	0.99%	-0.05
'76 to '05	360	Top	20.23%	19.2%	6.61%	1.09
		Bottom	9.54%	18.3%	-2.82%	1.04
		Long-Short	8.67%	15.8%	3.40%	0.05
'72 to '05	408	Top	18.77%	19.5%	7.22%	1.07
		Bottom	7.40%	19.4%	-3.23%	1.09
		Long-Short	9.25%	16.0%	4.43%	-0.01

Exhibit 6 (Continued): Performance of 12,1 Portfolios Through Time

Panel B - Various Period Returns

Period	# of months	Portfolio	Annualized Return	Standard Deviation (Annualized)	Jensen's Alpha (Annualized)	Beta Estimate
'01 to '05	60	Top	11.38%	15.8%	9.03%	0.81
		Bottom	4.59%	20.4%	2.50%	1.23
		Long-Short	4.31%	16.4%	4.19%	-0.41
'96 to '00	60	Top	20.96%	25.8%	2.08%	1.30
		Bottom	9.49%	20.4%	-3.92%	0.86
		Long-Short	8.42%	25.4%	1.08%	0.44
'91 to '95	60	Top	22.45%	11.2%	5.16%	0.98
		Bottom	17.18%	12.9%	-0.70%	1.10
		Long-Short	3.88%	9.6%	1.69%	-0.13
'86 to '90	60	Top	9.81%	18.5%	-0.68%	0.96
		Bottom	5.07%	21.9%	-5.02%	1.11
		Long-Short	3.08%	11.3%	-2.07%	-0.14
'81 to '85	60	Top	18.82%	16.0%	4.62%	0.98
		Bottom	11.46%	17.4%	-2.22%	1.10
		Long-Short	5.80%	11.1%	-3.17%	-0.10
'76 to '80	60	Top	40.33%	23.8%	17.42%	1.40
		Bottom	9.92%	15.8%	-5.72%	0.94
		Long-Short	28.57%	15.0%	15.30%	0.47
'72 to '75	48	Top	8.37%	21.8%	10.47%	1.00
		Bottom	-7.37%	26.4%	-2.59%	1.32
		Long-Short	13.71%	17.7%	6.84%	-0.31

Average Holding Period

To further evaluate the momentum persistence we analyzed the average holding periods of the top and bottom 12,1 portfolios. Even though style indexes were analyzed on a monthly basis for reshuffling, on average, reshuffling was only required about twice a year. The top and bottom positions are held for an average of 5.65 and 6.10 months, respectively. Interestingly, the LG had the longest holding period for both the top and bottom position. The bottom position was for 26 months from March 1976 to April 1978 and the top position was for 24 months from May 1989 to April 1991. The relatively infrequent need for rebalancing when combined with the low cost of exchange traded funds supports the viability of this momentum trading strategy.

Conclusion

Style index momentum is particularly interesting since it provides a diversified, low-cost trading strategy to exploit it. This inexpensive and diversified option provides the opportunity for money managers, regardless of the amount of assets under management, to include such strategy into their tactical asset allocation decisions. Such style index momentum trading strategies have outperformed on both a raw and risk-adjusted return basis, with the long minus short portfolio generating an average 9.25% annual return over the 34-year period analyzed. Although the excess returns vary, they are robust through time and after controlling for potentially confounding effects.

APPENDIX

Sharpe ratio is calculated as follows:

$$\text{Sharpe Ratio} = \frac{\text{AR}_i - \text{AR}_{rf}}{\sigma_i} \quad (1)$$

Treynor ratio is calculated as follows:

$$\text{Treynor Ratio} = \frac{\text{AR}_i - \text{AR}_{rf}}{\beta_i} \quad (2)$$

Jensen's alpha is calculated as follows:

$$R_{i,t} - R_{rf,t} = \alpha_i + \beta_i * (R_{m,t} - R_{rf,t}) + \varepsilon_{i,t} \quad (3)$$

Where: AR_i = average annualized return on portfolio *i*
AR_{rf} = average annualized return on the one month Treasury bill
σ_i = standard deviation of portfolio *i*
β_i = beta for portfolio *i*
$R_{i,t}$ = monthly return of portfolio *i*
$R_{rf,t}$ = monthly one-month T-Bill return
$R_{m,t}$ = monthly VW CRSP Index return
α_i = Jensen's alpha for portfolio *i*

The Fama-French 3-factor model is as follows:

$$R_{i,t} - R_{rf,t} = \alpha_i + b_i * (R_{m,t} - R_{rf,t}) + s_i * SMB_t + h_i * HML_t + \varepsilon_{i,t} \quad (4)$$

Where the dependent variable ($R_{i,t}$-$R_{rf,t}$) is the 12,1 portfolio return minus the one month Treasury Bill rate, $R_{m,t}$-$R_{rf,t}$, is the market factor (CRSP value-weighted index minus the one

month Treasury Bill rate), SMB (small minus big) is the size factor, and HML (high minus low) is the book-to-market factor. The α_i represents the 12,1 portfolio return in excess of the one-month Treasury Bill rate not explained by the risk factors in the model.

ENDNOTES

[1] Russell indexes Rank #1 as Institutional Benchmarks, http://www.russell.com/news/Press_Releases/PR20060629_US_p.asp

[2] We would like to thank Jason Karceski for providing us with the constructed index data from January 1969 to December 1996 used in Chan, Karceski, and Lakonishok [2000].

[3] We analyzed holding multiple indexes simultaneously, but only single index portfolios are reported due to larger momentum and significance relative to multiple index holdings.

[4] We evaluated all formation periods from -36 to -1 months and holding periods from +1 to +36 months. However, for brevity we only report months at common breakpoints.

[5] We would like to thank Kenneth French for providing HML and SMB factor data on his website, http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

REFERENCES

Arshanapalli, Bala G., Lorne N. Switzer, and Karim Panju. 2007. "Equity-Style Timing: A Multi-Style Rotation Model for the Russell Large-Cap and Small-Cap Growth and Value Style Indexes." *Journal of Asset Management*, Vol. 8: 9–23.

Barberis, Nicholas, Andrei Shleifer, and Robert Vishny. 1998. "A Model of Investor Sentiment." *Journal of Financial Economics*, Vol. 49, No. 3 (September): 307–343.

Chan, Louis K.C., Jason Karceski, and Josef Lakonishok. 2000. "New Paradigm or Same Old Hype in Equity Investing?" *Financial Analysts Journal*, Vol. 56, No. 4 (July/August): 23–36.

Chen, Hsiu-Lang, and Werner De Bondt. 2004. "Style Momentum Within the S&P-500 Index." *Journal of Empirical Finance*, Vol. 11, No. 4 (September): 483–507

Lewellen, Jonathan. 2002. "Momentum and Autocorrelation in Stock Returns." *The Review of Financial Studies*, Vol. 15, No. 2, (Special Issue: Conference on Market Frictions and Behavioral Finance): 533–563.

Swinkels, Laurens. 2004. "Momentum Investing: A Survey." *Journal of Asset Management*, Vol. 5, No. 2: 120–143.