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Papers that Caught Our Interest:

Interesting & 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.

We each selected an article that we recently read and found to be relevant, interesting or insightful. This is the compilation of all the articles the team selected and discussed. We share them with you, with the hopes you find them as thought provoking as we have. For each article we provide links to the article, the abstracts, and a brief discussion of why the article was chosen and how it could be useful for our research.

BEHAVIORAL FINANCE

Reconciling Efficient Markets with Behavioral Finance: The Adaptive Markets Hypothesis - Andrew W. Lo

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=728864

Abstract:
The battle between proponents of the Efficient Markets Hypothesis and champions of behavioral finance has never been more pitched, and there is little consensus as to which side is winning or what the implications are for investment management and consulting. In this article, I review the case for and against the Efficient Markets Hypothesis, and describe a new framework - the Adaptive Markets Hypothesis - in which the traditional models of modern financial economics can co-exist alongside behavioral models in an intellectually consistent manner. Based on evolutionary principles, the Adaptive Markets Hypothesis implies that the degree of market efficiency is related to environmental factors characterizing market ecology such as the number of competitors in the market, the magnitude of profit opportunities available, and the adaptability of the market participants. Many of the examples that behavioralists cite as violations of rationality that are inconsistent with market efficiency – loss aversion, overconfidence, overreaction, mental accounting, and other behavioral biases - are, in fact, consistent with an evolutionary model of individuals adapting to a changing environment via simple heuristics. Despite the qualitative nature of this new paradigm, I show that the Adaptive Markets Hypothesis yields a number of surprisingly concrete applications for both investment managers and consultants.

CIQ Analyst Notes:

- Andrew Lo argues a case against the efficient market hypothesis and for the adaptive market hypothesis (AMH).
- He shows that many violations of rationality are actually consistent with an evolutionary model of human behavior.
- Quants may be able to use individuals' preferences and companies' innovations/adaptations to judge stocks. However, this AMH is still very young and taking advantage of this may yet be a long way off.

The Origin of Behavior - Thomas J. Brennan and Andrew W. Lo

http://web.mit.edu/alo/www/Papers/origin.pdf

Abstract:
We propose a single evolutionary explanation for the origin of several behaviors that have been observed in organisms ranging from ants to human subjects, including risk-sensitive foraging, risk aversion, loss aversion, probability matching, randomization, and diversification. Given an initial population of individuals, each assigned a purely arbitrary behavior with respect to a binary choice problem, and assuming that offspring behave identically to their parents, only those behaviors linked to reproductive success will survive, and less reproductively successful behaviors will disappear at exponential rates. This framework generates a surprisingly rich set of behaviors, and the simplicity and generality of our model suggest that these behaviors are primitive and universal.

CIQ Analyst Notes:

- Extension of behavioral finance to fundamental considerations/explanations of human behavior
- Focus on parsimonious interdisciplinary relationships (science is science and they should be able to work together)
- 'Adaptive market hypothesis' bridges the gap between rational/efficient theory and real world behavior

CORPORATE GOVERNANCE

Corporate Governance, Accounting Outcomes, and Organizational Performance - David F. Larcker, Scott A. Richardson, İrem Tuna

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=976566

Abstract:
The empirical research examining the association between typical measures of corporate governance and various accounting and economic outcomes has not produced a consistent set of results. We believe that these mixed results are partially attributable to the difficulty in generating reliable and valid measures for the complex construct that is termed "corporate governance." Using a sample of 2,106 firms and 39 structural measures of corporate governance (e.g., board characteristics, stock ownership, institutional ownership, activist stock ownership, existence of debt-holders, mix of executive compensation, and anti-takeover variables), our exploratory principal component analysis suggests that there are 14 dimensions to corporate governance. We find that these indices have a mixed association with abnormal accruals, little relation to accounting restatements, but some ability to explain future operating performance and future excess stock returns.

CIQ Analyst Notes:

- The paper uses principal component analysis to analyze 39 corporate governance factors and finds that there are 14 dimensions to corporate governance and they are predictive of firm's future performance.
- The authors emphasize the difficulty in accurately measuring corporate governance and point out that the large measurement errors lead to the mixed results in corporate governance research.
- They provide an alternative to traditional governance measurements which seem to have predictive power.

Cashing In on Managerial Malfeasance: A Trading Strategy around Forecasted Executive Stock Option Grants - Ivo Ph. Jansen and Lee W. Sanning

http://www.cfainstitute.org/learning/products/publications/faj/Pages/faj.v66.n5.1.aspx

Abstract:
This study examined the profitability of a trading strategy that exploits the manipulation of stock prices around the grant date of executive stock options. The strategy generates annualized abnormal returns of 1.4–5.2 percent net of transaction costs and is relatively unaffected by the Sarbanes–Oxley Act of 2002.

