

2021 DERIVATIVE MARKETS  
CONFERENCE, ONLINE

AUT

9<sup>TH</sup> & 10<sup>TH</sup> SEPTEMBER 2021



2021 FULL PROGRAMME



**AUCKLAND CENTRE FOR  
FINANCIAL RESEARCH**

## KIA ORA and WELCOME

Welcome to the 2021 Derivative Markets conference, which is hosted by the Auckland Centre for Financial Research. The Derivative Markets Conference started in 2014 as a boutique conference that focuses on derivative markets research in its broadest sense. This year's conference received around 70 submissions and accepted 36 for inclusion in the programme. The strict selection reflects the strong quality of the papers that are included in the programme. For the first time, this conference will be delivered online as the world remains in the grip of Covid-19 and the repercussions that impact international travel. Even though online, we hope you will make the most of interacting with each other during the conference.

We would like to thank all participants of this conference for their contributions through paper presentations, paper discussions and session chairs. The quality of any conference is contingent on the quality of presentations and discussions, and we encourage all participants to contribute to all aspects of the conference, as much as they can.

We also would like to thank our keynote speaker, Prof. Robert I. Webb for his valuable contributions to this event through delivering a keynote speech and for dedicating a special issue of the Journal of Futures Markets to papers presented at this conference. Finally, we would like to thank Ms Tracy Skolmen for her superb assistance with the administrative and logistic side of things.

We hope that you will enjoy this online Conference and wish you all a safe and productive year.

On behalf of the Organising Committee,

### **Alireza Tourani -Rad**

Professor of Finance, Auckland University of Technology  
Deputy Dean, Faculty of Business, Economics and Law



**AUCKLAND CENTRE FOR  
FINANCIAL RESEARCH**

### **ORGANIZERS**

Dr Adrian Fernandez-Perez, ACFR, Auckland University of Technology, New Zealand  
Professor Bart Frijns, Open Universiteit, The Netherlands  
Professor Alireza Tourani-Rad, Auckland University of Technology, New Zealand  
Professor Robert I. Webb, University of Virginia, United States of America

## PARTICIPANTS

Adnan Gazi, University of Liverpool  
Adrian Fernandez-Perez, Auckland University of Technology  
Alex Frino, University of Wollongong  
Alexander Kurov, West Virginia University  
Alireza Tourani-Rad, Auckland University of Technology  
Anders Merrild Posselt, Aarhus University  
Andrea Seo, Unaffiliated  
Andreas Christopoulos, Yeshiva University  
Bart Frijns, Open Universiteit  
Chardin Wese, University of Liverpool  
Chayawat Ornthalai, Rotman School of Management  
Chen Gu, Shanghai Business School  
Chen Tong, Xiamen University  
Christine Dieckmann Bangsgaard, Aarhus University  
Chu-Ping Vijverberg, City University of New York Graduate Center  
Dan Pirjol, Stevens Institute of Technology  
Difang Huang, Monash University  
Ferenc Horvath, City University of Hong Kong  
Injun Hwang, Ulsan National Institute of Science and Technology  
Jean-Paul Renne, University of Lausanne  
Jingyu Zhao, ZheJiang University  
Joren Koëter, Tilburg University  
Kristoffer Glover, University of Technology Sydney  
Lazaros Symeonidis, University of Essex  
Ljubica Georgievska, UCLA Anderson School of Management  
Loïc Maréchal, Neuchâtel University  
Luca Galati, University of Wollongong  
Mark Paddrik, Office of Financial Research  
Md. Mostafa Kamal, Northwestern Polytechnical University  
Robert I. Webb, University of Virginia  
Robert Loveland, California State University  
Scott Fung, Griffith University  
SM Rajibur Reza, Griffith University  
Steven Utke, University of Connecticut  
William Procasky, Texas A&M University  
Wim Vijverberg, City University of New York Graduate Center  
Xuewu Wang, Quinnipiac University  
Yahua Xu, Central University of Finance and Economics  
Yan Wang, NYU Shanghai  
Yeguang Chi, University of Auckland  
Yuhan Hu, The Chinese University of Hong Kong  
Yunqi Wang, Southern University of Science and Technology  
Zeyang (Ivy) Zhou, University of Wollongong

## KEYNOTE SPEAKER

**Prof. Robert I. Webb, University of Virginia, Charlottesville, USA**



Bob Webb is the Paul Tudor Jones II Research Professor at the McIntire School of Commerce at the University of Virginia in Charlottesville, USA. Bob also held a joint appointment at the Korea Advanced Institute of Science and Technology business school for three years.

Bob serves as the Editor of the Journal of Futures Markets—a leading finance journal that specializes in academic articles on futures, options, and other derivative securities. His experience includes: trading fixed income securities for the Investment Department of the World Bank (Consultant); trading financial futures and options on the floor of the Chicago Mercantile Exchange (Member); designing new financial futures and option contracts for the Chicago Mercantile Exchange (Senior Financial Economist); analysing the effects of deregulating the financial services industry, among others, at the Executive Office of the President, Office of Management and Budget; (Senior Financial Economist) examining issues related to international futures markets at the U.S. Commodity Futures Trading Commission (Senior Financial Economist). Bob has also consulted on risk management issues for the Asian Development Bank in Manila. He formerly taught at the Graduate School of Business at the University of Southern California.

Bob earned his M.B.A. and Ph.D., degrees in finance from the University of Chicago and his B.B.A., degree from the University of Wisconsin at Eau Claire. Bob has published his research in several academic journals including the Journal of Econometrics, the Journal of Business and Economic Statistics, the Journal of Futures Markets, and the Southern Economic Journal, among others. He has also published commentary on contemporary issues in the financial press including: The Wall Street Journal; Investor's Business Daily; the Nihon Keizai Shimbun; MK Economic Newspaper; and the Nikkei Weekly. He is the author or co-author of the books, Shock Markets: Trading Lessons for Volatile Times (FT [Financial Times] Press 2013); Trading Catalysts: How Events Move Markets and Create Trading Opportunities (FT Press 2007); and Macroeconomic Information and Financial Trading (Blackwell 1994).

## ONLINE INFORMATION

- All sessions will be held via MS Teams, links will be provided.
- Presentations should be 15-20 minutes.
- Discussions should be 5-10 minutes.
- Q&A should be 5 minutes.
- The Keynote will be hosted via [Zoom webinar](#).
- All details and full-paper links are available on our [website](#).

