

## Factor Insight:

### Residual Reversal – Improving the 1-Month Short-Term Reversal Strategy

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Many investors employ price reversal strategies (strategies that buy “losers” and sell “winners” based on short-term price changes) in their stock selection decisions. One popular reversal strategy is constructed as the change in 1-month stock price over the most recent month. This report compares the performance of this factor to a “residual reversal” signal proposed by Blitz, Huij, Lansdorp and Verbeek in their 2011 paper, “Short-Term Residual Reversal”.

Figure 1 displays the cumulative long-short portfolio returns of both the 1-month and residual reversal strategies in the U.S. market from 1987 (Russell 3000 universe). The returns to both strategies are similar until about 1993 when they begin to diverge. This divergence accelerates in the 2000s when the return to the 1-month residual reversal strategy starts to flatten out (green line), whereas the residual reversal strategy (blue line) continues its strong performance.

**Figure 1 Cumulative Returns on Russell 3000 Companies; 1987-2011**



As Blitz, et al. pointed out, the 1-month price reversal signal exhibits dynamic exposures to Fama-French factors, and its profitability is negatively impacted when the returns to the Fama-French factors persist. The residual reversal strategy is constructed to remove these common factor exposures and consequently earns substantially higher returns with lower volatility. Our regime analysis confirms this characteristic.

We extend Blitz, et al.’s study to three other markets – Japan, UK and Australia. Even though both strategies deliver statistically significant return spreads and information coefficients (IC) in Japan, the residual reversal factor dominates the 1-month price reversal factor in all performance metrics considered (See Table 6). We also show that both strategies are weak in the UK and Australian markets (Table 6).

For the U.S. market, we break down the sample by market capitalization, decade and sector. The residual reversal strategy proves to be superior in each sub-universe and sub-period, and generates higher risk-adjusted return (IR) within each sector. We also confirm that the residual reversal strategy provides alpha in excess of the Fama-French factors, and its profit is not driven by well documented low volatility anomaly or Capital IQ’s risk factors. This robustness suggests that investors can use the residual reversal signal to enhance portfolio returns, as an alternative to the traditional 1-month price reversal strategy.

# 1 Factor Performance – U.S. Market

We examine the performance of 1-month reversal strategy and residual reversal strategy in both large cap (Russell 1000) and small cap (Russell 2000) universes. The 1-month reversal strategy ranks stocks on their total returns over the past month and goes long (short) the 10% stocks with the lowest (highest) returns. The residual reversal strategy first estimates residual returns over the past month from the Fama-French model<sup>1</sup> using a rolling 36-month window:

$$r_{i,t} = \alpha_i + \beta_i^M RMRF_t + \beta_i^{SMB} SMB_t + \beta_i^{HML} HML_t + \varepsilon_{i,t}$$

where  $r_{i,t}$  is the return of stock  $i$  in month  $t$  in excess of the one-month T-bill rate;  $RMRF_t$ ,  $SMB_t$  and  $HML_t$  are the three Fama-French factors; and  $\varepsilon_{i,t}$  is the residual return of stock  $i$  in month  $t$ . The residual return is then scaled by its 36-month standard deviation to generate a standardized residual return (stdRR). The residual reversal strategy ranks stocks on stdRR and buys the bottom decile of stocks with the lowest stdRR over the past month and sells the top decile of stocks with the highest stdRR. Blitz, et al.'s study suggests that investors' overreaction is a potential source of short-term reversal anomaly. Since stdRR measures returns to firm-specific information, it is expected to be a better proxy for capturing this overreaction than the total return.

Table 1 and Table 2 show factor performance for the two strategies in Russell 1000 and Russell 2000 universes respectively. The last column displays the p-value for the T-test of difference in average monthly spreads of the two strategies. We also break down the results into decades. **For both large cap and small cap universes, the residual reversal strategy outperforms the 1-month reversal strategy from an IC, return spread or IR perspective in each decade.** For example, among Russell 1000 companies (Table 1), the residual reversal strategy yields a monthly spread of 1.22% over the testing period, 90 bps higher than that of the 1-month reversal strategy. The difference in monthly spread is statistically significant at the 1% level. Furthermore, the risk-adjusted return (1M Spread IR) of the former (0.33) is much higher than that of the latter (0.05).

