# BOOK OF ABSTRACTS

WAIKATO

25th New Zealand Finance Colloquium

University of Waikato, Tauranga Campus

11-12 February 2021

Organizer: Dr. Muhammad A. Cheema

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Session 1A

## Different safe harbors in different winds: Do safe havens differ when the oil price falls for different reasons?

#### Authors:

Muhammad A. Cheema (University of Waikato); Robert Faff (University of Queensland; Michael Ryan (University of Waikato)

#### Abstract

Analogous to an experienced mariner choosing a safe harbour depending on the wind direction, an investor should choose their safe-haven asset(s) conditional on the cause of the underlying adverse event. To assist with this, we identify what assets, if any, are safe-havens when oil prices fall and if the performance of the identified safe-haven assets varies when oil prices fall for different reasons. In broad terms, we find stock markets are safe-haven assets, such as the US dollar and government bonds, are safe-haven assets when oil prices fall owing to declines in actual or expected demand. We also provide reflections on pre-registering our study, an unusual step for a non-experimental study; we hope these reflections will help guide those who go down this path in the future, especially those who are using secondary data.



## A Note on Green Investment: Do Climate Disasters Matter?

Authors:

Ben R. Marshall (Massey University); Hung T. Nguyen (Massey University); Nhut H. Nguyen (Auckland University of Technology); Nuttawat Visaltanachoti (Massey University); Martin Young (Massey University)

#### Abstract

We consider the degree to which climate disasters influence investor behavior. Using data on events such as hurricanes and floods, we show that disasters prompt investors to pay more attention to socially responsible investing and to invest more in mutual funds with an environmental focus. Consistent with a salience explanation, this effect is more pronounced for disasters that attract the most attention. The funds receiving the increased inflows do not have higher risk-adjusted returns before climate disasters, so there is no evidence to support a return-chasing explanation. Moreover, investors do not gain excess returns from their climate disaster—induced investment decisions.

## Session 1B

## The dynamic interrelations of oil-equity implied volatility indexes under low and high volatility-of-volatility risk

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#### Author:

Leon Li (University of Waikato)

#### Abstract

This study develops the Markov-switching vector correction model (MRS-VECM), in which the magnitude of cointegration and correlation are conditional on the regime of the volatility of volatility indexes, to examine the dynamic interrelations between the oil-equity volatility indexes. The CBOE crude oil volatility index (OVX) and stock market volatility index (VIX) are used as a proxy of the oil and equity market volatility index, respectively. Our empirical results and their implications are summarized as follows. First, there is a long-run cointegration relationship between OVX and VIX and adjustments maintaining the relationship take place on OVX, which is evidence that the revelation of investor fears, proxied by the volatility index, is focused on the equity market. Second, the magnitude of cointegration and correlation between OVX and VIX under the regime of high volatility-of-volatility risk is greater than that at the low risk. These results imply that the fear gauge of oil and equity markets moves in tandem, particularly during times of economic distress and uncertainty.



#### **Customer Satisfaction and Stock Crash Risk**

Author:

Jun Ma (University of Auckland Business School)

#### Abstract

We find that firms with higher customer satisfaction are associated with lower future stock crash risk. Our main findings are robust to a series of tests that account for endogeneity concerns, including instrumental variable and difference-in-difference analysis based on the Gramm-Leach-Bliley Act. This analysis support the view that customer satisfaction reduces stock crash risk through volatility feedback channel. This study further shows that another possible channel of customer satisfaction decreases crash risk is by reducing the differences of opinion among investors. Moreover, our findings do not support the view that customer satisfaction reduces satisfaction reduces managers' incentives for hiding bad news.

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Session 1C

## Life Lessons: Leaving Home and Financial Capability of Young Adults

WAIKATO

#### Authors:

Kayla Czar (Auckland University of Technology); Aaron Gilbert (Auckland University of Technology); Ayesha Scott (Auckland University of Technology)

#### Abstract

Young adults today have access to an increasing range of financial products. However, evidence shows young adults tend to have low financial capability leading to poor financial choices with potentially severe and long-lasting consequences. Experience represents one proven channel by which people develop the knowledge and ability to make better financial decisions. A potentially pivotal experience for young adults is moving out of home, which involves experiencing a wide range of financial decisions and situations. We examine how leaving home impacts the financial capability of New Zealanders aged 18-25. Our results suggest leaving home leads to significant improvement in financial capability but does not increase financial knowledge. Providing targeted guidance at the point of leaving home may offer an effective opportunity to improve financial capability of young adults and minimize costly mistakes.