# PROGRAMME OVERVIEW – DAY 1 – ALL TIMINGS ARE IN NZST

DAY ONE THURSDAY 9TH SEPTEMBER

NZST 08:00 - 13:30

THURSDAY  
07:45 TO 08:00

## WELCOME AND INTRODUCTION

[SESSION LINK](#)

[ALIREZA TOURANI-RAD](#), AUCKLAND UNIVERSITY OF TECHNOLOGY

THURSDAY  
08:00 TO 09:30

## SESSION 1A - FUTURES MARKETS

[SESSION LINK](#)

CHAIRPERSON [LAZAROS SYMEONIDIS](#), UNIVERSITY OF ESSEX

PRESENTER [LAZAROS SYMEONIDIS](#), UNIVERSITY OF ESSEX

**PAPER**  
**THE DYNAMICS OF STORAGE COSTS**  
Andrei Stancu, University of East Anglia  
Lazaros Symeonidis, University of Essex  
Chardin Wese Simen, University of Liverpool  
Lei Zhao, ESCP Business School

### ABSTRACT

Using oil storage futures data, we document that the 1-month storage cost averages 0.5% of the spot price of oil per month and varies over time. We decompose the basis, defined as the ratio of the spread between the futures and spot prices over the spot price, into the storage cost (scc) and the adjusted convenience yield (acyc) channels. The scc dominates the mean of the basis and accounts for half of its variations. This result is stronger during contango than backwardation periods. Furthermore, we show that the scc is the main conduit through which the predictive power of the basis for oil spot returns arises.

DISCUSSANT [KRISTOFFER GLOVER](#), UNIVERSITY OF TECHNOLOGY SYDNEY

PRESENTER [LOÏC MARÉCHAL](#), NEUCHÂTEL UNIVERSITY

**PAPER**  
**A TALE OF TWO PREMIUMS REVISITED**  
Loïc Maréchal, Neuchâtel University

### ABSTRACT

This paper investigates the effect of the "Financialization" of commodity markets in terms of pricing. I explore whether the emergence of commodity index traders affects weekly returns and turn-over during the roll periods. I split the sample (1994-2017) into the pre-financialization (1994-2003) and the post-financialization (2004-2017). I directly test whether the CIT market share (CIT/Open Interest) contributes to commodity returns and whether risk adjustments (based on momentum, basis, basis-momentum, open interest, crowding, and average factors) alter liquidity and insurance premiums documented in Kang, Rouwenhorst, and Tang (2020). I also examine how the financialization affects liquidity and insurance premiums. Finally, since previous results are obtained with Fama-MacBeth regressions, I use an alternative method to test how liquidity and insurance premiums determine commodity returns.

DISCUSSANT [LAZAROS SYMEONIDIS](#), UNIVERSITY OF ESSEX

PRESENTER [KRISTOFFER GLOVER](#), UNIVERSITY OF TECHNOLOGY SYDNEY

**PAPER**  
**FINANCIALLY CONSTRAINED INDEX FUTURES ARBITRAGE**  
Kristoffer Glover, University of Technology Sydney  
Hardy Hulley, University of Technology Sydney

### ABSTRACT

We develop two models for index futures arbitrage that take the financing constraints faced by real-world arbitrageurs into account. Our models predict that the price of an index futures contract and the value of its underlying index should deviate further from their theoretical cost-of-carry relationship when (a) the contract has a long time to go before expiry, and (b) volatility is high. The fact that these predictions enjoy considerable empirical support highlights the importance of financing constraints for explaining index futures mispricing.

DISCUSSANT [LOÏC MARÉCHAL](#), NEUCHÂTEL UNIVERSITY

CHAIRPERSON [ADNAN GAZI](#), UNIVERSITY OF LIVERPOOL

PRESENTER [XUEWU WANG](#), QUINNIPIAC UNIVERSITY

**PAPER IMPLIED VOLATILITY SPREAD AND STOCK MISPRICING**

Surya Chelikani, Quinnipiac University  
Osman Kilic, Quinnipiac University  
Xuewu Wang, Quinnipiac University

**ABSTRACT**

This paper examines the impact of options trading on stock price informativeness. Availing ourselves of the stock mispricing measure proposed by Stambaugh et al. (2015), we show that informed trading in the options market, proxied by the implied volatility spread, can substantially mitigate stock mispricing. Higher implied volatility spread reliably predicts subsequently lower stock mispricing after controlling for an array of economic variables including firm size, illiquidity, idiosyncratic volatility, institutional ownership, and investor's divergence of opinions. In addition, this effect is more pronounced when the options trading volume is higher, consistent with the notion that higher options trading volume provides better camouflage for informed trading in the spirit of Kyle (1985). We further show that a self-financing monthly portfolio that goes long on most under-priced stocks and short on most overpriced stocks when the implied volatility spread is the lowest yields statistically and economically significant abnormal returns.

DISCUSSANT [ADNAN GAZI](#), UNIVERSITY OF LIVERPOOL

PRESENTER [JOREN KOËTER](#), TILBURG UNIVERSITY

**PAPER VARIANCE DISCOUNT RATES: WHAT DRIVES PREFERENCES OVER VARIANCE RISK?**

Joren Koëter, Tilburg University

**ABSTRACT**

I study time-variation in variance discount rates, defined as the expected returns for investing in variance risk. I show that variance discount rates drive a significant fraction of the variation in prices of S&P 500 variance swaps. This analysis offers important insights into preferences of investors over variance risk. I decompose variation in prices into variation due to variance expectations and variation due to variance discount rates. Variance expectations drive most of the variation in short-term variance swaps, whereas variance discount rates drive most of the variation in long-term variance swaps. I show that prominent asset pricing models, in which variation in the equity premium originates from variation in variance risk, have profoundly different predictions regarding the behaviour of variance discount rates. None of the models analysed are able to match the empirical properties of variance discount rates.

DISCUSSANT [XUEWU WANG](#), QUINNIPIAC UNIVERSITY

PRESENTER [ADNAN GAZI](#), UNIVERSITY OF LIVERPOOL

**PAPER TAKING MONEY OFF THE TABLE: SUBOPTIMAL EARLY EXERCISES, RISKY ARBITRAGE, AND AMERICAN PUT RETURNS**

Kevin Aretzy, University of Liverpool  
Ian Garrett, University of Liverpool  
Adnan Gazix, University of Liverpool

**ABSTRACT**

Many studies report that American option investors often exercise their positions sub-optimally late. Yet, when that can happen in case of puts, there is an arbitrage opportunity in perfect markets, exploitable by longing the asset-and-risk-free-asset portfolio replicating the put and shorting the put. Using early exercise data, we show that the arbitrage strategy also earns a highly significant mean return with low risk in real single stock put markets, in which exactly replicating options is impossible. In line with theory, the strategy performs particularly well on high strike-price puts in high interest-rate regimes. It further performs well on short time-to-maturity puts on low volatility stocks, consistent with evidence that investors do not correctly incorporate those characteristics into their exercise decisions. The strategy survives accounting for trading and short-selling costs, at least when executed on liquid assets.

