

QUANTITATIVE RESEARCH

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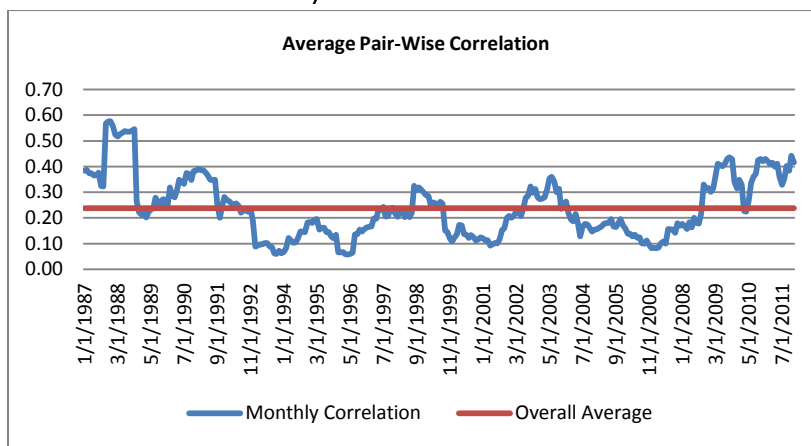
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S&P Capital IQ Stock Selection Model Review Understanding the Drivers of Performance in 2011

In this report, we review the performance of S&P Capital IQ's four U.S stock selection models in 2011. These models were launched in January 2011, and this analysis will assess the underlying drivers of each model's performance over the last 12 months.

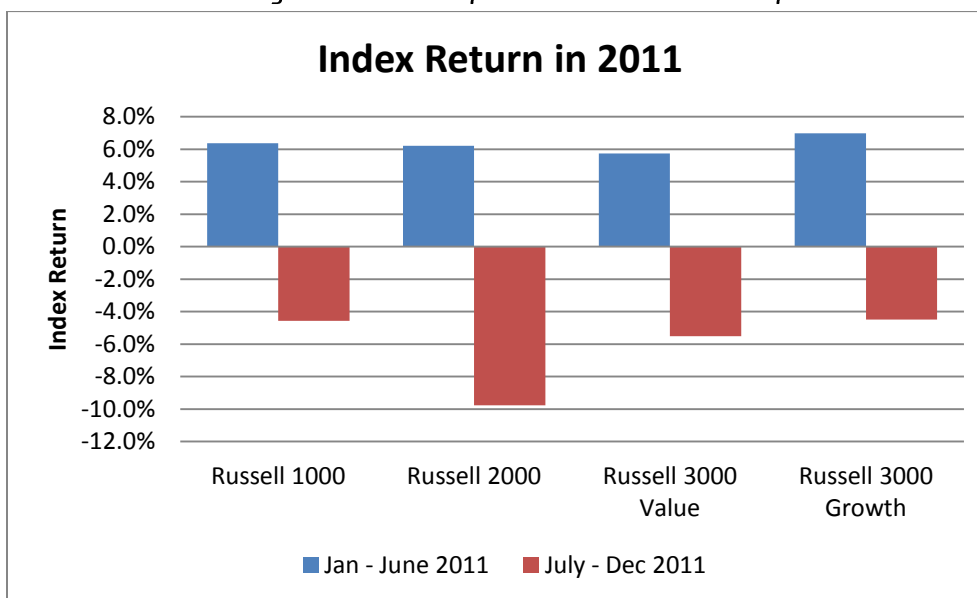
The European sovereign debt crisis and lack of a coordinated action by European leaders to deal with the crises was the dominant theme of 2011. The crises which started in late 2009 spread across the euro zone in the second half of 2011, raising borrowing costs significantly across the region. This prevailing macro-economic condition made 2011 a challenging year for active managers, particularly those that use bottom-up stock selection processes. When investors are pre-occupied with a common risk factor, such as was the case in 2011, stock selection becomes difficult as the correlation between stocks rise. Figure 1 shows the average pair-wise correlation of stock return in the S&P 500 from January 1987 to December 2011. Compared to the historical average of 0.24, stock return pair-wise correlation was elevated for the entire year, closing at 0.42 in December 2011. In percentile terms, the December pair-wise correlation close was in the 93rd percentile.

**Figure 1: S&P 500 Stock Return Pair-Wise Correlation:
January 1987 – December 2011**



The impact of the crisis on equity markets is readily confirmed by comparing the performance of stock markets in the first half of the year to performance in the second half [Figure 2], when the crisis worsened. We see that all the four indices were up in the first half of the year and down in the second. The most successful strategies in the top half of the year were not necessarily the best in the bottom half, as investors de-risked and switched to safer and "higher quality" assets.

Figure 2: Index Performance in both halves of 2011



Our models were constructed with the understanding that no single style is in favor indefinitely and investors switch preferences based on various factors, including prevailing macro-economic conditions. We therefore ensured that our factor selection process emphasized signal diversity to mitigate significant underperformance in any operating environment.

Table 1 gives the summary performance of all four models during 2011; all four models generated positive return spreads and information coefficients during the year. We will discuss these results in detail in the following sections, highlighting the main contributors to model return.

Table 1: Model Summary Performance Results: January 2011 – December 2011

Model Name	Universe	Avg 1-Month Spread	Avg 1-month IC
Growth Benchmark Model	Russell 3000 Growth	2.10%	0.06
Price Momentum Model	Russell 3000	2.33%	0.08
Quality Model	Russell 3000	2.23%	0.07
Value Benchmark Model	Russell 3000 Value	2.52%	0.09

1 Growth Benchmark Model

The Growth Benchmark Model was created to help investors outperform a growth benchmark, which we selected to be the Russell 3000 Growth index. The model rewards companies that have established a consistent track record of earnings growth and also identifies emerging growth candidates. In addition, the Growth Benchmark Model was formulated to still outperform when “growth” is not in favor. Accordingly, the model is composed of seven sub-components – Earnings Momentum, Historical Growth, Liquidity & Leverage, Price Momentum, Value, Quality and Capital Efficiency. Table 2 shows the summary performance of the model from January 1987 to December 2011.

Table 2: Summary Performance Statistics for Growth Benchmark Model – Russell 3000 Growth [January 1987 – December 2011]

Return Summary						
	Q1	Q2	Q3	Q4	Q5	Long-Short Return
Average Monthly Return	1.63%	1.16%	0.88%	0.52%	-0.11%	1.74%***
Annualized Return	21.39%	14.82%	11.15%	6.42%	-1.35%	23.03%
Annualized Info. Ratio	1.01	0.70	0.50	0.27	-0.05	1.84

Information Coefficient Summary	
Avg 1-month IC	0.06***
1-month IC Info Ratio	0.94
1-month IC Hit Rate	85%***

*** Significant at 1% level

The model generated a monthly average equal-weighted return spread and IC of 1.74% and 0.06 respectively, both statistically significant at the 1% level. The annualized information ratio of the top quintile is 1.01, while the IC hit rate, [percent of times the IC is positive] is 85%, which is also statistically significant at the 1% level.

1.1 Model Performance in 2011

The 1-month equal-weighted quintile return spread and 1-month information coefficient time series results for the Russell 3000 Growth Index are displayed in Figure 3. The average monthly spread and IC (red line in both graphs) were 2.10% and 0.06 respectively. Despite the difficult macro-economic environment highlighted in the previous section, the Growth Benchmark Model delivered positive spreads and ICs every month of the year under review. Spread performance was consistent in both halves of the year, January – June: 1.97% vs. July – December: 2.22%, even though the Russell 3000 Growth’s index’s performance in the second half was down compared to the first [+6.98% in 1st vs. -4.49% in 2nd]. 1-month IC was robust in both halves, although it was higher in the first half; 0.072 compared to 0.052 in the second half. The model posted its best spread return in November [4.4%] and best IC in June [0.14].