## Academic Independent Director Resignations and Corporate R&D Investment: Evidence from China

#### Authors:

Shaopeng Cao (Tianjin University); Ji (George) Wu (Massey University); Chunfeng Wang (Tianjin University); Xin Cui (Tianjin University);

#### Abstract

We examine the long-term effect of academic independent directors (AIDs) on Chinese firms' performance. We manually collect the resignations data of 3,964 AIDs and find that the abnormal resignations of AIDs reduce a firm's R&D investment and R&D intensity. Furthermore, we find that the lack of advising and resourcing channels caused by abnormal resignations of AIDs are the primary mechanisms for the decline of the firm's R&D investment. Our results are more pronounced for non-state-owned firms, firms with high numbers of independent directors, and the firms with high profitability and low degrees of financial constraints. Our results remain significant after conducting a series of endogenous tests and robustness tests. We contribute to the literature by proving that the abnormal resignations of AIDs not only decrease the firm's innovation efficiency and quality but also reduce its value over the long run. Overall, our results are consistent with a positive contribution of AIDs to corporate innovation and firm value.

## Tax, Credit, and Liquidity: Corporate Bond Spreads 1927-1940

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#### Author:

Toby Daglish (Victoria University of Wellington)

#### Abstract

We examine corporate bond spreads from 1927 to 1940 (a period dominated by the Great Depression). In spite of major tax reforms, tax spreads remained small. This was due to bondholder migration, capital gains tax effects, and the effect of tax shields on call policies. Credit and liquidity spreads rose for speculative grade bonds during the Great Depression itself. Liquidity and credit spread contagion also occurred. Unemployment, negative economic growth, and disinflation were all associated with wider spreads. Treasury rate changes mostly affected investment grade bonds. Credit and liquidity risk was priced, but with a low premium during recessions.



## The Cross-section of Long-run Expected Stock Returns

#### Authors:

Paul Geertsema (University of Auckland Business School); Helen Lu University of Auckland Business School)

#### Abstract

We predict cumulative stock returns over horizons from 1 month to 10 years using a tree-based machine learning approach. Cumulative stock returns are significantly predictable in the cross-section over all horizons. At a horizon of 10 years a hedge portfolio generates 109 basis points per month out-of-sample. Across all horizons turnover and volatility are the two most important predictors. The influence of other predictors varies with the horizon. Cashflow and momentum are mostly important at shorter horizons while dividend yield and value are more influential at longer horizons.



#### Who cares wins: The rise of socially responsible investing

#### Authors:

Jedrzej Białkowski (University of Canterbury); Moritz Wagner (University of Canterbury)

#### Abstract

In this paper, we study the size and structure of the global SRI mutual funds sector. The considerable growth of the industry is predominantly concentrated in developed countries. In particular, in Scandinavian countries SRI funds account for a large part of total fund assets and have pioneered significant innovations such as the world's first "green" bond. The SRI industry is larger in countries with a higher level of wealth and investor sophistication and where market risk is lower. We also find that a nation's culture plays an important role for SRI fund development. Based on key databases used to measure cultural values, the overall SRI sector is larger in countries with feminine attributes such as caring and solidarity and higher scores on individualism and future orientation. The equity SRI sector is also larger where more non-profit organisations are present that promote knowledge about issues in areas closely related to responsible investing, including human life and the environment.

## Session 2B Overlapping Committee Membership and Implied Cost of Equity Capital: Evidence from Australia

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#### Authors:

Borhan Bhuiyan (Massey University)

#### Abstract

We examine the association between overlapping committee membership and the cost of equity capital among the Australian firms. Overlapping occurs when a director serves multiple supervisory committees concurrently. We argue that the overlapping committee membership incurs a knowledge spillover effect on the corporate financial reporting process, which results in a lower cost of equity capital. Consistent with our argument, we find the beneficial effect of overlapping committee membership and evidence that a firm with an overlapping committee membership has a lower cost of equity capital. Our finding contributes to the corporate governance literature evidencing the impact of board structure on capital market.