DISCUSSANT [JOREN KOËTER](#), TILBURG UNIVERSITY

THURSDAY 09:30 - 10:00	<b>BREAK</b>	<a href="#">SESSION LINK</a>
THURSDAY 10:00 TO 11:30	<b>SESSION 2A - COMMODITY MARKETS</b>	<a href="#">SESSION LINK</a>
CHAIRPERSON	<a href="#">ADRIAN FERNANDEZ-PEREZ</a> , AUCKLAND UNIVERSITY OF TECHNOLOGY	
PRESENTER	<a href="#">DAN PIRJOL</a> , STEVENS INSTITUTE OF TECHNOLOGY	
PAPER	<p><b>ON THE TERM STRUCTURE OF MONTHLY CALENDAR SWAP VOLATILITY AND SKEW IN THE CRUDE OIL FUTURES MARKET</b> Dan Pirjol, Stevens Institute of Technology</p> <p><b>ABSTRACT</b> An important class of exchange-traded derivatives are options on monthly calendar swaps on commodity futures. They are structured as Average Price Options (APO) on futures, with monthly averaging over the first nearby contract. In this paper we study the relative value of these instruments to vanilla options on commodity futures, focusing on the crude oil futures markets. We derive an analytical approximation for the implied volatility of forward start APOs in the local volatility model, which takes into account the skew in the futures markets. Using this result we perform an empirical study of the exchange-traded options on monthly calendar swaps on crude oil futures, comparing the theoretical prediction for the level and skew of the WTI monthly calendar swap options against market data. The empirical study suggests that the options on monthly calendar swaps trade at a small premium relative to other options on the underlying futures.</p>	
DISCUSSANT	<a href="#">DIFANG HUANG</a> , MONASH UNIVERSITY	
PRESENTER	<a href="#">MD. MOSTAFA KAMAL</a> , NORTHWESTERN POLYTECHNICAL UNIVERSITY	
PAPER	<p><b>INTERCONNECTEDNESS OF THE GLOBAL COMMODITIES FUTURES MARKETS: COVID-19 PANDEMIC VS. THE GLOBAL FINANCIAL CRISIS</b> Md. Mostafa Kamal, Northwestern Polytechnical University Eduardo Roca, Griffith University Bin Li, Griffith University Chen Lin, Northwestern Polytechnical University SM Rajibur Reza, Griffith University</p> <p><b>ABSTRACT</b> This paper analyses the interconnectedness, herding behaviour, and spillover risk transmission among the global commodity futures markets during the COVID-19 period compared to that of the global financial crisis (GFC) in 2008. We utilize cross-correlation-based Planar Maximally Filtered Graph (PFMG), and conditional Value-at-Risk (CAViaR)-based extreme risk spillover network approaches. As the two crises have fundamental differences, the PFMG approach reveals divergent commodity futures network structures during the two crisis periods. In addition, the CAViaR-based analysis also indicates that the effects of the GFC and the different phases (first, mild, and second waves) of the COVID-19 pandemic on the global commodity futures markets were dissimilar as well. Only the first wave of the COVID-19 crisis approximated the impact of the GFC. The two crises are also found to have the non-identical direction of systemic risk transmissions. Gold is confirmed to be a safe-haven asset during the mild and second waves of the pandemic. Most remarkably, our study tracks down mostly sector-wise clusterization and community structures both in the GFC and COVID-19 crises.</p>	
DISCUSSANT	<a href="#">ROBERT LOVELAND</a> , CALIFORNIA STATE UNIVERSITY	
PRESENTER	<a href="#">YUHAN HU</a> , THE CHINESE UNIVERSITY OF HONG KONG	
PAPER	<p><b>AN INTEGRATION OF SIRD-MODEL AND CRUDE OIL PRICING UNDER COVID-19</b> Yuhan Hu, The Chinese University of Hong Kong Hoi Ying Wong, Chinese University of Hong Kong</p> <p><b>ABSTRACT</b> Under COVID-19 pandemic, social distancing is strictly controlled to reduce the spread of the infectious disease. The demand of crude oil drops a lot with the sharp decline of mobility at the beginning of the pandemic. Sudden decrease of demand and limited storage space cause negative oil prices. The commonly used oil pricing models behave unsatisfying under the infectious disease. This paper investigates how the pandemic affects the crude oil prices. We first formulate the relationship between infection rate and social distancing, then we integrate COVID-19 data into oil pricing. By applying this</p>	

framework to US data, we use the model to value future contracts and contrast its behaviour with other classic models. The results show that the COVID-19 statistics can significantly enhance the behaviour of valuation for crude oil futures and the pandemic has long-lasting effects for oil market.

DISCUSSANT [ALEXANDER KUROV](#), WEST VIRGINIA UNIVERSITY

**THURSDAY**  
**10:00 TO 11:30**

**SESSION 2B - FINANCIAL MARKETS**

[SESSION LINK](#)

CHAIRPERSON [FERENC HORVATH](#), CITY UNIVERSITY OF HONG KONG

PRESENTER [STEVEN UTKE](#), UNIVERSITY OF CONNECTICUT

**PAPER** **MARK-TO-MARKET (OR WEALTH) TAXATION IN THE U.S.: EVIDENCE FROM OPTIONS**

Paul Mason, Baylor University  
Steven Utke, University of Connecticut

**ABSTRACT**

Recent U.S. tax proposals under various names (e.g., wealth taxes, estate tax reform, etc.) centre on mark-to-market (MTM) taxation, which eliminates investors' ability to defer or avoid capital gains taxes. To provide insight on potential effects of these tax proposals, we exploit a unique U.S. setting where "index" options on the S&P 500 Index (SPX) face MTM taxation whereas nearly identical "non-index" options on the exchange traded fund (ETF) tracking the S&P 500 Index (SPY) do not. We find new evidence of asset price consequences to MTM taxation, suggesting that MTM taxation depresses asset prices as investors appear to avoid assets subject to MTM near year-end. Additional analysis suggests this result is driven by tax, rather than administrative, costs of MTM. From a policy perspective, this suggests that 1) MTM taxation has negative, unintended market consequences in the U.S. and 2) U.S. investors will engage in actions to avoid MTM rules. Both attributes caution policymakers in any attempts to broaden MTM taxation.

DISCUSSANT [LJUBICA GEORGIEVSKA](#), UCLA ANDERSON SCHOOL OF MANAGEMENT

PRESENTER [FERENC HORVATH](#), CITY UNIVERSITY OF HONG KONG

**PAPER** **ARBITRAGE-BASED RECOVERY**

Ferenc Horvath, City University of Hong Kong

**ABSTRACT**

We develop a novel recovery theorem based on no-arbitrage principles. Our Arbitrage-Based Recovery Theorem does not require assuming time homogeneity of either the physical probabilities, the Arrow-Debreu prices, or the stochastic discount factor; and it requires the observation of Arrow-Debreu prices only for one single maturity. We perform several different density tests and mean prediction tests using 25 years of S&P 500 options data, and we find evidence that our method can correctly recover the probability distribution of the S&P 500 index level on a monthly horizon.

