

## QUANTITATIVE RESEARCH

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## Papers that caught our Interest: Interesting & Influential Papers

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When we get a new investment idea, two questions immediately come to mind. What literature already exists around this topic? and What were the findings? As good research practice, we seek to identify how we can adapt and fine tune our ideas to overcome some of the limitations of past studies, and whether we can use new data sources to augment/validate our thoughts. In short, how can we convert our idea into something that can add value?

We have put together a selection of articles we recently read and discussed, focusing on two topics relevant to our recent research interest - portfolio allocation across asset classes and the relevance and use of analyst estimates. There is a large body of knowledge gathered through academic and practitioner research, so we whittled down our selection to articles that we found to be especially thought provoking and insightful. For each article we provide links to the article, the abstracts, and a brief discussion on why the article was chosen and how it could be useful to us and fellow practitioners.

## ASSET ALLOCATION

### A Quantitative Approach to Tactical Asset Allocation - Faber, Mebane T

<http://ssrn.com/abstract=962461>

#### Abstract:

The purpose of this paper is to present a simple quantitative method that improves the risk-adjusted returns across various asset classes. A simple moving average timing model is tested since 1900 on the United States equity market before testing since 1973 on other diverse and publicly traded asset class indices, including the Morgan Stanley Capital International EAFE Index (MSCI EAFE), Goldman Sachs Commodity Index (GSCI), National Association of Real Estate Investment Trusts Index (NAREIT), and United States government 10-year Treasury bonds. The approach is then examined in a tactical asset allocation framework where the empirical results are equity-like returns with bond-like volatility and drawdown.

#### CIQ Analyst Notes:

- The paper tests a trend following model for managing risk in a portfolio of assets. Specifically, the model buys the asset if its monthly price is higher than the 10-month SMA, and sells the asset and sits on cash if its monthly price is lower than the 10-month SMA.

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- The model is first tested on S&P 500 Index from 1900 through 2008. Compared to a buy-and-hold strategy, the timing model yields higher annualized return (10.45% vs. 9.21%) and lower volatility (12.01% vs. 17.87%), and reduces maximum drawdown.
- The model is then tested on four other asset class indices from 1973. Absolute returns, risk-adjusted returns and maximum drawdown are all improved by using the timing model.
- Finally the model is applied to an equal weight portfolio of the five asset classes. The result is improved return and Sharpe Ratio, and reduced volatility and maximum drawdown, as compared to a buy-and-hold strategy.
- While the timing model seems simple, the results suggest that it has potential in improving risk-adjusted returns of multi-asset class portfolios and can serve as a good starting point of quantitative asset allocation research.

### Long-Term Investors and Valuation-Based Asset Allocation - Wade D. Pfau

[http://mpira.ub.uni-muenchen.de/35006/2/MPRA\\_paper\\_35006.pdf](http://mpira.ub.uni-muenchen.de/35006/2/MPRA_paper_35006.pdf)

#### Abstract:

Valuation-based market timing demonstrates strong potential to improve risk-adjusted returns for conservative long-term investors. Such timing strategies based on the cyclically-adjusted price-earnings ratio provide comparable returns as a 100 percent stocks buy-and-hold strategy but with substantially less risk. Meanwhile, market timing provides comparable risks and the same average asset allocation as a 50/50 fixed allocation strategy, but with much higher returns. Also, it is important to consider less extreme timing strategies as well, as defining market timing as either all stocks or all cash does not provide a hedge against the possibility that valuations may depart from their historical averages for extended periods. Finally, comparing the strategies over shorter rolling sub-periods reveals that a valuation-based market timing approach fairly consistently provides risk-adjusted returns superior to a fixed asset allocation strategy.

#### CIQ Analyst Notes:

- The author shows that by using a cyclically-adjusted price-to-earnings ratio (price divided by the average earnings over the previous ten years, PE10), conservative long-term investors could implement a simple asset allocation strategy, investing 100 percent in stocks when the valuation measure suggests the market is undervalued and switching to 100 percent cash if the market is overvalued, to achieve comparable returns relative to a 100 percent buy-and-hold strategy, but with substantially lower risk.