## Housing Forecasts: Is the Crowd Wiser?

Authors:

Adrian Fernandez-Perez (Auckland University of Technology); Bart Frijns (Open University of the Netherlands); Alexandre Garel (Audencia Business School); Ivan Indriawan (Auckland University of Technology)

#### Abstract

This paper examines the usefulness of crowdsourced relative to professional forecasts for housing-related macroeconomic news. We find that crowdsourced forecasts are less accurate than ones on average, however, they are more accurate than statistical-based forecasting approaches. Despite this lower accuracy, we observe that the impact of crowdsourced forecast surprises on the stock and housing markets are comparable to their professional counterparts. A long-short trading strategy in the real-estate market based on either professional or crowsourced forecasts yields superior Sharpe ratio than a conventional buy-hold strategy, but the difference in performance between the two forecasts is not statistically significant. Our findings indicate that crowdsourced forecasts can be considered as viable alternatives to professional forecasts when it comes to the housing-related announcements.



## Is Liquidity Risk priced in ETFs?

#### Authors:

Geeta Duppati (University of Waikato); Energy Sonona (North-West University); Wedzerai Musvoto (North-West University)

#### Abstract

Our study empirically examines an important question in the literature, whether ETFs equity returns are sensitive to liquidity risk and whether the changes in liquidity levels affect the equity premium. We find that liquidity risk is an important determinant of ETFs equity and equity premium and are sensitive to liquidity levels. Our post estimation tests from one-way ANOVA confirm that the liquidity risk is priced in ETF Equity returns and premium. These results are robust across different sub-groups categorised based on the characteristics (age and size) of the ETFs. The ETF equity returns in the post Covid19 pandemic crisis period show illiquidity discounts. Price reversals positively effect the ETFs equity returns while increase in prices negatively affect the ETFs equity returns.



## Audit Report Lag and Cost of Equity Capital

#### Authors:

Md. Borhan Uddin Bhuiyan (Massey University); Yimei Man (University of Otago)

#### Abstract

This research investigates the effect of audit report lag on the cost of equity capital. We argue that an extended audit report lag may perceive questionable accounting practice and unfavorable auditor opinion, which raise a concern on financial reporting quality results in increased cost of equity capital. Using a sample of the listed US companies, we find that firms with higher audit report lag have a higher cost of equity capital. Our findings are consistent with the argument that the lengthy audit report lag raised concerns to the investors' results in higher cost of equity capital.

## The effect of dividend cancellations trigger by the Covid-19 pandemic: Evidence from Australia and New Zealand

WAIKATC

#### Authors:

Mei Qiu (Massey University); Xiao-Ming Li (Massey University)

#### Abstract

This paper investigates the effect of dividend cancellation or suspension on stock returns during the Covid-19 pandemic in Australia and New Zealand. We report three interesting findings. First, significant negative abnormal returns are observed on the announcement day which are reversed for Australian but not New Zealand firms. Second, the negative market reactions are more negative for announcements of cancelling dividends already declared (cancellation) than for announcements of suspension of dividends without previously committing to a payout (suspension). Third, we observe significant post-announcement reversals of negative initial reactions from the firms in cancellation group. These results suggest that investors over-react to cancellation news but under-react to suspension news, indicating inefficiency of the two markets under our study.



## Health or wealth? New Zealand response to the Covid-19 pandemic and stock market performance

#### Authors:

Olga Dodd (Auckland University of Technology); Shushu Liao (Auckland University of Technology)

#### Abstract

New Zealand has been widely praised for its successful efforts in controlling the Covid-19 pandemic by implementing prompt and strict border controls, social distancing rules, and lockdowns. We examine the New Zealand stock market response to the Covid-19 events. Using a sample of large New Zealand companies, constituents of the NZX50 market index, we document negative stock market responses to the government's Covid-19 measures and particularly the nationwide lockdown. The drop in stock returns is more pronounced for: (1) firms with higher financial constraints, (2) firms operating in industries that face a more considerable reduction in consumer demand, (3) firms based in Auckland, (4) firms with lower foreign exposure, and (5) firms with higher ESG scores. The expansion of the RBNZ's Large Scale Asset Purchases programme mitigates the negative stock market performance during the lockdown and reduces the importance of a firm's pre-crisis financial strength.



