Deutsche Bank
Markets Research

Global

Quantitative Strategy
Academic Insights

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Best ideas from academia

From macro to micro

Theme of the month
This month, we discuss five papers from macro to micro, from asset allocation, stock selection, to fixed income, attempting to bridge the gap cross asset classes:

- Constraints and Innovations for Pension Investment: The Cases of Risk Parity and Risk Premia Investing
- A Dynamic Estimation of Governance Structures and Financial Performance for Singaporean Companies
- Foreign Exchange Market and Equity Risk Premium Forecasting
- Management Forecasts in Japan: Do Managers Accurately Estimate Costs When They Issue Management Forecasts?
- Low Risk Anomalies in Global Fixed Income: Evidence from major broad markets

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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Yin Luo, CFA
yin.luo@db.com

Miguel-A Alvarez
miguel-a.alvarez@db.com

Mehmet Beceren
mehmet.beceren@db.com

Zongye Chen
john.chen@db.com

Christian Davies
christian.davies@db.com

Shan Jiang
shan.jiang@db.com

Javed Jussa
javed.jussa@db.com

Ada Lau
ada-cy.lau@db.com

Khoi Le Binh
khoi.lebinh@db.com

Spyros Mesomeris, Ph.D
spyros.mesomeris@db.com

Allen Wang
allen-y.wang@db.com

Sheng Wang
sheng.wang@db.com

North America: +1 212 250 8983
Europe: +44 20 754 71684
Asia: +852 2203 6990

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I. Recommended papers

Paper 1: "Constraints and Innovations for Pension Investment: The Cases of Risk Parity and Risk Premia Investing"

- Author: Wai Lee
- https://www.nb.com/asts/pdf/N0265_constraints_innovations_pension_investment.pdf
- Reviewed by Miguel Alvarez

Why it's worth reading

Wai Lee is a must read for asset owners and other asset allocation professionals. In his last piece, he focuses on two topical subjects – risk parity and risk-premia investing – in the context of the constraints faced by many U.S. pension funds. In contrast to most of the selected papers in this periodical, this particular note does not contain much in terms of models or data analysis. Rather, it addresses some of the more fundamental questions underlying risk parity and risk premia investing.

Methodology and results

Lee [2013] begins with a discussion on the traditional pension fund asset allocation mix and risk parity. His first important observation is that the traditional 60% equity and 40% fixed income asset allocation policy (60/40) is most likely the natural result of the 7-8% return target mandated by most pension fund's investment policy. He goes on to highlight how this traditional 60/40 investment mix is overly dependent on equity performance and in a theoretical context, is based on unrealistic assumptions of equity performance. Lee [2013] argues that risk parity provides a more theoretically sound approach under the traditional mean-variance efficient portfolio objectives.

The second part of the note focuses on risk-premia investing. He begins by making an important distinction between the top-down or macro-based risk-premia and the bottom-up asset-based approach. He argues that macro-based risk-premia provide better intuition, but fail miserably in capturing risks and correlations which are crucial parameters for realizing the diversification benefits promised by risk-premia investing. He also makes the important distinction between a *risk factor* and a *risk-premium*; the latter being a special case of the former with the added property that it provides long-term compensation for bearing risk. He then makes the provocative argument that risk-premia investing in general, does not offer more opportunity; rather its benefit is to remove the constraints imposed on the traditional pension fund investing (e.g. long-only, no shorts, no leverage, capitalization weighted).

Our take

We think the arguments presented in this note are an important addition to the discussion and debate on risk parity and risk-premia investing. The distinction he makes of the risk-premia factor approaches is of significant importance, especially considering the accuracy (or rather, inaccuracy) of the macro-based approach and the implementation difficulties of the long/short bottom-up approach.

Paper 2: A Dynamic Estimation of Governance Structures and Financial Performance for Singaporean Companies

- Author: Tuan Nguyen, Stuart Locke, and Krishna Reddy
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2314773
- Reviewed by Allen Wang

Why it's worth reading

Corporate governance has seen increased publicity over the years. It's plausible that issues with corporate governance would influence investors' decisions on certain stocks. Moreover, investigating firms' governance structure might yield information that is otherwise hidden from stock prices and traditional valuation metrics.

Data and methodology

The authors construct a sample of 257 Singapore-domiciled non-financial companies listed in SGX Mainboard that have relatively complete financial data. The sample period is from 2008 to 2011. The paper uses Tobin's Q as measure of firm performance, and adopts a generic linear model with five explanatory variables that reflect firms' governance characteristics, including board diversity, percentage of non-executives, CEO duality, board size and block ownership. To account for heterogeneity across firms and years, firm size, age, leverage, industry dummies and year dummies are included as control variables.

It is well documented in the literature that companies' contemporaneous performance and governance characteristics are influence by their past performance. To account for this effect, one-year lagged Tobin's Q is added as another independent variable. More importantly, this dynamic relationship suggests the inherent endogeneity with corporate governance variables, leading to spurious results from traditional OLS or fixed-effect models. The authors therefore estimated the model using system generalized method of moments (system GMM). System GMM can be described as two simultaneous equations with one in levels and one in first difference, and each variable is employed as instrumental variable in the opposite equation.

Results

Three corporate governance structures, i.e. board diversity, board size and ownership structure appear to have a statistically significant effect on a firm's performance. Female representation is negatively correlated to a firm's performance. Board size is also found to be a negative factor, supporting the hypothesis that smaller boards are more reactive and capable in decision making. Block ownership has a positive effect, echoing the theory that block-holders help alleviate agency cost. All results are robust to reduction of instrumental variables and alternate corporate governance variables.

Our take

This paper provides a sophisticated approach to investigate the link between corporate governance and firms' financial performance, and shows robust evidence of the existence of such links. It would be of interest to apply this methodology on more extensive dataset with longer history and companies in other countries. From an asset pricing perspective, the next step would be to test if any corporate-governance-driven performance in stocks is priced in by existing risk factors.