## **Financial Distress and the Cross-Section of Equity Returns** -Hong Lan, Lorenzo Garlappi

<http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.2011.01652.x/full>

### Abstract:

We explicitly consider financial leverage in a simple equity valuation model and study the cross-sectional implications of potential shareholder recovery upon resolution of financial distress. Our model is capable of simultaneously explaining lower returns for financially distressed stocks, stronger book-to-market effects for firms with high default likelihood, and the concentration of momentum profits among low credit quality firms. The model further predicts (i) a hump-shaped relationship between value premium and default probability, and (ii) stronger momentum profits for nearly distressed firms with significant prospects for shareholder recovery. Our empirical analysis strongly confirms these novel predictions.

### CIQ Analyst Notes:

- The authors construct a simple equity valuation model that accounts for financial leverage. They use this model to demonstrate how the potential of shareholder recovery upon resolution of financial distress affects the relationship between expected return and risk of default.
- They show that there is a hump-shaped relationship between equity beta and expected returns when there exists a possibility of potential shareholder recovery, which in turn leads to hump-shaped relationships with respect to default probability.
- This relationship causes them to predict, empirically test, and confirm a theory where there should be 1) a concentration of momentum profits among low credit quality firms and 2) larger prospects of shareholder recovery as well as stronger book-to-market effects for firms with high default likelihood.
- This piece highlights the importance of financial leverage and resolving financial distress in leveraged equity asset models.

## **Risk-Based Asset Allocation: A New Answer to an Old Question?"** – Wai Lee

[https://www.nb.com/em/pdf/K0434\\_risk\\_based\\_asset\\_allocation.pdf](https://www.nb.com/em/pdf/K0434_risk_based_asset_allocation.pdf)

### Abstract:

In recent years, we have witnessed an alarmingly large and growing amount of literature on portfolio construction approaches focused on risks and diversification rather than on estimating expected returns. Numerous simulations applied to different universes have been documented in support of these approaches based on their apparent outperformance versus passive market capitalization-weighted or static fixed-weight portfolios. Many studies attribute the better performance of these risk-based asset allocation approaches to superior diversification. Given the absence of clearly defined investment objective functions behind these approaches as well as the metrics used by these studies to evaluate ex post performance, Lee puts these approaches into the same context of mean-variance efficiency in an attempt to understand their theoretical underpinnings. In doing so, he hopes to shed some light on what these approaches attempt to achieve and on the characteristics of the investment universe, if indeed these approaches are meant to approximate mean-variance

efficiency. Rather than adding to the already large collection of simulation results, Lee uses some simple examples to compare and contrast the portfolio and risk characteristics of these approaches. He also reiterates that any portfolio which deviates from the market capitalization-weighted portfolio is an active portfolio. He concludes that there is no theory to predict, ex ante, that any of these risk-based approaches should outperform.

CIQ Analyst Notes:

- There has been a surfeit of new techniques for portfolio construction built on risk-based allocation methods in the investment management community. The author considers the following methods – Global Minimum Variance (GMV), Maximum Diversification Portfolio (MDP) and Risk Parity (RP) – as examples of such Risk allocation based methods for portfolio construction.
- He then explains clearly that these formulations do not have a clear investment objective, either in absolute or risk-adjusted return space.
- The author clarifies that from a mean-variance efficiency perspective the GMV is achieved when all assets provide identical excess returns, the MDP being achieved when we assume equal Sharpe ratios, and RP is achieved when we assume equal Sharpe ratios and identical correlations across assets. i.e. fairly restrictive prior assumptions.
- Then through some simple simulations we see that many of these techniques can lead to fairly concentrated portfolios both in terms of holdings and risk profiles.
- The take-away message is that carefully constructed risk allocation based methods ex-post seem to provide absolute/risk adjusted returns during certain periods of time. But as the author argues, until the theoretical underpinnings to expect these abnormal returns ex ante have been well hypothesized and justified as an investment objective, there is no reason to believe that these active bets that work for some period of time will continue to work for all periods.