## The slope of implied volatility curve of VIX options

#### Authors:

Jungah Yoon (University of Otago); Xinfeng Ruan (University of Otago); Jin E. Zhang (University of Otago)

#### Abstract

Bakshi, Kapadia, and Madan (2003) show the more negatively skewed the return distribution, the steeper is its volatility smile. We find IV surface in the VIX options market exhibit a positive-sloping, almost linear curve and is significantly linked to a correlation between changes in VIX and VVIX index. It also has statistically significant predictive power on VIX futures returns. The predictability of IV slope becomes more robust and significant in the most recent 10 years, indicating an increase in investors' demand for insurance.

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Session 3A

## The Dark Side of Reporting Credibility: Evidence from Intangible Investments

WAIKATO

#### Authors:

Griffin Geng (Victoria University of Wellington)

#### Abstract

This paper examines the effect of greater reporting credibility on firm investments. Using a difference-in-differences design, we find that greater reporting credibility reduces the level and efficiency of intangible investments. Our findings can be explained by managerial myopia: greater reporting credibility increases investors' response to short-term earnings, and managers, who are motivated to increase the stock price, have more incentives to cut intangible investments to improve the earnings, even though doing so can damage firms' long-run value. The results highlight one potential cost of reporting credibility: it induces managerial myopia and hurts real efficiency.



## The effect of mandatory CSR on firm's risk: Evidence from India and 2% rule.

#### Authors:

Abhishek Mukherjee (University of Waikato)

#### Abstract

Section 135 of the Indian Company Act 2013 requires all the firms meeting specific size or profit-based threshold to spend at least 2% of net profit on Corporate Social Responsibility (CSR). These regulatory requirements might constraint the manger discretion and the limit their capacity to engage the CSR activity strategical. This may increase the firm risk, as investors and customers may not view CSR as a value-adding activity. In this paper, we examine the impact of mandatory CSR legislation on the firm's risk. Firm risk is, in general, the combination of systematic and unsystematic risk. We have also used a difference-in-difference (DID) regression to examine the effect of mandatory CSR legislation on the association between CSR and firm risk. Findings of this paper suggest that the firm risk has significantly increased for the companies that were affected by the legislation, but the risk has reduced for the companies that were not subjected to the legislation.



## Corporate Governance and Stock Market Liquidity: The case of Australia and New Zealand

#### Authors:

Ameena Hassa (University of Canterbury); Mona Yaghoubi (University of Canterbury)

#### Abstract

This study analyses the relationship between corporate governance and stock market liquidity using listed firms on the New Zealand's Exchange (NZX) and the Australian Securities Exchange (ASX) from 2014 to 2019. We employ an Ordinary Least Squares model with industry and year fixed effects; our results indicate that there is no significant relationship between governance and stock liquidity within our sample firms.



## Session 3B

### **Beta Estimation in New Zealand**

#### Authors:

Ben R. Marshall (Massey University); Nhut H. Nguyen (Auckland University of Technology); Nuttawat Visaltanachoti (Massey University)

#### Abstract

Beta is an important input in the cost of capital calculations. However, it is not directly observable, so an estimate needs to be made. Beta can be easily estimated using simple regression techniques. However, there is evidence that more complex estimation procedures generate superior beta forecasts in international markets. Several betas out-perform OLS betas in a statistical sense. Shrinkage betas perform best generating precision improvements of up to 17% over their OLS counterparts.