Paper 3: "Low Risk Anomalies in Global Fixed Income: Evidence from major broad markets"

- Author: Raul Leote de Carvalho, Patrick Dugnolle, Xiao Lu, and Pierre Moulin
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2321012
- Reviewed by Spyros Mesomeris

Why it's worth reading

The authors present some of the most comprehensive empirical evidence to date in favor of a low-risk anomaly in fixed income markets[1], which appears robust to bond "categories" across the risk spectrum, currency, and risk measure employed. Coming out of a long and strong bull market for fixed income suggests that this is probably the best time in many years to actually profit from the low risk anomaly from an absolute return point of view.

Methodology and results

The authors use data from the Bank of America Merrill Lynch database from January 1997 until December 2012, which includes 85,442 bonds in the 192 months analyzed. Only the four most active currencies have been considered, namely, USD, EUR, GBP and JPY, and only the most liquid segments of individual bonds. Measures of risk like beta, volatility, or term exposure were avoided as they require relatively long historical windows for estimation and thus exclude recent issues. Instead, the authors consider forward looking measures of the risk of a bond which do not require historical returns for their estimation, e.g., yield elasticity, modified duration, option-adjusted spread, etc. The universe segments considered include government bonds, securitized and collateralized bonds, corporate investment grade bonds, corporate high yield bonds, emerging market bonds, and aggregates of some of these universes. In each segment, bonds were ranked by the given risk measure and split into market-weighted quintile portfolios. The portfolios were rebalanced on a monthly basis and the returns to each quintile portfolio were calculated from the monthly total returns of each bond month and included accrued interest.

The authors find that portfolios invested in low risk bonds tend to be less volatile going forward and deliver higher Share ratios and alphas than their highest risk counterparts. The results are particularly strong with the yield elasticity ranking metric, and appear robust to industry, size, and rating.

Our take

We think that this is a very interesting empirical study which complements the mounting evidence in favor of a low risk anomaly in the equity space. We also believe that a defensive tilt away from the market capitalization index may result in outperformance due to the combination of lower volatility and positive alpha from "low-risk" bonds. The results, however, are not as strong and monotonic across risk quintiles other than with the yield elasticity measure, and we feel that apart from transaction costs and leverage constraints, more time needs to be spent on explaining why such an anomaly might exist in the fixed income space in the first place. In addition, further transaction cost analysis at the strategy implementation level may be warranted.

[1] We have also conducted our own research on "low risk anomaly" in fixed income markets (e.g., Luo, et al [2013a] "Independence day" and Luo, et al [2013b] "DB Handbook of Portfolio Construction, Part 1").

Paper 4: "Foreign Exchange Market and Equity Risk Premium Forecasting"

- Author: Yuchen Wang, Dashan Huang and Jun Tu
- http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2316059
- Reviewed by Caio Natividade

Why it's worth reading

The paper provides an interesting review of sentiment variables and other economic variables available, which can be useful for multi-purpose modeling. It also broadly reviews the relationship between FX and equity markets.

Methodology and results

The authors argue that FX market indicators help predict equity risk premia (ERP). They make the case that FX technical indicators add value in explaining ERP relative to using economic indicators and equity market variables alone.

Using data from the 1970s, the authors regress monthly US equity risk premia against the first principal components of distinct baskets: 1) one for economic variables, 2) one for equity market technical indicators, and 3) one for GBP/USD technical indicators. These regressions are conditioned on two states as defined by a sentiment variable from Baker and Wurgler [2007][2]. In summary, the out-of-sample regression (1993-2010) shows an R-Squared increase from 2.02% (using variables 1) and 2)) to 3.4% by adding the FX technical indicators in 3).

Our take

We acknowledge that it is challenging to predict equity risk premium, but find it difficult to get excited about an R-Squared of 3.4%. We would have also preferred using information criteria that penalize added explanatory variables. One may achieve better results by applying walk-forward regressions instead of a static two-period (in-sample, out-of-sample) approach, and by using more currency pairs.

[2] Baker, M. and Wurgler, J. [2007]. Investor sentiment in the stock market. National Bureau of Economic Research Cambridge, Mass., USA

Paper 5: "Management Forecasts in Japan: Do Managers Accurately Estimate Costs When They Issue Management Forecasts?"

- Author: Kenji Yasukata
- http://ssrn.com/abstract=2312315
- Reviewed by Ada Lau

Why it's worth reading

Management forecasts of sales and earnings in Japan offer a rare opportunity for investors to understand how managers estimate earnings. This paper provides an interesting perspective to understand managers' earnings forecasts by breaking it into costs and sales. The study focuses on Japanese companies because most of them comply with the Japanese "Timely Disclosure Rule" and issue such forecasts in their annual reports.

Methodology

Actual and forecasted sales and earnings from 1997 to 2010 for non-financial companies listed on Tokyo Stock Exchange are obtained from NEEDS – financial QUEST database. Costs are calculated by subtracting earnings before extraordinary items and taxes (EBET) from sales. A "sticky cost" model is used to study changes in costs as a function of changes in sales. Change in costs is modeled as a function of change in sales, where the coefficients consist of a dummy variable that discriminates between the cases where sales increases and decreases. This dummy variable is used to capture the "sticky cost" effect, i.e., costs increase with an increase in sales, but do not decline proportionately with a decrease in sales. Changes in costs and sales are measured as the log difference of: 1). reported numbers in two consecutive fiscal years in the "Actual cost fluctuation model", and 2). forecasted number and last reported number in the "Managers' costs prediction model". Cost forecast errors are then calculated as the log difference between the forecasted and reported costs for the same fiscal year.

Results

Based on the estimated coefficients of the "Managers' costs prediction model", the author shows that managers demonstrate "sticky cost" behavior when making management forecasts. In general, managers underestimate the rate of increase in costs when sales are expected to rise; but overestimate the rate of decrease in costs when sales are expected to decline. As a result, costs are underestimated regardless of the forecasted direction of change in sales, which implies that optimistic bias in management earnings forecasts can be attributed to forecast errors in costs.

Our take

This paper provides some behavioral evidence that management's earnings forecasts are optimistically biased. We think it would be interesting to compare management's forecasts with analysts' forecasts so as to understand if there are situations when earnings forecasts issued by managers are more accurate than those estimated by analysts. For example, in our past report "Rationalizing Earnings Forecasts", we have seen that analysts' earnings forecasts for firms which have suffered a loss in the previous year are in general very poor. Maybe we can combine two sources of forecasts to further improve the accurate of our models.