The underperformance of the 1-month price strategy relative to the residual reversal strategy is more pronounced in the last two decades (Table 1). In each of the last two decades, the 1-month price reversal strategy has yielded average monthly returns that are not statistically significant. In contrast, the residual reversal strategy has delivered statistically significant average monthly returns in both decades. We see the same pattern in the small cap space (Table 2), although it is only in the most recent decade that the return to the 1-month price reversal strategy is not statistically significant.

**Table 1 Factor Performance; Universe: Russell 1000; Time Period: Jan 1979-Oct 2011**

R1000	1M-IC	1M-IC IR	1M-IC Tstat	1M Return Spread	1M Spread IR	1M Spread Tstat	P-Value
1979-2011							
Residual Reversal	0.043	0.40	7.98	1.22%	0.33	6.56	0.0002
1-Month Reversal	0.024	0.18	3.48	0.32%	0.05	1.03	
1980-1989							
Residual Reversal	0.062	0.52	5.69	1.71%	0.50	5.46	0.0013
1-Month Reversal	0.049	0.38	4.15	1.10%	0.28	3.07	
1990-1999							
Residual Reversal	0.042	0.49	5.35	1.31%	0.44	4.84	0.0000
1-Month Reversal	0.018	0.17	1.87	0.00%	0.00	0.01	
2000-2011							
Residual Reversal	0.031	0.27	3.20	0.85%	0.19	2.29	0.2000
1-Month Reversal	0.011	0.06	0.75	0.08%	0.01	0.10	

<sup>1</sup> Fama-French factors are downloaded from [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)  
Capital IQ Quantitative Research

**Table 2 Factor Performance; Universe: Russell 2000; Time Period: Jan 1979-Oct 2011**

R2000	1M-IC	1M-IC IR	1M-IC Tstat	1M Return Spread	1M Spread IR	1M Spread Tstat	P-Value
1979-2011							
Residual Reversal	0.045	0.64	12.76	1.80%	0.47	9.26	0.0952
1-Month Reversal	0.025	0.25	5.03	1.41%	0.21	4.07	
1980-1989							
Residual Reversal	0.060	0.88	9.65	2.13%	0.79	8.60	0.0863
1-Month Reversal	0.038	0.48	5.21	1.75%	0.49	5.36	
1990-1999							
Residual Reversal	0.044	0.71	7.82	1.84%	0.51	5.56	0.0458
1-Month Reversal	0.022	0.30	3.25	1.31%	0.27	2.93	
2000-2011							
Residual Reversal	0.033	0.42	5.03	1.53%	0.31	3.72	0.5068
1-Month Reversal	0.014	0.11	1.27	1.14%	0.11	1.36	

We then test the reversal strategies within the 10 GICS sectors (Russell 3000 universe). Companies are ranked within each sector into quintiles and top/bottom quintile spreads and their IR's are calculated for each sector. Table 3 shows that the residual reversal strategy yields higher monthly return spread in 9 out of 10 sectors, and dominates the 1-month reversal strategy in each sector from an IR perspective. We see the strongest performance in the financial sector, with a monthly spread of 1.8% and an IR of 0.56.

**Table 3 Factor Performance within GICS Sectors; Universe: Russell 3000; Time Period: Jan 1979-Oct 2011**

Sector	Count	Residual Reversal		1-Month Reversal		Difference in Spread
		1M Return Spread	1M Spread IR	1M Return Spread	1M Spread IR	
Consumer Discretionary	390	1.34% ***	0.43	0.96% ***	0.24	0.38% ***
Consumer Staples	112	1.15% ***	0.35	1.13% ***	0.26	0.03%
Energy	116	1.06% ***	0.21	0.99% ***	0.18	0.07%
Financials	393	1.80% ***	0.56	1.35% ***	0.35	0.45% ***
Health Care	238	1.68% ***	0.36	2.08% ***	0.35	-0.39% *
Industrials	341	1.60% ***	0.56	1.56% ***	0.42	0.04%
Information Technology	353	1.64% ***	0.39	1.60% ***	0.27	0.04%
Materials	138	1.57% ***	0.35	1.44% ***	0.27	0.13%
Telecommunication	35	1.34% ***	0.15	0.85% *	0.09	0.49%
Utilities	118	1.22% ***	0.37	1.04% ***	0.26	0.19% *

\*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

To measure the profits of the residual reversal strategy above commonly used risk premia, we regress monthly decile spread of our strategy on the three Fama-French factors (Russell 3000 universe) from January 1979 through September 2011, as well as for each decade from 1980. The intercept of the regression is the return an investor earns beyond the return received in compensation for the Fama-French risk factors. We perform the same regressions for the 1-Month Price Reversal strategy. The results are displayed in Table 4. For comparison purposes, we state the monthly long-short spread of the strategies in the first row of Table 4.