DISCUSSANT [STEVEN UTKE](#), UNIVERSITY OF CONNECTICUT

PRESENTER [LJUBICA GEORGIEVSKA](#), UCLA ANDERSON SCHOOL OF MANAGEMENT

**PAPER** **COLLATERAL-ADJUSTED CIP ARBITRAGES**

Ljubica Georgievska, Anderson School of Management, UCLA

**ABSTRACT**

I show that an important no-arbitrage consistent but costly collateral rental yield contributes to about two-thirds of the standard CIP violations. I measure this yield using two approaches applied to short- and long-term CIP horizons. First, I assume that the yield is observable and proxy it with the difference between risk-free and overnight index swap rates between bilateral currencies. Second, I assume that the yield is unobservable and generate it using a model incorporating collateralization. Further, this yield appears to be related to global risks and intermediaries' frictions pointing to an important collateral transmission channel contributing to standard CIP violations.

DISCUSSANT [FERENC HORVATH](#), CITY UNIVERSITY OF HONG KONG

THURSDAY  
11:30 TO 12:00

## BREAK

[SESSION LINK](#)

THURSDAY  
12:00 TO 13:30

## SESSION 3A - FORECASTING

[SESSION LINK](#)

CHAIRPERSON [ROBERT I. WEBB](#), UNIVERSITY OF VIRGINIA

PRESENTER [YEGUANG CHI](#), UNIVERSITY OF AUCKLAND

**PAPER VOLATILITY MODELS FOR AND APPLICATIONS IN CHINA'S SSE50 OPTIONS MARKET**

Yeguang Chi, University of Auckland  
Wenyan Hao, University of Leicester  
Yifei Zhang, New York University

**ABSTRACT**

We investigate the effectiveness of various volatility models using China's SSE50 index. Amongst the ARCH, GARCH and GJR-GARCH models, the GARCH and GJR-GARCH models perform much better than the ARCH model both in sample and out of sample. Moreover, we do not observe any significant asymmetric volatility response to past returns in the GJR-GARCH model. Furthermore, in 5 out of the 7 options we investigate, the GARCH volatility forecast outperforms the option implied volatility in forecasting future realized volatility. We formulate an option trading strategy by exploiting the volatility spread between the GARCH volatility forecast and the option implied volatility. We show that a simple volatility-spread trading strategy with delta-hedging can yield robust profits for the SSE50 options.

DISCUSSANT [YUNQI WANG](#), SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

PRESENTER ANDREA V. SEO, UNAFFILIATED, AVIJVERBERG@GMAIL.COM

**PAPER FACTORS, FILTERS, AND CROSS-SECTIONAL DEPENDENCE: THE CURRENCY IMPLIED VOLATILITY SURFACE FORECAST REVISITED**

Chu-Ping C. Vijverberg, City University of New York Graduate Center  
Wim Vijverberg, City University of New York Graduate Center  
Andrea V. Seo, Unaffiliated

**ABSTRACT**

The extremely high correlations among the currency options in the implied volatility surface (IVS) signify a strong cross-sectional dependence. The measures to deal with strong cross-sectional dependence in a panel data set in the spatial and network literature are filters. This paper introduces new forecasting models by incorporating the filters into the implied volatility forecasting. Compared with the existing IVS forecasting models in the finance literature, these new models outperform the existing models most of the time.

DISCUSSANT [YEGUANG CHI](#), UNIVERSITY OF AUCKLAND

PRESENTER [YUNQI WANG](#), SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

**PAPER OUT-OF-SAMPLE EQUITY PREMIUM PREDICTION: THE ROLE OF OPTION-IMPLIED CONSTRAINTS**

Yunqi Wang, Southern University of Science and Technology  
Ti Zhou, Southern University of Science and Technology

**ABSTRACT**

We propose a new constrained equity premium forecasting approach that incorporates two option-implied lower bounds for the conditional market risk premium from Martin (2017) and Chabi-Yo and Loudis (2020), respectively. Our constrained approach delivers considerable out-of-sample gains in both statistical and economic criteria relative to the unconstrained predictive regression and the forecast combination method. Even stronger performance is uncovered when the upper bound on the equity premium from Chabi-Yo and Loudis (2020) is incorporated. Our approach also outperforms the prevailing non-negativity constraint, especially at longer forecast horizons. We provide two explanations for the superiority of our method: i) constrained forecasts combine the information provided by conventional predictors and the forward-looking information about the term structure of expected holding period returns implied by option prices and ii) option-implied bounds sharpen unconstrained forecasts and significantly reduce forecast variance at the same time.

DISCUSSANT [WIM VIJVERBERG](#), CITY UNIVERSITY OF NEW YORK GRADUATE CENTER

CHAIRPERSON [CHARDIN WESE](#), UNIVERSITY OF LIVERPOOL

PRESENTER [CHARDIN WESE](#), UNIVERSITY OF LIVERPOOL

**PAPER THE INDEX EFFECT: EVIDENCE FROM THE OPTION MARKET**

Fabian Hollstein, Leibniz University Hannover  
Chardin Wese, University of Liverpool

**ABSTRACT**

We document a significantly positive response of delta-hedged option positions on companies entering or leaving the S&P 500 index. Our findings (i) hold for both call and put options, (ii) are robust to placebo- and risk-adjustments, and (iii) are stronger for companies that are likely subject to more demand pressure from stock index investors. The inclusion effect is permanent, while the exclusion effect is transitory. We explore various mechanisms to explain these results, including leading theories of benchmarking, investor recognition, noise trading, and dispersion trading. We find that these explanations cannot individually account for all our novel results.

DISCUSSANT [MARK PADDRIK](#), OFFICE OF FINANCIAL RESEARCH

PRESENTER [CHEN GU](#), SHANGHAI BUSINESS SCHOOL

**PAPER THE INFORMATION CONTENT OF THE VIX OPTIONS TRADING VOLUME**

Chen Gu, Shanghai Business School  
Xu Guo, Hunan University  
Alexander Kurov, West Virginia University  
Raluca Stan, University of Minnesota Duluth

**ABSTRACT**

This paper investigates the predictive content of the VIX options trading volume for the future dynamics of the underlying VIX index. Using a unique dataset from the Chicago Board Options Exchange, we calculate put-call ratios based on the VIX option volume initiated by buyers to open new positions. We show that put-call ratios negatively predict the subsequent values of the VIX index. The predictability is stronger during periods of elevated VIX levels, during recessions, on days preceding important macroeconomic announcements, and for short-dated contracts. Overall, the results are consistent with the hypothesis that informed traders use the VIX option market as a venue for their trading.

DISCUSSANT [CHARDIN WESE](#), UNIVERSITY OF LIVERPOOL

PRESENTER [MARK PADDRIK](#), OFFICE OF FINANCIAL RESEARCH

**PAPER INTERMEDIATION NETWORKS AND MARKET LIQUIDITY: EVIDENCE FROM CDS MARKETS**

Mark Paddrik, Office of Financial Research  
Stathis Tompaidis, University of Texas at Austin

**ABSTRACT**

A growing theoretical literature predicts that over-the-counter intermediation networks affect market liquidity. Using supervisory data for the U.S. single-name credit default swap market, we empirically evaluate several predictions of this literature. We find that an intermediation network's density relates to the liquidity provision of dealers, both individually and collectively, as seen through trade volumes and inventory management. Further, we find a relationship between network density and the cost of trade, measured by execution costs and bid-ask spreads, though we note that the effects differ across the segmented trade channels of dealers and clients, and those between dealers.