Figure 3: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 Growth
January 2011 – December 2011

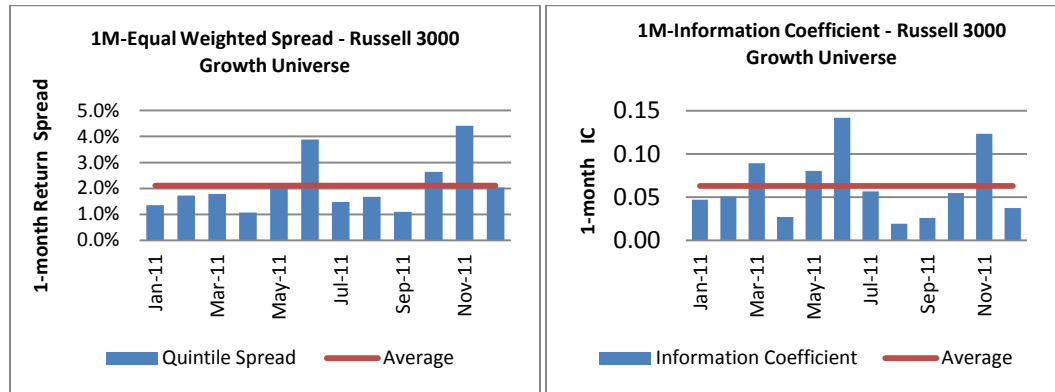
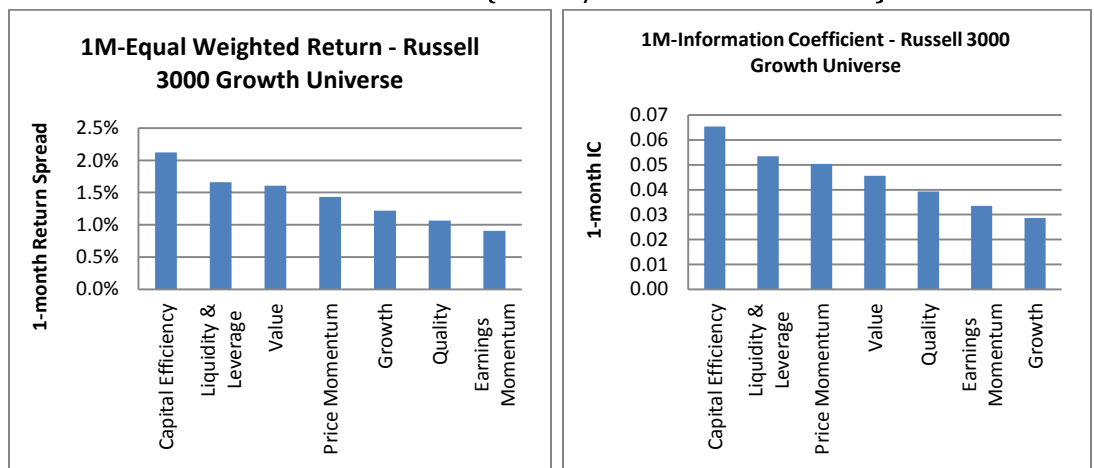


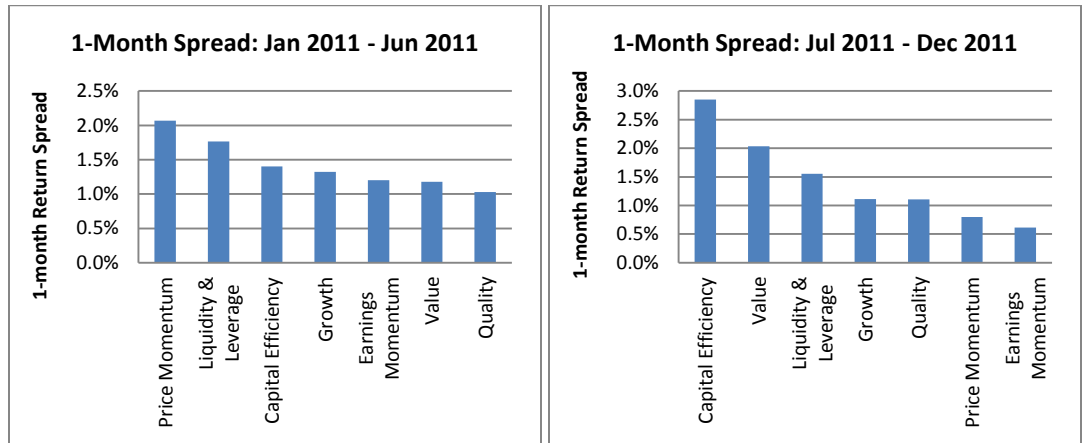
Figure 4 shows the average 1-month spread and average IC for each sub-component of the model over the Russell 3000 Growth universe. Capital Efficiency was the best sub-component in 2011 based on both average 1-month IC (0.06) and average 1-month return spread (2.13%). The Earnings Momentum and Growth Composites were the weakest performers based on IC and spread respectively. Capital Efficiency is rewarded when investors are risk-averse and seek safety in securities with superior operating and cash flow margins.

Figure 4: Growth Benchmark Model: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 Growth (January 2011 – December 2011)



We show average 1-month spread return in both halves of the year in Figure 5. In the first half of the year, Price Momentum was the strongest performer with an average monthly return of 2.07%. However, Capital Efficiency was the dominant composite in the second half of the year as the credit turmoil intensified and spread throughout the euro zone

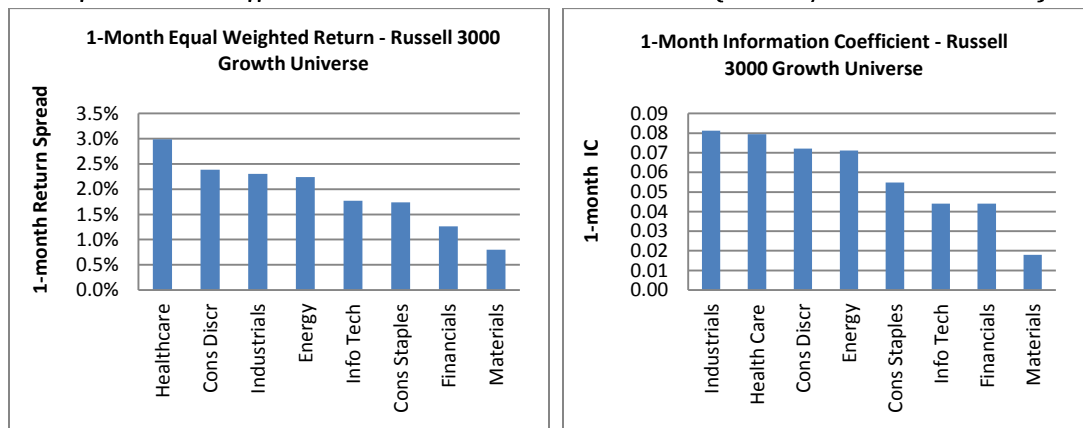
Figure 5: Growth Benchmark Model: 1M-Equal Weighted Spread
Russell 3000 Growth Universe



1.2 Sector Performance

The return spread and IC of the model within eight of the ten GICS sectors is detailed in Figure 6. We exclude telecom and utilities because of limited coverage (twenty-nine and seven securities on average respectively).

Figure 6: Growth Benchmark Model: Sector 1-Month Average Return and 1-Month Average Information Coefficient – Russell 3000 Growth Universe [January – December 2011]



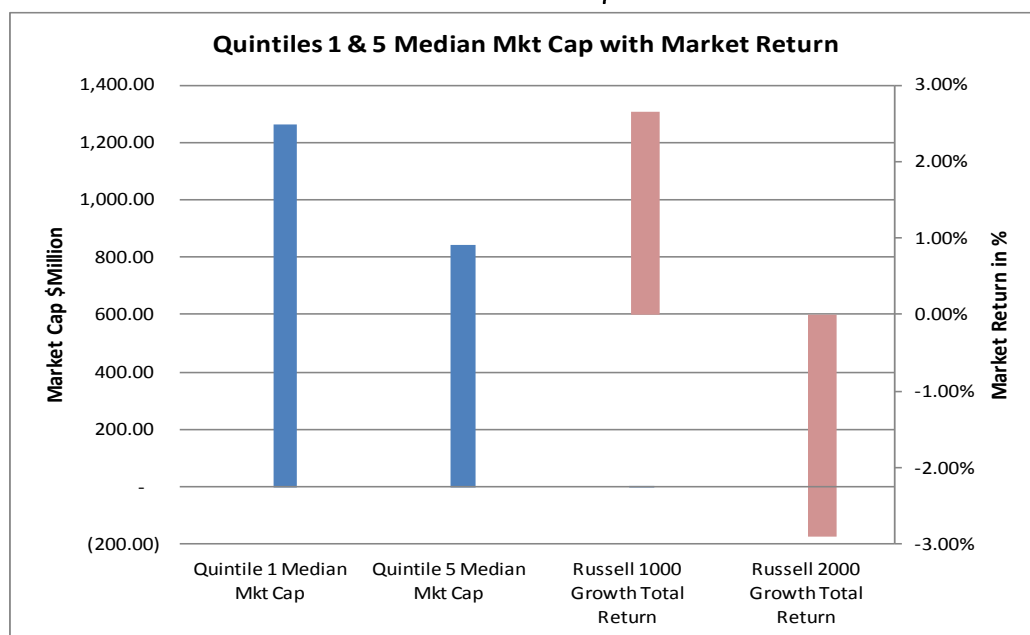
The Growth Model produced positive 1-month average spreads and 1-month average ICs in all the eight sectors. Healthcare (defensive), consumer discretionary and industrials (cyclicals) were the top three sectors in terms of average return spread and IC.