CIQ Analyst Notes:

- Interesting alpha trading strategy
- Simple to implement
- Incorporate short term trading signals into our broader traditional long-term alpha models

NATURAL LANGUAGE PROCESSING & SENTIMENT

From Tweets to Polls: Linking Text Sentiment to Public Opinion Time Series - Brendan O'Connor, Ramnath Balasubramanyan, Bryan R. Routledge, and Noah A. Smith

http://www.cs.cmu.edu/~rbalasub/publications/oconnor_balasubramanyan_routledge_smith.icwsm2010.tweets_to_polls.pdf

Abstract:
We connect measures of public opinion measured from polls with sentiment measured from text. We analyze several surveys on consumer confidence and political opinion over the 2008 to 2009 period, and find they correlate to sentiment word frequencies in contemporaneous Twitter messages. While our results vary across datasets, in several cases the correlations are as high as 80%, and capture important large-scale trends. The results highlight the potential of text streams as a substitute and supplement for traditional polling.

CIQ Analyst Notes:

- The paper integrates NLP with sentiment analysis from a macro perspective, which to a degree is distinct from many of the other papers on the subject that tend to focus on stock selection. One possible use for this type of indicator would be in regime-switching as highlighted by the recent Bank paper.
- I selected the paper for a variety of reasons, but namely because it is timely and covers all phases of their analysis.
- The primary take-away from a productive development perspective is that quantitative indicators, both macro and micro, can be derived from a vast array of content. As a result, in keeping with an innovative spirit we should do our best to explore atypical data sources for unique factors.

Widespread Worry and the Stock Market - Eric Gilbert and Karrie Karahalios

http://social.cs.uiuc.edu/people/gilbert/38

Abstract:
Our emotional state influences our choices. Research on how it happens usually comes from the lab. We know relatively little about how real world emotions affect real world settings, like financial markets. Here, we demonstrate that estimating emotions from weblogs provides novel information about future stock market prices. That is, it provides information not already apparent from market data. Specifically, we estimate anxiety, worry and fear from a dataset of over 20 million posts made on the site LiveJournal. Using a Granger-causal framework, we find that increases in expressions of anxiety, evidenced by computationally-identified linguistic features, predict downward pressure on the S&P 500 index. We also present a confirmation of this result via Monte Carlo simulation. The findings show how the mood of millions in a large online community, even one that primarily discusses daily life, can anticipate changes in a seemingly unrelated system. Beyond this, the results suggest new ways to gauge public opinion and predict its impact.

CIQ Analyst Notes:

- Uniqueness - there is not much research has been done to connect real world emotions to the investment market.
- Latest Trend - The latest trend on algo trading is to incorporate news/wires into the HFT. Computers are now being used to generate news stories about company earnings results or economic statistics as they are released. This almost instantaneous information forms a direct feed into other computers which trade on the news. Some hedge funds are even attempting to assign sentiment to news stories so that automated trading can react directly to the news stories. By the same token, there is possibility to incorporate the public mood and sentiment into the alpha models if behavior finance and behavior economics really works
- Practicability - released the data and code, which allow others to build on and implement the ideas very easily.

RISK & VOLATILITY

A Note On Minimum Variance Investing - Dr. Bernd Scherer

www.northinfo.com/documents/391.pdf

Abstract:

- "Risk minimization in itself is a meaningless exercise"
  Author: *The minimization of risk is on its own a meaningless objective. Risk needs to be traded off against return. The same applies to related concepts that try to maximize "diversity" as in FERNHOLZ (1999) or CHOUEIFATY/COIGNARD (2006) or to minimize concentration as in KING (2007).*

- "In a market without structure no portfolio allocation rule can outperform"
  Author: *I conjecture that the portfolio construction process behind minimum variance investing implicitly picks up risk based pricing anomalies. In other words the minimum variance portfolio leverages on widely published risk based mispricing. Effectively it tends to hold low beta and low residual risk stocks.*

CIQ Analyst Notes:

- Prof. Scherer shines his light on a topic that has generated a lot of buzz – minimum variance investing sold as a "forecast free strategy".
- He cuts through the noise and shows via clear math and modeling that the alpha generated by minimum variance investing is in fact indirect pickup of well known pricing anomalies – exposures to low beta and low residual risk factors.
- He calls into question earlier work promoting minimum variance portfolio construction methods as achieving alpha through Bayesian shrinkage.
- We have incorporated learnings from his work into a research paper and seminar that we are developing around this topic of minimum variance investing.

