Deutsche Bank
Markets Research

Global

Quantitative Strategy

Academic Insights

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Interesting ideas from academia

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The issue on earnings management and prediction

Theme of the month

The central theme of this month is on earnings management and prediction. We highlight a paper by Lemma, et al [2014] on corporate earnings management around the world and another paper by Wessels and Wansbeek [2014] on corporate governance and firm performance. Furthermore, Lorek and Pagach [2014] extends one of our own research (see Luo, et al [2014]) by comparing the accuracy of analyst consensus earnings estimates with a systematic time series model.

Separately, Duanmu, et al [2014] tackles the challenges of hedge replication with ETFs using cluster analysis and LASSO regression. Avramov, et al [2014] illustrates the time varying momentum returns conditional on market liquidity (or illiquidity) regimes.

The best of the rest

We also provide a list of other papers that are quite interesting. We organize the papers by topics: equity investing, other asset classes, asset allocation/global macro, derivatives, and trading research. Lastly, we highlight upcoming conferences in the quantitative investing field.

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I. Recommended papers

Paper 1. Analysts versus Time-Series Forecasts of Quarterly Earnings: A Maintained Hypothesis Revisited

- Author: Kenneth S. Lorek, Donald P. Pagach
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2406013
- Reviewed by Yin Luo

Why it's worth reading

Earnings and forecasted earnings are extremely important for the investment management business. The most widely used earnings expectation by practitioners is consensus sell-side earnings estimate. In academic research, it is also generally accepted that analyst earnings estimates are more accurate than and superior to time series models. In two of our recent research papers[1], we investigate other alternatives – in particular, time series based earnings forecast and buy-side consensus. Lorek and Pagach [2014] is the most recent and a fairly thorough comparison of consensus analyst versus time-series forecast of quarterly earnings.

Data and methodology

FQ1, FQ2, and FQ3 EPS consensus data is from IBES. Reporting date and actual EPS are also from IBES. Compustat is used to extract other financial and industry classification data. Lorek and Pagach [2014] use the ARIMA(1,0,0)x(0,1,1) model, following Brown and Rozeff [1979] and Bathke and Lorek [1984][2], as the main time-series model to predict earnings.

Results

While Lorek and Pagach [2014] also find that analysts' EPS estimate are more accurate than time-series models, the results are context dependent. Time-series models can be useful in earnings predictions for: 1) longer forecast horizons beyond the next quarter; 2) small firms; 3) technology companies; and 4) firms with negative earnings.

Our take

Before discussing accuracy, we would also like to point out that the coverage of time series models tends to be higher than analyst estimates, especially for companies outside of the US or small-cap stocks, where there is no or poor analyst coverage.

From our own research[3], we also find sell-side consensus earnings forecasts and time-series model predictions can be complementary. The earnings surprise signal constructed using both models leads to stronger post-earnings-announcement drift than either model alone.

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[1] See Luo, et al [2014] "Surprise!" and Wang, et al [2014]. "The Quant View: The Widsom of Crowds – Crowdsourcing Earnings Estimates", both by Deutsche Bank Quantitative Strategy team.

[2] See Brown, L. and Rozeff, M. [1979]. "Univariate time-series models of quarterly EPS: A proposed model", *Journal of Accounting Research* 17, pp. 179-189; and Bathke, A.W., and Lorek, K.S. [1984]. "The relationship between time-series models and the security market's expectation fo quarterly earnings", *The Accounting Review* 59, pp. 163-176.

[3] See Luo, et al [2014] "Surprise!", Deutsche Bank Quantitative Strategy, March 10, 2014.

Paper 2: "Determinants of Earnings Management: Evidence from around the World"

- Authors: Tesfaye Lemma, Minga Negash and Mthokozisi Mlilo
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2370926
- Reviewed by Vincent Zoonekynd

Why it's worth reading

Earnings are often used in quantitative models, but they are equally often regarded with suspicion due to management discretion.

Data and methodology

Earnings management is the use of management's discretion over reported earnings to influence stakeholders. There are several theoretical frameworks explaining earnings management: information asymmetry between insiders and external stakeholders; agency, i.e., conflicts of interest between insiders and outsiders, in the presence of insufficient monitoring; signaling, i.e., the use of earnings announcements to communicate a firm's prospects and institutional environment.

Earnings management can be measured as the first principal component of accruals earnings management measures (the ratio of the standard deviation of EBIT to that of new cash flow from operations; the correlation between changes in accruals and changes in new operating cash flows; and the ratio of the absolute value of accruals and new operating cash flows) or real earnings management measures (residuals of the regression of cash flows, production costs or discretionary expenses, against sales and changes in sales, all normalized by assets).

The authors explain those measures of earnings management with firm characteristics (e.g., size, structure, debt maturity, board size and independence, block shareholding, institutional ownership – from Bureau van Dijk's Osiris database), industry characteristics (regulation, competition), country characteristics (common law vs civil law, GDP, IFRS adoption, governance, market vs banks financial orientation – from the World Bank[4,5]), via three-stage least squared regressions (3SLS) to account for endogeneity.

Results

The following factors influence earnings management: reporting environment, leverage, board independence, institutional ownership, growth, debt maturity, regulatory environment, competition, governance infrastructure. Some factors also have different influence on accruals versus real earnings management.

Our take

One could replace the accruals, often used as a measure of earnings manipulation (see, for instance, our previous work on quality[6]) with the measures of earnings management presented in this article.

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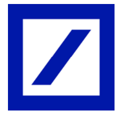
[4] *Governance Matters VIII, Aggregate and Individual Governance Indicators 1996–2008*, D. Kaufmann et al. (2009)

[5] *A New Database on Financial Development and Structure*, T. Beck et al. (1999)

[6] *Quality Investing in Asia: Seeing the Forest Through the Trees*, V. Zoonekynd et al. (Deutsche Bank, 2014)



Paper 3: "What is the Relation (if any) Between a Firm's Corporate Governance Arrangements and its Financial Performance?"

- Author: Roberto Wessels and Tom Wansbeek
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2371051
- Reviewed by Allen Wang

Why it's worth reading

Corporate governance is drawing increasing attention from the investment community. The motivation behind it, though, is contradictory to the "equilibrium view" prevalent in the academic literature, in which corporate governance arrangements are optimized by firms subject to their investment opportunity sets and therefore uncorrelated to their future performance. This paper investigates such an equilibrium in large U.S. corporations, which has implications for the validity of implementing corporate governance in investment strategies.

Data and methodology

The authors treat corporate governance, financial performance, and the investment opportunity set as (unobservable) latent variables, and identify a set of (observable) indicators that are assumed to share common factors with the latent variables. This method allows for implicit measuring of latent variables by estimating the covariance structure of the indicators. Board size, CEO compensation, institutional ownership and management ownership are used as indicators for corporate governance; free cash flow, stock return and volatility are used for measuring financial performance; S&P index inclusion, R&D expenses and P/E ratio are indicators for the investment opportunity set.

The Null hypothesis, derived from the "equilibrium view", is that both corporate governance structure and financial performance are endogenously determined by firms' investment opportunity set. Therefore, the authors specify the structure in which investment opportunity set is the common factor capturing all correlation between corporate governance and financial performance. This setup, dubbed structural equation model (SEM), is then estimated via generalized method of moments (GMM).

Results

Wessels and Wansbeek [2014] find that a better corporate governance structure is associated with smaller board size, lower CEO compensation, higher institutional ownership, and has little connection with management ownership. Moreover, the relations among latent variables suggest a significant unconditional covariance between corporate governance and financial performance, but when controlled for investment opportunity set, this covariance becomes insignificant. It is in line with the equilibrium hypothesis.

Our take

This paper seems to suggest the contemporaneous correlation between governance and firm's performance can be captured by a few highly visible factors. Our real concern is the forecastability of realized stock returns using observable governance indicators. In addition, the methodology in this paper is relevant to analysts for modeling in the presence of hidden variables and endogeneity issues, which are common among many applications.

Paper 4: "Time-Varying Momentum Payoffs and Illiquidity"

- Authors: Doron Avramov, Si Cheng, and Allaudeen Hameed
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2289745
- Reviewed by Mehmet Beceren

Why it's worth reading

This paper presents a different empirical perspective on the highly volatile payoff structure of momentum strategies in equity markets. The authors investigate the explanatory power of the aggregate market illiquidity on the long-short equity momentum returns. The motivation of the paper is mainly driven by the model of an earlier paper by Daniel, Hirschleifer and Subrahmanyam [1998] that argues for the relation of momentum profits with the state of market liquidity through behavioral biases of stock investors. The validity of the model that links over-confidence of investors to the liquidity states and momentum factor is open for debate, but the empirical results and stylized facts would be of interest to the investors focusing on momentum strategies.

Data and methodology

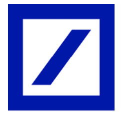
The sample used in the analysis of momentum returns consists of all common stocks listed on NYSE, AMEX and NASDAQ available from CRSP, with a share code of 10 or 11, from January 1928 to December 2011. At the beginning of each month, all common stocks are sorted into deciles based on their lagged 11-month returns. The breakpoints of long and short decile portfolios are based on returns in the NYSE universe to eliminate the dominance of more volatile NASDAQ stocks in portfolio formation. The market illiquidity measure is directly borrowed from Amihud [2002].

Results

The predictive power of market illiquidity dominates the other commonly used factors (e.g., market return, volatility and sentiment indicators) in distinguishing market states. Even after controlling for these potential market regimes, the effect of market illiquidity is still statistically significant. In addition to the aggregate market illiquidity measure, Avramov et al [2014] studies the effect of liquidity gap between the long and short legs of the momentum baskets, and demonstrates that the widening illiquidity gap between loser and winner stocks brings large negative momentum returns. The authors also extend the analysis to the international markets and find similar results in Japan and Europe.

Our take

This study demonstrates interesting facts of momentum returns in the US and international stock markets through the perspective of liquidity conditions. Part of the momentum payoffs comes from the implicit net long or net short positions in liquidity premium at different times. Therefore, it is important to analyze the momentum premia as a function of the overall market liquidity conditions interacting with the cross-sectional distribution of liquidity at the stock level. However, we think the theoretical motivation of the empirical analysis coming from the 'over-reaction' and 'over-confidence' argument is weak. The mechanical relation between the momentum crashes and the liquidity conditions cannot serve as an evidence for behavioral models of financial markets. The authors seem to blend too many loose arguments with their core, and more interesting, empirical results.



