



2024 (28th) APRIA Annual Conference Proceedings

(www.apria.org)

Innovations in Asian-Pacific **Risk Management & Insurance**

Host: **National University of Laos, Lao PDR**

Organizer: **SungKyunKwan University, Korea**

Sponsor: **Kyobo Life Insurance Company, Korea**

Date: 28th - 31st July 2024

Venue: **National University of Laos, Lao Plaza Hotel**



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2024 APRIA Conference Organizing Committee

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Singapore College of Insurance

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About Host - Faculty of Economics and Business Management, NUOL

The National University of Laos (NUOL) is the first comprehensive university in Lao PDR. It was established on 5 November 1996 under the Prime Minister Decree No. 50 / PM, dated 09/06/1995, by merging existing higher educational institutions under the supervision of different Ministries into National University. These educational institutions consisted of 10 institutions, namely: Vientiane Teacher Training University, 2 December University of Resources, University of Health Science, Nabong Higher School of Agriculture, Dong Doc Higher School of Forestry, Tat Thong Higher School of Irrigation, Higher School of Industrial Construction, Higher School of Communication, Higher School of Electrical and Electronic Engineering and the Preparatory Center for the establishment of the Venkham Agriculture-Forestry University. Since its founding, NUOL has continuously developed and extended activities related to the teaching and learning process, research, and community services. In the beginning, NUOL consisted of seven faculties, six offices, and one School of Foundation Studies. Then, more faculties, institutes, offices, centers, university hospital, and primary as well as secondary schools have been established. In the Academic year 2022-2023, NUOL comprises thirteen faculties, two institutes, eleven offices, one Central Library, four centers, the Dong Dok Campus Hospital, and one Preparatory School for gifted and ethnic minority students.

The Faculty of Economics and Business Management (FEB) is one of the 13 faculties of the National University of Laos (NUOL), which was established in 1995 by Prime Ministers Decree No. 50/PM/95 and received support from the Asian Development Bank (ADB). From the year 2000 to 2007, the faculty received continuous support from JICA, a Japanese governmental organization that provided grants for the construction of new buildings and technical collaboration. In addition, in the early stages, FEB has also received special support in the preparation of teaching and upgrading of teachers from universities and several organizations such as: Hanoi National University of Economics from Vietnam, DAAD Organizations from Germany, SEAMEO-UNESCO Organizations, Conseil Interuniversitaire de la communauté, Française de la Belgique, Kobe University from Japan. In the past, FEB had a French language program with the support from AUF and the University of Bourgogne and Toulouse of France to provide technical assistance by teaching.

Welcome Address of APRIA President

Dear Esteemed Members of the Asia-Pacific Risk and Insurance Association,

I am delighted to welcome you to this year's conference, "Innovations in Asia-Pacific Risk Management and Insurance." It is an honor to address such a distinguished assembly of professionals and scholars who are at the forefront of advancing risk and insurance practices in the Asia-Pacific region.

I extend my deepest gratitude to our 2024 host, the National University of Laos, for their exceptional support and hospitality. Special thanks to Vice President Phouphet Kyophilavong and Vice Dean Vadsana Chanthanasinh for their efforts in making this important event possible. In recent years, our association has experienced remarkable growth and transformation. Our individual membership has increased from 96 to 102, Our institutional membership has expanded from 8 to 11, reflecting the growing recognition of our association's value. Our travel scholarship program has grown from \$5,000 to \$8,000 a year, thanks to Kyobo Life's generous contributions and the EXCO's efforts. This support allows us to provide greater opportunities for promising junior scholars to engage with their peers. Additionally, our annual income has begun to include deposit interest income. This year, the conference has more than 90 registrations outside the Laos and more than 60 academic papers to present

None of these achievements would have been possible without the dedication and hard work of our colleagues and staff members – Professors Wei Zheng, Katja Hanewald, Jing Ai, Mahito Okura as well as our long-lasting secretariat, the SCI (Shalini, Jana, Belinda to name a few). Your efforts have been instrumental in shaping our association into a dynamic and thriving community.

As we look to the future, we are excited about the opportunities that digital innovation presents. We are committed to embracing these innovations to further our mission and impact. Thank you all for your continued support and dedication. Together, we have achieved remarkable milestones, and together, we will continue to drive progress and make meaningful contributions to the risk and insurance community. I wish you all a productive and enjoyable time at the conference. May this event inspire new ideas, foster valuable connections, and contribute to the ongoing success of our association.

With warmest regards,



Hongjoo JUNG, President, Asia-Pacific Risk and Insurance Association

July 28, 2024

Greeting from Vice President of the NUOL

First and foremost, it is indeed my pleasure and honor to have my word of greeting given; I, on behalf of the National University of Laos, would like to express my sincere thanks and appreciation to the guests, speakers, presenters, and participants, joining “2024 (28th) APRIA Annual Conference: Innovations in Asian-Pacific Risk Management & Insurance”, 28th- 31st July 2024.

As you may know, the National University of Laos, known as NUOL, is the first public university of Lao PDR. Since its establishment in late 1996, the NUOL has developed to become a leading university in the country. The establishment of the NUOL aimed to reform and consolidate higher education in Lao PDR and to gradually improve the country’s quality of higher education while moving towards regional and international education standards. By having our vision and mission set, we are trying hard to achieve and realize our goals, have partnerships, and collaborate with universities, institutions, and international organizations from countries around the world.

As we are all aware, social, technological, and economic changes in the world today are occurring rapidly. At the same time, the impact of climate change, geographic risk, financial and economic uncertainty, war, and conflict upon us. As a result, risk and insurance research is crucial to this matter. This conference has attracted a substantial number of abstract submissions covering various topics and discussions on risk and insurance in the Asia-Pacific region and the world. We also hand international presenters and participants; several distinguished professors, guests, and presenters from the Asia-Pacific region and other parts of the world exist.

As the conference host, the National University of Laos fully supports this academic movement and collaboration, and this kind of work and cooperation between the research and educational community and institutions should be promoted and boosted in the future. We also do hope the “2024 (28th) APRIA Annual Conference: Innovations in Asian-Pacific Risk Management & Insurance” will, as the platform of research and academic discussion, be fruitfully and successfully held with your kind cooperation and support, and your active participation and collaboration in this international conference should be higher appreciated indeed.

Once again, I, on behalf of the National University of Laos, would like to sincerely thank the President (Professor. Hongjoo JUNG from SungKyunKwan University, Korea), Vice President - Operations/Finance (Professor. Wei ZHENG, Peking University, China), Vice

President – Programs (Professor. Katja HANEWALD, UNSW Sydney, Australia), Secretary (Professor. Jing AI, University of Hawaii at Manoa, USA), Immediate Past-President (Professor, Mahito OKURA, Doshisha Women's College of Liberal Arts, Japan), Board of Governors of APRIA, and secretary for your kindness and support. I also would like to thank the Dean, vice dean, organizing committee, Lecturers, and students from the Faculty of Economics and Business Management for the preparation of this conference. I also would like to thank all invited distinguished keynote speakers, speakers, presenters, and all participants for your active participation, kindness, and support. In addition, I would like to express my sincere thanks to Sungkyunkwan University Kyobo Life Insurance Company for its generous contributions.

I hope 2024 (28th) APRIA Annual Conference: Innovations in Asian-Pacific Risk Management & Insurance” is successfully concluded and achieves productive outputs.

Thank you very much!

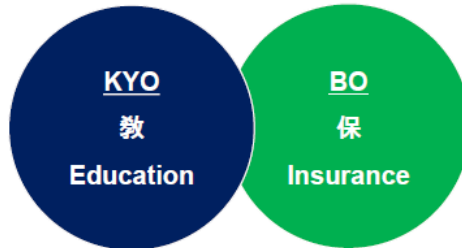


Prof. Dr. Phouphet KYOPHILAVONG

Vice-President

National University of Laos

About Sponsor – Kobo Life Insurance Company



*Kyobo Life's foundation motto is
"promotion of national education" and
"formation of domestic capital"*

The Kyobo Life Insurance Company has continued to sponsor the APRIA conference (Travel Scholarships, etc) since its inaugural one in 1997. The Korean life insurer established in 1958, proudly holds the distinction of being the first provider of education insurance products in the world. As one of the Korea's 'Big 3' life insurers that focuses solely on financial services, Kyobo Life is renowned for its transparent corporate governance and commitment to excellence. Kyobo Life stands as Korea's leading life insurer, earning high ratings from established global rating agencies, the highest among Korean life insurers: **Moody's**: A1 (Stable) and **Fitch**: A+ (Stable). The company has garnered numerous prestigious awards, including:

- **Chairman & CEO Chang Jae Shin** was awarded the Insurance Hall of Fame Laureate by the International Insurance Society in November 2023.
- **Topped the Korean Sustainability Index** in the life insurance category for 14th consecutive year in November 2023.

Key Operating Metrics (FY2023): Total Assets: KRW 115 trillion+, Total Equity: KRW 9.7 trillion+, Tied Agents: 13,700+, Employees: 3,550+, Policies In-Force: 9.1 million+, Branches: 527, Exclusive Product Rights: 20

Kyobo Life's core competencies are anchored in its ability to maintain stable mortality and morbidity gains, achieve steady investment returns, and maintain a strong focus on bottom-line profitability. The company's success is further supported by:

- A **well-diversified product mix** and an **extensive distribution network** that caters to a wide range of customer needs.
- **Prudent asset portfolio management** capabilities, focusing on risk-adjusted long-term investment returns.
- **Strategic risk management** practices harmonized with sustainable Asset Liability Management (ALM) policies.

With these strengths, Kyobo Life continues to lead the way in the life insurance industry, providing reliable and innovative financial services to its clients while maintaining a commitment to sustainable growth and corporate governance.

2024 Conference Program Overview

28th July 2024 (Sunday)			
Conference Venue: Lao Plaza Hotel			
Days	Time	Details	Room
Day 1	12:00-14:00	ExCo lunch (Executive Committee members and invited only)	TBD
	14:00-16:00	ExCo meeting (Executive Committee member and invited only)	May Hall (2 nd floor)
	16:00-18:00	BOG Meeting (Board of Governors members and invited only)	May Hall (2 nd floor)
	18:00-20:00	SKKU Welcome reception (for all REGISTERED members or non-members)	May Hall (2 nd floor)
29th July 2024 (Monday)			
Conference Venue: Faculty of Economics and Business Management, National University of Laos, Lecture Hall (LH) and other rooms designated			
Day 2	08:00	Bus pick-up at the Lao Plaza Hotel to the NUOL	
	09:00-10:00	Registration/Reception	
	10:00 –10:30	Opening Ceremony Welcome Address (President) Opening Remark (Counselor General) <Group Photo>	LH
	10:30-12:00	Plenary session 1	LH
	12:00-13:30	Lunch	MR
	13:30-15:00	Concurrent session 1	L2, E2, T1, T3
	15:00-15:30	Coffee Break	MR
	15:30-17:00	General Meeting	Seminar
	17:00-18:00	Bus back to the hotel	
	18:00-21:00	Gala Dinner	Grand ball room
30th July 2024 (Tuesday)			
Conference Venue: Faculty of Economics and Business Management, National University of Laos, Lecture Hall (LH) and other rooms designated			
Day 3	08:00	Bus pick-up at the Lao Plaza Hotel to the NUOL	
	09:00-10:30	Concurrent session 2	L2, E2, T1, T3
	10:30-11:00	Coffee break	MR
	11:00-12:30	Plenary session 2	LH
	12:30-14:00	Presidential Luncheon with award and break	MR
	14:00-15:30	Concurrent session 3	L2, E2, T1, T3
	15:30-16:00	Coffee break	MR
	16:00-17:30	Plenary session 3	LH
	17:45-18:30	Bus back to hotel for free evening	

31st July 2024 (Wednesday) at 2nd floor, the Lao Plaza Hotel			
Day 4	09:00-10:30	Concurrent session 4	Plaza Hall, May Hall, Plaza II, Plaza III
	10:30-11:00	Coffee Break	2 nd floor
	11:00-12:30	Concurrent session 5	Plaza Hall, May Hall, Plaza II, Plaza III
	12:30-14:00	Farewell lunch and Goodbye	2 nd floor

2024 Conference Plenary Sessions

Title	Speaker	Affiliation
Plenary session 1: Changing World and Future Moderator: ZHENG, Wei (Peking University, China)		
Does Insurance Sector Development Reduce the Carbon Dioxide (CO2) Emission? The Evidence from ASEAN and OECD	KYOPHILAVONG, Phouphet	National University of Laos
The Shift in the Risk Structure in the New International Normal of Climate Change and Multipolar World	WOO, Wing Thye (Online)	United Nations Sustainable Development Solutions Network
Innovation in Artificial Intelligence Technology and its Impact on the future	LEE, Hyuk-Jae (Online)	Seoul National University, Korea
Plenary session 2: ASEAN RMI: Risk, Policy, Practice and Education Moderator: JUNG, Hongjoo (Sungkyunkwan University, Republic of Korea)		
Quantitative Risk Assessment for ASEAN - ASEAN Disaster Risk Financing and Insurance Phase 2 (ADRFI-2) Initiative	LO, Edmond	Nanyang Technological University, Singapore
Corporate Governance and Risk Management in Viet Nam	THÚY, Nguyễn Thị Hồng (Online)	Vietnam National University – UEB, Viet Nam
Risk Management Practice and Education in Thailand	CHAIYAWAT, Thitivadee (Online)	Chulalongkorn University, Thailand
Plenary session 3: RMI in Asia-Pacific Region Moderator: OKURA, Mahito (Doshisha Women's College of Liberal Arts, Japan)		
Risk Management in the US	LAI, Gene	University of North Carolina at Charlotte, USA
Islamic Finance and Insurance in Malaysia?	SABRI, Mohamad Fazli Bin	Universiti Putra Malaysia, Malaysia
Risk Management Platform 'KFPA Bridge' in Korea	KANG, Younggoo	Chairperson & CEO, Korea Fire Protection Association, Korea
	CHOI, Seunggho	General Manager, Korea Fire Protection Association, Korea

2024 Conference Concurrent Sessions

Concurrent Session 1 (Monday, 29 July, 13:30-15:00)

1A – Pensions
Session Chair: Wei Zheng (Peking University)
Venue: L2
<ul style="list-style-type: none"> Yinan Ying (Lingnan University), <i>A gender-neutral public annuity program to help female retirees hedge against longevity risks</i> (#1738) <u>Discussant:</u> Haoge Lan (Shanghai University of Finance and Economics) Norio Hibiki (Keio University) and Dai Izawa (private affiliation), <i>Impact of the Hybrid Lump Sum Plan on Longevity Risk and Incentives to Delay Claiming Age of Public Pension</i> (#1697) <u>Discussant:</u> Yinan Ying (Lingnan University) Haoge Lan and Guiqin Zhao (both: Shanghai University of Finance and Economics), <i>China's Pension System and Pension Inequality</i> (#1706) <u>Discussant:</u> Norio Hibiki (Keio University)

1B – Agricultural Insurance
Session Chair: Yuehua Zhang (Zhejiang University)
Venue: E2
<ul style="list-style-type: none"> Upelina Bina Murmu (National Institute of Technology Rourkela), <i>Assimilating Remote Sensing Data in Crop Insurance Models: Multiple Approaches to Estimating Joint Distribution</i> (#1752) <u>Discussant:</u> Steward Doss (National Insurance Academy) Xinli Liu, Zhenyue Cao, and Yuxin Wen (all: Peking University), <i>A Stage-Based Model for the Weather-Yield Relationship in Weather Index Insurance</i> (#1747) <u>Discussant:</u> Upelina Bina Murmu (National Institute of Technology Rourkela) Steward Doss (National Insurance Academy) and Madhu Acharyya (Glasgow Caledonian University), <i>Farmers' Perception on Crop Insurance Protection Gap: A Case Study from India</i> (#1754) <u>Discussant:</u> Zhenyue Cao (Peking University)