Skulls, Financial Turbulence, and Risk Management - Mark Kritzman, CFA, and Yuanzhen Li

http://www.cfainstitute.org/learning/products/publications/faj/Pages/faj.v66.n5.3.aspx?WPID=Topic_List_Tabbed&PageName=Publications

Abstract:
Based on a methodology introduced in 1927 to analyze human skulls and later applied to turbulence in financial markets, this study shows how to use a statistically derived measure of financial turbulence to measure and manage risk and to improve investment performance.

CIQ Analyst Notes:

- The paper revisits the Turbulence Index that the authors developed about 10 years ago.
- The index is a standardized distance measure that identifies periods of high correlation of assets and extreme price moves.
- Authors argue that the turbulence index has some advantages over commonly-used measures such as implied volatility or realized index volatility.
- The authors examine the index over the recent financial crisis and they propose some methodologies for incorporating the index in 1) portfolio stress-testing and 2) portfolio construction within an optimization framework.

TRADITIONAL QUANTITATIVE ANALYSIS

Random Matrix Theory and Covariance Estimation - Jim Gatheral

http://www.cfm.fr/us/publications.php?publication=51

Abstract:
Sophisticated optimal liquidation portfolio algorithms that balance risk against impact cost involve inverting the covariance matrix. Eigenvalues of the covariance matrix that are small (or even zero) correspond to portfolios of stocks that have nonzero returns but extremely low or vanishing risk; such portfolios are invariably related to estimation errors resulting from insuffient data. One of the approaches used to eliminate the problem of small eigenvalues in the estimated covariance matrix is the so-called random matrix technique. We would like to understand:

- the basis of random matrix theory. (RMT)
- how to apply RMT to the estimation of covariance matrices.
- whether the resulting covariance matrix performs better than (for example) the Barra covariance matrix.

CIQ Analyst Notes:

- This paper answers the question how much of the market could be explained by an ideal quant model.
- This paper is very helpful to delineate how much of the market dynamics is caused by noise, which will not likely be captured by a quant model.
- However, this paper does not give explicitly the details of such an ideal quant model.

Value and Momentum Everywhere - Clifford S. Asness, Tobias J. Moskowitz, and Lasse H. Pedersen

http://pages.stern.nyu.edu/~lpederse/papers/ValMomEverywhere.pdf

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

- Asness examined value and momentum effects across asset classes and countries. During their study, He created value and momentum indicators for several asset classes. His findings are that value in one asset class is positively correlated with value in other asset classes and value and momentum are negatively correlated within and across asset classes.
- This is a paper that answered some fundamental questions about when value and momentum strategy works and extending this to multi-asset class environment is very refreshing.

Information Ratios and Batting Averages - Neil Constable and Jeremy Armitage, CFA

http://www.cfapubs.org/doi/pdfplus/10.2469/faj.v62.n3.4154

Abstract:
The information ratio (IR) and the batting average are two commonly quoted measures of investment success, but these measures have shortcomings: The IR contains no information about higher moments, and the batting average contains only directional information. This article demonstrates how the IR and batting average interact and how they can be usefully combined to allow investors to construct a comprehensive picture of the choices they face. The intriguing result is that large batting averages can result in low IRs and, conversely, impressive IRs can be obtained with low batting averages. Furthermore, in choosing between two managers with equivalent IRs, an investor who is averse to blowups should choose the manager with the lower batting average.

CIQ Analyst Notes:

- This paper shows the link between a managers IR and hit rate is a function of how many times the manager is able to apply his skill (turnover).
- The interesting insight that came out of this for me is that managers (IR held constant) that have high hit rates likely have returns that are negatively skewed and may be more likely to experience extreme negative returns.

Return Predictability along the Supply Chain: The International Evidence – Husayn Shahrur, Ying L. Becker, and Didier Rosenfeld, CFA

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1615460

Abstract:
In this study of a sample of equities listed on the exchanges of 22 developed countries, equity returns of customer industries led the returns of supplier industries. This customer–supplier/lead–lag effect exhibits characteristics consistent with the view that the effect results from a slow diffusion of value-relevant information.

CIQ Analyst Notes:

- Building off Cohen and Frazzini (2008) the authors examine the lead-lag effect of customer/supplier relationships; for US stocks customer companies led supplier returns.
- Used Input-Output accounts for US economy to identify industry level customer-supplier linkages.
- Covered MSCI World ex US study began in 1995; looked at UK and Japan separately
- Results confirmed that the customer-supplier lead-lag relation was significant after controlling for risk and even financial market integration
- Results were robust across all samples, not driven by small caps, more pronounced in the two largest countries (Japan and UK were 50% of the sample)

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