Paper 5: "In Search of Missing Risk Factors: Hedge Fund Return Replication with ETFs"

- Authors: Jun Duanmu, Yongjia Li, Alexey Malakhov
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2411910
- Reviewed by Mehmet Beceren

Why it's worth reading

Hedge fund replication through alternative liquid assets based on systematic risk factors is an important part of quantifying the costs and benefits of investing in opaque hedge fund strategies. If a significant portion of a hedge fund's returns comes from systematic and tradable risk factors at a lower cost, investors may be able to distinguish alpha or 'manager skill' from simple 'beta' and avoid the higher management fees by directly investing in the risk factors themselves. However, without the information on the real asset holdings and exposures of the managers, the hedge fund replication effort becomes a potentially spurious data mining exercise. This paper develops a methodology of hedge fund return replication with ETFs based on cluster analysis and LASSO factor selection procedure, and, at least partly, overcomes the potential data mining bias.

Data and methodology

The authors utilize the hedge fund data from Bloomberg for the period from 1997 to 2012. Since the analysis needs at least 24-months of data to 'clone' and another 12 months to test the out-of sample cloned performance, the authors only use the funds that have inception dates prior to 2009. The final sample comprises 3190 unique funds. The ETF data set comes from Morningstar and includes 1484 US listed ETFs. The data cleaning and availability constraints result in a subset of 1313 unique ETFs as of 2012. The ETF sample grows exponentially from 19 funds in 1997 to 1313 in 15 years.

The authors first run a set of cluster analysis to identify potential collinearity among ETFs and reduce the number of potential ETFs to be used in LASSO regressions. Then, they try to estimate the 'efficient clones' by applying LAR-LASSO regression to the individual hedge fund returns and up to a hundred of ETFs as regressors. The best model is chosen according to the Schwarz information Criterion (SIC). Finally, the estimated best-fit models are tested for out-of-sample tracking error of the 'clones' relative to the actual funds.

Results

With the help of the out-of sample tracking error statistics of the fitted models, the authors are able identify the funds that are 'cloneable' versus 'non-cloneable' by a set of ETFs available in the market. They show that the 'non-cloneable' set of funds that cannot be statistically matched to a set of systematic ETFs, perform better on average, but also suffer a higher attrition rate. This result is in accordance with the expectation that the 'non-cloneable' funds rely more on manages' skill and take more of 'non-standard' risks.

Our take

This paper presents very interesting results by distinguishing the hedge funds that are more easily replicated by a combination of thematic or systematic ETFs from the other funds that cannot be 'cloned'. The statistical methodology and the results motivate further research especially for the investors participating in alternative investments and smart-beta strategies

II. Upcoming conferences

Americas

Yin Luo will present our latest research at the CQA Spring Conference on April 22 and Quant Congress USA in July.

Figure 1: Upcoming conferences and events in the Americas

Date	Location	Conference
April 6-9, 2014	Charleston	Q Group Spring Conference http://www.q-group.org/current-seminar-2014/
April 22-23, 2014	Las Vegas	CFA Annual Conference http://annual.cfainstitute.org/
May 4-7, 2014	Seattle	CQA Spring Conference http://www.cqa.org
June 12, 2014	NYC	CQA Quantitative Trading Seminar http://www.cqa.org
July 10, 2014	Boston	CQA Academic Review Session http://www.cqa.org
July 2014	New York	QuantCongress USA http://www.quantcongressusa.com/
September 10, 2014	Chicago	CQA Fall Conference http://www.cqa.org

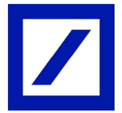
Source: Deutsche Bank

Europe/EMEA

Figure 2: Upcoming conferences and events in Europe/EMEA

Date	Location	Conference
April 1-3, 2014	London	QUANT Europe Conference http://www.quanteurope.com/
April 11, 2014	London	Zurich European Financial Management Association 17th SGF Conference http://www.efmaefm.org/announcments.shtml#events
April 14-15, 2014	Frankfurt	MathFinance Conference https://mathfinance2.com/Conferences/2014/Home

Source: Deutsche Bank



Asia

Yin Luo and Khoi LeBinh will present our latest research at Deutsche Bank's Access Asia conference in Singapore in May.

Figure 3: Upcoming conferences and events in Asia

Date	Location	Conference
March 31 – April 3, 2014	Hong Kong	FundForum Asia 2014 http://www.fundforumasia.com/
May 19-23, 2014	Singapore	Deutsche Bank Access Asia Conference http://conferences.db.com/asiapacific/
November 5, 2014	Hong Kong	CQAsia Conference http://www.cqa.org

Source: Deutsche Bank

III. Other papers of interest

In the following sections, we provide a list of papers in five areas

- Equity investing
- Fixed income, currency, commodities, and other asset classes
- Asset allocation, multi-asset, GTAA, and global macro
- Derivatives and volatility
- Trading research

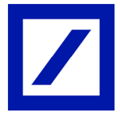
1. Equity Investing

From K Street to Wall Street: Politically Connected Analysts and Stock Recommendations

- Dane M. Christensen, Michael B. Mikhail, Beverly R. Walther, Laura Wellman
- February 1, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402411
- Abstract: In this study, we examine whether sell-side security analysts gain inside information from political connections. We measure analysts' political connections based on political contributions at the brokerage house level. We argue that to the extent brokerages invest in political connections to obtain private information, analysts at politically connected brokerages are more likely to cover firms in general, and especially firms for which this information is more valuable. We use how sensitive the firm is to policy changes (as proxied by their lobbying expenses) to identify situations where this political information is even more valuable. We also predict that analysts at politically connected brokerages issue more profitable stock recommendations. This increased profitability should be more pronounced for politically sensitive stocks. Our evidence is consistent with these predictions. To provide further support, we document that the increased profitability of stock recommendations issued by politically connected brokerages is concentrated when there is high economic policy uncertainty. We also find some evidence that this increased profitability only exists during the times when Congress is in session. Collectively, these results suggest that brokerage houses obtain value-relevant, non-public information from their political connections.

Investor Attention to Salient Features of Analyst Forecasts

- Vasiliki E. Athanasakou, Ana Vidolovska Simpson
- February 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401085
- Abstract: We examine whether, and to what extent, investors focus on salient and easy-to-process features in responding to analyst



forecasts. We focus on rounding as arguably the most salient forecast feature. We find that while rounding is only marginally associated with forecast accuracy, investors attribute to it undue significance. Investors view rounding as distinctly informative to other analyst characteristics that determine forecast accuracy and the likelihood of rounding. Unlike previous literature, which focuses on rounding at a point in time, we examine rounding patterns across the analyst portfolio and over time. We find that the association between rounding and lower accuracy documented in prior studies is driven only by repeated rounding. We also find that repeated rounding attracts investors' undue attention at the revision announcement and is associated with a post-revision drift. Our results suggest that the market over-relies on salient features in analyst forecasts as a summary indicator of forecast accuracy.

What Risk Factors Matter to Investors? Evidence from Mutual Fund Flows

- Brad M. Barber, Xing Huang, Terrance Odean
- March 4, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2408231
- Abstract: When selecting an actively managed equity fund, investors seek to identify fund managers who are able to generate positive risk-adjusted performance (alpha). To assess risk-adjusted performance, investors must apply a model of risk when ranking funds; thus, we can infer the risk model that investors use by the fund choices that they make. Based on this observation, we analyze the sensitivity of fund flows to alphas calculated using competing models of risk: market-adjusted returns, the Capital Asset Pricing Model (CAPM), the Fama-French three-factor model (which adds size and value factors), and the Carhart four-factor model (which adds a momentum factor). We first find that the CAPM-based alpha better explains fund flows than the three- or four-factor alphas. We then decompose fund returns into five categories – (1) four-factor alpha and returns that can be traced to the (2) market (beta), (3) size, (4) value, and (5) momentum tilts of the fund. We find that investors are most sensitive to a fund's alpha. Fund returns that can be traced to size, value, or momentum are discounted, but not much (with sensitivities ranging from 67-84% of that observed for alpha). However, fund returns that can be traced to the market beta of the fund are heavily discounted (with a sensitivity less than 25% of that observed for alpha). These results indicate that investors care about market risk when evaluating mutual funds, but most do not treat factor returns as compensation for risk when evaluating the performance of actively managed mutual funds.

R&D Cuts and Subsequent Reversals: Meeting or Beating Quarterly Analyst Forecasts

- John Shon, Meng Yan
- European Accounting Review, Forthcoming. February 21, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399621
- Abstract: Among firms that meet or beat earnings expectations, we find that cuts to R&D spending are more prevalent in Q4 relative to other interim quarters. This is consistent with the relative costs of real activities management (accruals-based earnings management) decreasing (increasing) in Q4 due to the annual audit. More

importantly, we find that the subsequent reversal of such R&D cuts is more prevalent and economically more significant following Q4 cuts relative to the reversals that follow cuts in other interim quarters. Our findings suggest that examination at the quarterly level (rather than annual level) lends new insights into the current debate regarding the prevalence of potentially value-destroying R&D cuts that managers make. Indeed, our findings suggest that such cuts may merely be temporary deferrals of R&D outlays.

Earnings Volatility and Earnings Prediction: Analysis and UK Evidence

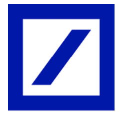
- Colin Clubb, Guoli Wu
- Journal of Business Finance & Accounting, Vol. 41, Issue 1-2, pp. 53-72, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400801
- Abstract: This paper confirms that US evidence of a negative relationship between earnings persistence and earnings volatility applies to UK firms over the period 1991–2010. Our analytical framework highlights the possibility that this result may reflect downward estimation bias in earnings persistence (and persistence of cash flow and accruals components of earnings) related to transitory earnings elements. Out - of - sample forecasts, based on models estimated for earnings volatility quartiles, suggest significant improvement in earnings forecasts for lower volatility firms. The results also suggest that the negative association between earnings persistence and volatility may be due to both estimation bias and variation in core earnings persistence.

Insider Trading and Firm Performance Following Open Market Share Repurchase Announcements

- Hsuan - Chi Chen, Sheng - Syan Chen, Chia - Wei Huang, John Schatzberg
- Journal of Business Finance & Accounting, Vol. 41, Issue 1-2, pp. 156-184, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400804
- Abstract: The long - run performance of equity securities subsequent to announcements of open market repurchases (OMR) remains a contentious topic. In this paper we propose the "dichotomous expectations hypothesis" which posits that insider trading following share repurchase announcements reveals private information concerning the future operating performance of announcing firms. In particular, insider abnormal purchases (abnormal sales) should predict an improvement (decline) in operating performance that leads to higher (lower) long - run stock returns. Our hypothesis offers a credible economic link between insider trading and subsequent long - run stock performance through the intervening variable of operating performance. The empirical results show consistency with this linkage.