1C – Insurance Management
Session Chair: Jing Ai (University of Hawai'i)
Venue: T1
<ul style="list-style-type: none"> Patricia Born (Florida State University), Randy Dumm (University of South Florida), and David Eckles (University of Georgia), <i>Compliance in a Regulatory Setting: A Further Investigation of Transparency</i> (#1780) <u>Discussant:</u> Min-Teh Yu (Providence University and NCCU-RIRC) Sangyong Han (Korea Insurance Research Institute), Chia-Ling Ho (Tamkang University), Gene C. Lai (University of North Carolina, Charlotte), and Zifen Zeng (University of North Carolina, Charlotte), <i>Risks and Enterprise Risk Management Strategies: Evidence from the U.S. Property-Liability Insurance Industry</i> (#1773) <u>Discussant:</u> Randy Dumm (University of South Florida) Xiaoyi Li (School of Finance, Southwestern University of Finance and Economics), Min-Teh Yu (Providence University and NCCU-RIRC), and Yang Zhao (School of Finance, Nankai University), <i>Impact of Reinsurance and Cat Bonds on Insurer Leverage:</i>

<p><i>Evidence from US Property-Casualty Insurers</i> (#1750) <u>Discussant:</u> Gene C. Lai (University of North Carolina, Charlotte)</p>

1D – Insurance Fraud
Session Chair: Tadayoshi Otsuka (Waseda University)
Venue: T3
<ul style="list-style-type: none"> Chia-Ling Ho (Tamkang University), <i>Determinants of Claims Investigation Actions in Private Health Insurance</i> (#1705) <u>Discussant:</u> Mahito Okura (Doshisha Women’s College of Liberal Arts) Ruchi Agarwal (Management Development Institute), <i>Fraud Control: Efficiency or a Customer-oriented Approach</i> (#1729) <u>Discussant:</u> Chia-Ling Ho (Tamkang University) Yoichiro Fujii (Meiji University) and Mahito Okura (Doshisha Women’s College of Liberal Arts), <i>Why Do Non-Life Insurance Companies Tolerate Fraudulent Claims from Insurance Agents?</i> (#1702) <u>Discussant:</u> Ruchi Agarwal (Management Development Institute)

Concurrent Session 2 (Tuesday, 30 July, 09:00-10:30)

2A – Life Insurance Demand
Session Chair: Tadayoshi Otsuka (Waseda University)
Venue: L2
<ul style="list-style-type: none"> Soyoung Lim (Waseda University) and Hongjoo Jung (Sungkyunkwan University), <i>An Empirical Analysis of Relative Demand for Life Insurance vs Non-life Insurance in a few ASEAN Countries</i> (#1703) <u>Discussant:</u> V. Padmavathi (IFHE University) Hideto Azegami (Toyo Gakuen University), <i>Trans-generational Effects on Holding Life Insurance</i> (#1717) <u>Discussant:</u> Soyoung Lim (Waseda University) V. Padmavathi and M.A. Lagesh (both: IFHE University), <i>Modelling of an educated insurance policyholder lapse behaviour for life insurance products</i> (#1681) <u>Discussant:</u> Hideto Azegami (Toyo Gakuen University)

2B – Climate Risk and Carbon Transition
Session Chair: Piya Wongphit (National University of Laos)
Venue: E2
<ul style="list-style-type: none"> Suryadepto Naga (Indian Institute of Science Education and Research Pune), Sankarshan Basub (Indian Institute of Management Bangalore), and Siddhartha P. Chakrabarty (Indian Institute of Technology Guwahati), <i>From Carbon-transition Premium to Carbon-transition Risk</i> (#1713) <u>Discussant:</u> Chi Feng (Shanghai University of Finance and Economics) Yifeng Ying and Haiyan Wang (both: Tongji University), <i>Research on the Pricing of Carbon Sink Price Insurance in the “Insurance + Futures” Mode—Based on Data from the Chinese Carbon Emissions Trading Market</i> (#1693) <u>Discussant:</u> Sankarshan Basub (Indian Institute of Management Bangalore) Chi Feng and Xudong Zeng (Shanghai University of Finance and Economics), <i>Climate Risk in Catastrophe Bond Primary Market Spread</i> (#1709) <u>Discussant:</u> Yifeng Ying (Tongji University)

2C – Cyber Risks and Insurance Technology
Session Chair: Mahito Okura (Doshisha Women's College of Liberal Arts)
Venue: T1
<ul style="list-style-type: none"> Steward Doss (National Insurance Academy), N. Raveendran (Xsentinel Risk and Claim Advisory) and B. Suresh (Xsentinel Risk and Claim Advisory), <i>Cyber Risk Underwriting - A Gap Analysis of Underwriters & Customer's Perception</i> (#1763) <u>Discussant:</u> Xinyi Wang (Peking University) Kwanseol Son (Samsung Micro Credit Institute), <i>Risk Management of Korean Micro Credit Business for Sustainable Growth - Macro and Micro data analysis</i> (#1683) <u>Discussant:</u> B. Suresh (Xsentinel Risk and Claim Advisory) Xinyi Wang (Peking University), <i>Loan Profit Prediction under the Framework of Innovative Fusion Model</i> (#1728) <u>Discussant:</u> Kwanseol Son (Samsung Micro Credit Institute)

2D – Automobile Insurance
Session Chair: W. Jean Kwon (St. John's University)
Venue: T3
<ul style="list-style-type: none"> Sheng-Chang Peng (Ming Chuan University), <i>Information Asymmetry of Automobile Liability Insurance in Taiwan</i> (#1730) <u>Discussant:</u> Yoram Eden (Hadassah Academic College) Piotr Manikowski, Jacek Lisowski, Dorota Wiśniewska, and Konrad Owsński (all: Poznań University of Economics and Business), <i>The Impact of Eco-driving on Motor Own Damage Insurance Risk of the Light Vehicle Fleet in Poland</i> (#1774) <u>Discussant:</u> Sheng-Chang Peng (Ming Chuan University) Ziv Cohen and Yoram Eden (both: Hadassah Academic College), <i>Decoding the Symphony of Reinsurance Strategies: A Motor Insurance Odyssey in Israel</i> (#1712) <u>Discussant:</u> Tadayoshi Otsuka (Waseda University)

Concurrent Session 3 (Tuesday, 30 July, 14:00-15:30)

3A – Mortality
Session Chair: Katja Hanewald (UNSW Sydney)
Venue: L2
<ul style="list-style-type: none"> Gábor Szentkereszti and Péter Vékás (Corvinus University of Budapest), <i>Mortality forecasting in geographical space and time</i> (#1761) <u>Discussant:</u> Chu-Shiu Li (CTBC Business School) Francesco Ungolo (UNSW Sydney), Patrick Dominic M. Garces (University of Technology Sydney), Michael Sherris (UNSW Sydney), and Yuxin Zhou (UNSW Sydney), <i>AffineMortality: a computational tool for the analysis of stochastic mortality rates in continuous time</i> (#1691) <u>Discussant:</u> Péter Vékás (Corvinus University of Budapest) Chu-Shiu Li (CTBC Business School) and Sheng-Chang Peng (Ming Chuan University), <i>An Empirical Examination of the Term Life Cancer and Whole Life Cancer Insurance in Taiwan</i> (#1694) <u>Discussant:</u> Francesco Ungolo (UNSW Sydney)

3B – Agricultural Insurance
Session Chair: Steward Doss (National Insurance Academy)
Venue: E2
<ul style="list-style-type: none"> Mingwei Li, Xinli Liu, and Yi Yao (all: Peking University), <i>Social interaction and weather index insurance demand: Survey evidence from China</i> (#1739) <u>Discussant:</u> Yuxiang Sun (Shanghai University of Finance and Economics) Subir Sen (Indian Institute of Technology Roorkee), <i>Attitude Towards Risk and Insurance Consumption in a Hazard Prone Area: Insights from Field Experiments</i> <u>Discussant:</u> Mingwei Li (Peking University) (#1775) Yuxiang Sun, Tengjun Chen, and Fang Su (all: Shanghai University of Finance and Economics), <i>Study on Farmers' Insurance Decisions Based on Income Risk Model</i> (#1716) <u>Discussant:</u> Subir Sen (Indian Institute of Technology Roorkee)

3C – Solvency/P&C Insurance
Session Chair: Randy Dumm (University of South Florida)
Venue: T1
<ul style="list-style-type: none"> Kai Chen (Peking University), <i>Impact of the Phase II of "C-ROSS II" on the Minimum Capital for Interest Rate Risk of Life Insurance Companies in China</i> (#1741) <u>Discussant:</u> Yoshihiro Asai (Meiji University) Lai Yi-Hsun (National Yunlin University of Science and Technology) and Lin Wen-Chang (National Chung Cheng University), <i>Insolvency Risk, Costs and Product Diversification by Property and Liability Insurance Firms</i> (#1686) <u>Discussant:</u> Kai Chen (Peking University) Yoshihiro Asai (Meiji University), <i>On determinants of the demand for property liability insurance: Evidence from small and medium enterprises</i> (#1688) <u>Discussant:</u> Lin Wen-Chang (National Chung Cheng University)

3D – Financial Innovation
Session Chair: Thomas Berger (DHBW Stuttgart)
Venue: T3
<ul style="list-style-type: none"> Mohamad Fazli Sabri (Universiti Putra Malaysia), Husniyah Abdul Rahim (Universiti Putra Malaysia), Chong Kok Fei (Universiti Putra Malaysia), Anthony Ang San (Universiti Putra Malaysia), Nuradibah Mokhtar (Universiti Putra Malaysia), Catherine SF Ho (Universiti Teknologi MARA), Mervin Anthony (Malaysian Financial Planning Council), and Chung Kar Yin (Malaysian Financial Planning Council), <i>Adoption Factors of Fintech Moderated by Fintech Literacy Among Malaysian Consumers</i> (#1753) <u>Discussant:</u> Ruo Jia (Peking University) Jonathan Gano-an (University of Southeastern Philippines) and Xueting Pan (Yunnan Hekou Rural Commercial Bank Company Limited), <i>Behavioral Intentions Towards the Use of Digital Wallets: A Case of Yunnan China</i> (#1674) <u>Discussant:</u> Mohamad Fazli Sabri (Universiti Putra Malaysia) Ruo Jia (Peking University) and Jieyu Lin (Lingnan University), <i>Risk Microstructure, Risk-Prediction Technology, and Insurance</i> (#1718) <u>Discussant:</u> Jonathan Gano-an (University of Southeastern Philippines)

Concurrent Session 4 (Wednesday, 31 July, 09:00-10:30)

4A – Life Insurance and Health
Session Chair: Mu-Sheng “Shane” Chang (California State University, Northridge)
Venue: Plaza II (2nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Jiachang Liu (Central University of Finance and Economics), <i>The Impact of Long-Term Low Interest Rates on Small and Medium-Sized Life Insurance Companies in China</i> (#1687) <u>Discussant:</u> Haotian Zhang (Peking University) • Qianlong Liu (Lingnan University), <i>Organizational Forms, Intragroup Transfer, and Risk Taking</i> (#1746) <u>Discussant:</u> Jiachang Liu (Central University of Finance and Economics) • Wei Huang, Haotian Zhang, and Wei Zheng (all: Peking University), <i>Migration Incentives and Elderly Health: Evidence from the Hukou Reforms in China</i> (#1689) <u>Discussant:</u> Qianlong Liu (Lingnan University)

4B – Flood Insurance and Humanitarian Assistance
Session Chair: Sankarshan Basu (Indian Institute of Management Bangalore)
Venue: Plaza III (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Selim Manakī (University of Clermont Auvergne), <i>Is the Lack of Deterrence Undermining Mandatory Investment in Flood Risk Mitigation?</i> (#1767) <u>Discussant:</u> Yu Lei (Central University of Finance and Economics) • Mirko Kraft (Coburg University of Applied Sciences and Arts), <i>Improving Financial Literacy to Close the Insurance Protection Gap</i> (#1735) <u>Discussant:</u> Selim Manakī (University of Clermont Auvergne) • Yu Lei (Central University of Finance and Economics), <i>The Utilization of Insurance Ideas in Humanitarian Assistance: Based on the Coordination of Humanitarian Assistance by UN</i> (#1696) <u>Discussant:</u> Mirko Kraft (Coburg University of Applied Sciences and Arts)

4C – Geopolitical and Economic Risks
Session Chair: W. Jean Kwon (St. John’s University)
Venue: Plaza Hall (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Soyoung Lim (Waseda University), Phouphet Kyophilavong (National University of Laos), Pabitra Kumar Jena (Shri Mata Vaishno Devi University), and Phongsili Soukchalern (National University of Laos), <i>Insurance Development, Global Economic Policy Uncertainty, and Geopolitical Risk: The Asymmetric Relationship Evidence from ASEAN-5</i> (#1742) <u>Discussant:</u> Yeru Xie (Tongji University) • Eunseon Kim, Hongjoo Jung, Sihyoung Jang, and Yunjin Oh (all: Sungkyunkwan University), <i>Determinants of Job security and risk in Korea: Focusing on research and development expenses, sales, and total capital investment efficiency</i> (#1725) <u>Discussant:</u> Soyoung Lim (Waseda University) • Yeru Xie and Haiyan Wang (both: Tongji University), <i>Comparative Research on Sovereign Credit Rating Systems</i> (#1740) <u>Discussant:</u> Yunjin Oh (Sungkyunkwan University)

4D – Insurance and Risk Management
Session Chair: Gene C. Lai (University of North Carolina, Charlotte)
Venue: May Hall (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Mahito Okura (Doshisha Women's College of Liberal Arts), <i>How does the risk management affect demand information sharing under Cournot competition in regret theory?</i> (#1701) <u>Discussant:</u> Guo Xiaoqing (Central University of Finance and Economics) • Huabin Bian (Fudan University), Fei Jin (Shanghai University of Finance and Economics), and Fang Su (Shanghai University of Finance and Economics), <i>Reputation and Insurance Company Performance: A Study Based on Social Media Text Data</i> (#1724) <u>Discussant:</u> Xinli Liu (Peking University) • Guo Xiaoqing and Li Xiaolin (Central University of Finance and Economics), <i>Risk-perception Decisions in Insurance Companies: Competition, Regulatory Penalties, and Financial Performance</i> (#1721) <u>Discussant:</u> Fei Jin (Shanghai University of Finance and Economics)

Concurrent Session 5 (Wednesday, 31 July, 11:00-12:30)

5A – Pensions and Lifecycle Optimization
Session Chair: Péter Vékás (Corvinus University of Budapest)
Venue: Plaza II (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Hongmu Lee (Waseda University), <i>International Migrant Working and Public Pension Benefits -- Focusing on U.S.-Japan cases</i> (#1707) • Seungryul Ma (Sangmyung University), <i>A Model to Support the Young Generation Through the Combination of Mortgage Finance and Policy Pension Program</i> (#1682) <u>Discussant:</u> Ning Wang (Australian National University) • Hazel Bateman, Katja Hanewald, Tin Long Ho, and Hanlin Lou (UNSW Sydney), <i>Demand for Reverse Mortgages: Behavioral Explanations</i> (#1692) <u>Discussant:</u> Seungryul Ma (Sangmyung University) • Ning Wang (Australian National University) and Tak Kuen Siu (Macquarie University), <i>Investment-consumption Optimization with Transaction Cost and Learning about Return Predictability</i> (#1675) <u>Discussant:</u> Katja Hanewald (UNSW Sydney)

5B – Agricultural Insurance
Session Chair: Fang Su (Shanghai University of Finance and Economics)
Venue: Plaza III (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> • Tengjun Chen, Yuxiang Sun, and Fang Su (all: Shanghai University of Finance and Economics), <i>Is Revenue Insurance a Better Choice in the Breeding Industry? Welfare Analysis from the Hog Market in China</i> (#1704) <u>Discussant:</u> Yuxin Wen (Peking University) • Xudong Rao (Texas A&M University), Qingyin Cai (University of Minnesota), and Yuehua Zhang (Zhejiang University), <i>Moral Hazard in Agricultural Insurance – Evidence from A Non-Voluntary Sow Insurance Program in China</i> (#1699) <u>Discussant:</u> Chen Tengjun (Shanghai University of Finance and Economics) • Xinli Liu and Yuxin Wen (Peking University), <i>Risk Perception Bias and Weather Index Insurance Demand: Evidence from a Survey of Coffee Farmers in Yunnan, China</i> (#1745)