II. Upcoming conferences

Americas

Figure 1: Upcoming conferences and events in the Americas

Date	Location	Conference
17 October, 2013	New York	SQA Seminar – The near-death experience of quant asset management https://m360.sqa-us.org/frontend/portal/viewcalendar.aspx
10-12 November, 2013	New Orleans, LA	FactSet Symposium http://www.factset.com/campaigns/symposium2013
15 November, 2013	New York	SQA Half Day Conference: Quantitative Modeling: New Trends in the Post-Financial Crisis Era https://m360.sqa-us.org/event.aspx?eventID=89376&instance=0
3 January, 2014	Philadelphia	2014 AFA/AEA Meetings http://www.afajof.org
13 March, 2014	Newark, NJ	CQA Best Practices Seminar http://www.cqa.org
16 April, 2014	Las Vegas	CQA Spring Conference http://www.cqa.org

Source: Deutsche Bank

Europe/EMEA

Figure 2: Upcoming conferences and events in Europe/EMEA

Date	Location	Conference
27-29 October 2013	Munich	Inquire Europe Autumn Seminar http://www.inquire-europe.org/seminars.html
14-15 November 2013	London	CFA Institute Sixth Annual European Investment Conference http://eic.cfainstitute.org/?intCamp=homepage_banner_eic_pjs
14-16 December 2013	London	Computational and Financial Econometrics http://www.cfenetwork.org/CFE2013/

Source: Deutsche Bank

Asia

Figure 3: Upcoming conferences and events in Asia

Date	Location	Conference
30 October 2013	Melbourne	CIOS Australia 2013: Factors for Portfolio Success http://www.ai-cio.com/event/CIOSAus2013/
6 November 2013	Hong Kong	CQAsia Fall Conference http://www.cqa.org/
17-20 December 2013	Sydney	Quantitative Method in Finance 2013 Conference http://www.qfrc.uts.edu.au/qmf/

Source: Deutsche Bank

III. Other papers of interest

1. Equity investing

The Probability of Back-Test Over-Fitting

- David H. Bailey, Jonathan M. Borwein, Marcos Lopez de Prado, Qiji Jim Zhu
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2326253
- September 2013
- Abstract: Most firms and portfolio managers rely on back-tests (or historical simulations of performance) to select investment strategies and allocate them capital. Standard statistical techniques designed to prevent regression over-fitting, such as hold-out, tend to be unreliable and inaccurate in the context of investment back-tests. We propose a framework that estimates the probability of back-test over-fitting (PBO) specifically in the context of investment simulations, through a numerical method that we call combinatorially symmetric cross-validation (CSCV). We show that CSCV produces accurate estimates of the probability that a particular back-test is over-fit.

Does the Stock Price Always Drift Toward Fundamental Value?

- Peng-Chia Chiu, Alexander Nekrasov
- September 29, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2333212
- Abstract: A number of studies examine the price discovery process with respect to information about future earnings. In this paper, we examine a new determinant — the calendar-time dimension — of the relation between expected earnings and future stock returns. We find that the return predictability of expected earnings is positive in non-January months but negative in January. The reverse January relation is observed for different types of stocks and for domestic and international markets, and it is incremental to other variables associated with January returns. Further analysis shows that the reverse January relation is the result of a temporary price drift away from fundamental value. In other words, we find that abnormal positive (negative) future returns do not always indicate under (over)valuation. At least part of the abnormal January relation is explained by tax-loss selling, greater arbitrage risk and trading costs, higher uncertainty about firm value, and January analyst forecast revisions. Finally, we show that the effect of January is large for return predictability of several other commonly used accounting variables. Overall, our results illustrate the importance of controlling for the calendar-time dimension in several areas of capital market research in accounting.

Market Competition, Social Network and Firm Performance: An Emerging Economy Test

- Chien-Hui Chuang, Cheng-Jen Huang, Anne Wu
- National Chengchi University (Taipei)
- August 19, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2312555
- Abstract: Prior literature shows that social networks from outside have great impact on the firm performance. This study focuses on the impact of social network on firm performance especially from the depth of the social network created by key shareholders. In addition, firms in emerging markets face intensive competition. Therefore, this study also examines the different impacts of key shareholders' social network on firm performance under different levels of market competition in an emerging market. The empirical results show that the depth of shareholder network has significant positive impact on firm performance. In addition, the results also show that key shareholder network has more positive effect on firm performance under high market competition than that of low market competition.

Multi - Period Asset Lifetimes and Accounting - Based Equity Valuation: Take Care with Constant - Growth Terminal Value Models!

- Matthias Meitner
- September 2013
- *Abacus*, Vol. 49, Issue 3, pp. 340-366, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2332909
- Abstract: The merits of accruals in forecasting cash flows or mitigating the volatility of financials shortly after the valuation date are indisputable. However, the usefulness of accounting in equity valuation is very limited if we step beyond a certain forecasting horizon. In this paper, this limitation is emphasized by shedding new light on the accounting - based value driver model (VDM), a widely used constant - growth terminal value tool that uses accounting variables as input. The paper shows that, if the lifetime of a firm's assets is, on average, longer than one period, the VDM works accurately only in an idealized academic environment with an even historical corporate investment activity, a single depreciation method for all assets, and no historical inflation volatility. Artificially adjusting real - world figures to this steady state is possible in principle, but bloats the valuation model and requires exactly the same information that is used in our cash flow - driven benchmark model (where no adjustment phase is necessary). Beyond these theoretical shortcomings, the VDM is also prone to being misused in valuation practice due to its reliance on book (rather than economic) rates of return, and to its shortcomings in dealing adequately with the assets with an ex ante indefinite lifetime.

Barron's Most Respected Companies

- Greg Filbeck, Raymond F. Gorman, Xin Zhao

- September 2013
- *Accounting & Finance*, Vol. 53, Issue 3, pp. 623-641, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2317658
- Abstract: In this study, we investigate the performance of firms selected to Barron' s Most Respected Companies against the S&P 500 and a matched sample over a short - term, long - term and operational basis. The most respected companies exhibit a statistically significant announcement effect associated with their selection and outperform the S&P 500 over longer - holding periods. The overall sample and those firms identified as top picks outperform a matched sample of firms. In addition, as measured by changes in the return on assets, the post - selection operational performance of the most respected firms was better than that of the matched firms.