**Table 4 Fama-French Regression Results; Universe: Russell 3000**

	Residual Reversal				1-Month Reversal			
	1979-2011	1980-1989	1990-1999	2000-2011	1979-2011	1980-1989	1990-1999	2000-2011
1M Return Spread	1.63% ***	1.93% ***	1.70% ***	1.33% ***	0.99% ***	1.29% ***	0.87% **	0.75%
Intercept	0.0150 ***	0.0203 ***	0.0152 ***	0.0131 ***	0.0074 **	0.0124 ***	0.0060	0.0094
Mkt-Rf	0.1885 ***	-0.0196	0.2044 ***	0.3013 ***	0.3650 ***	0.0762	0.3432 ***	0.6716 ***
SMB	0.0796	0.1331	0.2219 **	-0.0266	0.1400	0.1709	0.3385 **	-0.1011
HML	0.0674	-0.1665	0.0787	0.0779	0.0771	-0.0166	0.4561 ***	-0.2389
Adj. R Square	0.0625	0.0173	0.1043	0.0972	0.0699	0.0119	0.1106	0.1129

\*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

Over our entire test period (Jan 1979 to Sep 2011), the monthly alpha of the residual reversal strategy, as measured by the intercept of our regression, is twice that of the 1-month reversal strategy (1.50% vs 0.74%), with both statistically significant at the 1% level. In each decade we analyze, the monthly alpha of the residual reversal is larger than its 1-month reversal equivalent and is statistically significant at the 1%

level. In contrast, the 1-month reversal strategy's alpha as measured by the intercept is not statistically significant in the last two decades.

As a robustness check, we test whether the success of the residual reversal signal is driven by stocks with low idiosyncratic volatility. Prior research documents that investors tend to overpay for volatility (Blitz and Vliet, 2007). We extract stock specific risk from Capital IQ's US Fundamental Medium Term Risk Model for the Russell 3000 universe and calculate the monthly idiosyncratic risk of our long (short) portfolios as follows:

$$Vol_{portfolio} = \sqrt{\sum_i^N w_i^2 \epsilon_i^2}$$

where  $w_i$  is the weight of stock  $i$  in the portfolio and  $\epsilon_i$  is stock  $i$ 's idiosyncratic risk.  $N$  is the number of stocks in the portfolio. We equally weight all the stocks in both long and short portfolios. This analysis is done from January 1992 when data for CIQ's risk model becomes available through October 2011. The average idiosyncratic volatility of the long portfolio (2.87%) is higher than that of the short portfolio (2.72%), suggesting that the profitability of the residual reversal strategy is not driven by the low volatility anomaly. This difference is statistically significant at the 1% level.

## 2 Factor Performance in Different Regimes

Blitz, et al's analysis suggests that persistence in the Fama-French factors hurts the performance of the 1-month price reversal factor. We construct a persist/revert regime on Alphaworks and compare the factor performance under different regimes. In the "persist" regime, return to each of the three Fama-French factors has the same sign as the previous month's return. In the "revert" regime, at least one of the Fama-French factor returns reverses its sign.

Figure 2 shows the performance of 1-month reversal strategy under persist and revert regimes for Russell 3000 companies over 1987 through 2011. The results are consistent with Blitz, et al.: when the returns to the Fama-French factors persist, the 1-month reversal strategy yields a monthly spread of -1.77%, while under the "revert" regime, it generates a decent positive monthly spread of 1%.

**Figure 2 Performance of 1-Month Price Reversal Factor;  
Universe: Russell 3000; Time Period: 1987-2011**

Persist								
	Q1	Q2	Q3	Q4	Q5	Spread%	Q1 Hit	Q5 Hit
Cross Sec.	0.19	0.55	1.23	1.66	1.96	(-1.77)	60.87	67.39
Revert								
	Q1	Q2	Q3	Q4	Q5	Spread%	Q1 Hit	Q5 Hit
Cross Sec.	1.14	1.07	0.98	0.63	0.13	1.00	58.33	55.56

The residual reversal signal is not negatively affected by the persistence in the Fama-French factors. Figure 3 demonstrates that under both regimes, the factor yields comparable positive return spreads. A T-test shows the difference in the average monthly spread under two regimes is not statistically significant (a p-value of 0.74).