<u>Discussant:</u> Yuehua Zhang (Zhejiang University)

5C – Health Insurance
Session Chair: Subir Sen (Indian Institute of Technology Roorkee)
Venue: Plaza Hall (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> Shashi Kant Sharma and Subir Sen (Indian Institute of Technology Roorkee), <i>The Flagship Health Insurance Scheme under Pradhan Mantri Jan Arogya Yojana (PMJAY): An assessment of impact in selected district of Bihar, India</i> (#1737) <u>Discussant:</u> Ying Chen (Zhejiang University of Finance and Economics) Mingfei Jiang, Baozhen Dai, Heying Sun, and Tong Lu (all: Southeast University), <i>Dynamic evolution and comparative analysis of the fairness level of China's rural medical security system in 2009-2021</i> (#1680) <u>Discussant:</u> Shashi Kant Sharma (Indian Institute of Technology Roorkee) Ying Chen (Zhejiang University of Finance and Economics) and Guiqin Zhao (Shanghai University of Finance and Economics), <i>Towards Shared Prosperity: The Income Redistribution Effects of Multi-level Medical Security</i> (#1685) <u>Discussant:</u> Mingfei Jiang (Southeast University)

5D – Insurance and Risk Management
Session Chair: Mirko Kraft (Coburg University of Applied Sciences and Arts)
Venue: May Hall (2 nd floor, Lao Plaza Hotel)
<ul style="list-style-type: none"> David Russell (California State University, Northridge), Jiun-Lin Chen (Valparaiso University), and Mu-Sheng “Shane” Chang (California State University, Northridge), <i>International Perspective: Exploring the connection between captive insurance and corporate cash flow: Evidence from S&P Global 100 Companies</i> (1736) <u>Discussant:</u> Thomas Berger (DHBW Stuttgart) Sangyong Han (Korea Institute of Finance), Kwangmin Jung (POSTECH), and Jongbin Yoon (POSTECH), <i>Corporate ESG performance and business efficiency: Evidence from the Korean insurance industry</i> (1722) <u>Discussant:</u> Mu-Sheng “Shane” Chang (California State University, Northridge) Niels Olaf Angermüller (Harz University) and Thomas Berger (DHBW Stuttgart), <i>Human Resource Risks: Evidence from Annual Reports from the European Union, India and the U.S.</i> (#1723) <u>Discussant:</u> Jongbin Yoon (POSTECH)

Plenary Session Moderators and Speakers

1. Plenary session 1 (July 29, Monday: 10:30-12:00)

Session Title: Changing World and Future

Moderator: ZHENG, Wei (Peking University, China)



Wei Zheng is Lloyd's Chair Professor and the Chairperson of the Department of Risk Management and Insurance at the School of Economics, Peking University. He obtained his Bachelor, Master, and Ph.D. degrees in Economics from the Peking University in 1995, 1998 and 2003, respectively. His expertise lies in the insurance and social security. He has published over 90 papers in the academic journals. He serves as Director of China Center for Insurance and Social Security Research (CCISSR) at the Peking University, and Vice President of Asia-Pacific Risk and Insurance Association (APRIA). He is a member of the Board of Directors of China Insurance Society, and of the Board of Directors of China Association of Social Security. He won the Shin Research Excellence Award from the International Insurance Society and the Geneva Association in 2008.

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Speaker 1: KYOPHILAVONG, Phouphet (National University of Laos)

Title: Does Insurance Sector Development Reduce the Carbon Dioxide (CO₂) Emission?
The Evidence from ASEAN and OECD



Phouphet Kyophilavong is a Professor at the Faculty of Economics and Business Management at the National University of Laos and Vice President of the National University of Laos. He received his bachelor's and master's in civil engineering from Osaka University and received PhD in economics from Kobe University in 2003. He has researched several topics, including SMEs, macroeconomic management, economic integration, etc. He has published over 80 papers in academic journals, such as the International Review of Economics & Finance, Economic Modelling, and others. He has directed numerous research projects and works closely with government agencies in Laos and international organizations such as ERIA, OECD, Asian Development Bank, World Bank, etc. He has been a visiting scholar at Nagoya University, University of Laval, Kobe University, and Nanyang Technological University, as well as a Fulbright U.S.-ASEAN Visiting Scholar at Harvard University. He is also the Editor-in-Chief of Lao Journal of Economics and Management.

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Abstract: This study aims to study the asymmetric impacts of insurance sector development on CO₂ emissions of ASEAN and OECD from 1990 to 2020. We used the linear panel Autoregressive Distributed Lag (ARDL) approach (Pesaran et al., 1996; 2001) and the asymmetric panel Autoregressive Distributed Lag (NARDL) approach (Shin et al., 2014). The results from the asymmetric panel ARDL showed that positive shocks in the total insurance, life insurance, and none-life insurance increase the CO₂ emission in ASEAN but decline CO₂ emission in OECD. More interestingly, the adverse shocks of total insurance increase the CO₂ emission in ASEAN but have no significant impact on OECD. The negative shock of life insurance increases CO₂ emission in OECD but has no significant impact on ASEAN. The results show that the impact of insurance development on CO₂ emission is region-specific and different in ASEAN and OECD.

Keywords: Asymmetry, Insurance sector development, Carbon emissions, ASEAN, and OECD

Speaker 2: Woo, Wing Thye (United Nations Sustainable Development Solutions Network)

Title: The Shift in the Risk Structure in the New International Normal of Climate Change and Multipolar World



Wing Thye is Vice-President for Asia at United Nations Sustainable Development Solutions Network (SDSN), an international nonprofit organization working to achieve the 17 Sustainable Development Goals (SDGs) and the Paris Climate Treaty through regional offices in New York City, Paris, and Kuala Lumpur. Wing is also Distinguished Professor Emeritus at University of California Davis; Distinguished Fellow at Penang Institute; Research Professor at Sunway University (which hosts the Asia Headquarters of SDSN); and Visiting Professor at University of Chinese Academy of Social Sciences, University of Malaya, and Fudan University. His current research is on design of efficient, equitable pathways to achieving the Sustainable Development Goals with projects on Green Finance, Middle Income Trap, Decarbonization Pathways, and Global Economic Architecture for the Multi-Polar World. He is an expert on the economies of China, Indonesia, and Malaysia.

Wing was born in 1954 in George Town, Malaysia, and a member of the 2nd Georgetown (S) Senior Scout Troop. He graduated from Swarthmore College in 1976 with a B.A. (High Honors) in Economics and a B.S. in Engineering; Yale in 1978 with an M.A. in Economics; and Harvard in 1982 with an M.A. and a Ph.D. in Economics.

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Speaker 3: LEE, Hyuk-Jae (Seoul National University, Korea)

Title: Innovation in Artificial Intelligence Technology and its Impact on the future



Professor Hyuk-Jae Lee is the Director of Graduate School of Artificial Intelligence (AI) Semiconductor and the Director of Inter-university Semiconductor Research Center at Seoul National University. From 2019 to 2023, he served as the Head of Department of Electrical and Computer Engineering at Seoul National University where he joined in 2002. Dr. Lee also served in 2023 as the President of IEIE (The Institute of Electronics and Information Engineer), the oldest (since 1946) and largest (38,000 members) academic society in information technology in Korea. He has been a member of Korean National Academy of Engineering from 2023. He writes regular columns for two Korean newspapers on the direction for R&D in the semiconductor industry. Before joining Seoul National University, he served on the faculty of the Department of Computer Science at Louisiana Tech University in Ruston, LS, USA from 1996 to 1998. Following this, from 1998 to 2001, he held the position of Senior Component Design Engineer with the Server and Workstation Chipset Division at Intel Corporation in Hillsboro, OR, USA. In 2002, he founded Mamurian Design, Inc., Seoul, a fabless SoC design house specializing in multimedia application.

His research interests primarily center on computer architecture and SoC (System-on-Chip) design tailored for AI (Artificial Intelligence) applications. He published more than 120 globally acknowledge journal papers and 100 international conferences. He served as the General Chair of IEEE International Conference on Circuits and Systems for Artificial Intelligence in 2022 and also served as a committee member of a number of international conferences. Dr. Lee is a keynote speaker at IEEE International Conference on Consumer Electronics in 2024 and also at IEEE International Symposium on Consumer Technology in 2024 while he was also invited to present his research in a number of conferences.

Dr. Lee earned his B.S. and M.S. degrees in electronics engineering from Seoul National University in 1987 and 1989, respectively. Subsequently, he pursued a Ph.D. degree in electrical and computer engineering at Purdue University in West Lafayette, IN, USA, successfully completing it in 1996.

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Abstract: The release of ChatGPT in November 2022 opened new possibilities in the field of artificial intelligence. Not only can it engage in natural conversations with people, but it can also provide content in text, image, video, and music formats. Furthermore, by offering expert-level services in specific domains, it is now possible to provide consultations in medicine, law, financial investment, and more. However, such generative AI models come with limitations. The use of large and complex AI models results in significant power consumption and costs for service provision. Consequently, while companies like NVIDIA, which manufacture computers and semiconductors that handle these AI models, generate substantial profits, AI service providers are currently facing massive investments without immediate and sufficient returns. If AI service companies fail to achieve a return on investment, the cost of AI services may become prohibitively high. Should the cost outweigh the satisfaction derived, the spread of AI services could be limited. Therefore, to facilitate the widespread adoption of AI services, it is necessary to reduce costs through advancements in computer and semiconductor technology. Recent developments in AI semiconductor, including new process technology, packaging technology, and processor-memory fusion technology, are enabling faster processing of AI models. These technological advancements are making on-device AI technology, such as that in smartphones, feasible, and it is expected that a wider variety of AI services will be executable on devices like smartphones in the future. As a result, consumers can look forward to enjoying diverse on-device AI services with only a limited increase in cost burden.

2. Plenary session 2 (July 30, Tuesday: 11:00-12:30)

Session Title: ASEAN RMI: Risk, Policy, Practice and Education

Moderator: JUNG, Hongjoo (Sungkyunkwan University, Republic of Korea)



Hongjoo JUNG is a full professor of the Sungkyukwan University (Seoul, Republic of Korea) where he has taught Risk Management, Foreign Trade Risk Management, Global Sustainable Management since 1991, while doing research on Financial Consumer Protection and Social Security system as well. He has served as the president of Korean Academy of Financial Consumers (2010-12), chairperson of International Academy of Financial Consumers (2015-2019), Korean Academy of Insurance (2019-20), president of Asia Pacific Risk and Insurance Association (2023-24). Hongjoo has published more than 50 articles in Korean Journal of Insurance, Korean Social Security Studies, Korea Risk Management Journal, Journal of Korea Trade, Geneva Papers on Risk and Insurance, International Trade, Politics and Development, Financial Consumer, Journal of Financial Consumers, International Review of Financial Consumers. He has been awarded by several academic societies in addition to the Fulbright foundation (US, 2012-13), Global Insurtech Award (China, 2021), etc. He received a BA (SNU, Korea), a MS (NYU, USA), and a Ph.D (Wharton, USA).

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Speaker 1: LO, Edmond (Nanyang Technological University, Singapore)

Title: Quantitative Risk Assessment for ASEAN - ASEAN Disaster Risk Financing and Insurance Phase 2 (ADRFI-2) Initiative



Associate Professor Edmond Lo obtained his Ph.D. degree in Civil Engineering (Hydrodynamics) from the Massachusetts Institute of Technology in 1985, and his Master of Science and Bachelor of Science degrees in Mechanical Engineering from the California Institute of Technology in 1980. He joined NTU in 1996 where he was Head of the Division of Environmental and Water Resources Engineering (2005-08) and Chair of the School of Civil and Environmental Engineering (2008-2011). He was also Assistant, then Co-Director of the Singapore-Stanford Partnership Program (2003-2012). He is the former Deputy Director and current Director of the Institute of Catastrophe Risk Management (ICRM) at NTU. Associate Professor Lo's current research programs are aimed at understanding urban water flows as related urban flooding risk potential. His was either Principal Investigator (PI) or co-PI on a water management system for Marina Bay, a flood risk simulation model for Jakarta, Indonesia, and various studies on flood risk for S.E. Asian cities with a particular view of how flood resiliency evolves as cities develop under the influence of urbanization and climate change. Related to the latter, he is co-leading ICRM's efforts in the CREATE Future Resilient Systems program, a multi-university effort led by ETH Zurich. He is also co-PI in ICRM's earlier flagship project, Natural Catastrophe and Data Analysis Exchange project, and current flagship project, ASEAN Disaster Resilience Financing and Insurance Phase 2 project. Both assessed natural catastrophe risks across Southeast Asia, including the development of high-resolution gridded exposure and loss maps that support risk assessment and disaster financial preparedness.

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Abstract: Globally there are continuing large increases in human and economic losses due to natural catastrophic (NatCat) events. This increase is driven by urbanization, globalization and climatic change. In Asia, where risk awareness is low and risks are high, the situation is further exacerbated by large increases in exposures. This talk will summarize the Quantitative Risk Assessment undertaken by ICRM for S.E. Asian countries under the ASEAN Disaster Risk Financing and Insurance Phase 2 (ADRFI-2) Initiative. Common perils of earthquakes, floods and tropical cyclones are covered with multi-peril loss metrics developed for each ASEAN country with a focus on reconstruction cost. ADRFI-2 aims to strengthen the financial resiliency of ASEAN countries when NatCat disasters strike, equipping countries with risk management and risk transfer capabilities that will enable them to better manage the resulting financial burdens. In particular, the risk data and risk metrics developed allow countries to quantitatively assess their financial preparedness relative to their risk appetite, and to assess efficacy of risk transfer options. The results further underpin evaluations on risk pooling across countries for more cost-effective risk transfer.

Speaker 2: THÚY, Nguyễn Thị Hồng (Vietnam National University – UEB, Viet Nam)

Title: Corporate Governance and Risk Management in Viet Nam



Associate professor THÚY holds an MSc in International Accounting from the Swinburne University of Technology (Australia) and a Ph.D. in Accounting from the National Economics University (Vietnam), and a professional certificate in CMA (Australia).

She has received research grants from several governmental agencies such as the Ministry of Education and Training (Vietnam), the Ministry of Science and Technology, the international fund (Aus4Vietnam), and Vietnam National University. She was selected to receive a Management Accounting Hall of Fame award from the Institute of Certificate Management Accountants (Australia) for outstanding contribution and lifetime of achievement.

Currently, she is working as Dean of Accounting and Auditing Faculty – at VNU University of Economics and business, delivering undergraduate and graduate courses in accounting and auditing, and risk management, and also spent many years as a consultant for corporations and companies in Vietnam in accounting, auditing, taxation and finance, risk management.

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Speaker 3: CHAIYAWAT, Thitivadee (Chulalongkorn University, Thailand)

Title: Risk Management practice and Education in Thailand



Thitivadee Chaiyawat, Ph.D. is an Associate Professor at Chulalongkorn Business School, Chulalongkorn University. Thitivadee currently teaches Enterprise Risk Management and Operational Risk Management. Her book and research projects are related to Risk and Risk Management in Insurance. Her specific research interest areas are financial economics in insurance, insurance regulation, and insurance solvency. Thitivadee serves on the Risk-Based Capital Committee and Insurance Development Plan Committee for the Office of Insurance Commission. She also serves as Chair on the Risk Management Committee and Board of Directors for SOVANNAPHUM LIFE ASSURANCE PLC. in Cambodia. In addition, she serves on the Board of Directors for ST – Muang Thai Insurance Co, Ltd. in Laos and on the Audit and Compliance Committee for MB Ageas in Vietnam.

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Abstract: The Thai insurance industry operates under the watchful eye of the Office of Insurance Commission (OIC), established in 2007 by the Insurance Commission Act. The OIC's regulatory approach reflects a balance between aligning with international best practices, as set forth by organizations like the International Association of Insurance Supervisors, and adapting to the unique dynamics of the Thai market. This is evident in the core legislation governing the industry: the Life Insurance Act of 1992 (amended in 2008) and the Non-life Insurance Act of 1992 (also amended in 2008). The OIC's regulatory and supervisory framework casts a wide net, encompassing critical areas such as Enterprise Risk Management, Own Risk and Solvency Assessment, Risk-Based Capital adequacy requirements, Early Warning Systems for financial distress, investment guidelines, intermediary oversight, and business conduct regulation.