Earnings Variability and Disclosure of R&D: Evidence from Press Releases

- Dan Weiss, Haim Falk, Uri Ben Zion
- September 2013
- *Accounting & Finance*, Vol. 53, Issue 3, pp. 837-865, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2317657
- Abstract: This study explores press releases in the pharmaceutical industry to expand our understanding of how investments in R&D outlays influence uncertainty of future earnings. The findings make two contributions to the literature. First, they provide evidence that equal investments in different R&D ventures are associated with differential variability of future earnings. This result suggests that non - financial information contained in press releases captures attributes of firm - specific R&D investments that are not revealed through R&D expenditures reported in financial statements. Second, prior studies have indicated that investments in pharmaceutical R&D are associated with the highest variability of future earnings among all industries. The results, however, suggest that for a large class of low - risk pharmaceutical R&D investments, the relative variability of future earnings is low and similar to that generated by capital expenditures. The findings hold when we control for endogeneity in voluntary disclosure of press releases.

Analyst Pessimism and Forecast Timing

- Orie E. Barron, Donal Byard, Lihong Liang
- June/July 2013
- Journal of Business Finance & Accounting, Vol. 40, Issue 5-6, pp. 719-739, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2298966
- Abstract: In this study, we show that on average relatively pessimistic analysts tend to reveal their earnings forecasts later than other analysts. Further, we find this forecast timing effect explains a substantial proportion of the well-known decrease in consensus analyst forecast optimism over the forecast period prior to earnings announcements, which helps explain why analysts' longer term earnings forecasts are more optimistically biased than their shorter term forecasts. We extend the theory of analyst self-selection

regarding their coverage decisions to argue that analysts with a relatively pessimistic view – compared to other analysts – are more reluctant to issue their earnings forecasts, with the result that they tend to defer revealing their earnings forecasts until later in the forecasting period than other analysts.

Institutional Investor Participation and Stock Market Anomalies

- Tao Shu
- June/July 2013
- Journal of Business Finance & Accounting, Vol. 40, Issue 5-6, pp. 695-718, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2298969
- Abstract: This paper investigates the impact of institutional trading volume on stock market anomalies. The paper proposes a measure that evaluates the percentage of total trading volume of a stock accounted for by institutional trades. The empirical analyses using a large sample of firms from 1980‐ 2005 provide strong evidence that the strength of stock market anomalies such as price momentum, post ‐ earnings announcement drift, the value premium, and the investment anomaly is decreasing in institutional trading volume. Additionally, the effects of institutional trading volume are stronger than those of institutional ownership, the major measure of institutional investor participation in the finance literature. These findings suggest that institutional trading significantly improves stock price efficiency.

The Information Content of Dividend Surprises: Evidence from Germany

- Andre′ Betzer, Christian Andres, Inga Van den Bongard, Christian Haesner, Erik Theissen
- June/July 2013
- Journal of Business Finance & Accounting, Vol. 40, Issue 5-6, pp. 620-645, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2298970
- Abstract: This paper reconsiders the issue of share price reactions to dividend announcements. We use the difference between the actual dividend and the analyst consensus forecast as obtained from I/B/E/S as a proxy for the surprise in the dividend announcement. Using data from Germany, we find significant share price reactions after dividend announcements. We use panel methods to analyze the determinants of the share price reactions and find evidence in favour of the cash flow signaling hypothesis and dividend clientele effects. We further find that the price reaction to dividend surprises is related to the ownership structure of the firm. The results do not support the free cash flow hypothesis. An additional result of our analysis is that dividend changes are not an appropriate measure to capture the information content of dividend announcements.

The Role of 'Other Information' in Analysts' Forecasts in Understanding Stock Return Volatility

- Yaowen Shan, Stephen L. Taylor, Terry S. Walter

- August 16, 2013
- Review of Accounting Studies, Forthcoming, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2334799
- Abstract: This study proposes and validates "other information" in analysts' forecasts as a legitimate proxy for future cash flows, and examines its incremental role in explaining stock return volatility. We suggest that "other information" contains information about fundamentals beyond that reflected in current financial statements, and reflects firms' fundamentals on a more timely basis than dividends or earnings. The link between "other information" and volatility can be derived from a combination of the accounting version of the Campbell-Shiller model (Campbell and Shiller 1988a, 1988b; Vuolteenaho 2002) and Ohlson's (1995) linear information dynamics. Using standardized regressions we find volatility increases when current "other information" is more uncertain, and increases more in response to unfavorable news compared to favorable news. Variance decomposition analysis shows that the variance contribution of "other information" dominates that of expected-return news. The incremental role of "other information" is at least half of the effect of earnings in explaining future volatility. The results are valid for measures of both systematic and idiosyncratic volatility, and are more pronounced for firms with poor information environments. Overall, our results highlight the importance of including "other information" as an additional cash-flow proxy in future studies of stock prices and volatility.

Does Working Capital Affect Corporate Profitability?

- Ashwin Madhou
- August 8, 2011
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2308244
- Abstract: We examine the determinants of corporate profitability for publicly listed Australian firms by using three measures of corporate profitability, namely, net profit, economic value added and return on assets. Through dynamic panel estimation, we test the determinants of corporate profitability. Using panel least squares and median regression, we control for sectoral effects and conclude that the determinants of corporate profitability varies across Australian sectors. By controlling firm's fundamentals (working capital, corporate governance ratings and performance), we find evidence supporting that the determinants of corporate profitability of firms in extreme portfolios are heterogeneous. We report that firms with the worst working capital deficit and poor corporate governance ratings exhibit negative debt ratio. We document that profitable firms hold positive cash holdings, whereas non- profitable firms hold negative cash holdings.