The Information Content of Tax Expense: A Firm - and Market - Level Return Decomposition

- Erin Henry
- February 25, 2014
- 2014 JATA Conference



- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401150
- Abstract: I investigate how the market values information contained in tax expense. Prior research documents a positive association between a firm's tax expense "surprise" and contemporaneous returns (Hanlon, Laplante and Shevlin, 2005 and Thomas and Zhang, 2013). Following Vuolteenaho (2002), I decompose a firm's returns into cash flow and discount rate news components to determine whether the positive association between tax expense surprises and returns is due to a discount rate explanation, as opposed to a cash flow explanation. I then extend this analysis to the market level to determine whether any discount rate news contained in a firm's tax expense surprise is idiosyncratic or systematic in nature. My results suggest that the positive information content of tax expense is because it changes investors' expectations of firm risk for the full sample of firms. Market level tests suggest that the priced risk associated with tax expense surprises is firm-specific in nature.

Cross-Country Evidence on the Relation between Capital Gains Taxes, Risk, and Expected Returns

- Luzi Hail, Stephanie A. Sikes, Clare Wang,
- February 2014
- 2014 American Taxation Association Midyear Meeting
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404044
- Abstract: This study empirically examines the prediction in Sikes and Verrecchia (2012) that the relation between capital gains tax rates and expected rates of return varies in the cross-section and over time with firm risk and market risk. Specifically, we test whether the general positive relation between expected returns and the capital gains tax rate becomes weaker or even reverses when (i) a firm's systematic risk is high, (ii) the aggregate market risk premium is high, or (iii) the risk-free rate is low. Using an international panel from 25 countries over the 1990 to 2004 period, we find evidence supporting these predictions. The results are particularly pronounced in countries with substantive changes in tax rates, a tradition of low tax evasion, less integrated capital markets, and less institutional ownership as well as around substantive changes in the three risk proxies. We corroborate our findings in a single country setting, using the 1978, 1997, and 2003 changes to the capital gains tax rate in the United States as events. Our results underscore the importance of macroeconomic and firm-specific factors in the determination of the effect of capital gains taxes on expected returns and show that the valuation effects can sometimes be in the opposite direction of what is generally expected.

Risk and Return of Short Duration Equity Investments

- Georg Cejnek, Otto Randl
- January 3, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2374023
- We implement a simple investment strategy using traded claims on index dividends. We show that equity investments with constant short maturity outperform a systematic long position in the underlying equity index on a risk adjusted basis and in absolute terms. Furthermore, we find higher international diversification benefits for

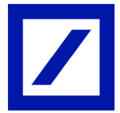
our strategy as compared to traditional equity indices, and consequently we construct a global short maturity portfolio. We relate the attractive performance to market downside exposure. However, alphas remain large and puzzling in the light of the fact that dividends have historically been sticky in the short run. On a theoretical level, our results support recent asset pricing models that imply a downward sloping termstructure of equity risk premia.

When the Use of Positive Language Backfires: The Joint Effect of Language Sentiment, Readability, and Investor Sophistication on Earnings Judgments

- Hun-Tong Tan, Elaine Wang, Bo Zhou
- January 3, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2373996
- Recent studies document that market participants react positively to the positive language sentiment or tone embedded in financial disclosures, and that investors' reactions to negative news are more muted with poor disclosure readability. However, while language sentiment and readability co-occur in practice, their joint effects remain largely unexplored. In an experiment with MBA students as participants, we investigate how the effect of language sentiment varies with readability and investor sophistication level. We find that language sentiment influences investors' judgments when readability is low, but not when readability is high. Specifically, when readability is low, disclosures couched in positive language lead to higher earnings judgments for less sophisticated investors, but lower earnings judgments for more sophisticated investors. These findings show that the main effects of readability and language sentiment documented in prior studies have boundary effects, and may reverse when both variables are jointly considered along with investor sophistication.

Blockholder Exit Threats and Financial Reporting Quality

- Yiwei Dou, Ole Kristian Hope, Wayne B. Thomas, Youli Zou
- January 6, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2374770
- Recent theoretical and empirical studies suggest that blockholders (shareholders with ownership ≥ 5%) exert governance through the threat of exit. These shareholders have strong incentives to gather private information and sell their shares when managers are perceived to underperform. To prevent blockholders from selling their shares and the firm from suffering a stock price decline, managers align their actions with the interests of shareholders. As a result, these managers are expected to have fewer incentives to conceal their activities and are less likely to manage earnings. Consistent with these predictions from economic theory, we find evidence that as exit threat increases, firms have higher financial reporting quality. Furthermore, the impact of blockholders' exit threat on financial reporting quality increases as the manager's wealth is tied more closely to the stock price. Our study contributes to the research on the impact of shareholders on financial reporting quality and to an emerging literature on the impact of blockholders in financial markets. Blockholders play an important role in managers' reporting outcomes through their actions as informed investors.



Disclosure Practices and Financial Crisis: Empirical Evidences in the European Insurance Industry

- Irma Malafronte, Claudio Porzio, Maria Grazia Starita
- January 5, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2374688
- This paper empirically investigates disclosure practices in the European insurance industry, over the 2005-2010 time period. First, it measures the quality of disclosure, through a set of readability indices, the quantity of disclosure, through the construction of a disclosure index based on the risk information companies provide, and how they relate. Then, it estimates the relationship between the extent of some insurers' specific variables and risk disclosure practices. Finally, it examines the potential impact of the financial crisis on the reporting choices. The main results show that the annual reports are difficult to read and it is not documented an effort by companies to enhance their understandability, thus they seem to be addressed to a high-level financial educated public. The quantity of risk disclosure has increased over time, with a stronger growth between 2008 and 2010, and there is no significant relationship between the quality and the quantity of disclosure. Finally, the analysis also shows that insurers' characteristics, in terms of size, profitability, technical provisions, as well as home country and the trade-off between accounting value and market value of equity, significantly affect the amount of risk information disclosed; in the years affected by the financial crisis, the quantity of risk disclosure increases. These results recommend sustaining the production of voluntary information during future financial crises, thus regulatory initiatives i.e. Solvency II may move towards this way in order to enhance further risk disclosure practices in the European insurance industry.

Economic Effects of IFRS Adoption in Brazil: An Empirical Analysis of Stock Price Synchronicity

- Verônica De Fátima Santana, Raquel Wille Sarquis, Isabel Lourenço, Bruno Meirelles Salotti, Fernando Dal-Ri Murcia
- January 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2383363
- Abstract: This study aims to identify the impact of IFRS adoption in stock price synchronicity of Brazilian capital market through its influence on how much and in which way firm-specific information is incorporated by stock prices. There are divergences in the literature about how IFRS adoption (specially the mandatory adoption) affects synchronicity in countries with poorer institutions. Our results indicate that IFRS adoption in Brazil has reduced stock price synchronicity and, consequently, increased the efficiency of resource allocation and potential portfolio diversification. These findings support the view that IFRS adoption facilitates firm-specific information flows into the market, improving the informational environment. This findings show that investment conditions in Brazil have improved, opening better opportunities for foreign investments on the country, contributing to financial globalization and market integration.

Determinants of Earnings Management: Evidence from Around the World

- Tesfaye Taddese Lemma, Minga Negash, Mthokozisi Mlilo
- December 21, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2370926
- Abstract: The study seeks to investigate the determinants of firm level earnings management (EM) within the context of 44 countries around the world. A sample of 29 430 non-financial companies over the period 1996-2012 were analysed using a series of models that link firm-, industry-, and country-specific characteristics, on the one hand, and EM, on the other. We develop composite measures of accrual (A_EM) and real earnings management (R_EM) using principal component analysis (PCA). To estimate the model parameters we utilise three-stage least square (3SLS) procedures with seemingly unrelated regression (SUR). The study triangulates multiple theories to gain a deeper understanding of firm level EM behaviour and draw policy implications. We find that the nature of the nexus between firm-, industry-, and country-characteristics, on the one hand, EM activity, on the other, is a function of the measure of the EM construct and the reporting environment considered in the analysis. The findings signify that monitoring and reputational concerns, regulatory and market pressures, and information asymmetry issues are drivers behind firm level EM activity around the world.

Fundamentals or Managerial Discretion? The Relationship between Accrual Variability and Future Stock Return Volatility

- Yaowen Shan, Stephen L. Taylor, Terry S. Walter
- Abacus, Vol. 49, Issue 4, pp. 441-475, 2013
- Abstract: This study extends the theoretical framework of Callen and Segal (2004) and Vuolteenaho (2002) to investigate the association between accrual variability and firm - level stock return volatility. The empirical evidence supports our prediction that increased uncertainty in current - period accounting accruals is associated with significantly higher volatility of future stock returns, and the results are valid for measures of both systematic and idiosyncratic volatility. When accrual variability is decomposed into fundamental and discretionary portions, we find that the positive relationship between accrual variability and future stock return volatility is dominated by the fundamental component of accrual variability. Overall, our results suggest that uncertainty reflected in accrual information is subsequently reflected in the fluctuation of future stock returns, and that the predictive content in accruals primarily reflects firms' fundamental uncertainty, rather than any effects of managerial choices and interventions in the accounting process.

Corporate Social Responsibility and Stock Price Crash Risk

- Yongtae Kim, Haidan Li, Siqi Li
- Journal of Banking and Finance, Forthcoming, February 18, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2397629
- Abstract: This study investigates whether corporate social responsibility (CSR) mitigates or contributes to stock price crash risk. Crash risk, defined as the conditional skewness of return distribution, captures asymmetry in risk and is important for investment decisions

and risk management. If socially responsible firms commit to a high standard of transparency and engage in less bad news hoarding, they would have lower crash risk. However, if managers engage in CSR to cover up bad news and divert shareholder scrutiny, CSR would be associated with higher crash risk. Our findings support the mitigating effect of CSR on crash risk. We find that firms' CSR performance is negatively associated with future crash risk after controlling for other predictors of crash risk. The result holds after we account for potential endogeneity. Moreover, the mitigating effect of CSR on crash risk is more pronounced when firms have less effective corporate governance or a lower level of institutional ownership. The results are consistent with the notion that firms that actively engage in CSR also refrain from bad news hoarding behavior and thus reducing crash risk. This role of CSR is particularly important when governance mechanisms, such as monitoring by boards or institutional investors, are weak.