1.3 Long/Short Portfolio Characteristics

Next, we examine size and beta characteristics of quintile 1 and 5 portfolios. Figure 7 shows the median market capitalization of both portfolios (left axis) and also the total return (right axis) of the Russell 1000 Growth Index (proxy for large cap growth stocks) and Russell 2000 Growth Index (proxy for small cap growth stocks) for 2011.

The median market cap of the long portfolio [Q1] is \$1.26 billion compared to \$0.84 billion for the short portfolio [Q5], indicating that our long portfolio is tilted towards large cap names. The total return of the large cap growth universe [2.64%] also outpaced that of the small growth universe [-2.91%], confirming the trend we saw last year where large cap stocks generally out-performed small cap stocks. Without doubt, our growth model benefited from this large cap tilt, but how would our model have performed in a large cap universe? Table 3 details the performance of the growth model in a large cap universe - Russell 1000 Growth and small cap universe - Russell 2000 Growth.

Figure 7: Quintile 1 and 5 Median Market Cap with Russell 1000 Growth and Russell 2000 Growth Total Returns for 2011



The Growth Model generated a healthy average monthly equal-weighted spread of 1.10% in the Russell 1000 Growth universe, even though it performed a lot better in the smaller cap universe [2.99%]. Similarly, the average 1-month IC of the model was better in the small cap space, but it was still a respectable 0.03 in the large cap universe.

Table 4 lists the average median 60-month CAPM beta of both quintile 1 and quintile 5 portfolios. The betas are similar and suggest that the Growth Model's return spread was not driven by the outperformance of low beta stocks [over high beta securities] during 2011.

Table 3: Average 1-month Equal-Weighted spread and average 1-month Information Coefficient [IC]

	1-month Spread	1-month IC
Russell 1000 Growth	1.10%	0.034
Russell 2000 Growth	2.99%	0.081

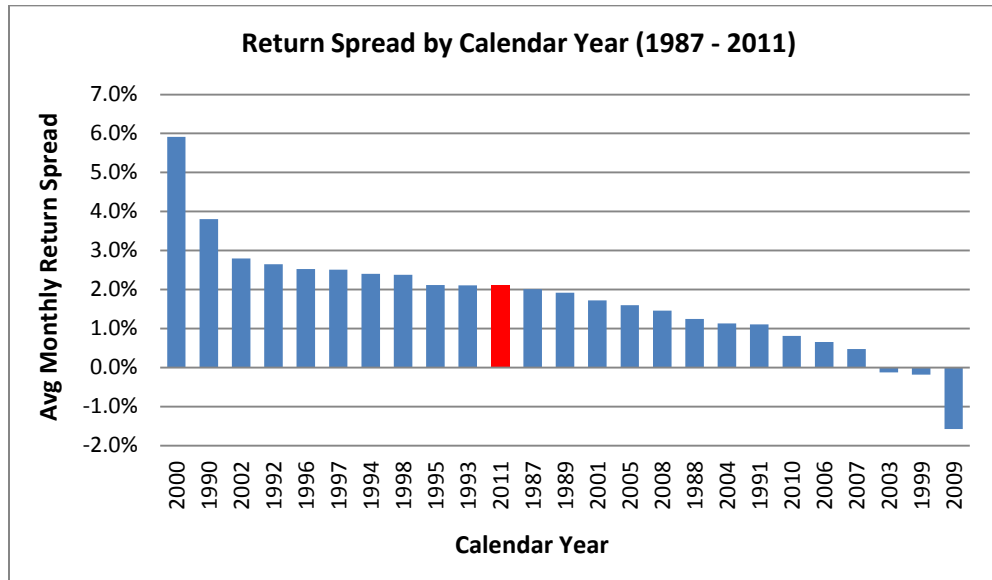
Table 4: Median 60-month CAPM Beta

Quintile	Beta
Quintile 1	1.27
Quintile 5	1.30

1.4 Historical Comparison and Regime Analysis

The model's 2011 return spread was towards the middle of all 25 calendar year returns (Figure 8). The return for 2011 is the red bar and it is ranked 11th when returns for all the years are considered. The worst performance was in 2009 [low price, high beta rally] at -1.57%; other calendar years with negative monthly spreads are 1999 [tech bubble] and 2003 [junk rally] with spreads of -0.18% and -0.13% respectively.

Figure 8: Growth Benchmark Model: Calendar Year Average Monthly Quintile Spread: - Russell 3000 Growth Universe [January 1987 to December 2011]



For the regime analysis, we split our stock pair-wise correlation history (Figure 1) into three regimes- Highest 30% of all pair wise correlation points; middle 40% of all stock pair wise correlation points and lowest 30% of all available data point. Table 5 shows the 1-month average return spread and 1-month IC in our three regimes.

Table 5: Regime Analysis - Growth Benchmark Model: 3000 Growth Universe [January 1987 to December 2011]

	1-month Return Spread	1-month IC
Highest	1.10%***	0.05***
Middle	2.07%***	0.07***
Lowest	1.95%***	0.06***

***Significant at 1% level

The model generated statistically significant return spreads and IC in all three regimes, although absolute results were best in periods when pair-wise stock correlation is low to modest, than when they are high.

2 Price Momentum Model

S&P Capital IQ's Price Momentum Model was constructed to predict future stock price movement using price and trading volume data. The model is made up of short-term and long-term components; the former uses a short to medium term look-back window, typically 1-day to 3-months for factor construction, while the latter adopts a longer window, around 3 to 12 months for signal formulation. Table 6 details the summary performance statistics for the model over the last 25 years. The model has been very successful over this time period, generating monthly return spreads and IC of 2.41% and 0.07 respectively [both statistically significant at the 1% level].

*Table 6: Summary Performance Statistics for Price Momentum Model – Russell 3000
January 1987 – December 2011*

Return Summary						
	Q1	Q2	Q3	Q4	Q5	Long-Short Return
Average Monthly Return	1.48%	1.05%	0.57%	-0.02%	-0.93%	2.41%***
Annualized Return	19.29%	13.37%	7.06%	-0.24%	-10.58%	33.06%
Annualized Info. Ratio	1.09	0.71	0.35	-0.01	-0.47	2.75

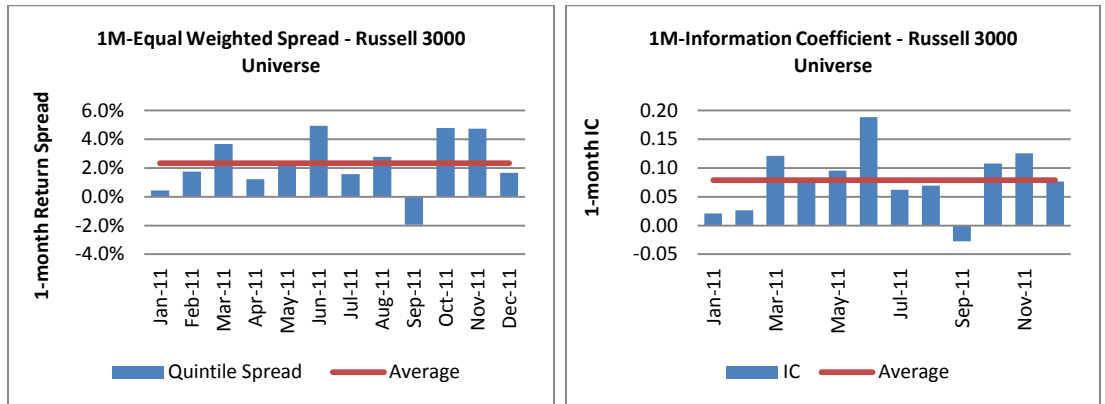
Information Coefficient Summary	
Avg 1-month IC	0.07***
1-month IC Info. Ratio	0.87
1-month IC Hit Rate	85%***
1-month IC - 2011	

*** 1% level of significance

2.1 Model Performance in 2011

Figure 9 shows the average monthly 1-month equal-weighted spread and average 1-month information coefficient for the model in the Russell 3000. The average monthly spread and IC were 2.33% and 0.08 respectively. The only down month was in September, the month the market experienced its largest decline of the year [-7.91%]. The model delivered strong spread returns of over 4% in June, October [rebounding after the September decline], and November. Returns were also comparable in both halves of the year: Jan-June: 2.40% vs. Jul-Dec: 2.27%

Figure 9: Price Momentum Model: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 [January 2011 – December 2011]



IC and spread returns were impressive for both components [Table 7], although the long-term component’s spread and IC were 42% and 58% higher than that of the short-term component.