DISCUSSANT [CHEN GU](#), SHANGHAI BUSINESS SCHOOL

END OF DAY ONE

# PROGRAMME OVERVIEW – DAY 2 – ALL TIMINGS ARE IN NZST

**DAY TWO FRIDAY 10TH SEPTEMBER 2021**

**NZST 08:00 - 15:15**

**FRIDAY  
08:00 TO 09:30**

**SESSION 1A - DERIVATIVES & OTHERS II**

[SESSION LINK](#)

**CHAIRPERSON** [BART FRIJNS](#), OPEN UNIVERSITEIT

**PRESENTER** [BART FRIJNS](#), OPEN UNIVERSITEIT

**PAPER** **WHO BUYS BITCOIN? THE CULTURAL DETERMINANTS OF BITCOIN ACTIVITY**

Sean Foley, Macquarie University  
Bart Frijns, Open Universiteit  
Alexandre Garel, Audencia Business School  
Tai-Yong Roh, Liaoning University

**ABSTRACT**

We examine the relationship between national culture and a country's Bitcoin activity. Given that Bitcoin is a high-risk currency/investment that is frequently used for illegal purposes and whose market is relatively opaque, we focus on the cultural dimension of individualism, which has been related to financial market participation, risk-taking behaviour, and overconfidence. Using unique data that includes the originating country for Bitcoin transactions, we examine the relationship between individualism and a country's Bitcoin activity for a sample of 80 countries between 2009-2018. We find a significant and positive relationship between a country's individualism and its use of Bitcoin consistent with cultural values affecting the demand for such high-risk currency/ investments.

**DISCUSSANT** [INJUN HWANG](#), ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY

**PRESENTER** [CHRISTINE DIECKMANN BANGSGAARD](#), AARHUS UNIVERSITY

**PAPER** **THE LEAD-LAG RELATIONSHIP BETWEEN VIX FUTURES AND SPX FUTURES**

Christine Bangsgaard, Aarhus University  
Thomas Kokholm, Aarhus University, and Danish Finance Institute

**ABSTRACT**

We study the lead-lag relationship between VIX futures and SPX futures on a sample of transactions time-stamped down to the millisecond and collected over the period from January 2013 to September 2020. To analyse the lead-lag relation, we consider the HY estimator of the cross-correlation function (Hayashi and Yoshida, 2005; Hoffmann et al., 2013). The leadership strength is computed on a daily basis using various measures of lead-lag strength (Hoffmann et al., 2013; Huth and Abergel, 2014; Dao et al., 2018). The analysis reveals large time-variation in the lead-lag relation. Under high volatility, the markets exhibit stronger negative correlation and short-lived lead-lag with a tendency for VIX futures to lead SPX futures. We consider a regression model in order to delve further into the time variation in the lead-lag relation. In particular, we find that the cross-market activity explains a major part of the lead-lag relation and that days of high activity are associated with a strengthened VIX futures lead over SPX futures. In order to decompose the cross-market activity trades into trades due to VIX futures hedging and trades due to the presence of high-frequency traders, we run another regression with the cross-market activity measure as regressor. We conclude, in favour of the hypothesis, that the cross-trading activity in the markets is largely due to hedging activities of dealers.

**DISCUSSANT** [BART FRIJNS](#), OPEN UNIVERSITEIT

**PRESENTER** [INJUN HWANG](#), ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY

**PAPER** **A SYSTEMIC CHANGE OF MEASURE FROM CENTRAL CLEARING**

Injun Hwang, Ulsan National Institute of Science and Technology  
Baeho Kim, Korea University Business School

**ABSTRACT**

The default of a Nasdaq Clearing Commodities member in 2018 and the ongoing COVID-19 pandemic underscore the importance of a holistic risk management practices by central counterparties to forestall the loss spread throughout the entire system. This paper investigates the systemic impact of central clearing in the presence of counterparty credit risk by utilizing a statistical model of a financial network in which edge weights represent the sensitivities of one participant's failure to its

counterparties' default likelihood. The reduced-form model specifies the mechanism of systemic risk concentration under central clearing in that the introduction of a central counterparty into a market redistributes the probability mass of the systemic failure from the centre of the distribution into its tail. Numerical illustrations with a novel importance sampling technique shed light on a policy-oriented implication towards regulating the adverse dependence between risk concentration under central clearing and the resiliency of the financial system via proper margin policies at a collective level.

DISCUSSANT [CHRISTINE DIECKMANN BANGSGAARD](#), AARHUS UNIVERSITY

**FRIDAY**  
**08:00 TO 09:30**

**SESSION 1B - MARKET MICROSTRUCTURE**

[SESSION LINK](#)

CHAIRPERSON [ALEX FRINO](#), UNIVERSITY OF WOLLONGONG

PRESENTER [WILLIAM PROCASKY](#), TEXAS A&M UNIVERSITY

**PAPER** **PRICE DISCOVERY AND CROSS-MARKET INFORMATIONAL FLOW IN HIGH-YIELD SYSTEMATIC CDS AND EQUITY MARKETS: OUT-OF-SAMPLE EVIDENCE**

William Procasky, Texas A&M University - Kingsville  
Anwen Yin, Texas A&M International University

**ABSTRACT**

We contribute to the literature on the efficiency of CDS and equity markets by rigorously conducting out-of-sample analysis in order to determine the true predictive power of cross-market informational flow in the systematic high yield sector. Extant studies have been based on in-sample analysis only and reported average results across the examined time period, thereby leaving the question of true and persistent predictive power unanswered. Interestingly, we find that both markets are useful in forecasting future values of the other on an out-of-sample basis, indicating that each is more efficient in pricing in certain types of information. However, the CDS market has an informational advantage over the equity market which has increased with time, something not previously documented in the closely related literature. We attribute this finding to the development of the CDS market into more of an index based vs. a single name market as well as the relative lower level of volatility and investor fear characterizing the back end of our sample.

DISCUSSANT [ANDREAS CHRISTOPOULOS](#), YESHIVA UNIVERSITY

PRESENTER [ALEX FRINO](#), UNIVERSITY OF WOLLONGONG

**PAPER** **REPORTING DELAYS AND THE INFORMATION CONTENT OF OFF-MARKET TRADES**

Alex Frino, University of Wollongong  
Luca Galati, University of Wollongong, Rozetta Institute (formerly CMCRC)  
Dionigi Gerace, Rozetta Institute (formerly CMCRC), Macquarie University

**ABSTRACT**

This paper examines the impact of reporting delays in off-market trades on informed trading and information efficiency. We examine this issue using a natural experiment in FTSE futures contracts provided by the ICE Exchange which eliminated the ability of market participants to request a reporting delay in smaller sized off market trades in 2018. We find strong evidence of a decrease in the permanent price impact of experimental trades whose reporting could no longer be delayed. In contrast, we find no evidence of a change in the permanent price reaction of a control sample that experienced no change in reporting delays. This evidenced is consistent with the proposition that the elimination of reporting delays squeezes informed traders out of the market. We conclude that while reporting delays increase the time taken to release information to the market by the length of the reporting delay, thereby prima facie reducing information efficiency, that such delays encourage informed trading and therefore potentially increase the informativeness of trading and information efficiency.