Before the COVID-19 pandemic, the Thai insurance industry primarily grappled with strategic and operational risks. However, the pandemic introduced a new layer of complexity, and in some cases, exposed the industry's vulnerability to moral hazard risk, as evidenced by the surge in COVID-19 insurance claims. This, in turn, amplified existing liquidity and insolvency risks, pushing liabilities significantly beyond asset levels for some companies. As a result, some insurers did become insolvent and lost their licenses to operate.

Looking ahead, the post-pandemic landscape presents a complex and evolving risk landscape for Thai insurers. Climate change-related risks, data protection concerns arising from the Personal Data Protection Act, the need for robust governance and risk culture in a rapidly changing business environment all demand attention, the potential for new disease outbreaks and medical cost inflation, and the pressure for product innovation and increasing medical claims due to an aging population. Specifically, Thailand's aging population presents a two-pronged challenge: a surge in health insurance claims driven by age-related health issues and a growing need for innovative insurance products tailored to the evolving needs of this demographic. This necessitates a proactive approach from insurers, focusing on both effective risk management and the development of products that address the specific health and financial security concerns of an aging population. Furthermore, market disruptions driven by digital transformation, along with the complexities of mergers and acquisitions, add further layers of risk that insurers must navigate. To meet these challenges head-on, Thailand's insurance education system plays a vital role. Undergraduate programs offer majors in actuarial science and insurance, while graduate-level specializations in life actuarial science, non-life actuarial science, and risk management equip future industry leaders with the tools and knowledge to navigate this complex and evolving risk landscape.

3. Plenary session 3 (July 30, Tuesday: 16:00-17:30)

Session Title: RMI in Asia-Pacific Region

Moderator: OKURA, Mahito (Doshisha Women's College of Liberal Arts, Japan)



Mahito Okura graduated from the Graduate School of Business Administration, Kobe University and obtained Ph.D. in 2001. His career began in 2002 at the Faculty of Economics, Nagasaki University. Since 2015, He has been teaching at the Department of Social System Studies, Doshisha Women's College of Liberal Arts. He is an Immediate Past-President of the Asia-Pacific Risk and Insurance Association (APRIA) and a board member of the Japanese Society of Insurance Science (JSIS). He specializes in insurance economics. Recently, he is mainly interested in the studies of regret theory. He publishes numerous papers as well as six papers have appeared in Asia-Pacific Journal of Risk and Insurance. He has received Outstanding Paper Award from APRIA in 2003 and Best Japanese Insurance Paper Award from JSIS in 2013.

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Speaker 1: LAI, Gene (University of North Carolina at Charlotte, USA)

Title: Risk Management in the US



Gene C. Lai is Professor and James J. Harris Chair in Risk Management and Insurance of the Department of Finance at University of North Carolina at Charlotte. His publications have appeared in *The Journal of Risk and Insurance* (15) and the *Journal of Banking and Finance*, among others. Dr. Lai has won numerous “best paper” awards. Professor Lai served as Chair of the Department of Finance and Insurance and Associate Dean at the University of Rhode Island. He was Co-Editor of *Risk Management and Insurance Review* and *Journal of Insurance Issues*. He was Associate Editor for many journals, including *The Journal of Risk and Insurance*, which is the top journal in the risk management and insurance area. Professor Lai is Past President of the American Risk and Insurance Association, Past President of the Asia-Pacific Risk and Insurance Association, and Past President of the Western Risk and Insurance Association.

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Abstract: This paper investigates risk-taking decisions and risk management strategies from the enterprise risk management perspective in a firm performance framework. The evidence from U.S. property-liability insurers shows that risk-taking decisions (leverage, underwriting, and investment risks) and risk management strategies (derivatives usage and reinsurance) are jointly determined. Additionally, we find that leverage, underwriting, and investment risks are positively correlated among themselves, and insurers use reinsurance to hedge underwriting risk while they use derivatives to hedge investment risk. We also provide evidence that insurers tend to react to changes in their risk profile by modifying the design of CEO compensation. Taken together, our results suggest that insurers use an enterprise risk management approach instead of a silo approach and utilize CEO compensation as a mechanism. Furthermore, we find that derivatives hedging is positively associated with firm performance and the positive relationship is strengthened with greater leverage and during the financial crisis in 2008-2009. Finally, our evidence on the negative relationship between derivatives usage and reinsurance supports the substitution hypothesis.

Keywords: Derivatives Hedging; Firm Performance; Risk Management Strategies

Speaker 2: SABRI, Mohamad Fazli Bin (Universiti Putra Malaysia, Malaysia)

Title: Islamic Finance and Insurance in Malaysia?



Mohamad Fazli Sabri, a professor of personal financial planning, is a leading figure in consumer finance. He is the Dean of the Faculty of Human Ecology at Universiti Putra Malaysia. Fazli's professional qualifications include being a Certified Financial Planner (CFP) from the Financial Planning Association of Malaysia and a Shariah Registered Financial Planner (SRFP) from the Malaysian Financial Planning Council. He holds key positions in various international organizations, including Board Member of the International Academy of Financial Consumers (IAFICO) and Vice President of the Asian Association for Consumer Interests and Marketing (AACIM). He is a Visiting Professor at the Faculty of Human Ecology, Bogor Agricultural Institute, and the Institute of Social Sciences and Management (STIAM), Indonesia. In the industry, Fazli was appointed the Vice President (Research & Publication) of the Malaysian Financial Planning Council (MFPC) from 2017-2025. He is currently Editor-in-Chief of the Journal of Wealth Management and Financial Planning.

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Abstract: This study examines the Islamic finance and Takaful insurance practices in Malaysia and how they contribute to the country's economic development. Islamic finance, with its foundation on several fundamental principles, ensures its operations comply with Sharia law, creating a financial system that is not only fair and ethical but also sustainable, fostering social welfare and economic progress. In Malaysia, Islamic finance and Takaful insurance have become important parts of the nation's financial system. Islamic finance provides several functions, namely advancing entrepreneurship and innovation, ethical investing, financial inclusion and stability, and savings and investment mobilization. Takaful insurance operates on the principle of mutual assistance and involves risk-sharing among the participants. Islamic finance and Takaful have shown to be resilient and adaptive, providing ethical financial solutions that meet the demands of Muslims and non-Muslims in Malaysia. The global expansion and development of Islamic finance are anticipated to continue, offering a promising future as the demand for morally and socially conscious financial goods rises. This study also discusses the issues, challenges, and ways forward for Islamic finance and Takaful.

Speaker 3-1: KANG, Younggoo (President, Korea Fire Protection Association, Korea) & CHOI, Seungho (KFPA)

Title: Risk Management Platform ‘KFPA Bridge’ in Korea



Younggoo Kang is Chairman & CEO of the Korean Fire Protection Association. He earned a master's degree in economics from Vanderbilt University and a master's degree in business administration from Sungkyunkwan University.

He is an insurance expert who has served in many leadership positions within the field including Deputy Governor & Head of Insurance Supervision Division of the Financial Supervisory Service, Chairman & CEO of the Korea Insurance Development Institute, and President & CEMO of Meritz Fire & Marine Insurance Co., Ltd. E-mail: ygkang@kfpa.or.kr

Speaker 3-2: Seung-ho Choi

Title: Risk Management Platform ‘KFPA Bridge’ in Korea

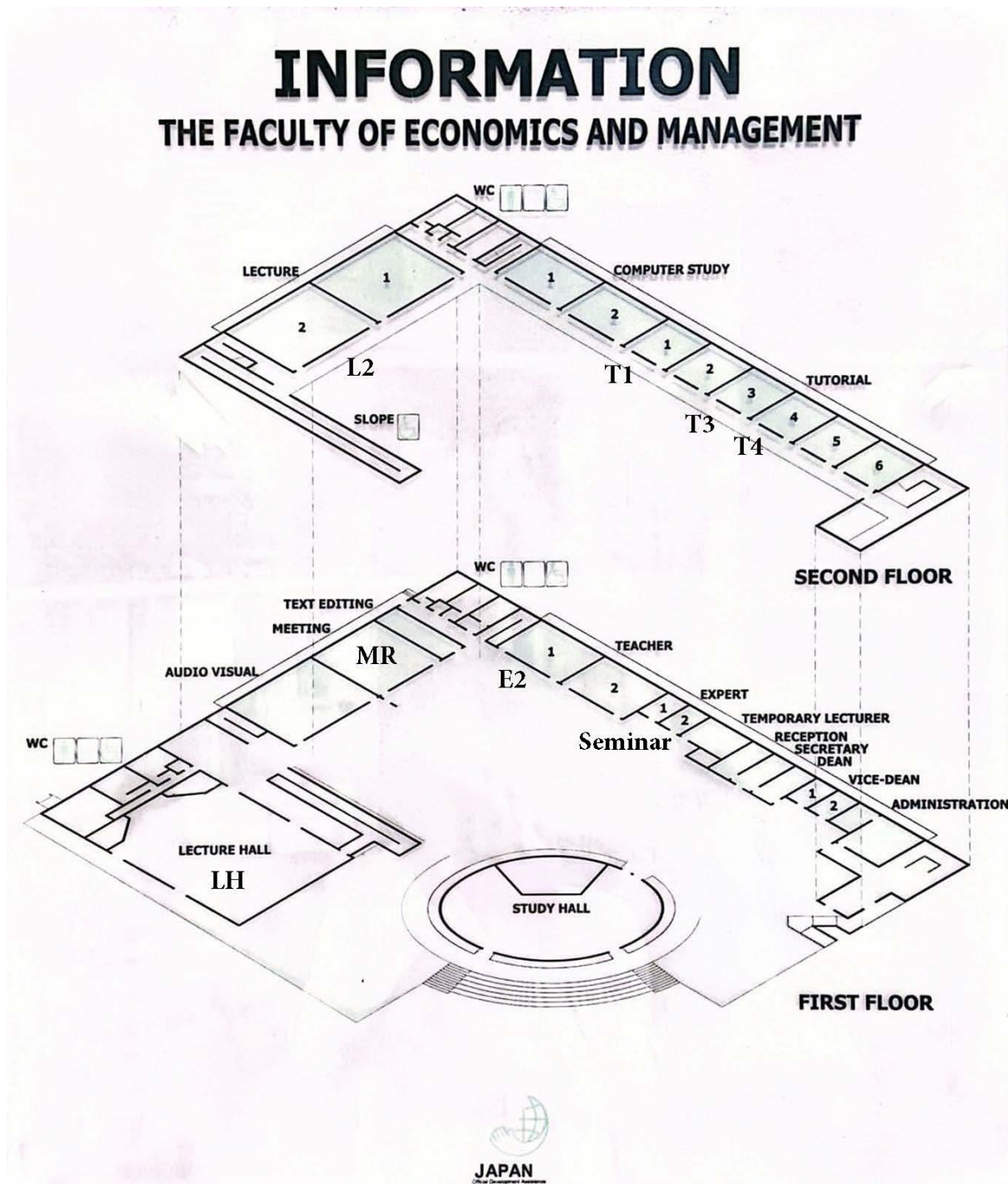


Seung-ho Choi earned a master's degree in fire protection Engineering from the Worcester Polytechnic Institute and a doctor of engineering in energy system from the Seoul National University of Science and Technology.

He is a risk management expert who has worked for the Korea Fire Insurance Association for about 20 years and has performed risk management consulting, risk analysis, and risk prediction model development. He has planned a risk management platform, BRIDGE, and integrates and upgrades various insurance-related risk management data. He is engaged in various risk management fields, including the Korea Fire Safety Impact Assessment Committee, the Performance-based Fire Design Assessment Committee, and the US NFPA technical committee. E-mail. shchoi@kfpa.or.kr

Abstract: The Korean Fire Protection Association (KFPA) is a professional risk management organization that has conducted safety inspections on specific buildings for more than 50 years as required by Korean law. These inspections form the basis of the KFPA's risk management, which is crucial not only for accident prevention but also for determining insurance rates in the Korean Market. At the heart of the KFPA's risk management efforts is its data-driven platform, KFPA Bridge. This platform integrates a wide array of data sources, including safety inspection records, data on all buildings in Korea, public data, accident reports, and insurance information. The predictive model within KFPA BRIDGE analyzes these data sets to assess risks and provide essential risk management information related to fire, natural disasters, and emerging risks. This information supports risk management for insurance companies and specific buildings in Korea. Through cooperation with the insurance industry and risk management institutions, the KFPA is enhancing AI-driven risk management services and expanding big data capabilities in the domestic insurance market. Additionally, the KFPA BRIDGE ecosystem is pivotal in fostering a scientific, rate-based insurance market in Korea, thereby contributing to the industry's growth and resilience.

2024 Conference Venue and Map



APJRI Call for Papers

CALL FOR PAPERS Asia-Pacific Journal of Risk and Insurance (APJRI)

APJRI welcomes original high-quality papers that address theoretical or applied problems in broad environments affecting risk management and insurance. The journal also welcomes in-depth (cross) country studies as well as investigative reports covering closely related problems surrounding the insurance and risk mechanism.

Manuscripts must not have been published nor submitted concurrently for review by another journal. Each manuscript is subject to double-blind peer review. Refer to the following link for [submission](#) and [writing style guidelines](#):

<http://www.degruyter.com/view/j/apjri>.

Submission is free for current APRIA members. Successful authors will be required to submit the final version of their paper in MS Word and to assign copyright to the journal publisher. All printed papers of the current publishing year are eligible for the **Best APJRI Paper Award** for recognition at the APRIA conference in the following year.

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W. Jean Kwon, Editor
Professor, The Greenberg School of Risk Management, St. John's University
KwonW@stjohns.edu

Future APRIA Conferences

Summer 2025, The World Risk and Insurance Economics Congress

2024 Conference Travel Information

How to get to LAO PDR?

Wattay International Airport (VTE) is located in the south VTE Laos. There are many direct flights to VTE from many major cities in Asia.

URL: <https://www.vientianeairport.com/>

Map URL: <https://maps.app.goo.gl/1kqEtueFPhP647zJ6>

How to get from the airport to the city (“Lao Plaza Hotel”)?

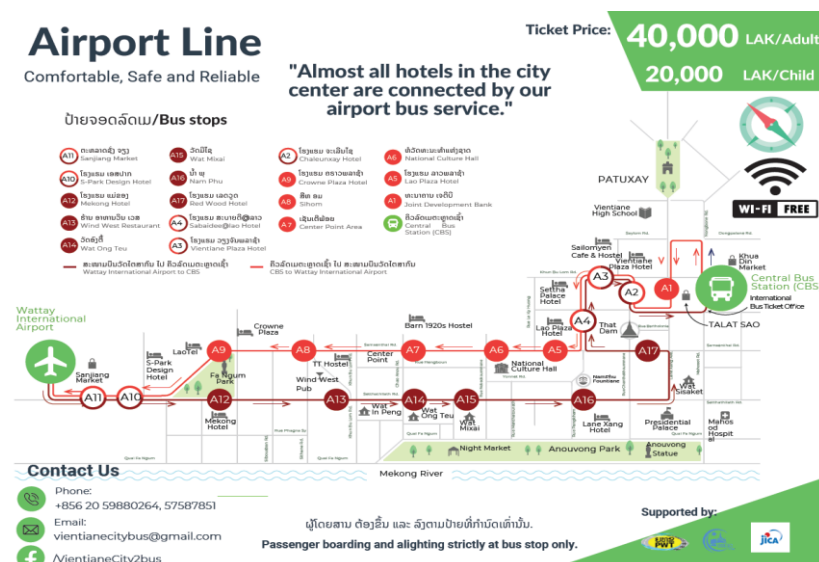
A shuttle bus service operates between Vientiane Wattay airport and the Central Bus Station with stops at several hotels in the city center. One-way fare is 40,000 kip.