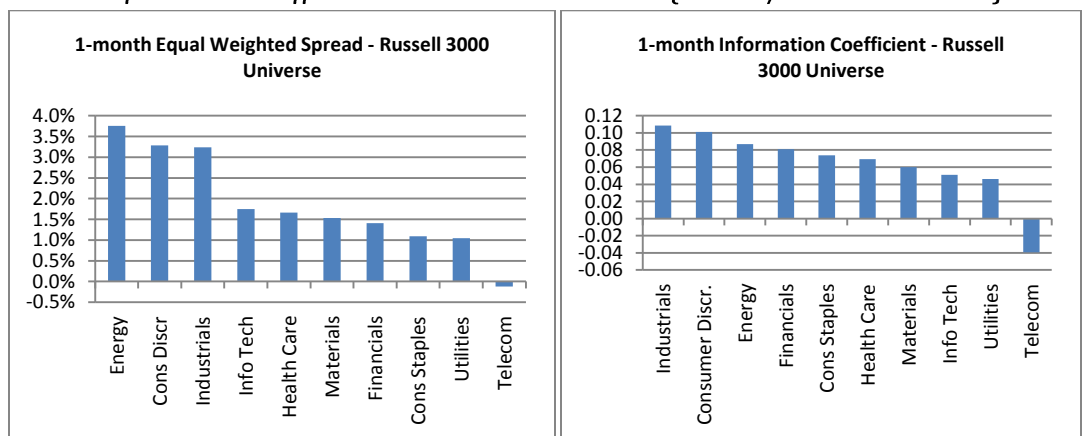
Table 7: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 January 2011 – December 2011

Component	1-month Spread	1-month IC
Short-Term Component	1.65%	0.055
Long-Term Component	2.35%	0.087

2.2 Sector Performance

The model generated positive spreads and ICs [Figure 10] in all sectors, except for the telecom sector. The top three sectors in terms of performance [IC or return] were energy, consumer discretionary and industrials.

Figure 10: Price Momentum Model: Sector 1-Month Average Return and 1-Month Average Information Coefficient – Russell 3000 Universe [January – December 2011]



2.3 Long/Short Portfolio Characteristics

We looked at four characteristics of the model's long/short portfolio – size, beta, growth and capital efficiency [Table 8]. For size and beta characteristics, we use median market capitalization and 60-month CAPM Beta, while we use percentile ranks for growth and capital efficiency portfolio attributes. We use the growth and capital efficiency indicators available on Alphaworks, our web-based 400+ global factor library, to determine the exposures of the model's long/short portfolio to both themes. A low capital efficiency or growth rank implies that the portfolio has a large or positive exposure to that attribute, while a high rank implies that the portfolio has minimal or negative exposure. We use the median indicator rank [capital efficiency/growth] of a portfolio [Q1 or Q5] to assign rank exposures.

Table 8: Portfolio Characteristics of Price Momentum's Q1 and Q5 Equal-Weighted Portfolios – Russell 3000 [January 2011 – December 2011]

	Quintile 1	Quintile 5
Size	\$1.54B	\$0.59B
Beta	1.07	1.33
Capital Efficiency Rank	44	60
Growth Rank	38	53

The Price Momentum Model's top quintile benefited from rotating into lower beta names compared to the bottom quintile, given that low beta names outperformed high beta names by about 20% last year. The median 60-month CAPM beta for Q1 was 1.07 compared to 1.33 for Q5. We observe a 16 point rank difference between Q1 and Q5 [44 vs. 60] in capital efficiency ranks, suggesting that Q1 stocks were mostly higher quality names. The model's strong performance can partly be attributed to a positive exposure to this theme; we highlighted capital efficiency as the best theme in our Growth Model attribution [please refer to section 1]. The Price Momentum Model also profited from a tilt towards growth names [median Q1 rank of 38 vs median Q5 rank of 53] as the Russell 3000 Growth Index outperformed the Russell 3000 Value Index by over 2% in 2011.

Similar to what we observed for the Growth Benchmark Model, the top quintile of the Price Momentum Model has a large cap bias [compared to the bottom quintile], implying that large cap names were the "momentum" stocks in 2011. The median market capitalization of Q1 is 2.5 times larger than that of Q5 [\$1.54B vs. \$0.61B]. Table 9 reports performance metrics when we re-rank our model scores, ensuring that all five quintiles have similar market caps.

Table 9: Price Momentum Model: Market Cap Neutralized Results – Russell 3000 [January 2011 – December 2011]

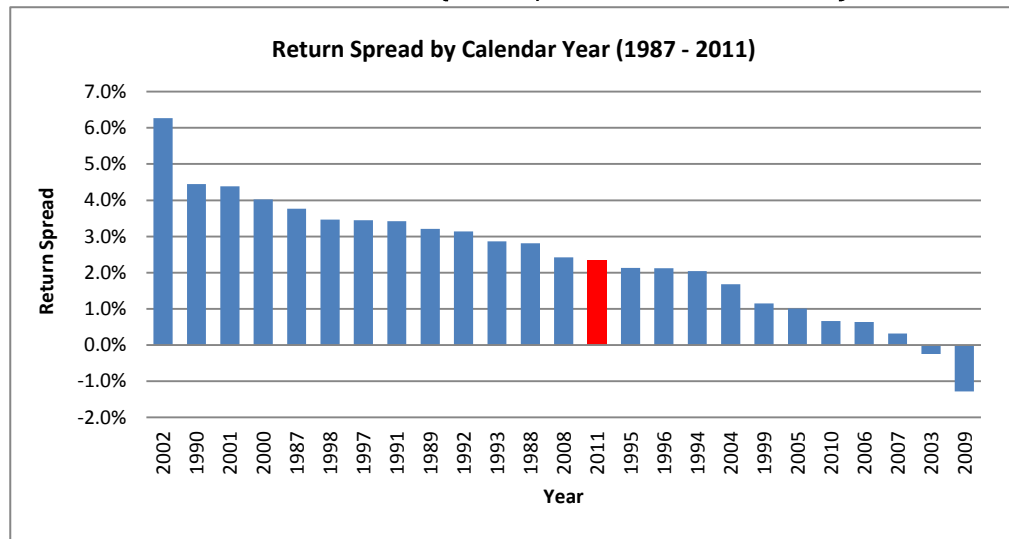
Date	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Average
Original	0.44%	1.75%	3.68%	1.23%	2.39%	4.93%	1.58%	2.78%	-1.94%	4.79%	4.73%	1.66%	2.33%
Mcap Neutral	0.08%	-0.01%	2.42%	0.77%	0.87%	3.44%	1.53%	2.42%	-1.39%	5.05%	3.45%	1.18%	1.65%

The market cap neutral model’s monthly spread is 1.65%, compared to 2.33% for the original model. The original model’s spread was also higher than that of the market cap neutral version in 10 out of 12 months in 2011.

2.4 Historical Comparison and Regime Analysis

The average monthly quintile spread of 2011 is in the middle when compared to quintile spreads from 1987 [Figure 11]. The model’s average monthly calendar spread was negative in only two years - 2009 when momentum as a theme failed spectacularly and 2003. The shorter term factors in the model ensured that negative performance was muted when traditional long-term momentum factors failed. For example, the average monthly spread for 12-month momentum factor was -7.6% in 2009, while the Price Momentum model was down by a more moderate 1.28% monthly.

Figure 11: Price Momentum Model: Calendar Year Average Monthly Quintile Spread: Russell 3000 Universe [January 1987 to December 2011]



Similar to what we observed for the Growth Benchmark Model, the Price Momentum Model generates statistically significant return spreads and ICs in all three regimes (Table 10), with return spread largest when pair wise correlation is moderate (3.00%).