**Figure 3 Performance of Residual Reversal Factor;  
Universe: Russell 3000; Time Period: 1987-2011**

Persist								
	Q1	Q2	Q3	Q4	Q5	Spread%	Q1 Hit	Q5 Hit
Cross Sec.	1.73	1.14	0.71	0.58	0.63	1.10	65.22	67.39
Revert								
	Q1	Q2	Q3	Q4	Q5	Spread%	Q1 Hit	Q5 Hit
Cross Sec.	0.93	0.71	0.61	0.40	(0.03)	0.96	58.00	55.20

### 3 Reversal Strategies in Global Markets

We carry out similar tests for the UK, Japan and Australian markets. Risk-free rates for the three countries are downloaded from the websites of Bank of England, Ministry of Finance Japan and Reserve Bank of Australia respectively. Market return and returns to HML factor are obtained from Fama-French international research returns data. Given that returns to SMB factor are not available on the Fama-French website, we calculate SMB returns for each country by taking the difference in cap-weighted returns of small and large cap portfolios constructed within the country. The small (large) cap portfolio contains the stocks with a market capitalization below (above) median market cap of the country.

Table 5 lists the universe, testing period and number of stocks for each country. For UK and Japan, the reversal strategies are constructed using deciles, while quintiles are used for Australia due to the smaller universe size.

**Table 5 Testing Period and Universe**

Country	Universe	Start Date	End Date	Count
UK	BMI-UK	March 1995	October 2011	544
Japan	BMI-Japan	March 1995	October 2011	1360
Australia	BMI-Australia	July 1995	October 2011	229

Table 6 presents the results for each country over its testing period. The last column shows the p-value for the T-test of difference in average monthly spreads of the two strategies. In Japan, the residual reversal strategy earns a 1.19% monthly spread, which is statistically significant at 1% level and 29 bps higher than the return of the 1-month reversal signal. The residual reversal factor also produces information ratios (IR of IC) that are at least twice that of the plain vanilla 1-month reversal strategy. As stated earlier, both reversal strategies are disappointing and ineffective in the UK and Australian markets.

**Table 6 Factor Performance in UK, Japan and Australia; Time Period: 1995-2011**

	1M-IC	1M-IC IR	1M-IC Tstat	1M Return Spread	1M Spread IR	1M Spread Tstat	P-Value
<b>BMI UK</b>							
Residual Reversal	0.016	0.18	2.43	-0.04%	-0.01	-0.12	0.1632
1-Month Reversal	0.001	0.01	0.07	-0.48%	-0.07	-1.03	
<b>BMI Japan</b>							
Residual Reversal	0.054	0.52	7.19	1.19%	0.32	4.39	0.3769
1-Month Reversal	0.040	0.25	3.47	0.90%	0.14	1.91	
<b>BMI Australia</b>							
Residual Reversal	0.022	0.18	2.48	0.23%	0.07	0.95	0.0001
1-Month Reversal	-0.009	-0.07	-0.98	-0.61%	-0.14	-1.88	

## 4 Factor Return and Risk Attribution

We perform an attribution analysis for the long/short portfolio constructed on the residual reversal signal using Capital IQ's US Fundamental Medium Term Risk Model (Table 7). All the portfolio returns essentially come from stock specific returns, suggesting that Market, Style or Industry risk factors are not driving the success of the residual reversal strategy. The annualized portfolio return is 16.48% while the contribution from the risk factors is -0.31%. Nearly 42% of realized portfolio risk is attributable to the risk factors.

**Table 7 Return and Risk Attribution; Time Period: Jan 1992-Oct 2011**

Row Labels	Portfolio Exposure	Portfolio Return*	Realized Contribution to Portfolio Risk	Realized Percent of Portfolio Risk	Realized Sharpe Ratio
<b>Factor</b>		-0.31%	8.33%	41.84%	-0.04
Market	0.041	0.59%	3.00%	5.41%	0.20
Style	0.047	-0.38%	6.09%	22.33%	-0.06
*Valuation	-0.110	-0.48%	1.30%	1.01%	-0.37
*Size	0.022	0.85%	-1.43%	-1.23%	-0.60
*Analyst Expectation	0.095	-1.51%	-1.20%	-0.87%	1.26
*Historical Growth	0.044	-0.53%	2.95%	5.24%	-0.18
*Capital Efficiency	-0.043	0.66%	2.22%	2.97%	0.30
*Price Momentum	-0.015	0.79%	2.89%	5.05%	0.27
*Earnings Quality	0.003	0.37%	-0.83%	-0.41%	-0.44
*Volatility	0.051	-0.53%	4.19%	10.57%	-0.13
Industry	0.037	-0.51%	4.84%	14.10%	-0.11
Stock Specific		16.79%	9.82%	58.16%	1.71
<b>Grand Total</b>		16.48%	12.88%	100.00%	1.28