**Credit-Informed Tactical Asset Allocation - David Klein**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1872163](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872163)

Abstract:

This paper outlines a tactical asset allocation (TAA) strategy that takes signals from the credit markets and applies them to the stock market. A power model is built using the Russell 2000 equity index and the Bank of America/Merrill Lynch High Yield B index. This model is then used in a tactical asset allocation strategy to judge whether equities are expensive or cheap relative to high yield bonds. Based on back-test results from 1997 to the present, the approach provides equity-like returns while lowering portfolio volatility.

CIQ Analyst Notes:

- Credit anticipates and equity confirms. The credit market prices in anticipated trends before the stock market does. Confirmation is provided often enough to implement a profitable TAA strategy that outperforms. The strategy can be extended for use with other equity alpha strategies as well as to achieve complementary portfolio goals such as capital preservation.
- The debt-equity relationship can be exploited profitably at the level of individual companies and forms the basis for one type of capital structure arbitrage.

- If stocks appear undervalued relative to corporate bonds, go long stocks. If stocks appear overvalued relative to corporate bonds, exit stock positions and buy short-term Treasuries.
- The tactical asset allocation strategy outlined in the paper lowers equity portfolio risk while boosting overall returns. By its nature, it captures most of an equity index's upside return and greatly limits the expected downside risk.

### **Cross-Asset Style Momentum - Daehwan Kim**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1594143](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1594143)

#### Abstract:

This paper reports significant momentum profits among style portfolios of multiple asset classes. Previous studies have demonstrated style momentum within equity markets. The findings of this paper reveal that style momentum is not merely an equity market phenomenon, but a cross-asset phenomenon. This paper also presents a new assessment of alternative theories of momentum. Using the framework previously established by Lewellen (2002), the results of this paper show that cross-asset style momentum profits are consistent with the under reaction hypothesis, but not with the excess comovement theory of Lewellen (2002) or the style investing theory of Barberis and Shleifer (2003).

#### CIQ Analyst Notes:

- Style momentum is usually recognized as an equity market phenomenon. The study discussed in this paper reveals that style momentum is not merely an equity market phenomenon, but a cross-asset phenomenon.
- The cross-asset style momentum profits are significant; they are even much bigger than both within-asset style momentum profits and within-asset non-style momentum profits. The analysis shows that cross-asset style momentum profits are generated mainly via positive auto-correlation.
- Compared to strategic asset allocation strategies with fixed weights on asset classes, momentum-based tactical asset allocation (TAA) strategies have been popular among investment professionals. This is because TAA employs various market timing and asset rotation techniques to allow weights on asset classes to be modified dynamically depending on market conditions.
- It is proved to be more profitable if constructing style portfolios within asset classes and applying momentum strategies among style portfolios compared to just applying momentum among asset classes.

### **Contagion or Flight-to-Quality Phenomena in Stock and Bond Returns - Apostolos Thomadakis**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1971651](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1971651)

#### Abstract:

In this paper, I study the correlation between stock and bond returns. We can define flight-to-quality from stocks to bonds as the decrease in the correlation between the two assets in falling stock markets periods (bear state), since the two assets returns move in the opposite

direction. On the contrary, a movement in the same direction between the two asset classes as the economy is at a bear state can be classified as contagion. Firstly, I show that a two-state model, with regimes characterized as bear and bull states, is required in order to capture and explain the dynamics of equity returns at the bivariate level. Secondly, the analysis I have conducted shows statistically significant evidence of flight-to-quality phenomena from stock to bond returns, in the US and UK for the period 1986-2010. Finally, I have found evidence of time-variation in the structure of the predictability patterns linking financial markets and monetary policy, as the latter is expressed through short-term interest rates. These results have not only important implications for portfolio diversification and asset allocation, but they are also adding to the ongoing debate on how the time variation in the stock-bond correlation is driven by changing macroeconomic conditions.