Table 10: Regime Analysis – Price Momentum Model: Russell 3000 Universe [January 1987 to December 2011]

	1-month Return Spread	1-month IC
Highest	1.88%***	0.06***
Middle	3.00%***	0.09***
Lowest	2.16%***	0.06***

*** 1% level of significance

3 Quality Model

S&P Capital IQ's Quality Model seeks to extend the analysis of earnings quality beyond accruals and includes several measures of balance sheet efficiency/strength that have been shown to be good indicators of medium and long-term earnings quality. The Quality Model is comprised of five components: Growth Stability, Operating Efficiency, Complimentary Valuation, Financial Health and Quality. Similar to our Growth and Value Models, we applied specific treatments for banks and non-bank financials. Table 11 shows the summary performance statistics for the model from January 1987 to December 2011.

**Table 11: Summary Performance Statistics for Quality Model
Russell 3000 [January 1987 – December 2011]**

Return Summary						
	Q1	Q2	Q3	Q4	Q5	Long-Short Return
Average Monthly Return	1.30%	1.00%	0.65%	0.27%	-0.48%	1.78%***
Annualized Return	16.77%	12.70%	8.14%	3.27%	-5.65%	23.64%
Annualized Info. Ratio	0.93	0.68	0.42	0.15	-0.24	2.33

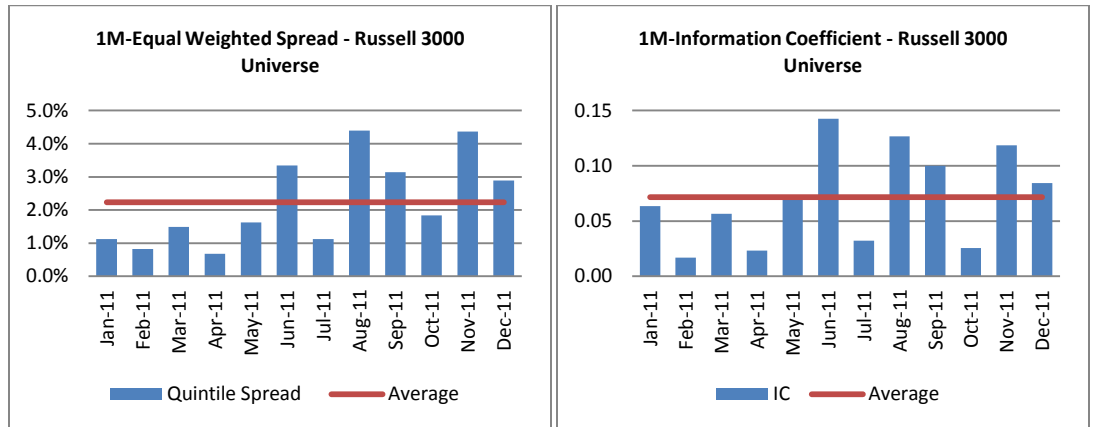
Information Coefficient Summary	
Avg 1-month IC	0.06***
1-month IC Info. Ratio	0.91
1-month IC Hit Rate	82%***

*** 1% level of significance

3.1 Model Performance in 2011

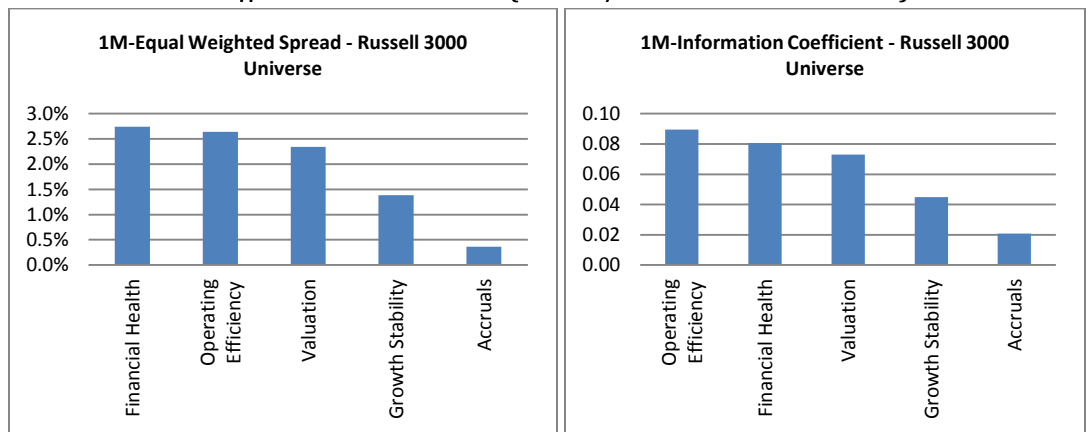
The model's performance was quite strong in 2011 [Figure 12] with an average 1-month equal-weighted spread and average 1-month information coefficient of 2.23% and 0.07 respectively. The performance of the model was positive in every month, including October when the market rallied, and volatility experienced its best long-short return [+9.56% in Russell 3000]. Model results were stronger in the second half of the year with average monthly return spread almost doubling [1.51% vs. 2.96%] and average monthly IC 42% higher [0.06 vs. 0.08].

Figure 12: Quality Model: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 [January 2011 – December 2011]



The top two components [Figure 13] in terms of return spread and IC were Financial Health and Operating Efficiency, while Accrual was the weakest component. The Accrual component consists of accrual factors such as the popular factor documented by Sloan in his seminal 1996 paper, “Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings?” Financial Health assesses a company’s financial leverage and interest coverage, while Operating Efficiency rewards firms that can better utilize assets to generate earnings and strong cash flows.

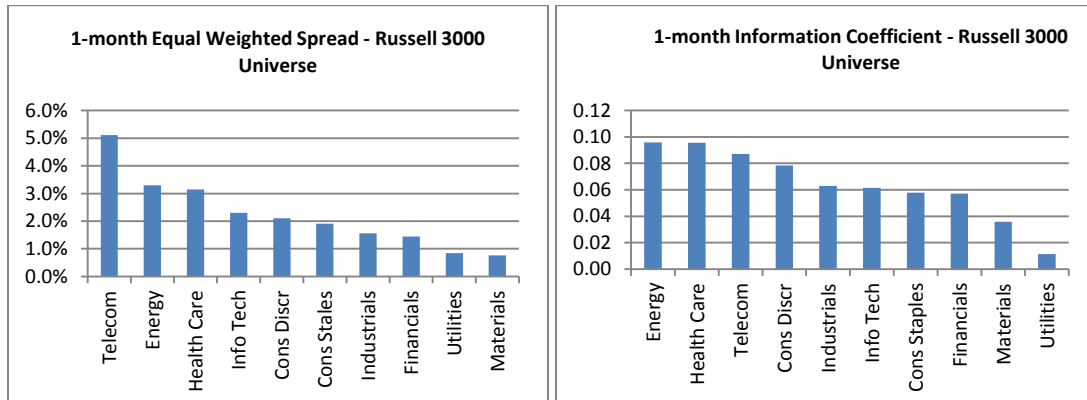
Figure 13: Quality Model Components: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 [January 2011 – December 2011]



3.2 Sector Performance

Model results in the GICS sectors, which are detailed in Figure 14, indicate that performance was positive across all sectors. The top three sectors for both spread returns and IC were telecom, energy and health care, while the weakest sectors were financials, utilities and materials [similar to the Growth Benchmark Model].

Figure 14: Quality Model: Sector 1-Month Average Return and 1-Month Average Information Coefficient – Russell 3000 Universe (January – December 2011)



3.3 Long/Short Portfolio Characteristics

We looked at three portfolio characteristics – size, beta and value [Table 12 and Figure 15]. We computed size and beta attributes using portfolio median market capitalization and 60-month CAPM respectively, and percentile ranks [based on Alphaworks valuation indicator] to determine the model’s long/short portfolio exposure to value.

Table 12: Beta and Market Capitalization of Quality Model’s Q1 and Q5 Equal-Weighted Portfolios – Russell 3000 (January 2011 – December 2011)

	Quintile 1	Quintile 5
Size	\$1.47B	\$0.54B
Beta	1.12	1.37

As expected, the long portfolio [Quintile 1] is tilted towards large cap names, as these names tend to provide more predictable earnings and dividend streams, unlike small cap stocks. We also observe that the top quintile portfolio has a lower beta than the bottom quintile [1.11 vs. 1.37], in line with what we documented for our other models.

The median valuation scores for the Quality Model’s five quintiles are displayed in Figure 15 [a lower score implies a higher exposure to value]. We see a monotonic relationship, with a 25 point difference between the top [Q1] and bottom [Q5] quintiles. There is also a spike in ranks between Q4 and Q5 [53 vs. 65] compared to differences we see in other adjoining quintiles, suggesting a sharp deterioration in value attributes for the bottom quintile. Valuation was the second best theme [in terms of return] in 2011 out of the eight styles we track on Alphaworks, so the Quality Model’s exposure to this style was beneficial to performance.