DISCUSSANT [WILLIAM PROCASKY](#), TEXAS A&M UNIVERSITY

PRESENTER	<a href="#">ANDREAS CHRISTOPOULOS</a> , YESHIVA UNIVERSITY
PAPER	<p><b>15 SECONDS TO ALPHA: HIGHER FREQUENCY RISK PRICING FOR COMMERCIAL REAL ESTATE SECURITIES</b></p> <p>Andreas D. Christopoulos, Yeshiva University Joshua G. Barratt, Barratt Consulting</p> <p><b>ABSTRACT</b></p> <p>This paper introduces a generalizable method to estimate reduced form risk decompositions at daily and intraday frequencies applied to CMBX. We estimate partitions for the risks of default, liquidity, excess liquidity, and interest rate volatility at daily and intraday frequencies. Our new estimation technique combines previously simulated risk partitions with current market data using principal components and OLS methods. We find liquidity and excess liquidity risk partitions are significant in explaining daily effective bid-ask spreads historically, from 11/2007-4/2019, and in 20-day forecasts. During the Covid pandemic, we extend the model from daily to intraday frequency, estimating intraday in 15 second intervals over the period 4/2020-4/2021. During Covid, we find regular patterns of risk partition volatility in the cross-section and exploit those insights in the related, and more frequently traded, REIT sector in automated trading strategies. In our 54 long/short day trading strategies, 96% showed significant alphas, and 63% produced abnormal cumulative returns between 0.73% and 48.74%. These results support pricing risk with risk partitioning at higher frequencies for commercial real estate securities.</p>
DISCUSSANT	<a href="#">ALEX FRINO</a> , UNIVERSITY OF WOLLONGONG

FRIDAY 09:30 TO 10:00	<b>BREAK</b>	<a href="#">SESSION LINK</a>
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FRIDAY 10:00 TO 11:30	<b>SESSION 2A - IMPLIED VOLATILITY</b>	<a href="#">SESSION LINK</a>
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CHAIRPERSON	<a href="#">CHEN TONG</a> , XIAMEN UNIVERSITY
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PRESENTER	<a href="#">ANDERS MERRILD POSSELT</a> , AARHUS UNIVERSITY
PAPER	<p><b>DYNAMICS IN THE VIX COMPLEX</b></p> <p>Anders Merrild Posselt, Aarhus University</p> <p><b>ABSTRACT</b></p> <p>This paper provides a characterization of the dynamic interactions in the VIX complex, composed of the VIX itself, the term structure of VIX futures, and VIX ETPs. I investigate a model that summarizes the VIX futures term structure using latent factors (level, slope, and curvature) and expand it with the VIX and VIX futures demand stemming from VIX ETPs. I find evidence of VIX ETPs impacting the VIX futures term structure, but no evidence of any impacts on the VIX.</p>

DISCUSSANT	<a href="#">JINGYU ZHAO</a> , ZHEJIANG UNIVERSITY
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PRESENTER	<a href="#">CHEN TONG</a> , XIAMEN UNIVERSITY
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PAPER	<p><b>DO VIX FUTURES CONTRIBUTE TO THE VALUATION OF VIX OPTIONS?</b></p> <p>Chen Tong, Xiamen University Tianyi Wang, University of International Business and Economics</p> <p><b>ABSTRACT</b></p> <p>Basically, as the VIX index is non-tradable, most investors use the exchange traded VIX futures to hedge their exposure in VIX options. However, the information role of VIX futures in pricing VIX options is not fully explored. In this paper, we utilize a simple discrete-time model of VIX dynamics with long-memory and asymmetric jumps to incorporate VIX futures in the pricing framework. We provided extensive empirical evidence based on CBOE VIX options from 2006 to 2020 that support the new framework's significant performance gains over existing frameworks based on SPX daily returns, realized variance, or VIX index itself. Among these models, the futures-based model provides the best pricing performance, with a reduction in price up to 50% (compared with the VIX-based model).</p>
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DISCUSSANT	<a href="#">ZEYANG (IVY) ZHOU</a> , UNIVERSITY OF WOLLONGONG
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PRESENTER	<a href="#">YAHUA XU</a> , CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS	
PAPER	<b>THE INFORMATION CONTENT OF THE DECOMPOSED VVIX AND VSKEW</b> Tai-Yong Roh, Liaoning University Alireza Tourani-Rad, Auckland University of Technology Yahua Xu, Central University of Finance and Economics  <b>ABSTRACT</b> We extract volatility and skewness from VIX options, namely VVIX and VSKEW, via a model-free methodology, and find that they show significant predictability in relation to market downturns, economic recessions, and tail risk option returns. We further observe that the positive and negative components of VVIX, implied by VIX calls and puts, respectively, play asymmetric roles in forecasting, and that the positive component mainly contributes for the predictability of VVIX. All the results are robust after controlling for tail risk measures. Our findings confirm that distinctive information can be extracted from moments of VIX options, even though VIX and SPX markets are closely related. We also highlight the linkages between volatility markets and future financial and macroeconomic conditions.	
DISCUSSANT	<a href="#">CHAYAWAT ORNTHANALAI</a> , ROTMAN SCHOOL OF MANAGEMENT	
<b>FRIDAY 10:00 TO 11:30</b>	<b>SESSION 2B -DISASTER RISK</b>	<a href="#">SESSION LINK</a>
CHAIRPERSON	<a href="#">JEAN-PAUL RENNE</a> , UNIVERSITY OF LAUSANNE	
PRESENTER	<a href="#">ADRIAN FERNANDEZ-PEREZ</a> , AUCKLAND UNIVERSITY OF TECHNOLOGY	
PAPER	<b>ON THE NEGATIVE PRICING OF WTI CRUDE OIL FUTURES</b> Adrian Fernandez-Perez, Auckland University of Technology Ana-Maria Fuertes, University London Joëlle Miffre, Audencia Business School  <b>ABSTRACT</b> WTI crude oil futures markets experienced the unprecedented phenomenon of negative prices on April 20, 2020. Several energy market pundits attributed the event to the large United States oil exchange traded fund (“USO”) due to the rolling of positions out of the May 2020 contract (CLK20) before its maturity on April 21, 2020. We show empirically that USO flows do not cause the price of WTI futures in general, nor of CLK20 in particular. A blend of macroeconomic/geopolitical conditions, including the sudden demand plunge associated with Covid19 pandemic-control measures and various supply spikes due to Russia-Saudi Arabia tensions, contributed to a contangoed WTI futures curve that attracted cash-and-carry (C&C) arbitrage, sharply increased the inventories at Cushing, and fed into a super-contango. The very steep WTI futures curve kept attracting rampant arbitrage until eventually a panic selloff and liquidity freeze were sparked by fears of a near tank-tops scenario at Cushing.	
DISCUSSANT	<a href="#">YAN WANG</a> , NYU SHANGHAI	
PRESENTER	<a href="#">JEAN-PAUL RENNE</a> , UNIVERSITY OF LAUSANNE	
PAPER	<b>CLIMATE LINKERS: RATIONALE AND PRICING</b> Pauline Chikhani, University of Lausanne Jean-Paul Renne, University of Lausanne  <b>ABSTRACT</b> This paper makes a case for climate linkers. We define climate linkers as long-dated financial instruments (bonds, swaps, and options) with payoffs indexed to climate-related variables, e.g., temperatures or carbon concentrations. Such instruments would facilitate the sharing of long-term climate risks. Another key benefit would be informational, as the prices of such instruments would reveal real-time market expectations regarding future climate. We develop a tractable climate-risk pricing framework and exploit it to study climate-linked instruments’ cost and risk characteristics. We examine, in particular, climate risk premiums: because of the insurance provided by a bond (positively) indexed on temperature, investors would demand a lower average return on such a bond than on conventional bonds. Our findings highlight the sensitivity of climate premiums to the assumptions regarding damages associated with temperature increases and feedbacks between temperatures and emissions.	
DISCUSSANT	<a href="#">ADRIAN FERNANDEZ-PEREZ</a> , AUCKLAND UNIVERSITY OF TECHNOLOGY	