Changes in Cash: Persistence and Pricing Implications

- Jeff Zeyun Chen, Philip B. Shane
- February 18, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2398111
- Abstract: This paper decomposes the cash component of earnings and analyzes persistence characteristics and pricing implications of various subcomponents, with particular attention on changes in cash. Changes in underlying fundamentals might dictate changes in cash to new optimal levels. Alternatively, suboptimal changes in cash might result from agency costs allowing managers' actions to diverge from the best interests of shareholders. We predict and find that both suboptimal increases and decreases in cash bode poorly for future earnings. In fact, we find that suboptimal increases (decreases) in cash have less (greater) persistence than any of the earnings components we study, including accruals and net distributions to both shareholders and debt holders. Market efficiency tests indicate that the market severely punishes firms with suboptimal decreases in cash, but we find no evidence to support the hubris hypothesis that the market overreacts to the earnings implications of unwarranted increases in cash.

Lending Relationships and Analysts' Forecasts

- O. Emre Ergungor, Leonardo Madureira, Nandkumar (Nandu) Nayar, Ajai K. Singh
- Journal of Financial Intermediation, Forthcoming, February 15, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2396641
- Abstract: We examine earnings forecasts by sell-side analysts employed by a bank with a lending relationship with the covered firms. We find that lender-affiliated analysts' forecasts are more accurate than forecasts by their unaffiliated peers after establishment of the lending relationship. Evidence from exogenous variation suggests that the relationship is causal. Lender-affiliated analysts are also more likely to issue pessimistic forecasts below their peers' consensus. These forecasts are likely to be followed by below-consensus earnings. The results suggest that lender-affiliated analysts enjoy an informational advantage that spills over from lending activities of banks.

Evidence from a Forensic Analysis on the Empirical Relationship between Forecast Accuracy and Recommendation Profitability

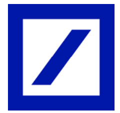
- Jochen Lawrenz, Klaus Schredelseker, Alex Weissensteiner
- February 13, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2391671
- Abstract: This paper analyzes empirically the relation between financial analysts' forecast accuracy and their recommendation profitability and shows within a forensic approach that contrary to intuition the group of most successful recommendations is not associated with the highest accuracy on average. The finding that best performing recommendations are not the most accurate ones is even stronger under conditions of asymmetric information and weakly correlated recommendations. Our results emphasize the importance of the extent to which forecasts are correlated, and contributes to the understanding of the lack of a clear-cut relation between accuracy and recommendation profitability.

Seeing is Believing: Do Analysts Benefit from Site Visits?

- Qiang Cheng, Fei Du, Xin Wang, Yutao Wang
- January 10, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2395093
- Abstract: Using the unique data of analysts' site visits to Chinese listed companies, we examine whether and how analysts' site visits help improve their forecast performance. We find that the forecast accuracy of analysts improves after they visit the target firms and this improvement still holds after controlling for the concurrent change in the forecast accuracy of analysts who do not conduct site visits. Such an improvement is more pronounced for firms with better corporate governance; for more experienced analysts; and for firms with higher earnings volatility. Moreover, the improvement of forecast accuracy is less pronounced when current site visits are preempted by preceding site visits, and when there are other non-analyst visitors. Furthermore, we find that local analysts benefit more from corporate site visits than non-local analysts. Lastly, we document a larger market reaction to earnings forecasts issued by visiting analysts than those issued by non-visiting analysts.

Does Uncertainty Boost Overconfidence? The Case of Financial Analysts' Forecasts

- Veronique Bessiere, Taoufik Elkemali
- Managerial Finance, Forthcoming, October 10, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2393471
- Abstract: This article examines the link between uncertainty and analysts' reaction to earnings announcements for a sample of European firms during the period 1997-2007. In the same way as Daniel, Hirshleifer and Subrahmanyam (1998), we posit that overconfidence leads to an overreaction to private information followed by an underreaction when the information becomes public. Psychological findings suggest that this effect is more prominent in an uncertain environment. Our tests are based on the relationship between forecast revisions and forecast errors. When analysts



excessively integrate information in their revisions (i.e. overreact), their forecast revisions are too intense, and the converse occurs when they underreact. As a proxy for uncertainty we analyze two subsamples: high-tech and low-tech firms. Our results support the overconfidence hypothesis. We jointly observe the two phenomena of under- and overreaction. Overreaction occurs before the public release and disappears after it. Our results also show that both effects are more significant for the high-tech subsample. For robustness, we sort the sample using analyst forecast dispersion as a proxy for uncertainty and obtain similar results. We also document the fact that the high-tech stock crash in 2000-2001 moderated analysts' overconfidence.

What is the Relation (If Any) between a Firm's Corporate Governance Arrangements and its Financial Performance?

- Roberto E. Wessels, Tom Wansbeek
- CESifo Working Paper Series No. 4599, January 31, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2393995
- Abstract: This paper presents estimates from a latent variables model of the relation between corporate governance and financial performance. We use data on large US corporations to estimate the correlation, conditional on the firms' investment opportunity set, between governance and performance. We find that this correlation is statistically speaking zero. This result is consistent with the "equilibrium view" (Demsetz, 1983) in which firms optimize corporate governance arrangements subject to the constraints imposed by the investment opportunity set, such that observed corporate governance arrangements and firm performance are uncorrelated. The intuition behind this statement is that, if governance and performance were correlated, performance could be improved by making changes to the governance arrangements, which is at odds with an equilibrium situation.

An Algorithm for the Detection of Revenue and Retained Earnings Manipulation

- Igor Pustylnick
- Accounting & Taxation, v. 4 (2) p. 95-105, 2012
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2144921
- Abstract: This paper presents a statistical analysis confirming the former empirical findings that positive differences between the growth rates of P-Score and Z-score appears in financial statement data of companies involved in major financial fraud. The paper examines firms that engaged in fraud in the late 1990's through early 2000's. The paper reports the results of regression analysis, using ratios, from financial statement data used in the calculations of P-Score and Z-Score. The results show that positive values of the difference between the growth rates of P-Score and Z-Score correlate with Net Income, Revenue, Retained Earnings and Total Equity ratios. Both ratios represent the financial statement areas where most identified fraud occurred. The findings imply that positive differences between the rates of growth suggest financial statement manipulation. The standard error of the estimate shows the early linear regression to be coarse. The final part of the paper optimizes the linear regression formula and discusses its limits. The paper shows the potential uses of

Extensible Business Reporting Language (XLRB) for getting the necessary values for algorithm calculations.

Trading Volume Reactions to Earnings Announcements and Future Firm Performance

- Doron Israeli
- February 11, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2393878
- Abstract: I investigate whether firms with higher abnormal trading volume (ATV) around earnings announcements (EAs) outperform those with lower ATV over the short and long terms following the EA. In addition, I address whether any positive relation between ATV around EAs and future firm performance is weaker for firms with a higher proportion of shares held by sophisticated investors. Consistent with theories that attribute ATV around public announcements primarily to differing investor interpretations of the news and that link differential interpretation to future returns, I find that, for several quarters after an EA, firms in the highest decile of ATV significantly outperform those in the lowest decile. Further, I find that ATV explains future returns incremental to the three Fama and French (1993) and momentum risk-factors. Next, consistent with the proportion of ATV driven by lack of consensus regarding the price being lower when the presence of rational investors is higher, I document that the level of investor sophistication – a proxy for investor rationality – attenuates the positive relation between ATV and future returns. Taken together, my study lends support to and links two streams of theories from financial economics, and demonstrates that trading volume reactions to EAs provide information about future returns and firm financial performance that cannot be deduced from the price reactions or the magnitudes of earnings surprises. My study also documents that the positive relation between ATV and future firm performance is sensitive to the level of security holdings of sophisticated investors.

Management Earnings Forecasts and Value of Analyst Forecast Revisions

- Yongtae Kim, Minsup Song
- Management Science, Forthcoming, January 29, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2387902
- Abstract: This study examines the stock-price reactions to analyst forecast revisions around earnings announcements to test whether pre-announcement forecasts reflect analysts' private information or piggybacking on confounding events and news. We find that management earnings forecasts influence the timing and precision of analyst forecasts. More importantly, evidence suggests that prior studies' finding of weaker (stronger) stock-price responses to forecast revisions in the period immediately after (before) the prior-quarter earnings announcement disappears once management earnings forecasts are controlled for. To the extent that management earnings forecasts are public disclosures, our results suggest that the importance of analysts' information discovery role documented in prior studies is likely to be overstated.

Analysts' Cash Flow Forecasts and the Decline of the Accruals Anomaly

- Partha S. Mohanram
- June 1, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2386210
- Abstract: The accruals anomaly, demonstrated by Sloan (1996), generated significant excess returns consistently for over four decades until 2002, but has apparently weakened in the subsequent period. In this paper, I argue that one factor responsible for this decline is the increasing incidence of analysts' cash flow forecasts that provides markets with forecasts of future accruals. The negative relationship between accruals and future returns is significantly weaker in the presence of cash flow forecasts. This anomalous relationship becomes weaker with the initiation cash flow forecasts but continues after cash flow forecasts are terminated. Further, the mitigating effect of cash flow forecasts is greater for forecasts that are more accurate. The results are incremental to explanations based on the improved accrual quality, reduced manipulation of special items and restructuring charges and greater investment in accruals strategies by hedge funds and highlight the increasing importance of analysts' cash flow forecasts in the appropriate valuation of stocks.

The Turn-of-the-Year Effect and Tax-Loss-Selling by Institutional Investors

- Stephanie A. Sikes,
- Journal of Accounting and Economics, Vol. 57, No. 1, February 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2384862
- Abstract: Prior studies attribute the turn-of-the-year effect whereby small capitalization stocks earn unusually high returns in early January to tax-loss-selling by individual investors and window-dressing by institutional investors. My results suggest that a significant portion of the effect on turn-of-the-year returns that prior studies attribute to window-dressing is actually attributable to tax-loss-selling by institutional investors. Among small capitalization stocks, I find that institutional investors with strong tax incentives and weak window-dressing incentives realize significantly more losses in the fourth quarter than in the first three quarters of the calendar year, and that their fourth quarter realized losses have a significant impact on turn-of-the-year returns. A one percentage point change in these institutional investors' fourth quarter realized losses scaled by a firm's market capitalization results in an increase of 47 basis points in the firm's average daily return over the first three trading days of January, which represents a 46 percent change for the mean firm.