Figure 15: Quality Model: Valuation Tilt of Quintile Equal-Weighted Portfolios - Russell 3000 Universe (January - December 2011)

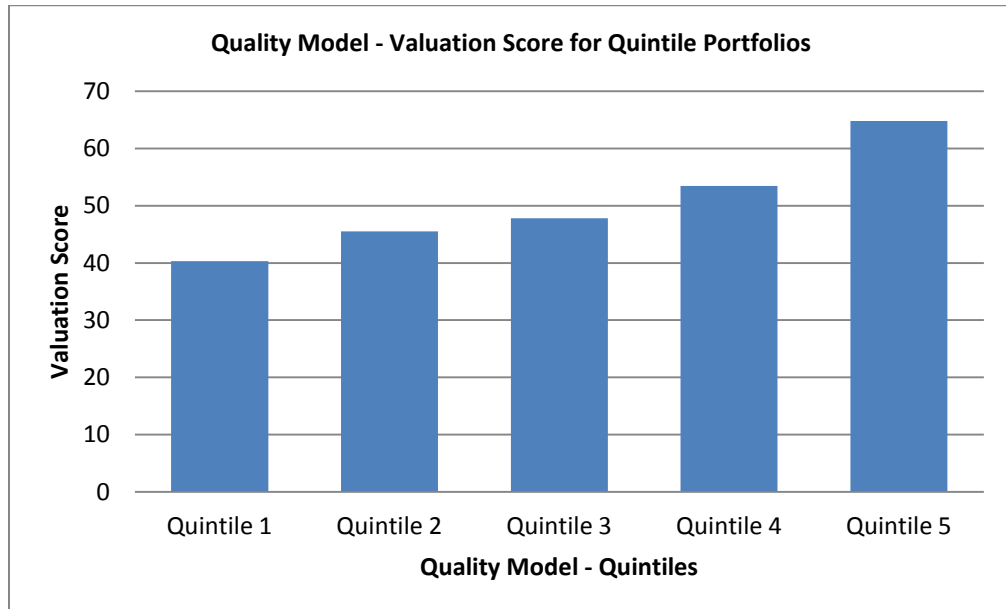


Table 13 displays the average 1-month return spread and IC if we had eliminated this market cap tilt.

Table 13: Quality Model – Performance Results with Elimination of Market Cap Tilt: Russell 3000 (January 2011 – December 2011)

Date	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Average
Original	1.12%	0.83%	1.49%	0.67%	1.62%	3.34%	1.12%	4.39%	3.14%	1.83%	4.37%	2.89%	2.23%
Mcap Neutral	0.72%	0.51%	0.66%	0.34%	0.66%	2.85%	1.26%	2.62%	1.97%	1.24%	2.12%	2.40%	1.45%

The original model is better than the market cap neutralized version by 79bps, and it also topped the neutralized model in 11 out of 12 months. However, the market cap neutralized model still generated monthly equal-weighted returns of 1.45% in 2011.

3.4 Historical Comparison and Regime Analysis

2011 was a reasonably good year for the model when compared to the results of other calendar years; 2011's average monthly calendar return was the 7th best out of the 25 calendar returns in our sample. The model had one negative calendar spread return [-0.64%] in 2009, and it was essentially flat in 2003 [0.02%], when low quality stocks out-performed their high quality counterparts.

The model's absolute return spread in the high pair wise correlation regime is smaller than the other two regimes, even though spreads in all three regimes are economically significant [Table 14].

Figure 16: Quality Model: Calendar Year Average Monthly Quintile Spread: Russell 3000 Universe (January 1987 to December 2011)

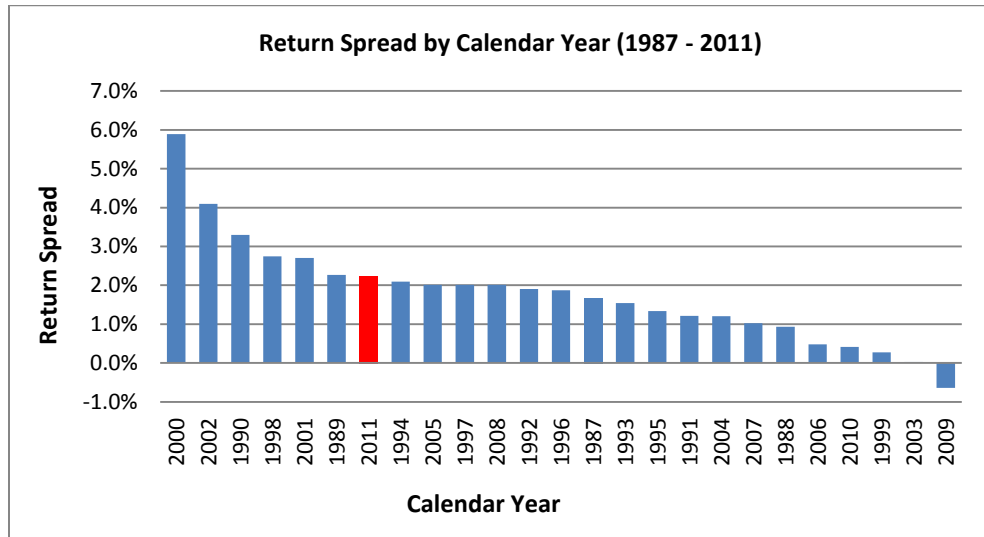


Table 14: Regime Analysis – Quality Model: Russell 3000 Universe (January 1987 to December 2011)

	1-month Return Spread	1-month IC
Highest	1.20%***	0.04***
Middle	2.15%***	0.07***
Lowest	1.86%***	0.06***

*** Significant at 1% level

4 Value Benchmark Model

The Value Benchmark Model identifies depressed, under-priced stocks with strong underlying fundamentals, using intrinsic and relative valuation measures. The model selects companies with high earnings quality, stable growth rates and increasing street sentiment. The Value Benchmark Model has six sub-components – Earnings Quality, Financial Health, Growth Stability, Price Momentum, Street Sentiment, and Valuation. Summary performance results from January 1987 to December 2011 are presented in Table 15.

Table 15: Summary Performance Statistics for Value Benchmark Model – Russell 3000 Value [January 1987 – December 2011]

Return Summary						
	Q1	Q2	Q3	Q4	Q5	Long-Short Return
Average Monthly Return	1.46%	1.04%	0.79%	0.45%	-0.35%	1.82%***
Annualized Return	19.06%	13.22%	9.90%	5.50%	-4.13%	24.09%
Annualized Info. Ratio	1.04	0.73	0.54	0.28	-0.19	2.84

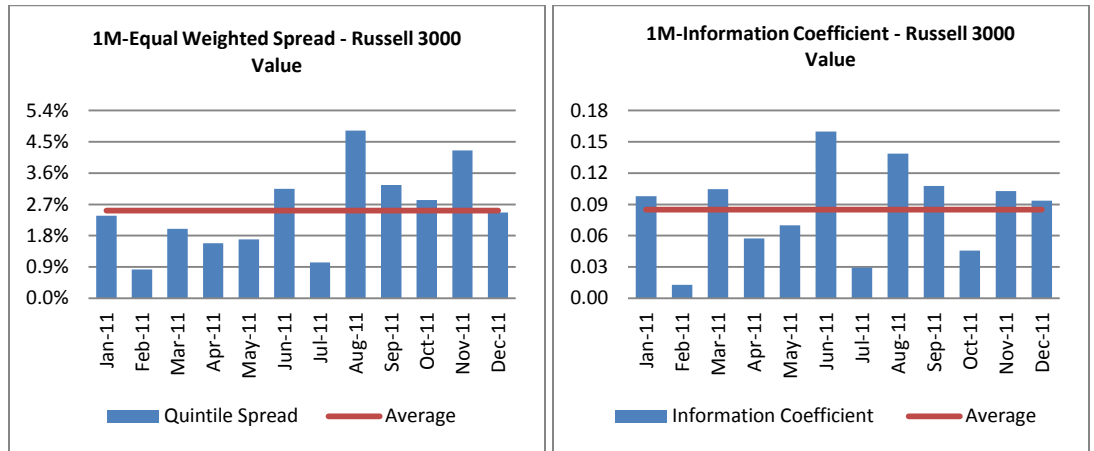
Information Coefficient Summary	
Avg 1-month IC	0.06***
1-month IC Info. Ratio	1.03
1-month IC Hit Rate	86%***

*** Significant at 1% level

4.1 Model Performance in 2011

The 1-month time series equal-weighted top/bottom quintile spread and 1-month information coefficient (IC) for the model are shown in Figure 17. The average monthly return spread and IC were 2.52% and 0.09 respectively [shown as red line in both charts]. Similar to the Growth Benchmark Model, the Value Benchmark Model delivered a positive return spread and IC in every month of the year. Performance was robust in both halves of the year – return spread of 2.0% in January to June vs. 3.1% in July to December and identical ICs [0.08 in both halves]. The model had its best performance in August in terms of return spread [4.8%] and best IC [0.16] in June.