PRESENTER	<a href="#">YAN WANG</a> , NYU SHANGHAI
PAPER	<p><b>MODEL-FREE QUANTILES AND MARKET RETURNS</b></p> <p>Conall O'Sullivan, University College Dublin Yan Wang, New York University Shanghai</p> <p><b>ABSTRACT</b></p> <p>A novel formula is proposed to estimate risk-neutral quantiles from European option prices in a model-free manner. Using this formula, we estimate quantiles for S&amp;P 500 index options. Scaled symmetric quantile differences, defined as the negative of the left tail <math>p</math>th return quantile minus the right tail <math>(1 - p)</math> th return quantile, scaled by standard deviation, significantly forecast the equity risk premium (realised volatility) at low (medium) <math>p</math> values and at horizons ranging from one to twelve weeks. These findings are consistent with the time-varying disaster risk model of Wachter (2013). We show in the context of this model that increasing scaled symmetric quantile differences in the tails are driven by higher physical disaster probability and are thus associated with an increase in equity risk premium and stock market volatility.</p>
DISCUSSANT	<a href="#">JEAN-PAUL RENNE</a> , UNIVERSITY OF LAUSANNE

FRIDAY 11:30 TO 12:00	<b>BREAK</b>	<a href="#">SESSION LINK</a>
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FRIDAY 12:00 TO 13:00	<b>KEYNOTE ADDRESS</b>	<a href="#">SESSION LINK</a>
	<p><b>TRADING, TAIL RISK, AND (RE)TAIL RISK</b></p> <p>Robert I. Webb</p> <p>Some of the largest changes in security prices are unrelated to the arrival of fundamental economic information. Rather, they are the result of traders –acting alone or in concert--trying to force prices in the direction that benefits their positions at the expense of other market participants. Recently, retail investors have been both the collective victims of large sudden price moves (such as, negative crude oil futures prices in April 2020) and the perceived collective perpetrators of short squeezes in, and seemingly irrational prices for, various meme stocks. Derivative securities have played a key role in many of these sudden price spikes. The implications for speculative markets are assessed.</p>	
	<p><b>Zoom</b> <b>Passcode:</b> <b>414558</b></p>	

FRIDAY 13:30 TO 15:00	<b>SESSION 3A - ANNOUNCEMENTS</b>	<a href="#">SESSION LINK</a>
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CHAIRPERSON	<a href="#">ALEXANDER KUROV</a> , WEST VIRGINIA UNIVERSITY
PRESENTER	<a href="#">DIFANG HUANG</a> , MONASH UNIVERSITY
PAPER	<p><b>MONETARY POLICY SURPRISES AND CORPORATE CREDIT SPREADS</b></p> <p>Difang Huang, Monash University Xinjie Wang, Southern University of Science and Technology Zhaodong (Ken) Zhong, Rutgers University</p> <p><b>ABSTRACT</b></p> <p>We study the effects of monetary policy surprises (MPSs) on corporate credit default swap (CDS) spreads. Using high-frequency surprises around Federal Open Market Committee (FOMC) announcements, we find a negative relation between changes in unexpected expansionary monetary policy and changes in CDS spreads using both panel regressions and time-series regressions. More importantly, we show that there is a strong cross-sectional effect of MPSs on CDS spreads. Unexpected expansionary monetary policy reduces the flight-to-safety and flight-to-liquidity phenomenon: The credit spread between investment-grade and high-yield CDSs narrows significantly following an unexpected monetary policy. Finally, we show that monetary policy affects CDS spreads through cash flow, financial constraints, and risk channels.</p>
DISCUSSANT	<a href="#">DAN PIRJOL</a> , STEVENS INSTITUTE OF TECHNOLOGY