(Map: <https://www.vientianeairport.com/wp-content/uploads/2023/08/Airport-Line-20230823.png>)

Public taxi and minibus services are available at the domestic and international terminals. At both terminals the taxi counter is located near the arrivals exit.

Taxi rate to the center of Vientiane is US\$7 or 57,000 kip for a sedan car and US\$8 or 66,000 kip for a van.

Buy a taxi coupon from the Airport Taxi counter before leaving the airport. (price might change depend on travel distance)



ຕາຕະລາງບໍລິການລົດເມ ສາຍສະໜາມບິນ Bus Timetable for Airport Line

Route No. 44

ຂາໄປ/Outbound		ຂາກັບ/Inbound	
ຈາກສະໜາມບິນ Central Bus Station (CBS)		ຈາກສະໜາມບິນ Airport	
ສະໜາມບິນ Central Bus Station (CBS)	ສະໜາມບິນ Airport	ສະໜາມບິນ Airport	ສະໜາມບິນ Central Bus Station (CBS)
1	07:30	1	08:15
2	08:00	2	08:45
3	08:30	3	09:15
4	09:00	4	09:45
5	09:30	5	10:15
6	10:00	6	10:45
7	10:30	7	11:15
8	11:00	8	11:45
9	11:30	9	12:15
10	12:00	10	12:45
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23	18:30	23	19:15
24	19:00	24	19:45
25	19:30	25	20:15
26	20:00	26	20:45
27	20:30	27	21:15
28	21:00	28	21:45
29	21:30	29	22:15
30	22:00	30	22:45



Note: Bus real time location and timetable are on the QR code in the picture
For more information, please go to these websites:
<https://www.vientianeairport.com/transportation/>
<https://www.laos-guide-999.com/vientiane-airport-transfer.html>

Accommodation

There are many hotels in Vientiane City, which are located near the venue (approximately 30-40 minutes by Taxi depends on traffic). You can search your suitable hotels and make your booking directly via the following website. Early bookings are strongly suggested.

Agoda: <https://shorturl.at/LhO2v>
Booking: <https://shorturl.at/hfL91>
Trip: <https://shorturl.at/1OHSY>

Note: The main hotel is Lao Plaza Hotel, please find the hotel near Lao Plaza Hotel (In case the hotel is full)

How to go from the Hotel to FEB, NUoL?

1. By Bus:

The organizer will provide a bus for participants at the **Lao Plaza Hotel**.

Please find the bus with sign “APRIA2024”

Depart from Hotel: 8:00 am on 29th and 30th July.

Urgent Contact:

Miss: Ms. Angie Bounthivong, Phone/WhatsApp: +856 20 59 957 149

Miss: Mr. Chavaleuth Chompupant, Phone/WhatsApp: +856 20 52 282 982

2. Or by Taxi App:

Loca: <https://rb.gy/zmly1o>



Xanh SM Laos: <https://www.xanhsm.com/laos/en/homepage/>



VISA information

Please see the following website for searching Visa-free countries in Laos (Ministry of Foreign Affairs in Laos)

URL: <https://www.laoevisa.gov.la/index>

If you have any doubts, suggestions, complaints or need any type of information, feel free to contact: support@laoevisa.gov.la

Invitation letter

If you need to get the invitation letter (for example, applying for the Visa), please contact:

Dr. Visansack Khamphengvong, Phone/WhatsApp: +856 20 54 245 653

Email: visansack_kp@yahoo.com

2024 Conference Gala Dinner

(29 th July 2024, Monday 18:00-21:00, Grand Ball Room, Lao Plaza Hotel)	
Time	Programs
18:00-18:30	Register
18:30-18:40	Welcome speech by Prof. Hongjoo JUNG (President, Asia-Pacific Risk and Insurance Association)
18:40-18:50	Welcome speech by Assoc. Prof. Dr. Dexanourath SENEDUANGDETH (President, National University of Laos)
18:50-19:10	Token award to executive committee and plenary (VIP members)
19:10-21:00	Dinner and Lao's Dance performance from FEB students

Lao's Dance Performance Programs
<p>1. ຝ້ອນອວຍພອນ (Fon Ouy Phon)</p> <p>A traditional Lao dance performed to convey good wishes and blessings. It is often seen at celebrations and ceremonies to express joy and bestow good fortune on attendees.</p>
<p>2. ທ່ອງທ່ຽວແດນຈຳປາ (Thongthiao Daen Champa)</p> <p>Refers to tourism in Champasak province, known for its cultural heritage, ancient temples, and natural beauty. It's a popular destination for travelers seeking a blend of history and scenic landscapes in Laos.</p>
<p>3. ມິງຂວັນຊາວວຽງ (Ming Khwan Savieng)</p> <p>A cultural event or ritual in Laos that involves traditional ceremonies to celebrate and honor local customs, often involving blessings and communal gatherings.</p>
<p>4. ລຳຕັງຫວາຍ (Lam Tangwai)</p> <p>A genre of traditional Lao music and dance that features lively and rhythmic performances, typically enjoyed during festivals and community events.</p>
<p>5. Lovesick Girls</p> <p>A popular song by the South Korean girl group BLACKPINK, released in 2020. The song addresses themes of love and heartbreak with an upbeat and catchy melody.</p>
<p>6. ລຳວົງສາມັກຄີ (Lam Vong Sa Muk Khee)</p> <p>A traditional Lao line dance known for its graceful hand and foot movements. it is a significant part of Lao culture, seen at weddings, religious festivals, and other important events.</p>

Gala Dinner (Menu)

1. Steamed Chicken Dumpling/Stir Fried Crab Stick with Egg and Sprout
2. Prawn Wonton and Bamboo Pith Soup
3. Braised Duck in Brown Sauce
4. Stir Fried Soft Shell Crabs with Yellow Curry Powder
5. Steamed Tofu with Minced Pork and Soya Sauce
6. Deep Fried Mekong Fish with Garlic and Pepper
7. Fried Rice Vermicelli with BBQ Pork
8. Black Sesame Glutinous Rice Dumpling in Ginger Juice
9. Drinks (Wine, Beer, Soft Drink, Bottle of Water)

City Tour

1. Patuxay - Victory Monument



By walk: 30 min.

By taxi: 10 min.

Location: <https://t.ly/YuDIM>

2. Ho Phrakeo Museum



By walk: 10 min.

By taxi: 5 min.

Location: <https://t.ly/6ZRtH>

3. Sihom Night Market



By walk: 10 min.

By taxi: 5 min.

Location: <https://rb.gy/ia4jdi>

4. Chao Anouvong Park



By walk: 10 min.

By taxi: 5 min.

Location: <https://t.ly/bGsMi>

5. Pha That Luang Vientiane



By walk: 55 min.

By taxi: 20 min.

Location: <https://t.ly/5XpP5>

6. Buddhist Monks Parade

It is a longstanding tradition in Laos Buddhist culture that people will give alms or donations. The Monks Parade will start around 5:00 to 5:30 am every morning and will walk through the main road (if you want to see the parade, please follow the time).



By walk: 15 min.

By taxi: 6 min.

Location: <https://rb.gy/wb8wnr>

Concurrent Session Presentation Abstracts

Concurrent Session 1 (1A – Pensions)

Title: A gender-neutral public annuity program to help female retirees hedge against longevity risks

Author (s): Yinan Ying

Population aging brings about increasing longevity risks for elderly people. Moreover, on average, elderly female retirees suffer even greater longevity risks than their male counterparts. Based on the observed pension practices, this paper examines the effects of introducing a gender-neutral public annuity program on female retirees. It is found that this program incorporates two opposing effects on female retirees: the negative distortion effect and the positive health gender gap effect. When the positive health gender gap effect dominates the negative distortion effect, this program will benefit all female retirees. This result contrasts with the literature that introducing public annuities with gender-based pricing adversely affects healthier retirees (Lau and Zhang, 2023a).

Keywords: gender-based pricing, gender-neutral pricing, longevity risk, public annuity, female retirees

Title: Impact of the Hybrid Lump Sum Plan on Longevity Risk and Incentives to Delay Claiming Age of Public Pension

Author (s): Norio Hibiki, and Dai Izawa

In recent years, managing longevity risk is a very important issue for households approaching retirement. While deferred benefits can hedge longevity risk, few people implement deferred benefits in practice. Currently, very few people in Japan opt for deferred pension. Only 1.0% recipients opt for deferred employees' old-age pension and 1.6% for deferred basic old-age pension. A new plan to encourage deferred benefits, called Lump Sum, has also been studied. The Lump Sum plan is a plan wherein beneficiaries receive the present value of deferred increased portion of the annuity that can be received in the future as a lump-sum payment when they claim their benefit. Maurer et al. (2018) stated that the Lump Sum plan would increase the number of deferred beneficiaries. Although the Lump Sum plan incentivizes delayed claiming, it carries a larger longevity risk than the current delayed benefits (Status Quo). In addition, the incentive to claim benefits is strongly influenced by the old-age pension system for active workers in Japan, because the longevity risk for those who work longer increases than for the normal beneficiaries due to the system. In this paper, we propose a Hybrid Lump Sum plan ("Hybrid plan") that achieves three goals: incentivizing delayed claim, mitigating the longevity risk and other disadvantages of the old-age pension system for active workers compared to the Lump Sum plan, and eliminating the non-claiming age. In this plan, the increase in the pension due to deferred benefits is divided into annuities and a lump-sum payment. Thus, this plan is a hybrid of the Lump Sum and the Status Quo. In addition, we clarify that there exists a non-claiming age in the Lump Sum scenario and show that Hybrid Lump Sum can mitigate it. We build a household model to evaluate the longevity risk in the Hybrid plan, and show its effectiveness through simulation analysis. We conduct an original questionnaire survey to examine whether the beneficiaries have the incentive to delay claiming age under the Hybrid plan, and we employ a logistic regression model to analyze the features of deferred beneficiaries under each plan. Moreover, we analyze the overall longevity risk of the Hybrid plan and the Lump Sum plan and clarify the effectiveness by using the results obtained from the questionnaire survey. Finally, based

on the analysis results, we discuss the policies and provide recommendations to increase the use of deferred pension in the future.

Keywords: Longevity Risk, Deferred Public Pension Benefits, Hybrid Lump Sum

Title: China's Pension System and Pension Inequality

Author (s): Haoge Lan, and Guiqin Zhao

China's pension insurance system is the largest in the world but has long been characterized by regressive redistribution, making pension inequality a significant obstacle to the country's socioeconomic development. Using data from the 2019 China Household Finance Survey (CHFS), we modeled the potential size of pension benefits under China's multi-pillar pension system and analyzed pension inequality across different insurance types and provinces for urban employees using the Gini coefficient decomposition. The study finds significant inequality in China's basic pension system across different types of insurance and regions. Although personal pension policies significantly reduce inequality within the PSURR participants, their impact on the PSUE participants is relatively limited and may even exacerbate the absolute level of inequality in their pension security. Pension benefit levels in economically developed provinces are significantly higher than those in less developed regions, with lower internal inequality. Personal pension policies can somewhat alleviate pension inequality within and between provinces. Furthermore, increasing the personal pension contribution rate and reducing the tax rate on personal pension benefits can effectively reduce pension inequality and improve pension security for all groups. However, increasing the contribution cap may exacerbate the absolute level of pension inequality.

Keywords: Pension Inequality, Personal Pension, China

Concurrent Session 1 (1B – Agricultural Insurance)

Title: Assimilating Remote Sensing Data In Crop Insurance Models: Multiple Approaches to Estimating Joint Distribution

Author (s): Upelina Bina Murmu

Accurate measurement and assessment of crop risks has eluded the insurance industry across the world, particularly in the global South. The insurance industry suffers from 'incomplete markets', despite support from national governments, for example, in India, the European Union (EU) and the United States (US). Remote sensing data could provide objective data that could aid the risk assessment; however, it requires novel approaches and their validation. Specifically, it remains to be seen how best to obtain the joint distribution of crop yields and the environmental variables, such as temperature and rainfall. Further, updating the risk estimates with evolving information and conditionalities during a season is also necessary from the dual perspectives of operational efficiency and risk management.

We explore a solution in the context of the north Indian wheat crop grown in the winter (Rabi) season. For estimation of distribution, we consider three approaches a) Independently fitting distribution on each explanatory variable and then determining the crop yield distribution using the linear relationship of crop yield with explanatory variables, b) Jointly fitting standard conditional predictive distribution on the crop yield along with explanatory variables, and c) Fitting Bayesian conditional predictive distribution on the crop yield given explanatory variables. In each approach, various parametric and nonparametric distributions can be included. Our early results point to an improved estimation of risks when compared to the United States' Risk Management Agency (RMA) approach. Further, the versatility of joint conditional distribution is impressive, and it explains the nonlinear interactions with vegetation and weather variables quite well. We see promise in these methods to address the

food security challenges in the wake of climate change. Apart from immense practical significance, our work furthers a methodological understanding of conditional distribution through standard statistical conditional inference and Bayesian inference.

Keywords: risk assessment, crop insurance, remote sensing, bayesian, joint distribution.

Title: A Stage-Based Model for the Weather-Yield Relationship in Weather Index Insurance

Author (s): Xinli Liu, Zhenyue Cao, and Yuxin Wen

Developing an effective weather-yield model can reduce basis risk, thereby promoting the adoption of weather index insurance. This study focuses on coffee production in Yunnan Province, using a penalized spline regression model (P-spline) to fit the weather-yield relationship and explore its threshold characteristics. Heterogeneity analysis is conducted across different index values and regions. Finally, a utility analysis for coffee farmers is performed. The results indicate a nonlinear weather-yield relationship with threshold characteristics and regional heterogeneity. P-splines more effectively characterize this relationship, offering higher accuracy, generalizability, and local flexibility. The indemnity structure designed with P-splines significantly enhances policyholder utility.

Keywords: weather index insurance, weather-yield model, penalized spline regression, threshold analysis

Title: Farmers' Perception on Crop Insurance Protection Gap: A Case Study from India

Author (s): Steward Doss, and Madhu Acharyya

This paper presents the qualitative assessment of crop insurance protection gap based on empirical analysis of farmer's perception on the impact of climate risk on crop insurance protection gap. The study used a qualitative analysis of the farmer's responses collected through a survey with a sample size of 1400 respondents and also the focus groups interviews organised among a group of insurance practitioners, agriculture experts and intermediaries. It also proposed a hybrid methodology to estimate the crop insurance protection gap through measurement of insurance penetration, adequacy of insurance coverage and perceived gaps in various aspects of crop insurance. The study findings highlight a low crop insurance penetration and a significant protection gap in various aspects of crop insurance; gaps in products, coverages, awareness levels, loss assessment and claims settlement. The study contributes to policy level implications for the key stakeholders – insurers, government officials, intermediaries and regulator, etc., to develop a unified crop insurance scheme with adequate coverage of the key risks in the agriculture value chain. Further, the study results would help in bridging crop insurance protection gap and strengthening the regulations to protect the agricultural sector from climate vulnerabilities and also enhance the crop insurance penetration in the country.

Keywords: Protection gap, crop insurance, climate change, farmers' perception and insurance penetration.

Concurrent Session 1 (1C – Insurance Management)

Title: Compliance in a Regulatory Setting: A Further Investigation of Transparency (#1780)

Author (s): Patricia Born, Randy Dumm, and David Eckles

TBA

Keywords: TBA

Title: Risks and Enterprise Risk Management Strategies: Evidence from the U.S. Property-Liability Insurance Industry (#1773)
Author (s): Sangyong Han, Chia-Ling Ho, Gene C. Lai, and Zifen Zeng
TBA
Keywords: TBA

Title: Impact of Reinsurance and Cat Bonds on Insurer Leverage: Evidence from US Property-Casualty Insurers (#1750)
Author (s): Xiaoyi Li, Min Teh Yu, and Yang Zhao
TBA
Keywords: TBA

Concurrent Session 1 (1D – Insurance Fraud)

Title: Determinants of Claims Investigation Actions in Private Health Insurance
Author (s): Chia-Ling Ho
<p>This study delves into the factors influencing the claim investigation action in private health insurance. The results show the characteristics of the insured when the insured has high loss frequency (cumulative count of claims), high loss severity (cumulative payments of claims), the claim events occurred within two years from the insurance policy issue date, the insured suffers from the accident, riding ambulance to the hospital, the far distance between the residence of insured and the hospital for treatment, the insured suffers from congenital diseases, the insured is male, the age of the insured is below 55 years old, the insured lives in an urban area, and the insured stays at a medical center or regional hospital have a significant and positive related to the investigation, while the insured's cancer has a significant and negative related to the investigation action. In the agent characteristics, when the agent has a high school education level or above, has longer seniority, and has a pool rating, there are significant and positive factors related to the investigation. The research sheds light on critical elements that impact the decision-making process surrounding claims investigations. The findings contribute valuable insights for insurers seeking to optimize their claims management practices.</p>
Keywords: Insurance technology, claims investigation, insurance fraud, policyholder services.