CIQ Analyst Notes:

- This paper studies and analyses the relationship between stock and bond markets. Stocks are expected to yield higher returns than bonds over the long run, even though stocks are more volatile than bonds.
- Empirical findings indicate that in the bear state the correlation between the two asset classes is negative and switches to a positive as the economy moves to the bull state. This relationship can be explained by taking into consideration the fact that when the stock market is falling, investors tend to become more risk averse, thereby prompting shifts of funds out of the stock market into safer asset classes, such as long-term government bonds.
- This increase/decrease in the equity/bond risk premium forces stock and bond returns to move in the opposite direction during periods of market turmoil and gives rise to "flight-to-quality" phenomena.
- The results are likely to provide useful and valuable information for investors' behavior in normal times and under extreme market conditions, and this behavior can contribute to the stability or instability of the financial system.
- This paper also argues that stock and bond returns become highly predictable using past-lagged values of short-term interest rates. This is also evidence that Markov switching models are able to capture the time-varying and unstable nature of the links between monetary policy and equity markets, and thus provide useful support to optimal decisions.

**Value and Momentum Everywhere** – Clifford S. Asness, Lasse Heje Pederson, Tobias J. Moskowitz,

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1363476](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1363476)

Abstract:

Value and momentum ubiquitously generate abnormal returns for individual stocks within several countries, across country equity indices, government bonds, currencies, and commodities. We study jointly the global returns to value and momentum and explore their common factor structure. We find that value (momentum) in one asset class is positively correlated with value (momentum) in other asset classes, and value and momentum are negatively correlated within and across asset classes. Liquidity risk is positively related to value and negatively to momentum, and its

importance increases over time, particularly following the liquidity crisis of 1998. These patterns emerge from the power of examining value and momentum everywhere simultaneously and are not easily detectable when examining each asset class in isolation.

CIQ Analyst Notes:

- The paper extends research on Value and Momentum strategies, across multiple asset classes and countries. Excess returns for value and momentum strategies are already well documented for US equities. The authors find this extends across asset classes and countries with strong commonalities.
- Their data raises interesting questions on underlying causes, with strong correlation between similar style strategies across markets, and negative correlation between the value and momentum strategies both within and across asset classes. This suggests similar behavioral causes across markets, or some common global factors that generate the abnormal returns regardless of market.
- They find a possible explanation in liquidity risk. High liquidity risk coincides with outperformance of value strategies across assets, and low liquidity risk coincides with outperformance of momentum strategies across assets.
- The two negatively correlated strategy styles which individually outperform in a variety of countries and asset classes, suggest promising Sharpe ratios when used together in a multi-asset class global portfolio.

**Optimal Momentum: A Global Cross Asset Approach - Gary Antonacci**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1833722](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1833722)

Abstract:

Momentum is widely accepted among academic researchers as one of the strongest return generating factors, yet it remains largely unknown by the investing public. This paper explores that dichotomy by examining momentum from a practical point of view. Using exchange traded fund data from 2002 through 2010, we compare industry, style and geographic applications of momentum. Global stock index funds using four geographic regions give the best momentum results, but with a high level of volatility.

Instead of lowering portfolio volatility by the usual method of adding fixed income securities to our momentum portfolio, we take an alternative approach of integrating fixed income into the momentum process itself. Fixed income securities become active in the portfolio only when they exhibit stronger momentum than equities. This creates a regime change overlay with momentum used for tactical, as well as strategic, asset allocation. The results are extraordinary risk adjusted returns at a reasonable level of volatility. Adding fixed income and other diversifying assets, such as gold, to momentum-based portfolios gives substantially more improvement than it does to non-momentum portfolios.

We validate eight years of ETF momentum results with thirty-four years of index data. On this longer data set as well, cross asset momentum substantially increases risk adjusted returns and significantly enhances the benefits of global diversification.