Neuro Fuzzy Based Stock Market Prediction System

- M. Gunasekaran, S. Anitha, S. Kavipriya,
- May 7, 2010

- Second National Conference on Signal Processing, Communications and VLSI Design – NCSCV '10 ANNA UNIVERSITY COIMBATORE, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2335293
- Abstract: Neural networks have been used for forecasting purposes for some years now. Often arises the problem of a black-box approach, i.e. after having trained neural networks to a particular problem, it is almost impossible to analyze them for how they work. Fuzzy Neuronal Networks allow adding rules to neural networks. This avoids the black-box-problem. Additionally they are supposed to have a higher prediction precision in unlike situations. Applying artificial neural network, genetic algorithm and fuzzy logic for the stock market prediction has attracted much attention recently, which has better correlated the non-quantitative factors with the stock market performance. However these approaches perform less satisfactorily due to the memoryless nature of the stock market performance. In this paper, we propose a data compression-based portfolio prediction model hybridized with the fuzzy logic and genetic algorithm. In the model, the quantifiable microeconomic stock data are first optimized through the genetic algorithms to generate the most effective microeconomic data in relation to the stock market performance.

Link between Market Return, Governance and Earnings Management: An Emerging Market Perspective

- Omar Al Farooque, Eko Suyono, Uke Rosita
- August 26, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2316121
- Abstract: This paper investigates the impact of earnings management on market return (by the proxies of discretionary accruals and earnings response coefficient/CAR regarded as accounting and market based earnings quality, respectively,) along with a number of moderating (both governance and financial) variables in an emerging market context. Indonesia. Building on extant literature and using panel data approach, it examines 52 manufacturing firms listed on the Indonesia stock exchange during 2007 to 2010 periods. Applying Modified Jones Model to measure earnings management, our regression analysis reveals that earnings management has significant negative influence of market return. Of the moderating variables, board size, leverage and firm size are showing significant effects on market return, but not the institutional ownership. Again, observing the use of moderator effects on earnings management, our findings confirm that board size has more predictive power than institutional ownership in deterring earnings management and weaken the association between earnings management and market return. Similarly, leverage has strengthened the relation between earnings management and market return showing more exposure to earnings management while firm size showing a tendency to weakening earnings management, on the contrary. These results have enormous implications for Indonesian corporate sector and policy makers in adopting appropriate governance measures to constrain earnings management and improve quality of earnings.

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

Weekend Gold Returns in Bull and Bear Markets

- Laurence E. Blose, Vijay Gondhalekar
- September 2013
- Accounting & Finance, Vol. 53, Issue 3, pp. 609-622, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2317661
- Abstract: This study examines the weekend effect in gold returns during bull and bear markets over the period 1975 through 2011. It shows that gold returns from close on Friday to close on Monday are significantly lower than returns during the rest of the week. This result is due largely to gold returns during bear markets. During gold bull markets, gold weekend returns are not significantly different from weekday returns. The study shows that the effect has substantial economic implications for gold investors. The effect is shown to be related to a significantly negative skewness in the weekend returns.

Forward and Spot Exchange Rates in a Multi-Currency World

- Tarek A. Hassan, Rui C. Mano
- May 31, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2272893
- Abstract: We decompose the covariance of currency returns with forward premia into a cross-currency, a between-time-and-currency, and a cross-time component. The surprising result of our decomposition is that the cross-currency and cross-time-components account for almost all systematic variation in expected currency returns, while the between-time-and-currency component is statistically and economically insignificant. This finding has three surprising implications for models of currency risk premia. First, it shows that the two most famous anomalies in international currency markets, the carry trade and the Forward Premium Puzzle (FPP), are separate phenomena that may require separate explanations. The carry trade is driven by persistent differences in currency risk premia across countries, while the FPP appears to be driven primarily by time-series variation in all currency risk premia against the US dollar. Second, it shows that both the carry trade and the FPP are puzzles about asymmetries in the risk characteristics of countries. The carry trade results from persistent differences in the risk characteristics of individual countries; the FPP is best explained by time variation in the average return of all currencies against the US dollar. As a result, existing models in which two symmetric countries interact in financial markets cannot explain either of the two anomalies.

Estimating Time-Varying Currency Betas: New Evidence from Nine Developed and Emerging Markets

- Ling Long, Albert K.C. Tsui, Zhaoyong Zhang
- August 26, 2013

- Available at:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2315940

- Abstract: This paper examines the conditional time-varying currency betas from five developed markets and four emerging markets. We employ BEKK multivariate GARCH models of Engle and Kroner (1995) to estimate the time-varying conditional variance and covariance of returns of stock index, the world market portfolio and changes in bilateral exchange rate between the US dollar and the local currency. It is found that currency betas are more volatile than those of the world market betas. Currency betas in emerging markets are more volatile than those in the developed markets. Moreover, we find evidence of long-memory in currency betas. The usefulness of time-varying currency betas are illustrated by two applications.

The Dynamics of Trading in Commodity Futures

- Aditya Kaul, Lorenzo Naranjo, Carmen Stefanescu
- August 18, 2013
- Available at:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2311859

- Abstract: We examine weekly trading imbalances for speculators and small investors in the commodity futures market and their price and volatility effects over the period 1986-2012. First, speculators behave like short term momentum traders and long-term contrarians. Their imbalances are positively autocorrelated and positively cross-autocorrelated with small investor imbalances, consistent with their 'riding the wave' caused by small traders. Speculators sell (buy) to a greater extent after their long (short) positions have become larger, especially when volatility is elevated: this is consistent with their being risk averse. Small trader imbalances also follow speculator imbalances of a given sign, and display mean reversion and volatility aversion, but both are weaker than for speculators. Second, imbalances have positive and significant permanent price effects, which are larger for speculators. Further analysis suggests that the price impact of speculator imbalances is smaller when they act as suppliers of liquidity to hedgers. Finally, price volatility is related positively to lagged small trader imbalances, supportive of noise trader effects, and negatively to the lagged variability of speculator imbalances, which is inconsistent with speculator activity promoting futures market volatility. Our results are broadly similar in extreme market conditions. The picture that emerges from our analysis is that speculators are risk averse, short-term oriented, liquidity providers with trades that are, in general, not destabilizing. Our work contributes to the debate on the effects of trading, especially by speculators, and the need for new regulatory initiatives.