\*Return periods greater than a year are annualized

## 5 Conclusions

In this report we compare the performance of a residual reversal signal proposed by Blitz, et al. to that of the traditional 1-month price reversal signal. We find that the residual reversal factor consistently outperforms the 1-month reversal factor in the U.S. market. The former yields a monthly return spread of 1.22% since 1979 in the Russell 1000 universe and an IR of 0.33; whereas the latter only earns a 0.32% monthly spread, which is not statistically significant, and an IR of 0.05. We see similar patterns within the 10 GICS sectors and in each decade since 1979 for both large cap (Russell 1000) and small cap (Russell 2000) universes. Furthermore, we demonstrate that the residual reversal strategy is able to deliver positive returns after we control for risk factors and is not driven by known anomalies.

Using Alphaworks regime analysis tool, we confirm Blitz, et al.'s conclusion that the residual reversal strategy is not negatively affected by the persistence in the Fama-French factor returns, unlike the 1-month price reversal signal. The former strategy generates positive long short returns under both "persist" and "revert" regimes.

We extend Blitz, et al.'s study to the UK, Japan and Australian markets. We find that the residual reversal factor dominates the 1-month price reversal factor in the Japan market, but both reversal strategies are weak in the UK and Australian markets.

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## RECENT RESEARCH

### November 2011: Research Brief- All or Nothing

#### October 2011: The Banking Industry

Investors can improve model and portfolio risk adjusted returns using various approaches, including incorporating new alpha signals in an existing investment process. In this research piece, we build on our earlier work (See "Is your Bank under Stress? Introducing our Dynamic Bank Model", November 2010), to determine if bank specific data provided by financial institutions regulatory bodies (FFIEC standardized data), can yield alpha signals orthogonal to those found in most stock selection models.

#### September 2011: CQA Fall 2011 Conference Notes

Several of our team's members attended the Chicago Quantitative Alliance (CQA) Fall Seminar in Chicago. We present our collective notes from the conference in this report

### September 2011: Research Brief – High Return Correlation and Low Return Dispersion

#### September 2011: Methods in Dynamic Weighting

In this report, we introduce a powerful discovery tool in Alphaworks and provide a pragmatic survey covering the identification and potential dynamic techniques to handle financial regimes and security level context. With increasingly volatile factor performance, the ability to implement adaptive strategies is paramount in maximizing factor efficacy.

#### July 2011: Introducing Research Briefs

Investors must sort through a constant stream of information in order to identify opportunities, structural changes, and market risks. Wading through information quickly and efficiently is critical as investors must understand how their strategy and exposures are impacted. Typical classes of questions include: What strategy should I use in response to a regime shift? How do I invest in a specific industry? Do other markets behave differently than the US market?

#### June 2011: Our Retail Industry Strategy

Does Industry Specific Data tell a Different Story? Investors are on a constant quest for new investment insights. A more complete understanding of the dynamics that shape an industry is integral to this search. As Capital IQ's Quantitative Research begins a more thorough examination of industry specific sources of alpha, we turn our attention first to the retail industry utilizing the Compustat database. Many of the strategies validate common investor best practice when looking at the retail space. In this paper we develop several new retail specific factors and use them to construct a 6-factor retail specific model. We then blend our retail model with our Value and Growth Composite Models.

### May 2011: Introducing Capital IQ's Global Fundamental Equity Risk Models

Global investors invest in assets across multiple countries. In order to characterize the overall risk they need the ability to compute the total risk of their entire holdings. Using a global risk model summarizes the risk across multiple geographies into a more easily consumed single number rather than looking at the risk characteristics in isolation for separate geographies. A single global model also captures inter-country correlations so as to not miss important contagion effects.

#### May 2011: Topical Papers That Caught Our Interest

Favorite Papers on a Few Favorite Topics – Regime Switching and Minimum Variance

Two current topics of significant interest and frequent discussion to investors are regime switching, or a strategy's sensitivity to the current environment, and minimum variance portfolios.