Title: Fraud Control: Efficiency or a Customer-oriented Approach
Author (s): Ruchi Agarwal
<p>For decades, insurance companies and regulators worldwide have struggled to effectively manage fraud. One of the key obstacles is the inherent challenge of balancing fraud control efficacy and customer satisfaction. Plenty of prior research has examined the motivation and implementation of fraud management from both the insureds' and insurers' perspectives, much of which has focused on exploring machine learning-based predictive modelling approaches to increase detection accuracy and improve efficiency. However, few studies have shed light on the inner workings of this intricate and evolving relationship to guide insurance companies in devising strategies to improve customer satisfaction. This is especially important to understand given the new business environments enabled by InsurTech. Based on a longitudinal case study from 2013 to 2023, this article explores how a large Indian insurance company leveraged technology development to transform digitally from an efficiency-based approach to customer-focused fraud control. The results illustrate</p>

three stages of transformation for fraud control: digitization, digitalization, and digital transformation. The research also contributes to the theory and practice of fraud control.

Keywords: (Not provided)

Title: Why Do Non-Life Insurance Companies Tolerate Fraudulent Claims from Insurance Agents?

Author (s): Yoichiro Fujii, and Mahito Okura

In a frequent business practice in the automobile insurance market, automobile repair shops simultaneously act as insurance agents and engage in insurance claims. This study examines how this situation affects insurance companies' monitoring strategies. We mainly show the following two results, which do not occur when selling insurance contracts and claiming insurance money are separated. First, the collusion between the insurance company and the insurance agent is possible. In the collusion, insurance company does not monitor even when the insurance agent makes fraudulent insurance claims to obtain more insurance contracts. Second, insurance companies' monitoring strategies are not determined by the cost and benefit of monitoring alone. Particularly, our model derives the equilibrium in which the insurance company does not monitor even when the monitoring benefit is larger than the monitoring cost, such as when the monitoring cost is zero.

Keywords: Insurance agent; Commission; Fraudulent insurance claim; Monitoring.

Concurrent Session 2 (2A – Life Insurance Demand)

Title: An Empirical Analysis of Relative Demand for Life Insurance vs Non-life Insurance in a few ASEAN Countries

Author (s): Soyoung Lim, and Hongjoo Jung

Which do you value more, life or property? Which would you rather insure, life or property? Which type of insurance—life or non-life—do you wish to purchase more? Why? The purpose of this study is to examine these questions with respect to ASEAN developing countries. There is a lack of academic research on the relative demand for insurance between life and property, while most insurance demand research has focused only either life insurance or property insurance. This empirical research aims to fill the gap of previous research on the relative demand for insurance, using survey data of three developing Southeast Asian countries - Myanmar, Indonesia, and Vietnam - which vary in terms of religion and income level. Results show that the higher the level of education and financial literacy, and/or the lower age is, the higher tendency towards buying non-life insurance is. Furthermore, results show differences among countries, depending on religious beliefs.

Keywords: Relative demand for Insurance, Preference, Insurance market, ASEAN, Multinomial Logit, Religion.

Title: Trans-generational Effects on Holding Life Insurance

Author (s): Hideto Azegami

This study examines the influences of parents' past behavior and attitudes on their children's life insurance ownership. According to my web-based survey conducted in October 2023, respondents who lived with adult family members estimating that insurance was strongly necessary or necessary a little had approximately 3.2% points more financial assets in life insurance than others. Similarly, the difference between respondents who lived with adult family members holding life insurance and others was approximately 6.5%. The results of the Probit regression indicated that such respondents are more likely than others to

hold life insurance. The qualitative results were not changed by the reexamination with propensity score matching method.

Keywords: Trans-generational effects, purchasing behavior of life insurance.

Title: Modelling of an educated insurance policyholder lapse behaviour for life insurance products

Author (s): V. Padmavathi and M.A. Lagesh

Insurance Policy is a contract that provide financial security by insurance companies to individuals or organisations. The consideration for providing that security is the payment of premiums by individuals and organizations. The contract can be inactive due to non-payment of premiums and that becomes a lapsed insurance policy. Policy termination or lapsation is a universal problem for insurers. A lapsed policy affects the policyholder by losing the protection and for an insurance company high lapse rates weaken the ability to recoup underwriting and new business sale costs. Though life insurance companies in India reporting a 30 per cent year-on-year growth in new business premium, the median 61 – month persistency figure for the industry was only around 39 per cent since 2016-17ⁱ. The behavioural interpretation on what drives policyholders to lapse their policies with their socio-economic-demographic background such as Age, Gender, Education, Occupation, Income of own and Spouse can provide some insights for their decision making of purchasing and non-payments after purchasing insurance policies. The present study focussed on these socio-economic-demographic determinants and their life insurance product awareness through a sample survey among the graduates and post graduates through an online mode during the year 2022. Out of 500 administered questionnaires, 300 responded to the questions on their demographic profile and the type of insurance policy (Term/Endowment/ULIP) they purchased and the continuation of premium payment. Using Probit regression analysis, we conclude that life insurance policies taken by people aged 20 to 30 and 40 to 50, with incomes over 5 lakhs, and whose spouses are undergraduates, are less likely to lapse.

Keywords: Life Insurance Policy, lapsation, educated, determinants.

Concurrent Session 2 (2B – Climate Risk and Carbon Transition)

Title: From Carbon-transition Premium to Carbon-transition Risk

Author (s): Suryadepto Naga, Sankarshan Basub, and Siddhartha P. Chakrabarty

TBA

Keywords: Carbon premium, Carbon risk, Sustainable finance, Transition risk, Green finance

Title: Research on the Pricing of Carbon Sink Price Insurance in the “Insurance + Futures” Mode—Based on Data from the Chinese Carbon Emissions Trading Market

Author (s): Yifeng Ying, and Haiyan Wang

Since the adoption of the United Nations Framework Convention on Climate Change in 1992, global climate change has gradually become one of the widely discussed and concerned topics in the international community. As carbon dioxide and other greenhouse gases are the main cause of global warming, countries around the world have begun to control the total amount of domestic carbon emissions. At present, China, Europe and the United States have adopted the national carbon emissions trading market as the main means to limit domestic carbon emissions. In this stage, Europe and the United States and other

countries started earlier, and the system is more mature. In contrast, the development of China's carbon trading market is still in the preliminary stage.

Considering the many trading risks in the carbon market and the possible speculative behavior in price fluctuations, the carbon price insurance business has been gradually implemented in the market. The carbon price insurance model is also different from traditional catastrophe insurance, which aims to protect customers from losses caused by catastrophe risks, while the purpose of carbon price insurance is to prevent customers from losses caused by unexpected downward adjustments in the price of carbon sinks due to the holding of carbon assets.

In this context, the insurance futures, which combines the hedging function of futures products with carbon insurance, can better protect the interests of insurers and clients and achieve the purpose of risk hedging. The insurance futures can combine the ability of futures products to resist price fluctuations with the credit enhancement ability of insurance products, thus adapting to the needs of investors in the new environment.

To summarize, this paper will explore the product design of insurance futures in the carbon emissions trading market from the perspective of pricing strategy. Based on this, we will further study the pricing strategy of premiums, and come up with the final solution through two different option pricing models and make a comparative analysis. This study is expected to bring new thinking direction to the field of financial derivatives in carbon market, and to provide certain reference for the popularization and promotion of more insurance futures products and pricing issues in carbon market in the future.

Keywords: ESG, sustainable insurance, carbon sink, insurance futures, pricing strategy.

Title: Climate Risk in Catastrophe Bond Primary Market Spread

Author (s): Chi Feng, and Xudong Zeng

In this paper, we explore the effect of climate risks on the primary market issuing spreads of catastrophe bonds. Collecting issuance information from various sources, we compile the most up-to-date cat bond dataset with primary market information. We observe that the SOI index, the indicator for El Niño/La Niña episodes and hurricane risks, has a positive effect on the spreads of cat bonds. The effect remains positive and significant after controlling for the reinsurance market cycle, the macroeconomic condition, the removal of non-climate peril bonds, and clustering standard errors at the cedent level. Our results shed some light on the presence of climate change concerns in the primary market pricing of cat bonds.

Keywords: (Not provided)

Concurrent Session 2 (2C – Cyber Risks and Insurance Technology)

Title: Cyber Risk Underwriting - A Gap Analysis of Underwriters & Customer's Perception (#1763)

Author (s): Steward Doss, N. Raveendran, and B. Suresh

Every Economic and commercial operation in the world has become increasingly reliant on digital technologies and the rate of such adoption increased exponentially during the pandemic period. In addition, increased usage of Big data, Cloud, IoT and connected devices enhanced the usage of high volume of data, which increased the cyber risk exposures and a constant threat of disruption or halt because of any human error or malicious attacks. As a result, cyber insurance has been growing one side at the same time, the cyber risk is also evolving and has become highly sophisticated. These issues pose numerous challenges to the cyber underwriters globally. This paper examines the gaps and inadequacy of cyber

coverages for certain emerging risks in the Indian market. Further, the paper covers the perceived differences between the corporate customers and underwriters and highlights the emerging underwriting challenges and suggestions to overcome them. The paper also highlights the managerial implications arising from the study findings and also the regulatory changes to be introduced in the light of the underwriting challenges.

Keywords: Cyber Risk; Cyber Security; Cyber Insurance; Underwriting; Cyber Risk Management.

Title: Risk Management of Korean Micro Credit Business for Sustainable Growth - Macro and Micro data analysis

Author (s): Kwanseol Son

TBA

Keywords: TBA

Title: Loan Profit Prediction under the Framework of Innovative Fusion Model

Author (s): Xinyi Wang

Credit scale has continued to expand, putting forward higher requirements for financial risk prevention. Improving the efficiency of business decision-making has become the general trend. To achieve the goal of credit business and improve the decision-making efficiency, this paper establishes models based on data from Lending Club to predict loan profitability levels. This paper innovatively proposes an innovative fusion model framework. By predicting the best model of each sample, different fusion strategies are set for each sample, and sample-based model fusion is realized. In this paper, Decision Tree, LGBM and Neural Networks are selected as the base models, and single model, fusion model and innovative fusion model are obtained through the innovative fusion model framework. The empirical results show that the prediction ability of the innovative fusion model framework is significantly improved compared to the base models' and Stacking fusion model's. The innovative fusion model framework improves the deficiencies of the traditional model fusion framework and improves prediction performance. The prediction of loan profit based on innovative fusion model has high accuracy and stability. The findings remain robust after replacing the multiple classifiers in the framework. In model evaluation, this paper innovatively explores the prediction effect of the model on positive and negative samples. Compared with the non-profit customers, the innovative fusion model framework has more significant improvement effect and higher prediction accuracy on the profitable customers, that the model focuses on, with MDAE around 0.9 percentage points and MAE around 1.6 percentage points. The portfolios are established based on the existing default prediction model and the profit prediction model constructed in this paper, respectively. As the investment scale expands, the investment portfolio established by the profit prediction model can consistently achieve significantly higher returns, and the default rate is controllable and similar. The model has important theoretical and practical values. Finally, an interpretability analysis is conducted on the innovative fusion model framework. Finance-related information has a high variable importance. Suggestions such as increasing the collection and mining of financial information, and improving the data review system are proposed.

Keywords: financial risk management; innovative fusion model; loan profit prediction; best model.

Concurrent Session 2 (2D – Automobile Insurance)

Title: Information Asymmetry of Automobile Liability Insurance in Taiwan
Author (s): Sheng-Chang Peng
<p>As the amount of vehicles increases yearly, the premium income of automobile liability insurance continues to increase in Taiwan. It seems that the development of automobile technology does not significantly improve the liability risk of traffic accidents, and the loss ratios of automobile liability insurance are still high. This study will inspect asymmetric information on the automobile insurance market based on the data on automobile liability insurance. For the asymmetric information in the insurance market, through compulsory automobile liability insurance (CALI) policies with or without a voluntary automobile third-party liability insurance (VALI) policy, as well as VALI policies with or without an excess (passenger) liability insurance endorsement, this study will examine the relationship between coverage and risk to confirm whether asymmetric information exists and further use the tracking data of VALI to explore the type of asymmetric information as adverse selection or moral hazard. There are two main contributions to this study. Firstly, many studies have verified asymmetric information in the automobile damage insurance market, especially the problem of moral hazard, but the automobile liability insurance market has not been investigated. Therefore, this study would like to prove the existence of asymmetric information through the individual data of automobile liability insurance and confirm that asymmetric information is adverse selection or (ex-ante) moral hazard, which is necessary and important to insurers' operational efficiency. Secondly, this study uses the whole policy and claim data of the property insurance industry to conduct empirical analysis, which can truly reflect asymmetric information of the Taiwanese automobile liability insurance market. The results can serve as a reference for insurers' business decisions.</p>
Keywords: (Not provided)

Title: The Impact of Eco-driving on Motor Own Damage Insurance Risk of the Light Vehicle Fleet in Poland
Author (s): Piotr Manikowski, Jacek Lisowski, Dorota Wiśniewska, and Konrad Owsiniński
<p>In this paper, we investigate how the economic driving style of light (passenger) vehicle fleet drivers affects the motor own damage (MOD) insurance risk. This paper aims to identify the impact of eco-driving on the MOD insurance risk for passenger car fleets (light vehicle fleets). Based on the literature review and common observations we expect the economic driving style to reduce the MOD insurance risk.</p> <p>We used data from an experimental study on eco-driving in a fleet of light cars consisting of passenger cars in conditions of real, everyday use of vehicles resulting from the official tasks of fleet drivers. The entire tested fleet used the same car model (Toyota Yaris).</p> <p>The analysis of the results shows that eco-driving positively affects the number of claims – reducing their number and in this dimension positively affects the insurance risk. However, no statistically significant effect of driving style on the value of the average claim was observed. Thus, if there is damage, its amount does not depend on the driving style.</p>
Keywords: Motor insurance, Eco-driving, Fleet vehicles.

Title: Decoding the Symphony of Reinsurance Strategies: A Motor Insurance Odyssey in Israel
Author (s): Ziv Cohen and Yoram Eden
<p>This paper unravels the intricacies of reinsurance decisions and their financial reverberations within the motor insurance sector in Israel. Synthesizing seminal studies, our analysis delves into the interplay between the reinsurance ratio (percentage of reinsurance coverage from gross premium), loss ratios, profitability, and regulatory frameworks.</p> <p>As Israel's motor insurance sector navigates underwriting challenges and regulatory shifts, our paper offers a nuanced understanding of the symbiotic relationship between reinsurance decisions and financial dynamics. This research, which synthesizes diverse strands of literature, not only elevates the theoretical discourse on reinsurance strategies but also furnishes practical insights for insurers navigating the intricate landscape of risk management, profitability, and regulatory compliance. We believe that this work contributes to the ongoing dialogue shaping the global insurance arena.</p> <p>In the Israeli market, the percentage of premiums transferred to reinsurance (quota share) in the motor insurance sector differs from one company to another. However, the reinsurance is proportional and the poor underwriting results in the years under review mean that reinsurers incurred significant losses for both mandatory bodily injuries (MBI) and casualty and collision (CASCO) insurance.</p> <p>Our research shows that these poor results decreased reinsurance capacity in the market. We find this interesting because, as we understand it, reinsurers should reconsider underwriting cycles in the Israeli motor insurance sector and maintain communication with Israeli insurers. The reduction in reinsurance business, following significant losses, may indicate a short-term perspective.</p>
Keywords: Motor Insurance, Reinsurance, Non-life Reinsurance, Loss Ratio, Reinsurance Profit & Loss, Profitability, Financial Performance, Risk Management, Solvency II, Regulatory Compliance.