## Value-at-Risk and the Cross Section of Emerging Market Hedge Fund Returns

#### Authors:

Sara Ali (Auckland University of Technology); Ihsan Badshah (Auckland University of Technology); Riza Demirer (Southern Illinois University Edwardsville)

#### Abstract

This paper examines the cross-sectional relationship between downside risk (Value at Risk) and expected returns on a sample of 1,370 hedge funds that specialize on emerging stock markets. Performing a battery of tests both at the portfolio and fund levels, our findings show that downside risk is a significant determinant of expected returns for emerging market hedge funds (EMHF), particularly during the pre-global financial crisis period. Funds with high VaR are found to outperform those with low VaR by an annual return difference of over 12% with the downside risk-return trade-off holding even after controlling for fund characteristics including fund age and size. Overall, while the results suggest that emerging market hedge funds exhibit a different risk/return pattern compared to their advanced market counterparts, they also suggest that the global financial crisis of 2008 has caused a structural shift in the risk profile of emerging market hedge fund returns.



## Japanese monetary policy and its impact on stock market implied volatility during pleasant and unpleasant weather

#### Authors:

Marinela Adriana Finta (University of Otago and Singapore Management University (SKBI))

#### Abstract

We investigate the effect of Japan's Monetary Policy Meeting releases on the intraday dynamics of the Nikkei Stock Average Volatility Index and its futures during pleasant and unpleasant weather. We show that at the time of a monetary policy release when the temperature is pleasant, there is a significant decline in Japanese equities' implied volatility and futures which lasts for about 10 minutes and 5 minutes, respectively. This decline is longer and exhibits a greater variation when releases occur during cold days. Finally, we emphasize the achievable economic profits and losses, given the reaction of Nikkei VI futures to the Japanese monetary policy releases during pleasant and unpleasant weather days, respectively. In particular, taking a short position at the start of the trading day on pleasant days and closing this position at the end of the trading day generates an average annual return of 5.6%.



Session 3C

## **Board structure and Microfinance Institutes' financial performance**

#### Author:

Dilip Kumar Jha (University of Waikato)

#### Abstract

Board structure and MFIs' performance are analysed with quantile regression. Board structure: larger board, higher caste diversified board, bigger firm size and higher staff productivity increases MFIs' profitability but more independent directors, CEO duality role, the maturity of the firm and number of employees reduce the profitability. MFIs' operational self-sufficiency gets better with a larger board, a gender diversified board, higher staff productivity and bigger firm size. Financial leverage gets lower when board size increases, involves more independent directors, CEO duality and higher staff productivity, but financial leverage increases with MFIs maturity and more employees.



### Effects of Competition on Bank Deposits: World Wide Evidence

#### Authors:

Nikhil Srivastava (Massey University); David Tripe (Massey University); Mui Kuen Yuen (Massey University)

#### Abstract

The paper presents the effects of competition on bank deposit funding and its composition. We use interest expenditure on liabilities and the Herfindahl- Hirschman Index (HHI3) at deposits levels to measure deposit competition and market structure. The results show that an increase in interest cost encourages banks to increase the proportion of less costly sources of funds, causing a reduction of bank deposit funding. In contrast, high interest rates attract retail depositors especially for time deposits, thereby increasing the proportion of retail deposits. However, this finding varies according to the financial development level of the countries. In high financially developed economies, an increase in interest rates incentivizes banks to increase deposits from banks, other deposits. Moreover, we find a negative elasticity of market concentration for bank deposit funding and bank deposit composition irrespective of the financial development level of the country, suggesting a moral hazard issue in the banking system. In highly concentrated market banks believe that they are more stable or too big to fail, encouraging them to increase their low cost but volatile funds, making the banking system more fragile.



## Geographic Diversification, Climate Vulnerability and Credit Risk in Microfinance

#### **Authors:**

Iftekhar Ahmed (University of Otago); Ivan Diaz-Rainey (University of Otago); Helen Roberts (University of Otago)

#### Abstract

This study investigates the association between geographic diversification, climate vulnerability and credit risk in microfinance institution's (MFI) loan portfolios. It is motivated by inconclusive evidence concerning the geographic diversification-bank risk nexus and the climate vulnerability-bank risk nexus. Applying system generalized method of moments (GMM) to a sample of global MFIs over the period 1999-2019, we report evidence that geographic diversification and climate vulnerability increase MFI credit risk. The risk is more pronounced for non-shareholder-owned MFIs compared to shareholder-owned MFIs. This suggests MFI expansion into climate prone regions is curtailed in the case of shareholder-owned MFIs to minimize credit risk, overshadowing the microfinance mission to provide banking services to the poorest and the most vulnerable. In addition, we report evidence that climate vulnerability moderates the benefits of geographic diversification in the microfinance industry.