We show momentum to be a practical, powerful and parsimonious method for global asset allocation and portfolio construction. When used with selective diversification across different



asset classes, momentum may also be an attractive enhancement to traditional mean variance portfolio optimization.

CIQ Analyst Notes:

- When many non-correlated asset classes experience large declines simultaneously, the normal benefits of diversification disappear, and most common asset classes based on a buy and hold strategy see painful drawdown.
- According to the most recent research, diversification alone is no longer sufficient to temper risk, and something more is needed to manage risk well. This paper examines a very simple quantitative market timing model – called the ‘trend-following model’ that manages risk.
- This moving-average-based trading model uses a risk-reduction technique by signaling investors to exit a risky asset class and move to Treasury bills; and it works in a majority of markets. The model is simple enough for investors to follow and mechanical enough to remove emotion and subjective decision-making. This is because it is:
  - a. Simple, purely mechanical logic
  - b. The same model and parameter for every asset class
  - c. Price-based only
- The approach is examined in a tactical asset allocation framework and results in equity-like returns with bond-like volatility and drawdown.

**Global Portfolio Optimization – Fisher Black, Robert Litterman**

[http://faculty.fuqua.duke.edu/~charvey/Teaching/BA453\\_2006/Black\\_Litterman\\_Global\\_Portfolio\\_Optimization\\_1992.pdf](http://faculty.fuqua.duke.edu/~charvey/Teaching/BA453_2006/Black_Litterman_Global_Portfolio_Optimization_1992.pdf)

Abstract:

Quantitative asset allocation models have not played the important role they should in global portfolio management. A good part of the problem is that such models are difficult to use and tend to result in portfolios that are badly behaved. Consideration of the global CAPM equilibrium can significantly improve the usefulness of these models. In particular, equilibrium returns for equities, bonds, and currencies provide neutral starting points for estimating the set of expected excess returns needed to drive the portfolio optimization process. This set of neutral weights can then be tilted in accordance with the investor’s views. If the investor has no particular views about asset returns, he can use the neutral values given by the equilibrium model. If the investor does have one or more views about the relative performances of assets, or their absolute performances, he can adjust equilibrium values in accordance with those views. Furthermore, the investor can control how strongly a particular view influences portfolio weights, in accordance with the degree of confidence with which he holds the view.

CIQ Analyst Notes:

- This is the seminal paper in which Black & Litterman describe their method of formulating neutral views on a variety of asset classes and adjusting those neutral views to incorporate the investor’s own relative insights.



- As human investors, our skill at estimating returns tends to be limited to a narrow range of asset classes, and it is stronger on a relative basis than absolute. However, optimal asset allocation decisions require estimate expected returns on an absolute basis for a diverse range of assets.
- Black & Litterman highlight the folly of estimating multi-asset class returns using various methods, and demonstrate how these flawed estimations can lead to unreasonable portfolio choices when using mean-variance optimization. They describe their method of deriving 'neutral' expected returns for assets, based on known market weightings and covariance. They then describe a process, with examples, for how investors can adjust the neutral expectations strategy to reflect their relative and focused views, and choose a portfolio with reasonable tilts away from the market portfolio.
- The paper doesn't provide all the formulas on how to implement their method, but it has spawned numerous follow-up papers that fill in the details on the method.

## STYLE INVESTING

**Detecting Crowded Trades in Currency Funds** - Levich, Richard M. and Pojarliev, Momtchil T.

<http://ssrn.com/abstract=1522208>

Abstract:

The financial crisis of 2008 highlights the importance of detecting crowded trades due to the risks they pose to the stability of the financial system and to the global economy. However, there is a perception that crowded trades are difficult to identify. To date, no single measure to capture the crowdedness of a trade or a trading style has developed. We propose a methodology to measure crowded trades and apply it to professional currency managers. Our results suggest that carry became a crowded trading strategy towards the end of Q1 2008, shortly before a massive liquidation of carry trades. The timing suggests a possible adverse relationship between our measure of style crowdedness and the future performance of the trading style. Crowdedness in the trend following and value strategies support this hypothesis.