#### April 2011: Can Dividend Policy Changes Yield Alpha?

Investors are acutely sensitive to changes in dividend policy. Literature suggests that dividend change announcements provide information about management's assessment of companies' prospects, and therefore are predictive of future stock returns. The implication for investors is worth noting. In the first quarter of 2011 alone, 105 of the 384 dividend paying S&P 500 companies (27.3%) increased their dividends, while only 1 (0.26%) decreased dividends.

In this paper, we analyze the market reaction to different types of dividend policy changes, specifically initiation, increase, decrease and suspension of dividends.

#### April 2011: CQA Spring 2011 Conference Notes

Several of our team's members attended the Chicago Quantitative Alliance (CQA) Spring Seminar in Las Vegas. We present our collective notes from the conference in this report.

#### March 2011: How Much Alpha is in Preliminary Data?

Companies often report financials twice: first, through a preliminary press release and again in their official, i.e., final, SEC filings. In theory, there should be no difference between the numbers reported in a



company's preliminary financial filings and their final filings with the SEC. In practice, often significant difference can occur between the preliminary and final filings. In this month's research report, we focus on these observed differences within the Capital IQ Point-In-Time database in order to ascertain the nature and exploitability of these differences.

### **February 2011: Industry Insights – Biotechnology: FDA Approval Catalyst Strategy**

Biotechnology is a challenging sector for investors due to the binary nature of the product cycle. Indeed many biotechnology firms' futures rest upon the success of a single product. A critical stage in the product life-cycle is the FDA approval process. In this report we look at the exploitability of a strategy centered on FDA filings.

### **January 2011: US Stock Selection Models Introduction**

In this report, we launch our four US Stock Selection models -- Value, Growth, Quality, and Price Momentum. Built using Capital IQ's robust data and analytics, these four models are the culmination of over two years of research and development. Each model is intended to be employed as the basis for a stand-alone stock selection strategy or integrated into an existing systematic process as an overlay or new component.

### **January 2011: Variations on Minimum Variance**

Various explanations for why risk is mispriced have been offered; the most common one is that leverage restrictions incite some investors to chase volatility at the individual issue level. In this paper, we explore various methodologies for construction of minimum variance portfolios of US listed equities and analyze the features of these portfolios.

### **January 2011: Interesting and Influential Papers We Read in 2010**

As researchers, we spend a large amount of time trying to generate new ideas. In order to discover and refine these ideas, we find ourselves in a continuous quest for innovative and interesting articles and papers from academics, analysts, and other researchers. There is such a large body of information out there that it can be difficult to wade through all the material to find what is truly of value and interest to us. To assist in sifting through all this information, our group recently took the time to find and discuss articles that recently struck us.

### **November 2010: Is your Bank Under Stress? Introducing our Dynamic Bank Model**

Leveraging Capital IQ's Bank industry data, we have built a stock selection model that encompasses three themes -- Momentum, Value, and Balance Sheet Quality -- and includes a proprietary Markov-regime switching component which dynamically changes the model's weights depending on whether or not banks are in a "stressful" (or crisis) environment. This month, we will review how we built our model and its switching component.

### **October 2010: Getting the Most from Point-in-Time Data**

In this paper, we will examine PIT data's origins, structure, variations, and proper use in implementations from Compustat and Capital IQ. Misusing PIT data, or applying it haphazardly, can discard valuable information and obscure otherwise clear signals.

### **October 2010: Another Brick in the Wall: The Historic Failure of Price Momentum**

In 2009, investors witnessed the cataclysmic failure of Price Momentum strategies. Now that accounts of this failure have been on the books for some time, it is appropriate to place the events in a historical context and further analyze the fundamental relationships that affect this strategy. We look at a number of questions from practitioners interested in the strategy. Within a historical context, how pronounced has this recent failure been? When Price Momentum fails, what is the strategy's subsequent performance? And, what factors are concurrent or predictive of the performance of Price Momentum?

### **July 2010: Introducing Capital IQ's Fundamental US Equity Risk Model**

In this paper we document the process of building and testing of our fundamental US Equity risk model across a number of short to medium term forecast horizons. The paper reviews typical risk model applications; discusses the relative merits of alternative forms of multifactor risk models; documents our data and methodology; 4 describes the chosen test metrics; and presents our results.

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