Concurrent Session 3 (3A – Mortality)

Title: Mortality forecasting in geographical space and time
Author (s): Gábor Szentkereszti and Péter Vékás
<p>The overwhelming majority of researchers, actuaries and demographers use standard time series analysis techniques to project time-varying parameters of popular mortality forecasting methods such as the Lee–Carter and Li–Lee models. However, spatial dependence may be just as significant as temporal autocorrelation in these time series, and the underlying panel structure of the data is neglected.</p> <p>We draw from techniques in panel and spatial econometrics, including ordinary and spatial dynamic panel linear models, spatial eigenvector filters and spatial autoregressive models to capture this kind of dependence and yield more accurate projections. We examine our methods on mortality data from a large set of 24 countries and point out which methods work best for each country, separately for both the Lee–Carter and Li–Lee models. Our proposed techniques outperform conventional methods in most of these populations. The improved forecasts could be particularly useful in life insurance and pensions and in insurance contexts involving longevity risk.</p>
Keywords: (Not provided)

Title: AffineMortality: a computational tool for the analysis of stochastic mortality rates in continuous time
Author (s): Francesco Ungolo, Patrick Dominic M. Garces, Michael Sherris, and Yuxin Zhou
We present the R package AffineMortality which performs parameter estimation, goodness of fit analysis, simulation and projection of future mortality rates for a set of affine mortality models for use in pricing and reserving. The computational routines build on the univariate Kalman Filtering approach of Koopman and Durbin (2000) along other numerical methods to enhance the robustness of the results. We discuss how the package works in order to effectively estimate and project survival curves. The available functions will be illustrated through the analysis of HMD age-cohort mortality rates.
Keywords: Longevity Risk, Kalman Filter, State-space models, Affine mortality.

Title: An Empirical Examination of the Term Life Cancer and Whole Life Cancer Insurance in Taiwan
Author (s): Chu-Shiu Li, and Sheng-Chang Peng
The objective of this paper is to compare the claim probability and claim severity between the term life and whole life cancer insurance policies by using the entire new life cancer policies purchased from 2012 to 2016 policy years in Taiwan. We also explore the effects of risk factors, including sex, age, occupation, types of coverage, and the characteristics of policy. Our results shows that male insureds have a lower claim probability while have a higher claim severity than one of female insureds. Cancer probability increases with age and exhibit an escalating rate of progression. Compared with the insureds in the 30-39 age groups, those less than 30 and in the 40-49 age groups have a lower claim probability, while those in the 50-59 age group and over 60 age groups have a higher claim probability. Insureds with more types of coverage have a higher claim probability, higher claim probability of in the first policy year, and claim severity than those with only fixed benefit or only daily benefit coverage, indicating the adverse selection problem. This study fills the gap in risk analysis of life cancer insurance in terms of data source and our empirical evidence provides policy implication for life insurers for setting premium and medical and health-related institution for health risk management strategies.
Keywords: cancer insurance, term life insurance, whole life insurance, claim probability, claim severity.

Concurrent Session 3 (3B – Agricultural Insurance)

Title: Social interaction and weather index insurance demand: Survey evidence from China
Author (s): Mingwei Li, Xinli Liu, and Yi Yao
This paper examines the impact of social interaction on weather index insurance demand. Based on survey data from coffee farmers in Yunnan Province of China, we find that social interaction significantly increases farmers' willingness to pay for weather index insurance. Social interaction increases insurance demand by expanding farmers' information channels and the demonstration effect of insurance experiences of people around them. Heterogeneity analysis shows that social interaction has a greater role in promoting the insurance demand of farmers with low education, low income, and low specialization. Our results inform a feasible approach for the promotion of weather index insurance in underdeveloped regions.
Keywords: Weather index insurance; social interaction; willingness to pay.

Title: Attitude Towards Risk and Insurance Consumption in a Hazard Prone Area: Insights from Field Experiments
Author (s): Subir Sen
TBA
Keywords: TBA

Title: Study on Farmers' Insurance Decisions Based on Income Risk Model
Author (s): Yuxiang Sun, Tengjun Chen, and Fang Su
Innovations in agricultural insurance offer farmers diverse income protection strategies. This study examines farmers' decision-making regarding yield insurance plus price insurance versus revenue insurance. Income risk in agricultural production stems from combined yield and price uncertainties. By quantifying differences in managing income risk between the two insurance plans, this paper establishes a model for farmers' insurance decisions. Higher risk aversion, increased income risk exposure, and lower government premium subsidy rates enhance farmers' evaluations of revenue insurance, while the reverse diminishes their assessments. Our model favors revenue insurance as both a more robust income stabilizer and a more efficient policy tool, as it is the choice of risk-averse farmers in the absence of premium subsidy intervention, recommending its extended adoption across more regions. However, in wealthier agricultural regions, for staple crops that exhibit less reliance on the international market, separate coverage for price and yield may be more favored by farmers. In this context, replacing Combined Insurance with revenue insurance may require government enforcement or additional financial incentives to gain support from local farmers.
Keywords: Income risk, Revenue insurance, Farmers' insurance decisions.

Concurrent Session 3 (3C – Solvency/P&C Insurance)

Title: Impact of the Phase II of "C-ROSS II" on the Minimum Capital for Interest Rate Risk of Life Insurance Companies in China
Author (s): Kai Chen
TBA
Keywords: TBA

Title: Insolvency Risk, Costs and Product Diversification by Property and Liability Insurance Firms
Author (s): Lai Yi-Hsun, and Lin Wen-Chang
This study examines the impact of product diversification on bankruptcy costs and the time spent in the liquidation process, using a sample of U.S. property and liability (P/L) insurers. The empirical results reveal that, compared to focused P/L insurers, diversified insurers not only have a higher bankruptcy risk but also incur greater bankruptcy and resolution costs and take longer to liquidate when insolvent. This positive relationship implies that the costs stemming from managerial/pricing errors due to product complexity or inefficient resource allocation often outweigh potential benefits, rendering product diversification a potentially cost-ineffective and risk increasing strategy for P/L insurers. Additionally, the empirical evidence suggests that the factors influencing bankruptcy risk differ from those influencing bankruptcy costs and liquidation time. Finally, we find that bankruptcy costs and liquidation time are lower for larger insurers with a greater concentration in commercial lines when they become insolvent.

Keywords: corporation diversification, bankruptcy cost, liquidation, property-liability insurance.

Title: On determinants of the demand for property liability insurance: Evidence from small and medium enterprises

Author (s): Yoshihiro Asai

Several empirical articles have attempted to clarify the insurance demands of listed firms, but studies on the demand of small and medium enterprises (SMEs) are very limited because of the unavailability of adequate data. Insurance demand factors may differ between listed firms and SMEs and require empirical analysis. In this study, I analyze their insurance demand by using a corporate survey across industries and find the followings: First, the SMEs with relatively weak relationships with their main banks demand more insurance. Second, SMEs with a higher probability of bankruptcy demand less insurance. Third, affiliated firms demand more insurance. Additionally, furthermore, insurance demand varies by industry, and no significant relationship was identified between the relationship with the bank and the probability of bankruptcy in the construction industry.

Keywords: Insurance demand; SMEs (small and medium-sized enterprises); Bank relationship; Questionnaire methods.

Concurrent Session 3 (3D – Financial Innovation)

Title: Adoption Factors of Fintech Moderated by Fintech Literacy Among Malaysian Consumers

Author (s): Mohamad Fazli Sabri, Husniyah Abdul Rahim, Chong Kok Fei, Anthony Ang San, Nuradibah Mokhtar, Catherine SF Ho, Mervin Anthony, and Chung Kar Yin

In recent years, innovative companies have emerged, offering a wide range of financial technology services via technology platforms and mobile applications. This trend represents the latest development in the global financial market. Due to its rapid expansion, Malaysians are prepared to adopt financial technology (FinTech) in their daily lives. Digital payments, e-wallets, digital transfers, cryptocurrencies, and crowdfunding are leading the way for emerging trends and development in the financial landscape. This can be supported by statistics from the Malaysia FinTech Report 2021, revealing that internet banking in Malaysia has quadrupled over the last decade. The purpose of this paper is to explore the factors influencing FinTech adoption among various groups in Malaysia, including public sector employees, SME/private sector employees/general public, rural area residents, and youths. The study also examines the moderating effect of FinTech literacy within a model. Using purposive sampling, the study collected data from 1,500 respondents to ensure broad population coverage. The findings suggest that social influence significantly impacts individuals' adoption of FinTech. In contrast, though risk management plays a significant role, low adopters are expecting their financial planners to provide support in the event of disability or death. Furthermore, participation in alternative investments also increase FinTech adoption. The moderated regression model reveals that FinTech literacy moderates the impact of income, capital market literacy, and financial capability on adoption. To enhance FinTech adoption, comprehensive financial education programmes should cover FinTech knowledge across diverse platforms, improving financial capability and encourage investment diversity.

Keywords: financial capability, FinTech, investment, literacy, risk, social influence.

Title: Behavioral Intentions Towards the Use of Digital Wallets: A Case of Yunnan China
Author (s): Jonathan Gano-an, and Xueting Pan
TBA
Keywords: TBA

Title: Risk Microstructure, Risk-Prediction Technology, and Insurance
Author (s): Ruo Jia, and Jieyu Lin
<p>Risks have long been modeled as objective probabilities of losses. Modern technologies, however, enable us to obtain and process massive information on risk determinants, and therefore reduce or even eliminate the uncertainties of some risks, for example, the death risk of blood transfusion. In this paper, we develop a micro-structure for the conventional objective probabilities of losses and model a risk as the result of limited information on some risk determinants. With this setup, we analyze the impact of technology advancement on individuals' self-protection and on the insurance market equilibrium. We find that there exists an optimal level of technology that minimizes the risks for the whole society; however, the path towards the safest society is non-monotone as technologies develop. Moreover, the size of insurance market are also non-monotone as technologies develop.</p>

Concurrent Session 4 (4A – Life Insurance and Health)

Title: The Impact of Long-Term Low Interest Rates on Small and Medium-Sized Life Insurance Companies in China
Author (s): Liu Jiachang
<p>This study is dedicated to exploring the challenges faced by small and medium-sized life insurance companies in China due to prolonged low interest rates. The analysis is conducted from two perspectives: asset allocation and liability management. On the liability side, the focus is on the impact of universal life insurance products on reserve requirements. On the asset side, the emphasis is on the effectiveness of insurance fund investment strategies. The research will establish a stress testing framework and utilize the Cox-Ingersoll-Ross (CIR) model to predict interest rate trends. This will help assess the strategies of small and medium-sized life insurers in product innovation and asset allocation optimization within the current financial environment.</p>
Keywords: Long-Term Low Interest Rates, Asset-Liability Management, CIR Model, Solvency.

Title: Organizational Forms, Intragroup Transfer, and Risk Taking
Author (s): Qianlong Liu
<p>I study the role of insurers' organizational forms and intragroup capital transfer in their risk-taking. Consistent with mutual insurers' limited access to the external capital market, I find evidence in the U.S. life industry that mutuals are more conservative in taking interest rate risk. Particularly, mutual life insurers maintain a smaller duration gap and react more intensively to interest rate risk than stock life insurers. As the internal capital market is another essential financing source for insurers, I also take into consideration corporate structures. The argument remains consistent in that mutual corporations take less interest rate risk than stock corporations and mutual holding corporations, a special type of stock ownership. I plan to further investigate the role of intragroup transfer by conjecturing that internal financing allows life insurers to take extra interest rate risk. Different extents to</p>

which mutual and stock insurers rely on internal capital markets might provide a reason why mutuals are more resilient in the Great Financial Crisis.

Title: Migration Incentives and Elderly Health: Evidence from the Hukou Reforms in China

Author (s): Wei Huang, Haotian Zhang, and Wei Zheng

Exploiting variation from the preexisting ties between provinces interacted with the time-varying intensity of regional migration deregulation, this paper reveals that increased incentives for internal migration in China result in more remittances to rural households, boosting consumption and reducing farm work among the elderly who stay behind. The paper also shows improved healthcare utilization and physical health in these non-migrating elderly populations. However, it highlights a potential downside: the emotional impact due to the lack of informal care and companionship from migrated children, which could adversely affect the mental health of these elderly individuals.

Keywords: Internal migration, Elderly health, Health care utilization, China.

Concurrent Session 4 (4B – Flood Insurance and Humanitarian Assistance)

Title: Is the Lack of Deterrence Undermining Mandatory Investment in Flood Risk Mitigation?

Author (s): Selim Manakı

How do contextual factors influence households to comply with mandatory protective measures against extreme climate risks? This study examines the willingness of homeowners in flood-prone areas to undertake mandatory flood prevention measures. We extend the traditional framework of prevention motivation to include new external determinants, encompassing perceived stringency of regulation enforcement and social influence. Our results, grounded in survey data, show that perceived deterrence emerges as a significant driver of compliance intention. Social influence also has a strong impact on individual compliance decisions, which partially mediate the deterrence effect. To bolster household-level protective measures, we advocate for a two-pronged approach: strengthening the dependability of inspection and promoting prevention measures effectiveness. These strategies should have the potential to rebalance the existing incentive architecture and align individual interests with public risk mitigation objectives.

Keywords: Climate Risks, Rational Theory, Deterrence, Protection Motivation Theory, Structural Equation Model, Factor Score Regression.

Title: Improving Financial Literacy to Close the Insurance Protection Gap

Author (s): Mirko Kraft

Financial literacy is crucial for making sound financial decisions, but the importance of insurance decisions is often overlooked. Financial education promotes economic stability and equal opportunities, helping individuals navigate diverse financial services. Increasing financial literacy can reduce the insurance gap and ensure sustainable decision-making. In this paper the example of home insurance against flood caused by heavy rains, a increasing risk because of climate change.

Keywords: insurance protection gap, financial literacy, heavy rain, flood, home insurance, climate change.

Title: The Utilization of Insurance Ideas in Humanitarian Assistance: Based on the Coordination of Humanitarian Assistance by UN
Author (s): Yu Lei
<p>Since 2017, the United Nations (UN) has continued to strengthen the coordination of emergency humanitarian assistance, with the number of people assisted rising rapidly from 105.1 million in 2017 to 216 million in 2022, during the severe covid-19 pandemic, 264.2 million people were assisted in 64 countries and regions in 2020, with aid funding rising from \$13.8 billion in 2017 to \$30 billion in 2022, UN has made considerable achievements in humanitarian assistance. At the same time, however, the funding gap increased from \$10.9 billion in 2017 to \$22 billion in 2022, placing enormous financial pressure on the organization. Insurance can prevent risks and allocate resources effectively in advance through its developed risk management system and means, it can also survey and locate the damage at the first time after the disaster and provide financial support for disaster relief and post-disaster reconstruction. UN could take some actions with insurance ideas in order to close the funding gap.</p>
Keywords: Insurance ideas; Humanitarian assistance; United Nations; Funding gap.

Concurrent Session 4 (4C – Geopolitical and Economic Risks)

Title: Insurance Development, Global Economic Policy Uncertainty, and Geopolitical Risk: The Asymmetric Relationship Evidence from ASEAN-5
Author (s): Soyoung Lim, Phouphet Kyophilavong, Pabitra Kumar Jena, and Phongsili Soukchalern
<p>Academia and governments have shown interest in studying the influence of Global economic policy uncertainty index (GEPU) and Geopolitical risk index (GPR) on insurance development. Several empirical studies have been conducted to examine the influence of GEPU and GPR on the insurance development. Nevertheless, the empirical results failed to achieve consensus. This study aims to study the asymmetric impacts of Global economic policy uncertainty index and Geopolitical risk index on insurance sector development ASEAN from 1990 to 2020. We used the linear panel Autoregressive Distributed Lag (PARDL) approach (Pesaran et al., 1996; 2001) and the asymmetric panel Autoregressive Distributed Lag (PNARDL) approach (Shin et al., 2014). The results from linear panel ARDL showed that GEPU and GPR had the impact on None-life Insurance (NI), but both variables did not have impact on None-life Insurance (LI). Furthermore, the asymmetric panel ARDL showed no significant impact of positive shocks from GEPU had the positive impact on LI and NI, but the negative shocks from GEPU only had positive impact on NI. It is clear that positive and negative shocks from GEPU lead to increase the NI. More interestingly, we found that the positive shocks of GPR led to increasing of NI, but whether positive or negative shocks of GPR did not have impact on LI. The policymakers in ASEAN should closely look at Global economic policy uncertainty index (GEPU) and Geopolitical risk index (GPR) for the insurance policy development.</p>
Keywords: Asymmetry, Insurance sector development, Global economic policy uncertainty index (GEPU), Geopolitical risk index (GPR), and ASEAN.