Earnings Quality Measures and Excess Returns

- Pietro Perotti, Alfred Wagenhofer
- Journal of Business Finance and Accounting, Forthcoming, January 22, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2384735
- Abstract: This paper examines how commonly used earnings quality measures fulfill a key objective of financial reporting, i.e., improving decision usefulness for investors. We propose a stock-price-based measure for assessing the quality of earnings quality measures. We

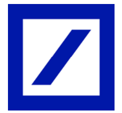
predict that firms with higher earnings quality will be less mispriced than other firms. Mispricing is measured by the difference of the mean absolute excess returns of portfolios formed on high and low values of a measure. We examine persistence, predictability, two measures of smoothness, abnormal accruals, accruals quality, earnings response coefficient, and value relevance. For a large sample of U.S. non-financial firms over the period 1988-2007, we show that all measures except for smoothness are negatively associated with absolute excess returns, suggesting that smoothness is generally a favorable attribute of earnings. Accruals measures generate the largest spread in absolute excess returns, followed by smoothness and market-based measures. These results lend support to the widespread use of accruals measures as overall measures of earnings quality in the literature.

Do Compustat Financial Statement Data Articulate?

- Ryan Casey, Feng Gao, Michael Kirschenheiter, Siyi Li, Shail Pandit
- January 19, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2380698
- Abstract: Using the Financial Statement Balancing Model (FSBM) from Compustat, we examine whether financial statement data articulate. Applying our model to Compustat data for 371 non-financial S&P 500 firms for 24 years, a total of 7,705 firm years, we accomplish 3 specific research goals. First, we build the first formal model of F/S articulation, providing a benchmark for subsequent discussions of articulation. Second, we show how to handle missing data so that this data can be used in research studies. Third, we produce modified variables that resolve exceptions in the articulating equations, so that these variables form relations that are consistent across time and firms. We construct a "corrected database" (CDB) of data using these modified variables, provide descriptive statistics on variables in the database, as well as the exceptions resolved, and perform descriptive empirical analysis on the variables obtained.

A Study of Analyst Forecast Reliability in Australia

- Alina Maydybura, Dionigi Gerace, Brian Andrew
- Journal of Applied Research in Accounting and Finance (JARAF), Vol. 8, No. 2, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2376039
- Abstract: The purpose of this paper is to determine whether time weighted consensus estimates offer a more effective method for predicting company actual EPS figures than simple mean or median analysis. The study aims to construct a more comprehensive earnings forecast signal using analyst earnings forecasts that have been weighted based on the timeliness of updates. Aimed at extracting valuable information from timely analyst forecasts, the time weighted earnings signal (TWES) methodology allows extracting valuable information from analysts who possess some unique insights about the market and issue their updates more frequently. One would expect the time signal to reflect a more realistic representation of analyst estimate changes and thus be more effective in predicting the companies' reported EPS than the mean and median.



Mutual Fund Herding and Fund Performance

- Andrew Koch
- February 20, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399181
- Abstract: I develop fund-level measures of the similarity in trading of mutual fund managers, resulting in the identification of leaders, contemporaneously herding managers, and followers. Examination of subsequent fund performance allows me to distinguish informed trading from other non-informational explanations of correlated trading. I find evidence of a persistent group of funds whose trades lead the aggregate trades of the mutual fund industry; these leader funds exhibit strong subsequent performance. In contrast, there is no evidence that managers that trade together, either contemporaneously or with a lag, outperform. These herding and following funds tend to trade such that the similarity in holdings levels is preserved, which is broadly consistent with a career concerns explanation. These findings suggest that managers of leader funds receive in advance private signals regarding the information upon which herding and following funds focus.

Before an Analyst Becomes an Analyst: Does Industry Experience Matter?

- Daniel J. Bradley, Sinan Gokkaya, Xi Liu
- February 7, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2375262
- Abstract: Using hand-collected biographical information on financial analysts from 1983 to 2011, we exploit their employment history and find that analysts with pre-analyst industry experience have significantly better forecast accuracy resulting in stronger market reactions when they forecast firms in industries similar to their previous industry experience. We also document that previous industry experience is positively related to favorable career outcomes — analysts possessing such experience are more likely to be named as Institutional Investor all-stars. This result is persistent pre- and post-Reg FD suggesting that industry expertise as opposed to social connections from previous employment is a more likely channel to explain our findings.

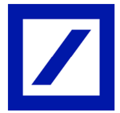
Essential Review of Text Analytics in Accounting and Finance

- Jia-Lang Seng
- January 4, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2375149
- Abstract: This paper presents an essential review of the literature on the application of text analytics techniques for a set of core applications such the financial fraud detection, corporate bankruptcy, stock recommendation, financial performance prediction, and audit assessment. Although they are an emerging research area of great importance, a comprehensive literature review of the subjects has yet to be carried out. This paper thus represents the first systematic, identifiable and comprehensive academic literature review of the text analytics techniques that have been applied to these relevant areas. More than 80 journal articles on the subjects published between 2000

and 2013 was analyzed and classified into categories of financial fraud detection, corporate bankruptcy, stock trends, performance prediction, and audit evaluation, and a number of text analytics techniques (classification, regression, clustering, prediction, outlier detection, and visualization). The findings of this review clearly show that text analytics techniques have been applied most extensively to the detection of insurance fraud, although corporate fraud and credit card fraud have also attracted a great deal of attention in recent years. In contrast, we find a distinct lack of research on mortgage fraud, money laundering, and securities and commodities fraud.

Financial Statement Irregularities: Evidence from the Distributional Properties of Financial Statement Numbers

- Dan Amiram, Zahn Bozanic, Ethan Rouen
- Columbia Business School Research Paper No. 14-9, January 2, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2374093
- Abstract: Anecdotal evidence suggests that a significant portion of financial statement irregularities are ignored or missed by reporting firms, their auditors, and the SEC. Motivated by a method used by forensic investigators and auditors to detect irregularities in a variety of settings, we create a composite, red flag financial statement measure to estimate the degree of financial reporting irregularities for a given firm-year. The measure, which has several significant conceptual and statistical advantages over available alternatives, assesses the extent to which features of the distribution of a firm's financial statement numbers diverge from a theoretical distribution posited by Benford's Law, or the law of first digits. We find that whether in aggregate, by year, or by industry, the empirical distribution of the numbers in firms' financial reports generally conform to the theoretical distribution specified by Benford's Law. In a battery of construct validity tests, we show that i) manipulating revenue for a typical conforming firm will induce an increase in the deviation from the theoretical distribution 87% of the time, ii) the divergence measure is positively correlated with commonly used earnings management proxies, iii) the restated financial reports of misstating firms exhibit greater conformity, and iv) divergence decreases in the years following restatements. Turning to the informational implications of Benford's Law, we provide evidence that as divergence increases, information asymmetry increases and earnings persistence decreases in the year following the disclosure of the financial report. Finally, we show that our measure predicts SEC Accounting and Auditing Enforcement Releases. Compared to firms that were not caught committing fraud by the SEC, firms that were caught have a higher deviation from Benford's Law three years prior to fraud detection. However, while firms that were not caught are able to maintain a constant level of deviation, firms that were caught appear to have a significant decline in their deviation from Benford's Law in the years before they were caught. The results are consistent with the explanation that fraudulent firms are able to hide their activities using techniques that violate Benford's Law, but only get caught if those techniques become unsustainable.



Beta Reversal and Expected Returns

- Yexiao Xu, Yihua Zhao
- January 1, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2408757
- Abstract: In this paper we show that the failure of the CAPM beta to predict individual stocks' expected returns documented by Fama and French (1992) is largely driven by a small group of stocks with large betas and high idiosyncratic volatilities. These stocks' betas tend to reverse. Therefore, even when the CAPM holds period-by-period, the cross-sectional evidence on market beta is weak at best due to the confounding effect of beta reversal and instability. We further show that such a beta reversal is partly predictable by idiosyncratic volatility. As a result, the current beta estimates of individual stocks can significantly explain the cross-sectional differences in future returns whit a simple control for such a reversal effect. In fact, the market risk premium estimated from cross-sectional regression is close to that of the historical average. All results are robust with respect to different measures of beta and idiosyncratic volatility as well as different subsamples. In addition, we explore several possible causes for the beta reversal phenomenon.

Time-Varying Momentum Payoffs and Illiquidity

- Doron Avramov, Si Cheng, Allaudeen Hameed
- January 29, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2395748
- Abstract: This paper shows that the state of market illiquidity explains time variation in momentum payoffs, consistent with behavioral models of investor overconfidence. The predictive power of aggregate market illiquidity uniformly exceeds that of alternative proxies such as the market return and market volatility states. During highly illiquid periods, low investor overconfidence together with widening illiquidity gap between loser and winner stocks triggers low, often massively negative, momentum payoffs. While the momentum strategies are unconditionally not profitable in US, Japan, and Eurozone countries in the recent decade, they gain significance following periods of low market illiquidity.

Trend Salience, Investor Behaviors and Momentum Profitability

- Paul Docherty, Gareth Hurst
- February 14, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2395718
- Abstract: Trend extrapolation in financial markets has been well documented, however it is contentious as to which trends will be extrapolated or mean reverted. We examine whether investors are more likely to extrapolate trends that they perceive to be salient by examining an investment strategy that considers both the magnitude and the strength of the trend. Consistent with behavioral models of momentum, our investment strategy based on trend salience significantly outperforms traditional momentum strategies and is not explained by the Carhart [1997] four-factor model. The relative performance of the trend salience signal is robust across different

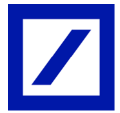
investment horizons and size-sorted portfolios, although is time-varying; the strategy does not outperform momentum in "down" markets where volatility is high and salient trends are more difficult to identify.

Pairs Trading with Copulas

- Wenjun Xie, Qi Rong Liew, Yuan Wu, Xi Zou
- January 22, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2383185
- Abstract: Pairs trading is a well-acknowledged speculative investment strategy that is widely used in the financial markets, and distance method is the most commonly implemented pairs trading strategy by traders and hedge funds. However, this approach, which can be seen as a standard linear correlation analysis, is only able to fully describe the dependency structure between stocks under the assumption of multivariate normal returns. To overcome this limitation, we propose a new pairs trading strategy using copula modeling technique. Copula allows separate estimation of the marginal distributions of stock returns as well as their joint dependency structure. Thus, the proposed new strategy, which is based on the estimated optimal dependency structure and marginal distributions, can identify relative undervalued or overvalued positions with more accuracy and confidence. Hence, it is deemed to generate more trading opportunities and profits. A simple one-pair-one-cycle example is used to illustrate the advantages of the proposed method. Besides, a large sample analysis using the utility industry data is provided as well. The overall empirical results have verified that the proposed strategy can generate higher profits compared with the conventional distance method. We argue that the proposed trading strategy can be considered as a generalization of the conventional pairs trading strategy.