Our sample period covers 63 months, of which 27 months are effectively an out-of-sample period. The out-of-sample results confirm the usefulness of our measure of crowdedness. After a period when carry returns were very favorable, carry became crowded again in fall 2009, and then experienced a sharp reversal during the European sovereign debt crises and after the "flash crash" in May 2010.

We apply our approach to currencies but the methodology is general and could be used to measure the popularity or crowdedness of any trade with an identifiable time series return. Our methodology may offer useful insights regarding the popularity of certain trades – in currencies, gold, or other assets – among hedge funds. Further research in this area may be relevant for investors, managers and regulators.

CIQ Analyst Notes:

- The paper proposes a methodology to measure style crowdedness in currency trading. It is defined as the percentage of the funds with significant positive exposure to a given style less the percentage of the funds with significant negative exposure to the same style.
- The analysis suggests an adverse relationship between crowdedness and style performance. The crowdedness measurement may provide useful information regarding the future performance of a given strategy, as well as serve as a market timing signal.
- Although the methodology is applied to currency funds, it can be generalized to other actively traded asset classes and has the potential of providing style or asset rotation signals.

**ANALYST ESTIMATES****Analysts Earnings Forecasts Distribution - Henry Leung**

<http://epublications.bond.edu.au/ijbf/vol8/iss3/2/>

Abstract:

Consensus measures on earnings forecasts such as the IBES mean and median are point estimates of sample distributions of analyst earnings forecasts. Often, these consensus measures serve as informational proxies for investors in their decision making process. This study utilizes the Australian IBES earnings forecast data from 1988 through 2008 to show that analyst earnings forecast distributions are non-normal across the 20-year period. These results suggest the possibility of a more accurate surrogate consensus than the simple IBES mean and median. This, in turn, may have some bearing on those who generally employ analysts' consensus earnings forecasts for stock valuation and modeling purposes.

CIQ Analyst Notes:

- By using the Australian IBES earnings forecast data from 1988 through 2008, the author shows that IBES consensus mean and median significantly deviate from the normal distribution, which undermines the assumption that uses the mean and median as the point estimates that can be representative for a normal distribution. The results suggest that there is a need for possible development of an improved aggregate consensus based on non-normal distributions.

**The Good, The Bad, and The Lucky: Projected Earnings Accuracy and Profitability of Stock Recommendations – Daniel Kreutzmann, Dieter Hess, Oliver Pucker**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1786608](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1786608)

Abstract:

Analysts who provide more accurate earnings forecasts also issue more profitable recommendations. We demonstrate how investors can profit from this contemporaneous link

by differentiating between “able” and “lucky” analysts. In line with previous studies, we find that past track records alone are not sufficient to identify profitable recommendations. Only skilled analysts working in a superior environment provide consistently profitable recommendations. The overall profitability of their recommendations is not driven by a post-announcement drift effect. We find that an implementable, i.e., look-ahead bias free, trading strategy based on the projected – rather than past – earnings accuracy yields substantial excess returns.

The main difference of our approach is that we combine analysts’ past earnings accuracy with a broad range of analyst characteristics to assess their ability. This approach enables us to identify ex ante analysts who provide superior recommendations. We show that it is essential to take into account the ability of analysts in addition to their past performance, i.e., to look beyond their track record.

Our results suggest that identifying the more skilled processors of information is crucial, while following analysts based on only their past performance alone is not profitable. Moreover, our approach provides a promising avenue for research that uses analysts’ outputs to capture the expectations of market participants or evaluates incentives and compensation of financial intermediaries.