Figure 17: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 Value Universe [January 2011 – December 2011]



Street Sentiment was the strongest sub-component in terms of spread (2.37%) and IC (0.07), while Growth Stability was the weakest with a return spread of 0.88% and IC of 0.03 (Figure 18). The performance of the sub-components in both halves of 2011 is presented in Figure 19. Street Sentiment, Valuation and Price Momentum were the top three components in terms of return spreads in the first half of the year. Valuation, Street Sentiment and Quality were the strongest components in the second half as the U.S economy slowed, and the euro zone crisis intensified. The Valuation component is dominated by factors that reward companies with strong cash-flow generation capabilities, while the Quality components prefers companies with low debt levels and high operating margins.

Figure 18: Value Benchmark Model Breakdown: 1M-Equal Weighted Spread and Information Coefficient – Russell 3000 Value Universe; January 2011 – December 2011

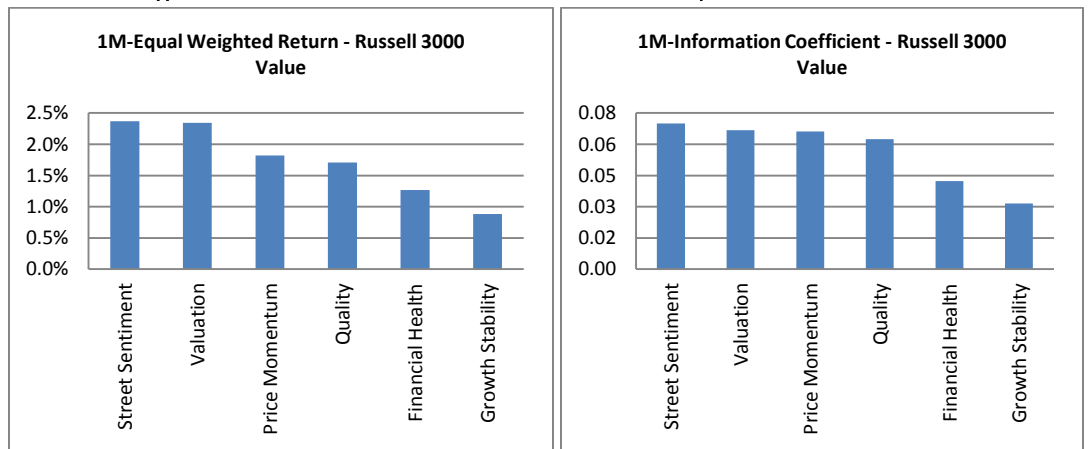
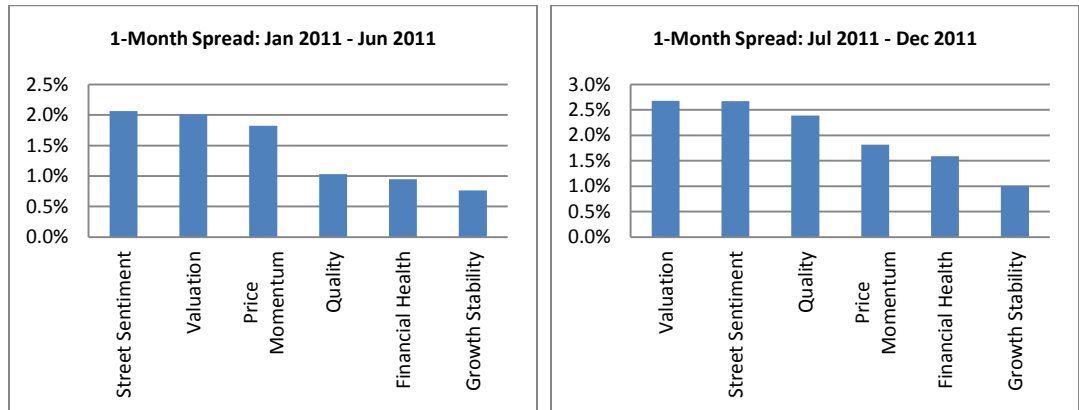


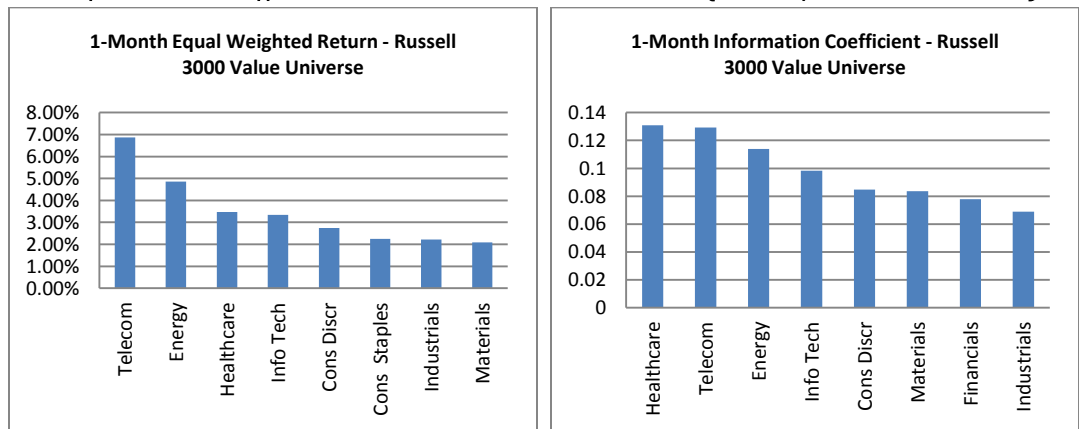
Figure 19: Value Benchmark Model Breakdown: 1M-Equal Weighted Spread – Russell 3000 Value Universe; January 2011 – December 2011



4.1 Sector Performance

The model’s performance in the ten GICS sectors is shown in Figure 20. The top three sectors in terms of return spread were telecom, energy and healthcare, while healthcare, telecom and energy were the top three when performance is measured by IC. Performance was weakest in materials [return spread] and industrials [IC].

Figure 20: Value Benchmark Model: Sector 1-Month Average Return and 1-Month Average Information Coefficient – Russell 3000 Value Universe (January – December 2011)



4.2 Long/Short Portfolio Characteristics

We take a closer look at the portfolio characteristics of the model’s top [quintile 1] and bottom [quintile 5] quintiles (Table 16). The attributes we consider are size, beta [based on 60-month CAPM], and percentile ranks using Alphaworks Quality indicator. The median market capitalization of the long portfolio [quintile 1] is \$1.3 billion compared to \$0.5 billion for the short portfolio [quintile 5]. The top quintile has a lower beta than the bottom quintile [1.28 vs.1.47]; it also has a higher quality tilt compared to the short portfolio [20th percentile vs. 79th percentile, where a lower percentile implies a higher quality tilt]. The Value Benchmark Model’s long portfolio was

dominated by large cap, low beta and high quality securities, which were the names that outperformed in 2011.