Crowded Trades, Short Covering, and Momentum Crashes

- Philip Yan
- November 1, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404272
- Abstract: Despite momentum's strong historical performance, its returns have large negative skewness and occasionally experiences persistent strings of sharp negative returns, referred as "momentum crashes" in the recent literature. I argue that momentum crashes are due to crowded trades which push prices away from fundamentals leading to strong reversals, and exacerbated by limits of arbitrage being more severe in the short-leg due to impediments to short selling. Using short interest and institutional ownership data together to measure the "crowdedness" of momentum, I show that momentum crashes can be avoided in the cross section by shorting only non-crowded losers. There is considerably more short-covering during times when momentum fails. I show using high frequency short sale transactions data that short covering is especially severe in the crowded loser portfolio. A placebo test using a set of 63 futures contracts show that momentum crashes do not exist in futures market after market exposure is correctly hedged, which is consistent with my hypothesis.



Factor Attribution that Adds Up

- Sanne De Boer
- Journal of Asset Management 13, 373-383 (December 2012)
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401435
- Abstract: Existing implementations of factor attribution only explain part of a quantitatively managed portfolio's return, even when factor models are all that is behind the investment strategy. We propose an alternative method that aligns stock-specific risk in how exposure to factors is taken in the portfolio with how their performance is measured, thus making factor attribution 'add up'. As part of developing this framework, we show how bounds on asset weights and industry exposures in mean-variance optimization implicitly protect against model risk.

Why Do Options Prices Predict Stock Returns?

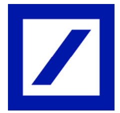
- Tse-Chun Lin, Xiaolong Lu, Joost Driessen
- Netspar Discussion Paper No. 07/2013-079, July 1, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400955
- Abstract: We use a new approach to assess the information transmission between options and stock markets. We study whether the predictive power of option-implied volatilities (IVs) on stock returns lies in analyst-related and/or earnings-related news. We find that two proxies for options trading (IV skew and IV spread) predict analyst recommendation changes, analyst forecast revisions, and earnings surprises. Next, we show that the IV skew and IV spread predict stock returns, and that the degree of predictability more than doubles around analyst-related and earnings-related events. Additionally, we find that informed traders choose to use the options market particularly because of short-sale constraints on the underlying stock. We also find that the informed options trading increases with the options market liquidity.

Trading Costs of Asset Pricing Anomalies

- Andrea Frazzini, Ronen Israel, Tobias J. Moskowitz
- Fama-Miller Working Paper, December 5, 2012
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2294498
- Abstract: Using nearly a trillion dollars of live trading data from a large institutional money manager across 19 developed equity markets over the period 1998 to 2011, we measure the real-world transactions costs and price impact function facing an arbitrageur and apply them to size, value, momentum, and short-term reversal strategies. We find that actual trading costs are less than a tenth as large as, and therefore the potential scale of these strategies is more than an order of magnitude larger than, previous studies suggest. Furthermore, strategies designed to reduce transactions costs can increase net returns and capacity substantially, without incurring significant style drift. Results vary across styles, with value and momentum being more scalable than size, and short-term reversals being the most constrained by trading costs. We conclude that the main anomalies to standard asset pricing models are robust, implementable, and sizeable.

Information Ratio Analysis of Momentum Strategies

- Fernando F Ferreira, A. Christian Silva, Ju-Yi Yen
- February 14, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2396099
- Abstract: In the past 20 years, momentum or trend following strategies have become an established part of the investor toolbox. We introduce a new way of analyzing momentum strategies by looking at the information ratio (IR, average return divided by standard deviation). We calculate the theoretical IR of a momentum strategy and show that if momentum is mainly due to the positive autocorrelation in returns, IR as a function of the portfolio formation period (look-back) is very different from momentum due to the drift (average return). The IR shows that for look-back periods of a few months, the investor is more likely to tap into autocorrelation. However, for look-back periods closer to 1 year, the investor is more likely to tap into the drift. We compare the historical data to the theoretical IR by carefully constructing stationary periods. The empirical study finds that there are periods/regimes where the autocorrelation is more important than the drift in explaining the IR (particularly pre-1975). We conclude our study by applying our momentum strategy to the entire data set in order to contrast the difference between the stationary and the non-stationary data. Empirically, for the non-stationary data, we find damped oscillations for very long look-back periods which we model as a reversal to the mean growth rate.



2. Fixed income, currency, commodities, and other asset classes

A Simple and Precise Method for Pricing Convertible Bond with Credit Risk

- Tim Xiao
- Journal of Derivatives and Hedge Hunds, Forthcoming, February 23, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400101
- Abstract: This paper presents a new framework for valuing hybrid defaultable financial instruments, for example, convertible bonds. In contrast to previous studies, the model relies on the probability distribution of a default jump rather than the default jump itself, as the default jump is usually inaccessible. As such, the model can back out the market prices of convertible bonds. A prevailing belief in the market is that convertible arbitrage is mainly due to convertible underpricing. Empirically, however, we do not find evidence supporting the underpricing hypothesis. Instead, we find that convertibles have relatively large positive gammas. As a typical convertible arbitrage strategy employs delta-neutral hedging, a large positive gamma can make the portfolio highly profitable, especially for a large movement in the underlying stock price.

Using a Principal Component Analysis to Develop Multi-Currencies-Trading Algorithms in the FX Market

- Hyun Woo Byun, Seungho Baek, Jae Joon Ahn, Kyong Joo Oh, Tae Yoon Kim
- Intelligent Data Analysis, Forthcoming, October 1, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400219
- Abstract: This study proposes a multi-currencies trading algorithm that applies a stock-trading algorithm to the foreign exchange (FX) market. Our algorithm applies a principal component analysis and artificial neural networks to produce an induced classifier from the FX market. Our algorithm yields reasonable profits. In addition, we discuss a basic procedure that the currency-trading algorithm must follow.

Time-Varying Importance of Country and Industry Factors in European Corporate Bonds

- Mary Pieterse-Bloem, Zhaowen Qian, Willem F. C. Verschoor, Remco C. J. Zwinkels
- February 20, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2398875
- Abstract: The start of EMU and the global financial crisis constitute two major shocks to European financial market integration. Therefore, in this paper we study the time-varying importance of country versus industry factors in the European corporate bond market over a period that covers these two events. Using a unique dataset that is representative for the universe of actively quoted Eurobonds, we find that although unconditionally the country factor dominates the industry factor, there is substantial time variation. Following the introduction of the Euro, country factors become less important. The

global financial crisis though reverses this trend and the country factor regains its importance in explaining bond returns.

Does Compustat Data Standardization Improve Bankruptcy Prediction Models?

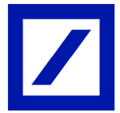
- Roman Chychyla, Alexander Kogan
- February 11, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2406136
- Abstract: Capital IQ's Compustat database is commonly used in empirical accounting research. Numbers that appear in Compustat are standardized to ensure "...consistent and comparable data across companies, industries and business cycles..." However, there has been no evidence in the academic literature that Compustat's standardized numbers provide more benefits than the original numbers in financial statements. This is the first study to examine the effects of Compustat's data standardization using bankruptcy prediction models as examples. Specifically, we study whether using Compustat's standardized data as opposed to original 10-K data improves Altman's 1968 and Ohlson's 1980 bankruptcy prediction models. We find that Compustat's data standardization not only yields no improvements for bankruptcy prediction models, but also has a significant negative impact on the predictive accuracy of Altman's model (up to 8.56%).

What Does the Corporate Bond Market Know?

- George Bittlingmayer, Shane Moser
- Financial Review, Vol. 49, Issue 1, pp. 1-19, 2014, February 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2380999
- Abstract: Do related markets reflect new information simultaneously? For high-yield bonds, a large abnormal price decline in a corporation's most liquid bond over a month is followed by an average abnormal stock price decline of -1.42%. This effect is larger for stocks that have increased in value and for volatile stocks. It is also larger for bonds with high coupons and shorter maturities. These results support the view that high - yield corporate bonds have an informational edge when news is negative and stock returns are noisy, and add to the growing literature on the substantial lags in price discovery between related markets.

The Pricing of Sovereign Risk and Contagion During the European Sovereign Debt Crisis

- John Beirne, Marcel Fratzscher
- January 4, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2368788
- The paper analyses the drivers of sovereign risk for 31 advanced and emerging economies during the European sovereign debt crisis. It shows that a deterioration in countries' fundamentals and fundamentals contagion – a sharp rise in the sensitivity of financial markets to fundamentals – are the main explanations for the rise in sovereign yield spreads and CDS spreads during the crisis, not only for euro area countries but globally. By contrast, regional spillovers and contagion have been less important, including for euro area countries. The paper also finds evidence for herding contagion – sharp, simultaneous increases in sovereign yields across countries – but this



contagion has been concentrated in time and among a few markets. Finally, empirical models with economic fundamentals generally do a poor job in explaining sovereign risk in the pre-crisis period for European economies, suggesting that the market pricing of sovereign risk may not have been fully reflecting fundamentals prior to the crisis.

Market Pricing of Credit Rating Signals

- Magdalena Grothe
- January 4, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2366361
- This paper contributes new evidence on market pricing of rating changes. We examine the relationship between spreads and ratings for a very large and comprehensive sample of corporate bonds, which allows us to test for country- and industry-specific effects, as well as to explore the differences between the calm and distressed market conditions. The results show that the effects of rating actions on market prices are significant and depend on the current state of the market. While during favourable market conditions rating actions are not crucial for market pricing, they become very significant in the periods of crisis.

Currency Risk Premium, Interest Rate Differentials, and the Holding Period

- Shingo Goto, Yan Xu, Yuzhao Zhang
- January 7, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399492
- Abstract: Conducting a Beveridge-Nelson decomposition on exchange rates reveals that the prospective interest rate differential -- the expected infinite sum of future interest rate differentials (i.e., the "prospective'') -- can help predict foreign exchange market excess returns. We find that the prospective is even more negatively correlated with excess returns than interest rate differential, implying a more profitable trading strategy and further deepening the forward premium puzzle. Moreover, relative to the U.S. dollar, foreign currencies with higher interest rates, on average, turn from more risky to less risky over cumulative holding periods (i.e., a "level'' effect). However, foreign currencies with higher interest rates remain more risky than foreign currencies with lower interest rates in the cross section (a "slope'' effect). These level and slope effects further deepen the puzzle raised in Engel (2011) and impose more challenges on extant asset pricing models.