#### CIQ Analyst Notes:

- Paper focuses on the predictability of earnings accuracy and assesses whether the contemporaneous relationship between earnings accuracy and recommendations profitability can be exploited.
- The authors (KHP) use a broad range of analyst characteristics (e.g. experience), in addition to analyst track record, to categorize analysts as “lucky”, “unable” and “able”/“skilled”. The paper shows that it is important to look beyond track record in identifying superior forecasts. KHP’s research supports work we have done recently using analyst estimates (See S&P Capital IQ January 2012 Quantitative Research Report – “Intelligent Estimates: A Superior Model of Company Earnings Surprise”), where we demonstrate that it is more important to focus on attributes of accurate forecasts (analyst characteristics), rather than identifying the most accurate analysts (past record).
- KHP show that recommendations of able analysts generate excess returns, while those of lucky or unable analysts do not. They used a trading strategy and event study approach to calculate portfolio return. Using recommendations published over the last 6 months, the annualized four-factor excess return of a Strong Buy/Buy recommendation portfolio of able analysts is 3.34% (significant at 5% level) compared to 0.83% and -0.05% for lucky and unable analysts respectively. The results were similar under the event study where the Strong Buys of able analysts generated a 105-day holding period return of 2.2% (significant at 1% level) compared to 0.7% and 0.4% for lucky and unable analysts.
- KHP’s results are robust to size and reputation effect (returns to recommendations of skilled analysts materialize over several months, and not just around announcement date)

## **When Two Anomalies Meet: The Post–Earnings Announcement Drift and the Value–Glamour Anomaly** - Zhipeng Yan, CFA, and Yan Zhao

<http://www.cfapubs.org/doi/abs/10.2469/faj.v67.n6.3>

### Abstract:

This study of the post–earnings announcement drift and the value–glamour anomaly finds that value stocks have greater information uncertainty, exhibit more-muted initial market reactions to earnings surprises, and have better (more positive or less negative) post–earnings announcement drifts than do glamour stocks. A trading strategy based on these findings can generate an average annual abnormal return of 16.6–18.8 percent before transaction costs.

### CIQ Analyst Notes:

- Stocks are segregated between directionality of EPS surprise (-1/0/1) and 3 day abnormal price return around announcement date (-1/1). Those stocks which have the same sign for each experience amplified the post event drift.
- Information uncertainty leads to a muted reaction to surprise. Conversely, under reaction weakens with investor attention.
- Value and glamour stocks are categorized based on their book-to-market ratios.
- For value stocks, positive surprises lead to more favorable post event drifts. Negative surprise impacts are muted, presumably because of the embedded risk premium.
- For glamour stocks, investors react more strongly to negative rather than positive surprises.
- A strategy of buying value stocks with positive earnings surprises, and shorting glamour stocks with negative earnings surprises leads to significant pre-transaction cost returns. Most of this return comes from the long side.

## **Analysts' Earnings Forecast, Recommendation and Target Price Revisions** - Joshua Livnat, Ronen Feldman, Yuan Zhang

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1883819](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1883819)

### Abstract:

This study examines the immediate and delayed market responses to revisions in analyst forecasts of earnings, target prices, and recommendations. Consistent with prior literature, revisions in earnings forecasts are positively and significantly associated with short-term market returns around the revisions. However, we show that short-term market returns around target price revisions and recommendation changes are even stronger. We also find superior future performance (return drift) for portfolios that use information from all three types of revisions to those using information from only one of the three types of revisions.

### CIQ Analyst Notes:

- Results show that analysts revise their target prices less frequently than earnings forecasts but more frequently than stock recommendations. There are both immediate and delayed market responses to the revisions in target prices.

- This paper argues the fact that one earns higher hedge returns based on information from all three signals than based on information from each of the individual signals and suggests that each of these three signals provide information incremental to the other two signals. This result has important implications to investors who can better position their portfolios to take advantage of recent analyst revisions.
- Examining whether investors can use previously announced revisions to create portfolios and gain future excess returns, this paper find that by far the best strategy is to combine all three signals, i.e., using revisions of earnings forecasts in conjunction with revisions in target prices or recommendations.
- Contrary to the evidence about the immediate market reactions to the revisions, portfolios based on earnings forecast revisions in the previous month earn consistently higher excess returns than portfolios based on the other two types of revision signals, whether we focus on hedge portfolios or long portfolios only.