NEW ZEALAND FINANCE COLLOQUIUM 2021

## **Do Female Directors Improve Performance? Evidence from New Zealand**

WAIKATO

#### Authors:

Lucas Stovold (University of Otago); Helen Roberts (University of Otago)

#### Abstract

Between 2008 and 2018 average female board representation in New Zealand (NZ) increased from 8.65% to 24.1%. Motivated by the increasing trend in female directors, this study investigates the relationship between firm financial performance and gender diversity on NZ boards during 2013-2018. In contrast to U.S. and U.K. studies we consider the impact of female board members on firm value in a smaller, less liquid market that operates under less stringent disclosure and regulatory requirements. The results show that the proportion of females has a positive and significant impact on firm financial performance as measured by Tobin's Q. This relationship is stronger when the firm experiences higher stock return volatility, lower leverage, and weaker governance. Overall, the findings are consistent with female directors adding value to firms as opposed to being merely token symbolic appointments.



### **Relative Valuation with Machine Learning**

#### Authors:

Paul Geertsema (University of Auckland Business School); Helen Lu (University of Auckland Business School)

#### Abstract

We use a decision-tree-based machine learning approach to perform relative valuation. Stocks are valued using market-to-book, enterprise-value-to-assets and enterprise-value-to-sales multiples. Our machine learning models reduce median absolute valuation errors by a minimum of 5.6 to 31.4 percentage points relative to traditional models, depending on the multiple used. The identified valuation drivers are consistent with theoretical predictions derived from a discounted cash flow approach. Accounting variables related to profitability, growth, efficiency and financial soundness are important valuation drivers. The valuations produced by machine learning models behave like fundamental values. A value-weighted strategy that buys (sells) undervalued (overvalued) stocks generates highly significant abnormal returns. When we use models trained on listed firms to value IPOs, machine learning models in valuation accuracy and are better at identifying overpriced IPOs



#### Data breaches and firm credit risk

#### Authors:

Kwabena Antwi Boasiako (Victoria University of Wellington); Michael O'Connor Keefe (Victoria University of Wellington)

#### Abstract

This paper examines whether credit rating agencies and credit default swap (CDS) investors alter their credit risk assessments of firms that experience data breaches. Data breaches can significantly impact firms' future performance, financial stability, and risk profiles, thus potentially resulting in increased credit risk. Using firm-level credit ratings and CDS spreads to proxy for credit risk, we find that data breaches lead to increases in firm credit risk. Firms exposed to data breaches experience lower credit ratings and are more likely to be rated speculative grade. Furthermore, data breaches have positive and significant effect on CDS spread, and the increase in CDS spread is stronger for firms with low interest coverage.

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Session 4B

## Are R&D Incentive Schemes Really Beneficial? Evidence from Stock Market Responses

#### Authors:

Peter Huang (University of Waikato); Susanna Lu (University of Waikato); Mark Holmes (University of Waikato)

#### Abstract

In this research, we investigate stock market responses to a series of legal introduction of R&D related bills in New Zealand from 2007 to 2019. Surprisingly, stock market returns for R&D firms were strongly negative when these bills were introduced to the Parliament for the first time. We rule out some reasons and provide possible explanations to the surprising findings. Our research has direct implications for the design of R&D incentive schemes in New Zealand and other countries.



## The Role of Fundamentals and Policy in New Zealand's Carbon Prices

#### Authors:

Ling Liao (University of Otago); Ivan Diaz-Rainey (University of Otago); Sebastian Gehricke (University of Otago); Duminda Kuruppuarachchi (University of Otago)

#### Abstract

New Zealand's Ministry for the Environment (MfE) explicitly recognizes that the New Zealand Units (NZUs) price is set by a flexible unlimited supply of units, as well as demand for units. We explore NZU pricing dynamics driven by the interaction between allowances supply and demand. The empirical results highlight that, firstly, there are two policy associated structural breakpoints in NZU returns over the period of July 1st, 2010- December 31st, 2019. The first was in 2013 following a large ban on international units with low environmental integrity and the second was in 2016 following the announcement of a gradual phasing-out of one-for-two 'transitional' measure. Secondly, increased carbon activities from the manufacturing and transportation sectors tend to increase NZU prices, while activities from the stationary energy sector seemingly put downward pressure on NZU prices. This may be explained by the large stockpile (bank) of units held by stationary energy sector. Lastly and as expected, the results show that banking and net import negatively affect NZU returns, however, carbon removal entitlements surprisingly positively affect NZU returns.