3. Asset allocation, multi-asset, GTAA, and global macro

Comment on 'Skewness - Aware Asset Allocation'

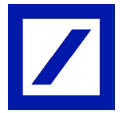
- Kwangil Bae
- Mathematical Finance, Vol. 24, Issue 2, pp. 403-410, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2405290
- Abstract: This paper discusses risk measures proposed by Low et al. One of their new risk measures is skewness - aware deviation, which is closely related to constant absolute risk aversion utility functions. This measure captures downside risk more effectively than traditional variance does. The authors also propose a second measure, skewness - aware variance, which is derived from skewness - aware deviation. This measure simplifies asset allocation problems and empirical results indicate that it captures risk better than traditional variance. However, this measure is also found to be inconsistent due to factor selection. Additionally, in the aspect of skewness - aware deviation, optimal portfolios based upon skewness - aware variance are sometimes less efficient than optimal portfolios that base themselves on traditional variance.

On Market Timing, Stock Picking, and Managerial Skills of Mutual Fund Managers with Manipulation-Proof Performance Measure

- Meifen Qian, Ping-Wen Sun, Bin Yu, Fan Chen
- January 9, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2408365
- Abstract: The on-going debate over whether fund managers have skills and whether those skills are short-lived is still inconclusive. Using the performance measure that can't be manipulated with respect to the underlying distribution, time variation, nor estimation error, (the manipulation-proof performance measure (MPPM, Goetzmann et al. (2007)), we rank all U.S. domestic equity mutual funds from 1980 to 2012 on a quarterly basis and analyze their portfolio holding to contribute to the literature in two folds. First, managers ranked highest on MPPM in the current quarter earn largest fee-adjusted fund returns in the following quarter. Those managers hold younger, smaller, lower book-to-market, and momentum stocks. Second, taking long positions of the addition and short positions of the removal from their quarterly holdings from the highest ranked managers would outperform the lowest ranked managers by 12 basis points at the following quarter. Even though higher ranked managers have better stock picking skills, their fund returns are not large enough to offset their frequent transactions and higher expenses to insure positive alphas.

Cross-Asset Return Predictability: Carry Trades, Stocks and Commodities

- Helen Lu, Ben Jacobsen
- February 21, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399282
- Abstract: Bakshi and Panayotov (2013) find that commodity price changes predict profits from longing high interest rate currencies (long leg profits) up to three months later. We find that equity returns also predict carry trade profits, but from shorting low interest rate



currencies (short leg profits). Equity effects appear to be slightly faster than commodity effects, as equity price rises predict higher short leg profits over the next two months. The predictability is one-directional from commodities and stocks to carry trades. Our evidence supports gradual information diffusion, rather than time-varying risk premia, as the most likely explanation for the predictability results.

Investor Sentiment in News and the Calendar Anomaly -- New Evidence from a Large Textual Data

- Katsuhiko Okada, Takahiro Yamasaki
- February 11, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2394008
- Abstract: The well-known stock market adage "sell in May and go away" arose from long-term stock market seasonality in major financial markets around the globe. Kamastra, Kramer and Levy (2003) present evidence that Seasonal Affective Disorder causes this seasonality, as this condition has a profound effect on people's mood and makes people increasingly risk averse as daylight diminishes with the onset of winter. In this paper, we present evidence that change in market mood is reflected in the prospect statement in the news text. We employ a text-mining technique to analyze a large quantity of newspaper articles for the period 1986–2010 and created our market mood proxy. We find investor psychology is skewed to optimism in the first half of the calendar year and pessimism in the latter. We also find that semi-annual mood fluctuation is synchronous with market seasonality.

Dynamic Conditional Correlation Analysis Asia Pacific and Latin America Equity Market: Interdependence and Contagion

- Ossi Ferli, Zaäfri A. Husodo
- May 31, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2392160
- Abstract: This research use a broader high frequencies data by analyze dynamic correlation using a daily equity price data of financial markets on thirteen Asia Pacific countries and five Latin America countries for period of 2003 to 2012 in correspond to financial integration between each countries equity markets and also describe interdependence and contagion condition between each countries equity markets when normal and crisis period occurs. We identified two-crisis period in our research period, the first is global financial crisis with United States as the source of crisis and the second is Europe crisis with Europe as the source of crisis. Using a limited and unlimited data for all historical information contained in pre and post crisis periods for empirical research by using autoregressive model (AR Model) for return series and GARCH (1,1) model for variation series as a univariate GARCH method combine with Dynamic Conditional Correlation as a multivariate GARCH method to generate average correlation dynamic between each equity markets. We find there is a higher average correlation dynamic in internal region of Asia Pacific and Latin America especially in a group of developed countries in Asia Pacific region and in a several countries in Latin America region. Average correlation dynamic between countries in the two region also appears to be very low. There are a interdependence and minor contagion

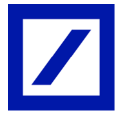
effect in several research object countries, but in general there is interdependence without contagion. We tried to use a dummy crisis period variable in return and variation series model, it shows that investors in the equity markets of Asia Pacific and Latin America do not seem to have changed its investment decisions over a period of global financial crisis because most of the equity market is experiencing a change in risk without any change in return. Results of our research also find there is confounding effect between the two crisis periods.

Increasing Trends in the Excess Comovement of Commodity Prices

- Kazuhiko Ohashi, Tatsuyoshi Okimoto
- January 23, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2383615
- Abstract: We investigate whether and how excess comovement among commodity returns i.e., correlation among commodity returns not accounted for by the common shocks of exogenous macroeconomic variables, have increased during these decades. To this end, we generalize the model of excess comovement, originated by Pindyck and Rotemberg (1990) and extended by Deb, Trivedi, and Varangis (1996), to develop the STDCC (smooth-transition dynamic conditional correlation) model that can capture long-run trends and short-run dynamics in excess comovement. Using monthly commodity returns data from 1983 to 2011, we find significant increasing long-run trends in excess comovement have appeared since around 2000 in all pairs of agricultural raw materials, beverages, metals, and oils. We then examine the possibility of non-monotonic trends, and find that in most cases, excess comovement continue to increase even after the financial crisis in 2008 and hence the increasing trends in excess comovement among commodity returns are not an artifact produced by the recent financial crisis, but the intrinsic nature of the excess comovement during the period including the post-crisis era. We also confirm that the increasing long-run trends of excess comovement are robust to the change in the sensitivities of commodity returns to common macroeconomic factors. Moreover, unlike the results above, we find no significant increasing trends in excess comovements among off-index commodity returns. Finally, we find that our results are robust for global macroeconomic shocks. That is, taking account of global macroeconomic variables, we still find significant, though a bit weaker, long-run increasing trends in commodity excess comovement. Those findings provide additional evidence for the recent debates about the increasing commodity-return correlations.

Realised Co-Skewness of the VIX and S&P 500 and the Equity Premium

- Zhi Liu, Junwei Liu, Kent Wang, Zhanglong Wang
- January 8, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2376077
- Abstract: We provide theoretical and empirical justifications for linking the realised co-skewness between the VIX and the S&P 500 to conditional equity premiums. The realised co-skewness, as a measure of hedging benefits, shows a significant (and independent to that of the variance risk premium) negative prediction for the next month equity premium. We also present a new measure of higher co-



moments using high frequency data under the general jump diffusion model. The estimator is robust to the presence of market microstructure noise and can be extended to other co-moment measurement in current risk management practices.

Factor Based Approaches to Risk Parity

- Peter Williams
- February 18, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2398202
- Abstract: This paper finds that factor based risk parity portfolios are able to outperform other standard asset allocation approaches, including 60/40 and long-only risk parity. By using a group of factors which have negligible correlations with each other and the market, this portfolio generates a stable return stream with little exposure to macroeconomic risks. If these factors are dynamically scaled according to their conditional volatility the portfolio's performance markedly increases. While this portfolio is composed of well known factors it exhibits 'alpha through construction' by scaling out of strategies when their expected returns are lowest and using minimally correlated components.

Using Risk Factors to Understand Long/Short Equity Mutual Fund Returns

- Andrew Clark
- Lipper Insight, January 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404037
- Abstract: In this article we examine the risk factors that help explain long/short equity (LSE) mutual fund performance. We show that for most LSE mutual funds, 50%-80% of their returns can be explained using common factors such as capitalization, book-to-value ratio, dividend yield, and volatility. The explanatory strength of these factors is so strong that in most cases adding an option overlay using puts and calls (to mimic long and short positions) adds little or no explanatory value. We also show that while many funds have positive alpha, these alphas for the most part are not statistically significant, i.e., in reality they are not different than zero.

Modeling the Joint Dynamics of Risk-Neutral Stock Index and Bond Yield Volatilities

- Yinggang Zhou
- Journal of Banking and Finance, Vol. 38, No. 1, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402520
- Abstract: This study examines the joint evolution of risk-neutral stock index and bond yield volatilities by using the Chicago Board Option Exchange S&P500 volatility index (VIX) and the Bank of America Merrill Lynch Treasury Option Volatility Estimate Index (MOVE). I use bivariate regime-switching models to investigate the alternation of "high-risk" and "low-risk" markets, where the high-risk regime is characterized by higher volatilities and stronger cross-market linkages. Common information about economic and financial conditions appears to drive VIX and MOVE fluctuations between the two risk regimes. Two-regime specifications also distinguish between information spillover and common information effects. Ignoring

regime shifts leads to spurious extreme persistence and incomplete inferences about asymmetric volatility. The findings carry important implications for asset allocation.

To Rebalance or Not to Rebalance: A Statistical Comparison of Terminal Wealth of Fixed-Weight and Buy-and-Hold Portfolios

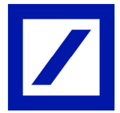
- Edward E. Qian
- January 26, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402679
- Abstract: We compare expected value and variance of terminal wealth for two simple but distinctly different portfolio approaches: fixed-weight with regular rebalancing and buy-and-hold with no rebalancing. We carry out statistical analysis under a variety of return assumptions and portfolio settings. For long-only portfolios, we show buy-and-hold approach leads to higher expected terminal wealth but also higher variance of terminal wealth. When there are serial correlations in asset returns, we demonstrate quantitatively that for long-only portfolios mean-reverting returns are relatively more favorable to fixed-weight portfolios whereas trending returns are relatively more favorable to buy-and-hold portfolios. For long-short portfolios, however, the effects of portfolio rebalancing are markedly different from long-only portfolios, mainly due to portfolio leverage. For example, we prove that fixed-weight approach often leads to higher expected value of terminal wealth. But it may also lead to higher variance of terminal wealth although it is not always the case. Furthermore, the effects of serial return correlations on long-short portfolios could be opposite of the effects on long-only portfolios. The overall results suggest that theoretically fixed-weight portfolios with portfolio rebalancing are more likely to have better risk-adjusted terminal wealth than buy-and-hold portfolios.