**What Factors Drive Analyst Forecasts?** - Boris Groysberg, George Serafeim, Nitin Nohria and Paul Healy

<http://www.cfapubs.org/doi/abs/10.2469/faj.v67.n4.4>

Abstract:

Using survey data to judge how analyst forecasts are related to evaluations of companies' industry competitiveness, strategic choices, and internal capabilities, the authors found that analyst forecasts are associated with many of the factors that money managers rate as important in their assessments of analyst contributions. They also found wide variation in ratings consistency across variables among analysts covering the same company. On average, consistency is higher for sell-side analysts than for buy-side analysts.

CIQ Analyst Notes:

- In this paper, the authors examine which company, industry and leadership factors are related to analyst's forecasts of earnings and stock price performance. They also examine whether financial experts who cover the same company have common perceptions of its future performance, core qualitative capabilities, etc.
- Analysts are likely to consider factors such as the growth of the industry, the strategic positioning, innovation, leadership, and financial resources to forecast a company's performance. To examine which of these factors are the drivers of the analyst forecasts, the authors designed a survey that asked analysts to provide forecasts of revenue and earnings growth, gross margin, stock market appreciation, and ratings on the factors, for up to three companies that they covered.
- The factors that money managers rate as crucial in their assessments of analyst's contributions are strongly related to analyst forecasts of industry, and leadership factors.
- There is a systematic difference between buy-side and sell side analysts. Sell-side forecasts are related to strategy communication, and buy-side forecasts are related to management quality. Consistency is significantly lower for buy-side analysts than for their sell-side peers. The average intra-class correlation statistics (ICC) for buy-side analyst is 0.231, compared with 0.340 for sell-side analysts.

- The results relative to the consistency of analysts' ratings show that revenue forecasts, strategy execution, strategy communication and balance sheet strength are the most consistent metrics.

**Analyst Following along the Supply Chain and Forecast Accuracy** - Franco Wong, Yue Zhang, Yuyan Guan, M.H.

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1775748](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1775748)

Abstract:

This study investigates whether analysts strategically construct their portfolios along the supply chain. We document four major findings. First, the likelihood of an analyst following a firm's major customer increases with the strength of the economic tie along the supply chain, as measured by the percent of the firm's sales to its customer. Second, analysts who follow the firms' major customers incorporate the customers' earnings news into their forecast revisions for the (supplier) firms, but other analysts do not. Third, by following the major customer firms, analysts can improve the accuracy of their earnings forecasts for the supplier firms. Fourth, the improvement in forecast accuracy attributed to following a firm's customers is statistically as important as the effect of following the firm's industry peers. We obtain these results while controlling for the analysts' endogenous choice of covering a firm's major customers.

CIQ Analyst Notes:

- The authors posit that incorporating supply chain interactions improve analyst forecast accuracy by "exposing analysts to alternative sources of complementary information."
- The paper focuses on three questions. Do analysts follow along the supply chain? Do analysts react to information along the supply chain? Does this add value in terms of forecast accuracy?
- They test these hypotheses by incorporating customer supplier linkages from the Compustat industry segment customer file to identify customers representing sales > 10% of total firm sales.
- The authors conclude that analysts follow along the supply chain as economic links between companies get stronger (higher % of sales), analysts who follow along the supply chain are likely to incorporate earnings news from related companies, and incorporating economic links adds a similar amount of value to following other companies in the same industry.

## Our Recent Research

### **January 2012: 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 CIQ'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.

### **January 2012: Intelligent Estimates**

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**

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.

In this piece our team highlights academic articles of note on each of these two topics. We found these papers to provide unique insights that would be of broad interest to practitioners. We provide analyst notes for each article which summarize the main points. Our hope is that by sharing this with you, you may gain new perspective and generate new ideas that will help you as much as this research has helped us. For each research piece we provide a link to the article, the abstract, and a brief summary and discussion of why the article was chosen, and the analyst notes highlighting key insights in the work.

### **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**

#### **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 S&P 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 S&P 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****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**

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