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

Modelling the World Economy at the 2050 Horizon

- Jean Foure, Agnès Bénassy-Quéré, Lionel Fontagne
- October 2013
- *Economics of Transition*, Vol. 21, Issue 4, pp. 617-654, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2332937
- Abstract: Economic analysis is increasingly addressing long - term issues (such as global warming) that require a dynamic baseline for the world economy. In this article, we develop a three - factor (capital, energy, labour) macroeconometric (MaGE - Macroeconometrics of the Global Economy) model, and project growth for 147 countries to 2050. We improve on the literature by the following: (i) accounting for the energy constraint through dynamic modelling of energy productivity, (ii) modelling female participation rates consistent with education catch - up, (iii) departing from the assumptions of either a closed economy or full capital mobility (by applying a Feldstein-Horioka type relationship between saving and investment rates), and (iv) offering a fully consistent treatment of the Balassa–Samuelson effect. These innovative features have a sizeable impact on projected GDP.

Determinants of Real Long-Term Interest Rates in Europe: 'Is it a Fiscal Phenomenon?'

- Fatih Kaya
- September 24, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2330298
- Abstract: Several studies investigate the relationship between government debt/deficit ratios and the real long-term interest rates, but the empirical evidence is not conclusive enough for consensus building. Evidence for statistically weak or mixed association is as much as the evidence for a strong positive relationship, which means rising debt/deficit ratios are estimated to increase real yields. My research extends the existing literature by using a large panel of European countries covering the years 1990 and 2012. I find a very strong positive relationship between the debt to GDP ratio and real long-term interest rates in linear specifications. Quadratic specifications yield a U-curve structure in explaining the association between debt ratios and the real long-term yields, supporting evidence for a positive association once the debt ratio surpasses a threshold in the range of 49-54%.

Volatility in Gold Price Returns: An Investigation from International Market

- Nawaz Ahmad, Moomal Sara
- April 4, 2012
- Journal of Commerce, Management and Social Science, 1(2), 195-207, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2326386

- Abstract: The research was conducted in order to study the volatility in gold price returns and its investigation. The data has been collected on daily basis for the tenure of a couple of years starting from 1st January 2009 to 31st September 2011. The models used to run the data are: standard deviation as a Descriptive Model, and GARCH as an Econometric Model. The results investigate volatility. Econometrically speaking, an unequal spread of residuals is referred as heteroskedasticity. In this research, a fast mean reversion has been observed showing that the alpha and beta are far from 1. Based on results it was concluded that there has been volatility in gold prices.

Do Unobserved Components Models Forecast Inflation in Russia?

- Bulat Gafarov
- September 30, 2013
- Higher School of Economics Research Paper No. WP BRP 35/EC/2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2333459
- Abstract: I apply the model with unobserved components and stochastic volatility (UC-SV) to forecast the Russian consumer price index. I extend the model which was previously suggested as a model for inflation forecasting in the USA to take into account a possible difference in model parameters and seasonal factor. Comparison of the out-of-sample forecasting performance of the linear AR model and the UC-SV model by mean squared error of prediction shows better results for the latter model. Relatively small absolute value of the standard error of the forecasts calculated by the UC-SV model makes it a reasonable candidate for a real time forecasting method for the Russian CPI

Globalization and Inflation: Structural Evidence from a Time Varying VAR Approach

- Francesco Bianchi, Andrea Civelli
- July 1, 2013
- Economic Research Initiatives at Duke (ERID) Working Paper No. 157, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2331600
- Abstract: Under the Globalization Hypothesis for inflation, as globalization increases, global economic slack should progressively replace the domestic gap in driving inflation. In order to assess the empirical support for this theoretical prediction, we use impulse response functions of inflation to domestic and foreign output gap shocks from a TV-VAR model estimated for eighteen countries. The main results of the analysis are twofold: First, the structural results show that global slack affects the dynamics of inflation in many countries, yet these effects do not get stronger over time. Second, a panel analysis that exploits the cross-section characteristics of the response functions shows that globalization, measured in terms of openness and business cycles integration, is positively related to the effects of global slack on inflation. The degree of openness of a country and its economic integration into the global economy are complementary rather than overlaid forces.

Testing for Multiple Bubbles: Historical Episodes of Exuberance and Collapse in the S&P 500

- Peter C. B. Phillips, Shu Ping Shi, Jun Yu
- August 7, 2013
- Cowles Foundation Discussion Paper No. 1914, FIRN Research Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2327609
- Abstract: Recent work on econometric detection mechanisms has shown the effectiveness of recursive procedures in identifying and dating financial bubbles. These procedures are useful as warning alerts in surveillance strategies conducted by central banks and fiscal regulators with real time data. Use of these methods over long historical periods presents a more serious econometric challenge due to the complexity of the nonlinear structure and break mechanisms that are inherent in multiple bubble phenomena within the same sample period. To meet this challenge the present paper develops a new recursive flexible window method that is better suited for practical implementation with long historical time series. The method is a generalized version of the sup ADF test of Phillips, Wu and Yu (2011, PWY) and delivers a consistent date-stamping strategy for the origination and termination of multiple bubbles. Simulations show that the test significantly improves discriminatory power and leads to distinct power gains when multiple bubbles occur. An empirical application of the methodology is conducted on S&P 500 stock market data over a long historical period from January 1871 to December 2010. The new approach successfully identifies the well-known historical episodes of exuberance and collapse over this period, whereas the strategy of PWY and a related CUSUM dating procedure locate far fewer episodes in the same sample range.

EuroMInd-C: A Disaggregate Monthly Indicator of Economic Activity for the Euro Area and Member Countries

- Cecilia Frale, Stefano Grassi, Massimiliano Giuseppe Marcellino, Gian Luigi Mazzi Sr., Tommaso Proietti
- October 1, 2013
- CEIS Working Paper No. 287, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2334364
- Abstract:
- The paper deals with the estimation of monthly indicators of economic activity for the Euro area and its largest member countries that possess the following attributes: relevance, representativeness and timeliness. Relevance is obtained by referring our monthly indicators to gross domestic product at chained volumes, the most important measure of the level of economic activity. Representativeness is achieved by entertaining a very large number of (timely) time series on monthly indicators relating to the level of economic activity, providing a more or less complete coverage. The indicators are modeled with a large scale parametric factor model. We discuss its specification and provide details on the statistical treatment. Computational efficiency is crucial to estimate a large scale parametric factor model of the dimension considered in our application (considering about 170

series). To achieve it we apply state of the art state space methods that can handle temporal aggregation, and any pattern of missing values.