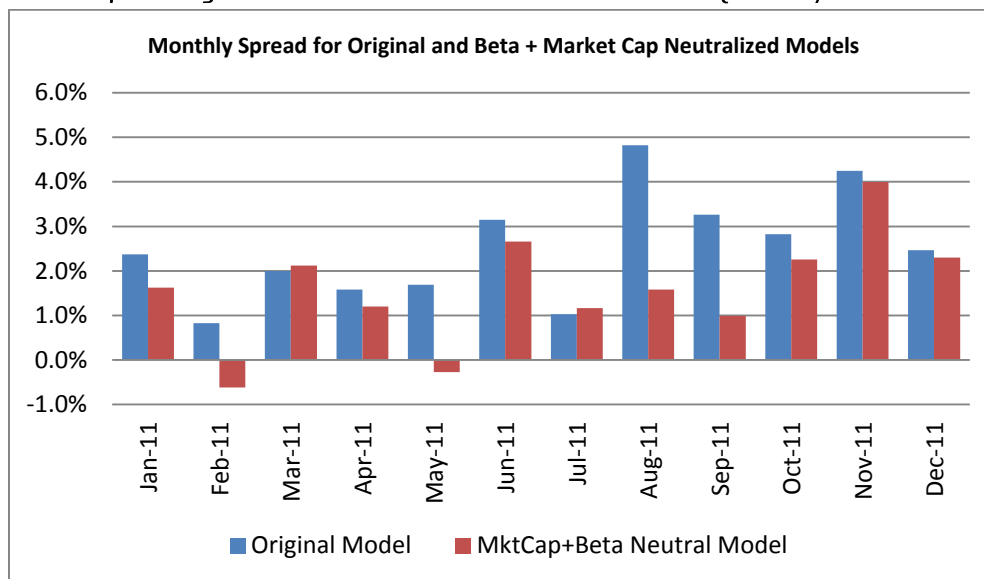
Table 16: Beta, Market Capitalization, and Quality Ranks of Value Benchmark Model’s Q1 and Q5 Equal-Weighted Portfolios – Russell 3000 Value [January 2011 – December 2011]

	Quintile 1	Quintile 5
Size	\$1.3B	\$0.5B
Beta	1.28	1.47
Quality Score	20	79

4.3 Neutralizing Portfolio Tilts

We examined the impact of shrinking market cap and beta exposures on the model’s performance. Figure 21 shows the impact of this decision on model return spread; Table 17 indicates the market cap and beta of model quintiles after the fractiles have been market cap and beta neutralized.

Figure 21: Value Benchmark Model: Impact of Elimination of Market Cap + Beta Tilts: 1-Month Equal Weighted Return – Russell 3000 Value Universe [January – December 2011]



The original model outperforms both the market cap + beta neutralized version in 10 out of 12 months, the exceptions being February and July when the latter outperformed the former by 13 and 14bps respectively. The average 1-month equal weighted return spread for the original model is 2.52%, compared to 1.59% for the market cap + beta neutralized model.

While the original model benefited from positive exposures to large cap and low beta names, Figure 21 suggests that investors who prefer not to take on such exposures could still have successfully used the Value Model to generate positive return spreads in 2011.

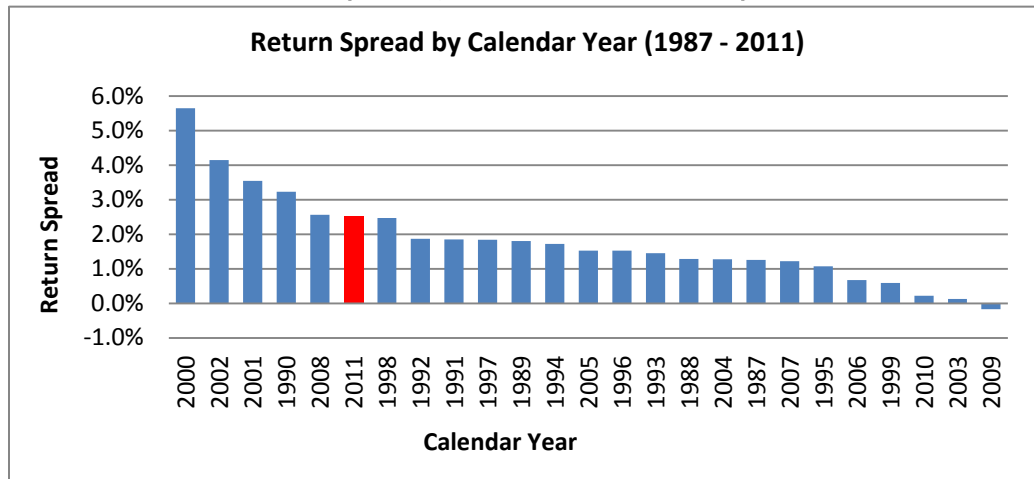
Table 17: Value Model: Quintile Portfolio Characteristics after Removing Market Capitalization and Beta Tilts – Russell 3000 Value [January 2011 – December 2011]

	60-Month CAPM Beta	MarketCap
Quintile 1	1.17	\$0.94B
Quintile 5	1.18	\$0.91B

4.4 Historical Comparison and Regime Analysis

Average monthly calendar year quintile spreads over the last 25 years are displayed in Figure 22. The top three years were 2000, 2002 and 2001, a strong period for value based strategies in general. 2011’s spread is ranked 6th, while 2009’s spread was the worst at -0.17%.

Figure 22: Value Benchmark Model: Calendar Year Average Monthly Quintile Spread: Russell 3000 Value Universe [January 1987 to December 2011]



Similar to the other models discussed in previous sections, the Value Benchmark Model’s absolute return spread is largest when stock pair wise correlation is moderate and smallest when it is high [Table 18].

Table 18: Regime Analysis – Value Benchmark Model: Russell 3000 Value Universe [January 1987 to December 2011]

	1-month Return Spread	1-month IC
Highest	1.42%***	0.05***
Middle	2.03%***	0.07***
Lowest	1.93%***	0.06***

5 Monthly Spread by Calendar Year and Model Stability

We decided to confirm if there had been other calendar years in which any of our models had positive spreads in each month of that year (Figure 23). The Price Momentum Model has had seven calendar years with all months in that year showing positive spreads, followed by the Value Benchmark Model with six. Apart from 2011, the last time any model succeeded in generating positive spreads in every single month of a year was in 1998 (Value and Price Momentum), suggesting that such an achievement is not frequent, even for models that use a “diversified” approach in factor selection, such as ours.

*Figure 23: Calendar Years with All Months Having Positive Spreads:
January 1987 to December 2011*

Year	Value	Growth	Quality	Price Mom
1987				+
1988				+
1989	+	+		+
1990	+		+	+
1991				
1992				+
1993				
1994		+		+
1995		+	+	
1996	+	+		
1997	+			
1998	+			+
1999				
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				
2011	+	+	+	
Total	6	5	3	7

Model stability in 2011 as measured by the autocorrelation of monthly ranks is listed in Table 18. The correlation numbers are in line with what we observed during model back-tests.

Table 18: Model 1-month Autocorrelation [January–December 2011]

Model	1-month Rank
Price Momentum	0.57
Quality	0.90
Growth	0.91
Value	0.92

6 Conclusions

In this research report, we summarized the performance of S&P Capital IQ's four stock selection models (Value Benchmark, Growth Benchmark, Quality, and Price Momentum) in 2011. All four models generated positive return spreads in 2011, with the Value Benchmark Model posting the strongest results. We show that our models had positive exposures to large cap, high quality and low beta names during the year. We also found that neutralizing these exposures did not eliminate model spreads, although performance deteriorated slightly when benchmarked to the spreads of the original models.

Our Recent Research

January 2012: Intelligent Estimates – A Superior Model of Earnings Surprise

As residual stakeholders, equity investors place enormous importance on a company's earnings. Analysts regularly forecast companies' future earnings. The prospects for a company's future earnings then become the basis for the price an investor will pay for a company's shares. Market participants follow sell side analysts' forecasts closely, identifying those analysts that demonstrate forecasting prowess and track those analysts' forecasts going forward.

December 2011: Factor Insight – Residual Reversal

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".

November 2011: Research Brief: Return Correlation and Dispersion – 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: 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.

September 2011: Research Brief: Return Correlation and Dispersion - Tough Times for Active Managers

July 2011: Research Briefs- A Topical Digest of Investment Strategy Insights

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? In this report we highlight several classes of questions that investors are routinely interested in and share our thoughts on these topics.

June 2011: A 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 S&P Capital IQ's quantitative research begins a more thorough examination 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.

May 2011: Introducing S&P Capital IQ's Global Fundamental Equity Risk Models

Global investors invest in assets across multiple countries. Building on the success of S&P Capital IQ's release of our U.S. Fundamental Equity Risk models we use similar building blocks viz. the best of breed point-in-time S&P Capital IQ data, state of the art Alphaworks alpha factor library, GICS global industry classification system and an open and robust risk estimation methodology to construct the S&P Capital IQ Global Fundamental Equity Risk Model.

May 2011: Topical Papers That Caught Our Interest

April 2011: Can Dividend Policy Changes Yield Alpha?

April 2011: CQA Spring 2011 Conference Notes

March 2011: How Much Alpha is in Preliminary Data?

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

January 2011: US Stock Selection Models Introduction

January 2011: Variations on Minimum Variance

January 2011: Interesting and Influential Papers We Read in 2010

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

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

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

July 2010: Introducing S&P Capital IQ's Fundamental US Equity Risk Model

S&P CAPITAL IQ MODEL PERFORMANCE REVIEW FOR 2011

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