PRESENTER	<a href="#">ROBERT LOVELAND</a> , CALIFORNIA STATE UNIVERSITY	
PAPER	<b>EXPECTING THE UNEXPECTED? TESTS OF INFORMED TRADING USING A REFINED MEASURE OF LIKELIHOOD</b> Scott Fung, Griffith University Robert Loveland, California State University  <b>ABSTRACT</b> Using a novel, market-based measure of event expectedness, we test a sample of 769 major takeovers to determine whether informed trading is greater around takeovers with more information asymmetry or less information asymmetry. We find that options trades contain economically and statistically significant information about the future stock returns of the targets in the least expected takeovers, but not the most expected. The degree of return predictability is significantly higher for the least expected takeovers than for the most expected takeovers. Complementary analysis shows a direct link between the generation of private information and trading by informed investors, suggesting that informed trading is more prevalent for those firms that are least expected to eventually become targets in a takeover attempt. Results are shown to be robust to a battery of checks.	
DISCUSSANT	<a href="#">MD. MOSTAFA KAMAL</a> , NORTHWESTERN POLYTECHNICAL UNIVERSITY	
PRESENTER	<a href="#">ALEXANDER KUROV</a> , WEST VIRGINIA UNIVERSITY	
PAPER	<b>WHEN DOES THE FED CARE ABOUT STOCK PRICES?</b> Alexander Kurov, West Virginia University, <a href="mailto:alkurov@mail.wvu.edu">alkurov@mail.wvu.edu</a> Eric Olson, The University of Tulsa Gulnara R. Zaynutdinova, West Virginia University  <b>ABSTRACT</b> We propose a novel identification approach based on a predictable change in the intraday volatility of index futures to estimate the Federal Reserve's reaction to stock returns. This identification approach relies on a weaker set of assumptions than required under identification through heteroskedasticity based on lower frequency data. Our approach also allows the examination of changes in the reaction of monetary policy to the stock market. We document an asymmetric response of policy expectations to changes in stock prices in adverse and positive economic environments. Specifically, the results show a sharp increase in the response of monetary policy expectations to stock returns during recessions and bear markets. This finding is consistent with the existence of the so-called "Fed put."	
DISCUSSANT	<a href="#">YUHAN HU</a> , THE CHINESE UNIVERSITY OF HONG KONG	
<b>FRIDAY 13:30 TO 15:00</b>	<b>SESSION 3B - OPTIONS AND WARRANTS</b>	<a href="#">SESSION LINK</a>
CHAIRPERSON	<a href="#">ALIREZA TOURANI-RAD</a> , AUCKLAND UNIVERSITY OF TECHNOLOGY	
PRESENTER	<a href="#">JINGYU ZHAO</a> , ZHEJIANG UNIVERSITY	
PAPER	<b>WHY ARE THE PRICES OF EUROPEAN-STYLE DERIVATIVES OVER THE AMERICAN-STYLE DERIVATIVES?</b> Xuejun Jin, Zhejiang University Jingyu Zhao, ZheJiang University Xingguo Luo, Zhejiang University  <b>ABSTRACT</b> In Hong Kong, the prices of European-style derivative warrants are generally above those of American-style options with similar terms. Using high-frequency tick by tick data from the Hong Kong market during 2012-2016, we find that liquidity differences gain strong explanatory power for overpricing, especially for derivatives of low moneyness and long term. Also, factors considering counterparty credit risk, investors preference, information asymmetry, volatility discovery, exercise style, the behaviour of market makers and investors sentiment do matter. Besides, we show a big gap of market-wide liquidity among two markets and find that strong day-of-the-week effects exist in derivative warrants market. To further compare the pricing efficiencies, we examine return predictability from order flows as well as variance ratios and the outcomes support lower liquidity resulting in weaker efficiency of option market relative to warrant market.	
DISCUSSANT	<a href="#">ANDERS MERRILD POSSELT</a> , AARHUS UNIVERSITY	

PRESENTER	<a href="#">ZEYANG (IVY) ZHOU</a> , UNIVERSITY OF WOLLONGONG
PAPER	<p><b>ARE STOCK OPTIONS MORE INFORMED THAN TWITTER? EVIDENCE FROM ASX</b></p> <p>Alex Frino, University of Wollongong Caihong Xu, Stockholm University Zeyang (Ivy) Zhou, University of Wollongong</p> <p><b>ABSTRACT</b></p> <p>We study the impact of Twitter information, including activity, sentiment, and divergence of sentiment, on option market variables, such as open interest and implied idiosyncratic volatility. We estimate the contemporaneous relationship between Twitter and option market, and we show that open interest is positively correlated with Twitter activity and divergence of sentiment and negatively correlated with sentiment. Implied idiosyncratic volatility is positively correlated with divergence of sentiment. Furthermore, we determine the lead-lag relationship between Twitter information, realized stock volatility and option market variables using time-sequencing tests. Our empirical evidence indicates that whereas stock realized volatility has no predictive power on Twitter information, option market variables present strong predictability on Twitter activity and divergence of sentiment, and weak predictability on Twitter sentiment.</p>
DISCUSSANT	<a href="#">CHEN TONG</a> , XIAMEN UNIVERSITY
PRESENTER	<a href="#">CHAYAWAT ORNTHANALAI</a> , ROTMAN SCHOOL OF MANAGEMENT
PAPER	<p><b>ASYMMETRIES AND THE MARKET FOR PUT OPTIONS</b></p> <p>Adam Farago, University of Gothenburg Mariana Khapko, University of Toronto Chayawat Ornthanalai, Rotman School of Management</p> <p><b>ABSTRACT</b></p> <p>We study implications of asymmetries in both preferences and fundamentals for put option demand across investors and the resulting market behaviour. A heterogenous-agent model populated by investors with asymmetric preferences alongside standard risk-averse agents rationalizes the size and the dynamics of the put option market, the expensiveness of put options, and the link between put option demand and the stock market in equilibrium. Disappointment-averse investors take long positions in put options, but only if their reference point is lower than the certainty equivalent. In the cross-section of options with multiple strikes, disappointment-averse investors' open interest peaks for the at-the-money contracts.</p>
DISCUSSANT	<a href="#">YAHUA XU</a> , CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS

FRIDAY  
15:00 TO 15:15

## CLOSING REMARKS

[ALIREZA TOURANI-RAD](#), AUCKLAND UNIVERSITY OF TECHNOLOGY

[SESSION LINK](#)

# 2021 NEW ZEALAND FINANCE MEETING ONLINE CONFERENCE



## Call for Papers

9<sup>th</sup> & 10<sup>th</sup> December 2021, online from Auckland, New Zealand

[www.acfr.aut.ac.nz/nzfm2021](http://www.acfr.aut.ac.nz/nzfm2021)

The Auckland Centre for Financial Research at the Faculty of Business, Economics and Law, Auckland University of Technology, hosts its 10th annual meeting on 9<sup>th</sup> & 10<sup>th</sup> December 2021. This year's conference will take place online. The New Zealand Finance Meeting is a general finance conference, and we consider all papers related to finance topics.

### KEYNOTE SPEAKERS:

- Randall Morck, Stephen A. Jarislowsky Distinguished Chair in Finance, Alberta School of Business, University of Alberta
- Lauren Cohen, L.E. Simmons Professor of Business Administration, in Finance & Entrepreneurial Management Units, Harvard Business School.

### SPECIAL ISSUE:

There will be a special issue of the Global Finance Journal, to be edited by Alireza Tourani-Rad and Nhut (Nick) H. Nguyen, based on selected papers presented at the 2021 New Zealand Finance Meeting. Please, indicate your interest in submitting to the journal on your registration form. The GFJ submission fees will be waived for all participants. Further details will be sent on acceptance to the conference.

### PAPER SUBMISSION:

To submit your paper, please go to the conference website: [www.acfr.aut.ac.nz/nzfm2021](http://www.acfr.aut.ac.nz/nzfm2021). The deadline for paper submissions is 15<sup>th</sup> September 2021. Authors will be notified of the outcome of their submission by 10<sup>th</sup> October 2021 and registration will open shortly thereafter.

### PAPER AWARDS:

- NZFM 2021 Best Paper Award (NZD 2,000) - Sponsored by the New Zealand Superannuation Fund
- NZFM 2021 Runner-up Award (NZD 1,000) - Sponsored by the New Zealand Superannuation Fund
- CFA ARX Asia Pacific Research Exchange Award (NZD 1,000) see website for submission guidelines.
- Global Finance Journal Award (USD 1,000)

### MEETING ORGANIZERS:

Nhut (Nick) H. Nguyen, Auckland University of Technology  
Alireza Tourani-Rad, Auckland University of Technology

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