On the Fundamental Relation between Equity Returns and Interest Rates

- Jaewon Choi, Matthew P. Richardson, Robert Whitelaw
- September 12, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2324904
- Abstract: This paper appeals to contingent claim asset pricing to exploit capital structure priority to better understand the relation between security returns and interest rate changes (i.e., duration). In particular, we show and, using a novel dataset, empirically confirm that lower priority securities in the capital structure, such as subordinated or distressed debt and equity, have low or even negative duration. This is because the lower priority securities are effectively short higher priority fixed rate debt, i.e., short the bond market. The finding has important implications for interpreting existing aggregate results in the literature such as (i) time-varying correlations between aggregate stock markets and government bonds, (ii) the Fisher effect and inflation, (iii) measuring the beta of corporate bonds, and (iv) using bond factors for multifactor asset pricing models and forecasting bond and stock returns.

Price Momentum Components: Evidence from International Market Indices

- Graham N. Bornholt, Mirela Malin
- August 26, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2315993
- Abstract: This paper shows that splitting the traditional momentum strategy into two components based on past long-term performance produces contrasting strategies. Past long-term returns predict both the magnitude and persistence of momentum. Early-stage momentum profits are larger than the traditional momentum strategy's profits when applied to developed and emerging market indices and do not reverse in the first five years post-formation whereas late-stage momentum profits are weaker and tend to reverse quickly. While we do not rule out other explanations, our evidence is consistent with an explanation based on investor overreaction.

Tests of Technical Trading Rule Profitability in Australian Financial Markets

- Jung-Soo Park, Chris Heaton
- August 24, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2315379
- Abstract: In this paper, we apply the 7,846 technical trading rules considered by Sullivan et al. (1999) to a stock index, some individual stocks, some currencies and some interest rate futures contracts traded in the Australian financial markets. Size distortions due to data-

snooping are avoided by using the Reality Check test of White (2000) and the Superior Predictive Ability test of Hansen (2005). We find no evidence that technical trading rules provide trading profits in excess of those available from a simple buy-and-hold strategy.

Dynamics of Political Risk Rating and Stock Market Volatility

- Muhammad Tahir Suleman
- August 19, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2315645
- Abstract: This paper focus on the response of a country's stock market to changes in political risk as quantified by ICRG to investigate whether market participants are able to extract information from such data set. Monthly data from seventy four emerging and developed stock markets and political risk rating from the ICRG for the period of Jan 1984 to August 2012 is used to study the impact of political risk on return and volatility. Empirical results confirm that political risk is priced in emerging as well as in developed markets. The impact of the change and the volatility of the political risk variables are in the right direction, as the political risk increase the stock returns decrease and vice verse. The impact of the political risk variable on the variance equation supports that as the volatility of the political risk increased the volatility in the majority of the emerging and few developed markets also increased. We also find an interesting result that the decrease in the political risk has a positive effect on the stock market volatility which is different from the so called asymmetric volatility. An explanation of these results is that as the political risk decrease which is good news for the investors and this increased the trading volume and ultimately the volatility too.

Explaining Equity Risk Premium during Financial Crises

- Ming-Hsien Chen, Chun I. Lee, Vivian V. Tai
- August 20, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2313664
- Abstract: This paper investigates the dynamics among three non-equity factors, credit, illiquidity, and foreign exchange risks, and equity returns to explore the equity risk premium. Results from both VAR and EGARCHM models demonstrate that credit and liquidity risk premia and changes in exchange rates explain equity returns in Germany, Japan, the United Kingdom, and the United States during recent financial crises. More importantly, the traditional measure of the equity market risk premium ceases to be significant in explaining equity returns when these three non-equity factors are included in the model. Although its explaining power is significant in the US, its significant level is lower. Our results offer convincing evidence that these three non-equity factors explain the equity risk premium during financial crises.

Long Memory in Volatility and Return Predictability

- Ruoyang Wang, Steven P. Clark
- August 19, 2013
- Available at:
  http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2312414
- Abstract: This paper proposed a new way to measure variance risk premium by applying the fractional cointegration relationship between implied variance and realized variance. To find the fractional cointegration coefficient between implied variance and realized variance, we proposed a searching method by minimizing the score test statistic proposed by Robinson(1994). We used daily, weekly and monthly data of 5 stock market indexes (SP500, SP100, DJIA, NASDAQ100 and Russell2000) and their volatility indexes from CBOE. We find our new measurement could improve the return prediction power of variance risk premium both in-sample statically and out-of-sample dynamically, and the result is robust for the monthly data among all 5 indexes.

Investor Sentiment Aligned: A Powerful Predictor of Stock Returns

- Dashan Huang, Fuwei Jiang, Jun Tu, Guofu Zhou
- September 15, 2013
- Available at:
  http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2311618
- Abstract: The widely used Baker and Wurgler (2006) sentiment index is likely to understate the predictive power of investor sentiment because their index is based on the first principal component of six sentiment proxies that may have a common noise component. In this paper, we propose a new sentiment index that is aligned for explaining stock expected returns by eliminating the noise component. We find that the aligned sentiment index has much greater power in predicting the aggregate stock market than the Baker and Wurgler (2006) index: it increases the R-squares by more than five times both in-sample and out-of-sample, and outperforms any of the well recognized macroeconomic variables. Its predictability is both statistically and economically significant. Moreover, the new index improves substantially the forecasting power for the cross-section of stock returns formed on industry, size, value, and momentum. Economically, the driving force of the predictive power of investor sentiment appears stemming from market underreaction to cash flow information.