## Market Segmentation: Before and After a Minimum Size for Trades in the Upstairs Market of the New Zealand Stock Exchange

#### Authors:

Jedrzej Białkowski (University of Canterbury); Sanghyun Hong (University of Canterbury); Moritz Wagner (University of Canterbury)

#### Abstract

This paper examines the information content of trades in a market that until recently had no restrictions on trading outside the central limit order book (LOB). Earlier findings that upstairs trading is mostly used by uninformed investors and the effect of market segmentation on market quality are revisited. For most trades, we confirm theoretical predictions that the permanent price effect (PPE) is significantly lower in the upstairs market than downstairs before and after implementing a minimum size for upstairs trades. However, small, informed institutional trades carry more information content in the upstairs market. We also find that upstairs trading volume tends to result in lower transaction costs, larger trade size and to some extent lower volatility

## Session 4C

## Effects of human capital development on bank deposits

#### Authors:

Nikhil Srivastava (Massey University); David Tripe (Massey University); Mui Kuen Yuen (Massey University)

#### Abstract

This paper investigates the effects of human capital development on bank deposits using 2SLS and dynamic panel methods (two-step difference and system GMM) in a cross-country setup. We use human development index (HDI), development of the public healthcare system, and the education level of the country to measure the human development level of the country. The results show a positive relationship between HDI and bank deposits. This result is more prominent in high income and financially included countries. We also find that a better healthcare system increases the income level of households, which translates into an increase in bank deposits mainly in high income and financially included countries. We employ two dependent variables: deposit to GDP ratio and value of total deposit (USD). The impact of HDI and healthcare expenditure on total bank deposits of the country is higher than bank deposits to GDP ratio. This suggests that improvement in HDI and healthcare increases the income of households and a proportion of that increased income goes into the banking system. We further examine the importance of education on bank deposits and find a positive impact on bank deposits.



#### Time-varying bank risk: Forward-looking z-score

**Authors:** 

Bilal Hafeez (Massey University); Xiping Li (Xiamen National Accounting Institute); M. Humayun Kabir (Massey University); David Tripe (Massey University)

#### Abstract

While the standard measure of the z-score has been widely used to evaluate bank insolvency risk, it has been criticized as a backward-looking measure. This paper proposes a forward-looking method to construct the time-varying z-score, by incorporating analyst forecasts. Using a sample of the U.S. banks listed in S&P1500, we find that the forward-looking z-score is able to predict the fluctuation of the standard z-score one quarter ahead of time. We provide evidence that the forwardlooking z-score is able to provide predictive signals of banks' future profitability and non-performing loan ratio. The forward-looking z-score is also significantly associated with market-based risk measures. Overall, our findings suggest that the forwardlooking z-score overcomes the shortcoming of the standard z-score, and that it is effective at capturing banks' future risk and performance.



## The implied volatility smirk and variance risk premium

**Authors:** 

Wei Guo (University of Otago); Xinfeng Ruan (University of Otago); Sebastian A. Gehricke (University of Otago); Jin E. Zhang (University of Otago)

#### Abstract

In this paper, we study the pattern of S&P 500 index (SPX) options implied volatility (IV) curves and their predictive ability for the variance risk premia (VRP). We find that the commonly-accepted SPX IV smirk shape is driven by the global financial crisis (GFC) period. We find that the daily and monthly VRP can be significantly predicted by the IV factor term spreads. The level factor (at-the-money IV) term spread shows significant predictive power for all our monthly VRP proxies, namely the investable variance swap and S&P 500 straddle returns in both in-sample and out-of-sample tests. At the daily frequency variance swap returns can be predicted in-sample, but only the straddle returns can be predicted out-of-sample. This disparity is likely due to monthly variance returns aligning more with the expectation horizons of the quantified IV factors.