Combination Forecasts of Bond and Stock Returns: An Asset Allocation Perspective

- Ekaterini Panopoulou, Sotiria Plastira
- February 14, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402286
- Abstract: We investigate the out-of-sample forecasting ability of the HML, SMB, momentum, short-term and long-term reversal factors along with their size and value decompositions on U.S. bond and stock returns for a variety of horizons ranging from the short run (1 month) to the long run (2 years). Our findings suggest that these factors contain significantly more information for future bond and stock market returns than the typically employed financial variables. Combination of forecasts of the empirical factors turns out to be particularly successful, especially from an asset allocation perspective. Similar findings pertain to the European and Japanese markets.

Equally Weighted vs. Long-Run Optimal Portfolios

- Giovanna Nicodano, Carolina Fugazza, Massimo Guidolin
- European Financial Management, Forthcoming, February 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400959



- Abstract: Out-of-sample experiments cast doubt on the ability of portfolio optimizing strategies to outperform equally weighted portfolios, when investors have a 1-month time horizon. This paper examines whether this finding holds for longer investment horizons over which the optimizing strategy exploits linear predictability in returns. Our experiments indicate that investors with longer horizons on average would have benefited, ex post, from an optimizing strategy over the period 1995–2009. We analyze performance sensitivity to investor risk aversion, to the number of predictors included in the forecasting model and to the deduction of transaction costs from portfolio performance.

The Economic Value of Timing Higher Order (Co-)Moments in Bull and Bear Markets

- Massimo Guidolin, Giovanna Nicodano
- September 1, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401174
- Abstract: We examine the ex-post performance of optimal portfolios with predictable returns, when the investor horizon ranges from one month to ten years. Due to the investor's ability to forecast shifts between bull and bear markets, predictability involves the risk premium, volatility and correlations, and may extend to third and fourth moments. We analyze three different equity portfolios data sets, each covering more than eight indexes, including commonly used US Industry and International Book-to-Market portfolios. Allowing for regimes improves portfolio performance for at least a subset of investment horizons and in all data sets. Despite substantial non-normalities in both the Industry and the book-to-market data sets, gains from predicting higher order moments obtain only in the latter. However, tracking and forecasting bull and bear markets turns out to improve realized portfolio performance more generally. The equally weighted strategy leads to lower ex-post performance measures than optimizing ones.

On the Relationship between Exchange Rates and Stock Prices: Evidence from Emerging Markets

- Esin Cakan, Demissew Diro Ejara
- International Research Journal of Finance and Economics, Issue 111, July 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2343654
- Abstract: This study examines dynamic linkages between the exchange rates and stock prices for twelve emerging market countries for the period from May 1994 to April 2010 by using linear and non-linear Granger causality tests. Our empirical results show that stock prices and exchange rates have linear and non-linear bi-directional causality in most cases. The exceptional countries are Brazil, Poland and Taiwan that there is no evidence for a nonlinear Granger causality from stock prices to exchange rates. The results support both the portfolio balance and the goods market theories for eight out of twelve countries.

4. Derivatives and volatility

Options and Accounting Information: Empirical Evidence in Stock and Derivative Markets

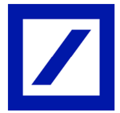
- C. Jose Garcia, Begoña Herrero Piqueras, Ana M. Ibáñez
- February 28, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402597
- Abstract: This study investigates the informational role of options trading in the price discovery process around the dissemination of accounting information, specifically annual and quarterly earnings announcements. Firstly, we examine the effect of options markets by analyzing stock market reaction to earnings news conditional on the availability of options markets. Secondly, we examine options-trading activity around the release of earnings news. Results show that when options trading is available, the options market enhances the price efficiency of equity markets. Moreover, the dissemination of earnings news is associated with significant unusual activity in the options market due to informed trading, especially when the earnings surprise is highly good.

The Empirical Similarity Approach for Volatility Prediction

- Vasyl Golosnoy, Alain Hamid, Yarema Okhrin
- Journal of Banking and Finance, Vol. 40, 2014, February 23, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400117
- Abstract: In this paper we adapt the empirical similarity (ES) concept for the purpose of combining forecasts originating from different models. Our ES approach is suitable for situations where a decision maker refrains from evaluating success probabilities of forecasting models but prefers to think by analogy. It allows to determine weights of the forecasting combination by quantifying distances between model predictions and corresponding realizations of the process of interest as they are perceived by decision makers. The proposed ES approach is applied for combining models in order to forecast daily volatility of the major stock market indices.

An Empirical Examination of Horizon: Evidence from the Term Structure of Implied Equity Volatilities

- Ryan T. Ball, Jonathan A. Milian
- Ross School of Business Paper No. 1223, January 14, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2378891
- Abstract: We develop and test measures of the horizon of firm uncertainty and of the horizon of managers' corporate disclosures. The measures exploit information in the term structure of implied equity volatilities to gauge the relative extent to which the information underlying securities prices reflects long-term versus short-term uncertainty. We find that the horizon of firm uncertainty measure is associated with variables that are likely to capture the extent to which firms' business models result in differing degrees of uncertainty about the long-term versus the short-term. The horizon of managers' corporate disclosures measure allows us to characterize managers' disclosures in terms of whether they provide information about long-



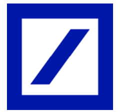
term business strategies or are more oriented towards short-term operating results. We find that earnings announcements containing management forecasts have shorter disclosure horizons than earnings announcements not containing management forecasts.

On Guidance and Volatility

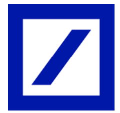
- Mary Brooke Billings, Robert H. Jennings, Baruch Lev
- October 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2377415
- Abstract: Survey evidence suggests that managers provide earnings guidance to, among other things, dampen share price volatility. Yet, consultants and influential institutions strongly urge managers to cease guidance — citing a lack of evidence that guidance curbs volatility. Furthermore, recent research links guidance to increased volatility. Hence, some argue that guidance not only fails to promote market tranquility but may actually prompt turbulence. In this paper, we consider the interplay between guidance and volatility, focusing on guidance released with quarterly earnings, which now constitutes the vast majority of earnings guidance. Consistent with the notion that volatility factors into managers' decisions to provide earnings guidance, we find a consistent link between increased volatility prior to an earnings release and the likelihood that a manager "bundles" a forecast with the firm's earnings announcement. Our tests also indicate that managers' efforts do not go unrewarded, as we document a greater post-announcement decline in volatility for guiding firms. Taken collectively, our evidence supports the view that managers seek to and do mitigate share price volatility with guidance.

On the Intraday Relation between the VIX and Its Futures

- Bart Frijns, Alireza Tourani-Rad, Robert I. Webb
- December 16, 2013
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2387877
- Abstract: The Chicago Board Options Exchange (CBOE) introduced the CBOE Volatility Index (VIX) in 1993. The index has come to act as the benchmark for stock market volatility and, more generally, investor sentiment. The VIX has proven to be very useful in forecasting the future market direction especially during high volatility periods. In order to expedite trading in volatility, as well as increase hedging opportunities, the CBOE introduced futures on the VIX (henceforth referred to as VXF) on March 26, 2004. We study the intraday dynamics of the VIX and VXF for the period January 2, 2008 to December 31, 2012. Applying a Vector Autoregression (VAR) model on daily data, we observe some evidence of causality from the VXF to the VIX. However, estimating a VAR using our ultra-high frequency data, we find strong evidence for bi-directional Granger causality between the VIX and the VXF. Overall, this effect appears to be stronger from the VXF to the VIX than the other way around. Impulse response functions and variance decompositions analysis further confirm the dominance of the VXF. Lastly, we show that the causality from the VXF to the VIX has been increasing over our sample period, whereas the reverse causality has been decreasing. This finding suggests that the VIX futures have become increasingly more important in the pricing of volatility. We further document that the VIX futures



dominate the VIX more on days with negative returns, and on days with high values of the VIX, suggesting that on those days investors use VIX futures to hedge their positions rather than trading in the S&P 500 index options.



5. Trading research

False News, Informational Efficiency, and Price Reversals

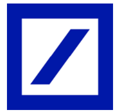
- Jérôme Dugast, Thierry Foucault
- HEC Paris Research Paper No. FIN-2014-1036, February 20, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2398904
- Abstract: Speculators can discover whether a signal is true or false by processing it but this takes time. Hence they face a trade-off between trading fast on a signal (i.e., before processing it), at the risk of trading on a false positive, or trading after processing the signal, at the risk that prices already reflect their information. The number of speculators who choose to trade fast increases with news reliability and decreases with the cost of fast trading technologies. We derive testable implications for the effects of these variables on (i) the value of information, (ii) patterns in returns and trades, (iii) the frequency of price reversals in a stock, and (iv) informational efficiency. Cheaper fast trading technologies simultaneously raise informational efficiency and the frequency of "mini-flash crashes": large price movements that revert quickly.

Impact of Algorithmic Trading on Liquidity and Its Persistency

- Siyi Shen, Liu Jing
- February 9, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2408701
- Abstract: The growing introduction of algorithmic trading evolves trading mechanisms and rules substantially. Does this change in trading activity significantly affect market liquidity condition? To answer this question, we investigate the impact of algorithmic trading on liquidity in a very comprehensive perspective. First, in order to control influence of market-wide factors, we employ a difference-in-difference approach, which matches NYSE stocks with NASDAQ stocks. Second, through the comparison between two sample periods — NYSE 2003 auto-quote and 2006 hybridization, we are able to show that in both period, the liquidity is increased (although the sources of liquidity improvement might be different). Our study further estimates this impact persistency using both daily and intraday data intervals and demonstrates that algorithmic trading improves market liquidity consistently.

The Impact of Algorithmic Traders on Intraday Market Liquidity

- James Upson, Robert A. Van Ness
- January 14, 2014
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2389922
- Abstract: Using a sample of NYSE firms from the first quarter of 2012, we show that the intraday U-shaped pattern of spreads is now an S-shape, with higher spreads at the open and lower spreads at the close of trading. NBBO depth has an inverse pattern to that of spreads, with low depth in the morning and the highest market depth at the close of trading. Composite liquidity, which we measure as the ratio of NBBO depth to NBBO spread is negatively affected by quote competition between exchanges and by excess Algorithmic Trading (AT) activity,



but positively impacted by volume fragmentation. We find high liquidity at the market close, and attribute this to a desire of zero overnight inventory positions of AT traders and the absence of an affirmative obligation requirement.

Appendix 1

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