4. Derivatives and volatility

The Effect of Initial Margin on Long-Run and Short-Run Volatilities in Japan

- Sangbae Kim, Taehun Jung
- Kyungpook National University - School of Economics and Trade
- September 30, 2013
- Journal of East Asian Economic Integration vol.17 no.3, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2334655
- Abstract: This paper examines the effect of initial margin requirements on long-run and short-run volatilities in the Japanese stock market using the Component GARCH model. Our empirical results show that when we do not divide the margin requirement into positive and negative changes, increasing margin requirement is effective for reducing long-run volatility, while not effective in short-run volatility. However, separating the positive and negative changes in margin requirements reveals the fact that the negative changes in margin requirements decrease long-run volatilities, while the higher margin requirements increase short-run volatilities in the Japanese stock market. This suggests that if the Japanese financial authorities intend to increase margin level to reduce volatility, unexpectedly, short-run volatility would be even higher.

Price Discovery Across Equity and Option Markets

- Hayden Kane
- September 13, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2325714
- Abstract: The Options market has undergone major changes since the start of the 21st Century with exponential growth in the volume of contracts traded. This growth has been accompanied by changes in the regulatory environment and also the introduction of several new exchanges. I am interested in measuring the channels by which private information is incorporated in prices. Starting with Hasbrouck's (1995) information share measure, which was designed for equity markets, I use Monte Carlo to assess the suitability of this approach to equity and options markets, and find that research design choices that are not sensitive to actual market structures distort the importance of options in the price discovery process. Using a mispricing events approach and conditioning on the option market being the cause of the mispricing event, I analyse the subsequent behaviour of both the options and equity markets. I find that options markets play an important role in the price discovery process.

Macroeconomic Information and Implied Volatility: Evidence from Australian Index Options

- Hassan Tanha, Michael J. Dempsey, Terrence A. Hallahan
- August 26, 2013

- Available at:
  http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2316122
- Abstract: A key issue in understanding option pricing is the response of option implied volatility to macro-economic announcements. We use high frequency data on ASX SPI 200 Index Options to examine the response of option implied volatility, as well as higher moments of the underlying return distribution, to macroeconomic announcements. Additionally, we identify the response of the moments as a function of the moneyness of the options. Our findings suggest that in-the-money and out-of-the money options have different characteristics in their responses, leading to the conclusion that heterogeneity in investor beliefs and preferences affect option implied volatility through the state price density function.

5. Trading research

Optimal Placement in a Limit Order Book

- Xin Guo, Adrien De Larrard, Zhao Ruan
- October 1, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2318220
- Abstract: This paper proposes and studies an optimal placement problem in a limit order book. Two simple models are proposed: one with price impact and one without price impact. For the first model, optimal placement strategies for both single-period and multi-period cases are derived. For the second model, it is shown that the optimal strategy never mixes market orders and (best) limit orders; in particular, with special choices of parameters, the optimal strategy reduces to the VWAP type of Bertsimas and Lo (1998) for the optimal execution problem.

The Informational Role of Trade Duration: The Case of an Index Options Market

- Doojin Ryu, Kee H. Chung
- August 19, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2317663
- Abstract: Under a structural market microstructure model framework, this study examines whether there is a significant information role of inter-transaction time (referred to as trade duration) among options trades. To answer this research question, we extend the MRR model (Madhavan, Richardson, and Roomans, 1997) to incorporate trade duration into the structural model and analyze the high-quality transaction dataset of the KOSPI 200 options market, which is the most liquid and remarkable derivatives market in the world. We find that the duration between two consecutive options trades conveys meaningful information, and that the implications of trade duration are significantly different across option moneyness. While fast trading indicates informed trading in an out-of-the-money (OTM) options market, also known as a speculative market, the opposite is true in the case of in-the-money (ITM) options trading. This study provides robust results because the same patterns for the information content of the trade duration are observed after we control trade sizes or intraday time periods. We also find that the informational role of trade duration becomes more significant when informed trading is more concentrated, liquidity is relatively lower, many days are left before maturity date, and the market is more volatile.

Algorithmic Trading in Volatile Markets

- Hao Zhou, Petko S. Kalev, Guanghua Lian
- August 19, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2316040

- Abstract: Algorithmic trading (AT) is widely adopted by equity investors. Does Algorithmic trading increase volatility in turbulent periods? By exclusively focusing on the volatile days, we find significant negative association between the level of AT in individual stocks and the price swing of that stock. We also provide evidence that the order imbalances from AT have smaller impact to the abnormal returns in individual stocks compared to non-algorithmic trading (nonAT). The findings indicate that, in turbulent markets, AT improves market quality by reducing volatility and minimizing price pressure.

Predatory Short-Selling and Covering Around Pre-Announced Deletions from Index Composition: Evidence from the Nikkei 225 Deletions

- Hidetomo Takahashi, Peng XU
- August 18, 2013
- Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2312012
- Abstract: Focusing on pre-announced index deletions which induce liquidity needs by index funds and using daily short selling data, we show that short sellers employ front-running strategies in which short sellers sell stocks immediately after the announcements of deletions from index composition until the actual deletion days and buy back stocks after the actual deletion days. We find that, while short sellers can exploit profitable opportunities, their trading activities create temporary liquidity shortages and destabilize stock prices.

Appendix 1

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Group Chief Economist
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FICC Research & Global Macro Economics

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Co-Global Heads
Equity Research

Michael Spencer
Regional Head
Asia Pacific Research

Ralf Hoffman
Regional Head
Deutsche Bank Research, Germany

Andreas Neubauer
Regional Head
Equity Research, Germany

Steve Pollard
Regional Head
Americas Research

International Locations

Deutsche Bank AG
Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG
Große Gallusstraße 10-14
60272 Frankfurt am Main
Germany
Tel: (49) 69 910 00

Deutsche Bank AG
Filiale Hongkong
International Commerce Centre,
1 Austin Road West,Kowloon,
Hong Kong
Tel: (852) 2203 8888

Deutsche Securities Inc.
2-11-1 Nagatacho
Sanno Park Tower
Chiyoda-ku, Tokyo 100-6171
Japan
Tel: (81) 3 5156 6770

Deutsche Bank AG London
1 Great Winchester Street
London EC2N 2EQ
United Kingdom
Tel: (44) 20 7545 8000

Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
United States of America
Tel: (1) 212 250 2500

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