Title: Determinants of Job security and risk in Korea: Focusing on research and development expenses, sales, and total capital investment efficiency
Author (s): Eunseon Kim, Hongjoo Jung, Sihyoung Jang, and Yunjin Oh
<p>This empirical aims to analyze any difference between employment security by industry group and the number of years of service, focusing on corporate management analysis data such as R&D expenses, sales, and total capital investment efficiency that are expected to affect employment and the determinants of employment security in Korea. Empirical analysis was conducted using personal data, occupational history data, and corporate management analysis data of the Bank of Korea economic statistics system. As a result of the analysis, such factors as age, gender, educational background, average monthly wage, job type, industrial company size, job position, R&D cost, sales, and total capital investment efficiency were identified as significant, while difference between groups was also confirmed.</p>
Keywords: Employment Security, Job Security, Hicks-Marshall's Law, Group Difference Analysis.

Title: Comparative Research on Sovereign Credit Rating Systems
Author (s): Yeru Xie, and Haiyan Wang
<p>Sovereign credit rating agencies are professional organizations that assess and judge the credit risk of a country or government, and are the "risk assessors" for sustainable financial industry. Moody's, Standard & Poor's and Fitch are the three global giants, which have tremendous influence on the international financial order and pattern. A lower rating can jeopardize a country's economic growth and even trigger financial turmoil. In recent years, the triggering of the global financial crisis and debt crises as well the growth and development of emerging market have exposed some problems with the international sovereign credit rating system.</p> <p>This paper mainly discusses the U.S. sovereign credit rating system dominated by Moody's, Standard & Poor's and Fitch, and China's Dagong Sovereign Credit Rating System which is striving for its internationalization path, and tries to compare the two rating systems by modeling data of 30 countries in 2022 which show significant differences between the rating results given by Dagong and the U.S. rating agencies. The selection of explanatory variables is compared, and multiple linear regression models are utilized to illustrate the differences between the two systems by revealing the impact of different factors on the sovereign rating results, and to have an objective evaluation of these two credit rating systems.</p> <p>Comparisons have revealed that, despite the differences in the rating systems of different rating agencies, these differences also indicate that the international rating system is moving to diversification. Through enhanced cooperation and improvement, credit rating agencies will move into a situation of monopolistic competition, which will be conducive to the maintenance of national and even international financial security, and promote the diversification and specialization of sovereign credit rating.</p>
Keywords: sovereign credit rating, rating methods, regression models, comparative research.

Concurrent Session 4 (4D – Insurance and Risk Management)

Title: How does the risk management affect demand information sharing under Cournot competition in regret theory?
Author (s): Mahito Okura
TBA
Keywords: TBA

Title: Reputation and Insurance Company Performance: A Study Based on Social Media Text Data
Author (s): Huabin Bian, Fei Jin, and Fang Su
TBA
Keywords: TBA

Title: Risk-perception Decisions in Insurance Companies: Competition, Regulatory Penalties, and Financial Performance
Author (s): Guo Xiaoqing and Li Xiaolin
TBA
Keywords: TBA

Concurrent Session 5 (5A – Pensions and Lifecycle Optimization)

Title: International Migrant Working and Public Pension Benefits -- Focusing on U.S.-Japan cases
Author (s): Hongmu Lee
TBA
Keywords: TBA

Title: A Model to Support the Young Generation Through the Combination of Mortgage Finance and Policy Pension Program
Author (s): Seungryul Ma
<p>It is necessary to establish a supplementary pension system to support young people at a time when distrust in the national pension is increasing due to discussions on national pension reform and concerns about depletion of funds. And at the same time, a complex support plan to increase access to home ownership for young people suffering from high housing prices is also needed. To achieve this goal, this study presented a combination model of mortgage finance (traditional and reverse mortgages) and policy pension program to support young people's home ownership and retirement income at the same time. The model proposed in this study has a policy effect similar to the current policy finance system that provides lowinterest loans to the youth to purchase houses, but instead of providing support through lowinterest loans, part of the repayment amount is transferred to a retirement pension fund for the youth. So, it is a type of subsidy program that allows youth to save money into an account and use it as a living fund for retirement. This can be said to be a more desirable policy direction in terms of securing retirement income for the young generation compared to simply providing low-interest loans.</p>
Keywords: national pension, young generation, supplement pension, mortgage finance.

Title: Demand for Reverse Mortgages: Behavioral Explanations
Author (s): Hazel Bateman, Katja Hanewald, Tin Long Ho, and Hanlin Lou
We study the impact of behavioral factors on the stated demand for reverse mortgages. Retired households typically hold a large proportion of their wealth in housing. Economic theory suggests that reverse mortgages, which provide access to home equity, should be popular, but markets worldwide remain small. Using expected utility analysis, we show that a reverse mortgage could be beneficial to a range of Australian retiree households. We then field an online experimental survey to explore the role of behavioral factors - specifically mental accounting, narrow bracketing and complexity - on the stated demand for reverse mortgages for a sample of 882 homeowners of around retirement age. We find that presentation formats to reduce complexity improve product knowledge, while information framing to offset mental accounting and narrow bracketing motivates the stated demand for reverse mortgages, particularly for high housing wealth/low income households. For the full sample, demand on the extensive margin is associated with economic factors, preferences and poor product perceptions, while behavioral factors play a greater role in demand on the intensive margin.
Keywords: reverse mortgage; mental accounts; choice bracketing.

Title: Investment-consumption Optimization with Transaction Cost and Learning about Return Predictability
Author (s): Ning Wang, and Tak Kuen Siu
In this paper, we investigate an investment-consumption optimization problem in continuous time settings, where the expected rate of return from a risky asset is predictable with an observable factor and an unobservable factor. Based on observable information, a decision-maker learns about the unobservable factor while making investment-consumption decisions. Both factors are supposed to follow a mean-reverting process. Also, we relax the assumption of perfect liquidity of the risky asset through incorporating proportional transaction costs incurred in trading the risky asset. In such way, a form of friction posing liquidity risk to the investor is examined. Dynamic programming principle coupled with an Hamilton–Jacobi–Bellman (HJB) equation are adopted to discuss the problem. Applying an asymptotic method with small transaction costs being taken as a perturbation parameter, we determine the frictional value function by solving the first and second corrector equations. For the numerical implementation of the proposed approach, a Monte-Carlo-simulation-based approximation algorithm is adopted to solve the second corrector equation. Finally, numerical examples and their economic interpretations are discussed.
Keywords: Portfolio optimization, Return predictability, Learning, Transaction cost, Monte Carlo simulation.

Concurrent Session 5 (5B – Agricultural Insurance)

Title: Is Revenue Insurance a Better Choice in the Breeding Industry? Welfare Analysis from the Hog Market in China
Author (s): Tengjun Chen, Yuxiang Sun, and Fang Su
Managing agricultural risks and ensuring the stability of farmers' incomes are perennial concerns within the field of agricultural risk management. The breeding industry, being a significant branch of agriculture, makes hog insurance a representative topic for this study. The paper initially develops two insurance portfolio models to explore the interchangeability among Margin Protecting Insurance (MPI), cost insurance, yield insurance, and price insurance. Subsequently, scenario analysis, C-Vine Copula model, and

Monte Carlo methods are used to numerically simulate the income distribution after portfolio changes and analyze social welfare changes. Finally, the conclusion is that under certain fiscal budget constraints, transforming the insurance portfolio into hog MPI results in positive changes in social welfare. This finding holds substantial weight and remains robust even when the individual utility function forms are altered.

Keywords: Hog Margin-Protecting Insurance; Welfare Effect; C-Vine Copula.

Title: Moral Hazard in Agricultural Insurance – Evidence from A Non-Voluntary Sow Insurance Program in China

Author (s): Xudong Rao, Qingyin Cai, and Yuehua Zhang

Agricultural insurance has not yet lived up to its full potential despite its apparent benefits to agricultural producers. Moral hazard is suspected to be a major obstacle to the adoption of agricultural insurance, especially livestock insurance. In this study, we take advantage of a government-supported, non-voluntary sow insurance program in China and examine whether farmers being aware of having insurance coverage leads to their hazardous behaviors. We estimate these impacts by using an endogenous treatment effects model which controls for endogeneity in our treatment variable. Our results are robust and suggest that farmers' awareness of their insurance enrollment led to statistically and economically significant differences in their sow mortality rates. Therefore, our results demonstrate the presence of hazardous behavior.

Title: Risk Perception Bias and Weather Index Insurance Demand: Evidence from a Survey of Coffee Farmers in Yunnan, China

Author (s): Xinli Liu and Yuxin Wen

Weather index insurance helps smallholder farmers hedge against weather risks, but demand for weather index insurance remains lower than expected. Risk perception is one of the factors that affects insurance decisions, and those who underestimate the risk exhibit insufficient insurance demands. We conducted a questionnaire survey on the potential demand for Yunnan coffee weather index insurance. By combining weather factors that will affect coffee production to measure the actual risk level and aligning it with individual perceived risks, this article finds that underestimating risks is widespread and that underestimating risks can reduce willingness to purchase insurance. Specifically, farmers in high-risk areas who lack disaster experience are more likely to underestimate risks. The findings contribute to a more comprehensive understanding of insufficient demand for weather index insurance.

Keywords: weather index insurance, risk perception bias.

Concurrent Session 5 (5C – Health Insurance)

Title: The Flagship Health Insurance Scheme under Pradhan Mantri Jan Arogya Yojana (PMJAY): An assessment of impact in selected district of Bihar, India

Author (s): Shashi Kant Sharma, and Subir Sen

The objective of this study is to assess the impact of the Pradhan Mantri Jan Arogya Yojana (PMJAY) health insurance scheme, focusing on three key outcome variables: utilization of healthcare service, financial protection against healthcare expenses, and treatment results, using the Propensity Score Matching (PSM) and Entropy Balancing (EB) methods. The study is conducted in two districts of Bihar, a state reportedly having poor health indicators compared to the national average and dysfunctional delivery of healthcare

services. Unlike previous studies, the scope of this research extends beyond assessing only the scheme's effects on healthcare utilization and financial protection. A step forward, the current study seeks to examine the impact on post-hospitalization treatment outcomes, aligning with the primary objective of the PMJAY scheme. The findings reveal a noticeable increase in hospital utilization and of outpatient department (OPD) visits among beneficiaries of the scheme. In addition to this, individuals with insurance coverage have reported better post-hospitalization quality of life and are more likely to return to work regularly after treatment.

Keywords: (Not provided)

Title: Dynamic evolution and comparative analysis of the fairness level of China's rural medical security system in 2009-2021

Author (s): Mingfei Jiang, Baozhen Dai, Heying Sun, and Tong Lu

Purpose: Scientific assessment is an important way to identify the starting point of China's new medical insurance industry towards excellent, and promote the high-quality development of China's multi-level medical security system.

Methods: Based on the policy guidelines of the 14th Five-Year Plan for Universal Medical Security, this study constructs the fairness evaluation index system from coverage fairness, financing fairness, resource fairness and service fairness, and uses dynamic factor to analyze the data of 30 provinces in China from 2009 to 2021, and comprehensively and accurately reflects the fairness changes of China's rural medical security system through horizontal comparison of different provinces and longitudinal time dimension tracking.

Findings: (1) From horizontal comparison, the average comprehensive score divides into four levels of excellent, good, average and poor through cluster analysis, and the fairness of rural medical security system generally shows decreasing from east to west. (2) From dynamic change trend, the change trend is mainly manifested in three types of changes: rising, declining and fluctuating, and the development of coverage fairness, financing fairness, resource fairness and service fairness is inconsistent among provinces, and many inland areas rank high.

Conclusions: The fair development of China's rural medical security system has made significant progress, but there are still some outstanding problems, including regional disparities and inconsistent development rates in various places. China's medical reform still needs to be significantly deepened.

Keywords: Rural medical security; Fair; Dynamic factor analysis.

Title: Towards Shared Prosperity: The Income Redistribution Effects of Multi-level Medical Security

Author (s): Ying Chen, and Guiqin Zhao

Multi-level medical security is one of the important institutional arrangements for solidly promoting shared prosperity. This paper utilizes data from the China Household Finance Survey (CHFS) for the years 2017 and 2019 to measure the income redistribution effects of multilevel medical security from both the payment side and benefit side. The study finds that, for urban employees covered by occupational insurance, multi-level medical security plays a role in narrowing income gaps. When examined by different levels, urban occupational insurance and medical assistance contribute to reducing income inequality, while the impact of commercial health insurance is not significant and varies significantly among insured groups based on their employment unit types. For residents covered by basic medical insurance, only medical assistance slightly narrows income gaps, and overall, multi-level medical security has not yet played a significant role in reducing income inequality.

Moreover, there is heterogeneity among insured groups in urban and rural areas. Econometric analysis indicates that multi-level medical security significantly narrows income gaps, with a more pronounced effect in urban areas and a less significant impact in rural areas. The research conclusions provide valuable insights for optimizing multi-level medical security policies to promote shared prosperity.

Keywords: multi-level medical security, income gap, redistribution effects, shared prosperity.

Concurrent Session 5 (5C – Health Insurance)

Title: International Perspective: Exploring the connection between captive insurance and corporate cash flow: Evidence from S&P Global 100 Companies

Author (s): David Russell, Jiun-Lin Chen, and Mu-Sheng “Shane” Chang

A captive insurance subsidiary (or captive for short) has been increasingly accepted as a valid risk management solution, mainly formed to insure the loss exposures of its parent company. This study assesses the effect of captive formation on cash flow from an international perspective based on the 2020 S&P Global 100 index constituents. As a wholly-owned insurance company that underwrites the risks its parent company faces, a captive performs a dual nature of self-insurance and mutualization that theoretically helps improve cash flow because recaptured premiums can be internally retained and efficiently invested. However, our empirical results fall short of evidence to endorse the recent assertion that captives are embraced for better cash flow, implying that recaptured premiums do increase cash hoard under captives, but do not necessarily lead to improved cash flow. In all, our analysis suggests that the financial incentives to form captives lie not in increasing shareholder value, but in serving corporate risk-financing needs and maximizing managerial preferences.

Keywords: Cash Flow, Captive Insurance Company/Subsidiary/Structure, Risk Financing, Risk Retention, Mutualization, Mutual Insurance, Self-Insurance, Alternative Risk Transfer, Enterprise Risk Management.

Title: Corporate ESG performance and business efficiency: Evidence from the Korean insurance industry

Author (s): Sangyong Han, Kwangmin Jung, and Jongbin Yoon

We examine the relationship between business efficiency of Korean insurers and their ESG performance to partly address how effective their ESG efforts are. Using insurer-specific financial information and the largest ESG score data of the Korean market for the period between 2012 and 2021, we observe that insurers with high ESG total score tend to have low efficiency. This result implies that insurers’ ESG performance may not be closely aligned with their business efficacy. Investigating how related each of ESG scores can be with business efficiency, we find supporting evidence that insurers with either of high environmental, social, or governance score are more likely to have low efficiency. This finding can also be observed when one-year time lagged effects of those scores are examined. Our results may imply that insurers’ ESG policies may lead to an increase in business inefficiency in the short term. This study can contribute to the literature by showing an anecdotal relationship between corporate ESG performance and business efficiency and providing a reference to develop effective ESG strategies for insurers.

Keywords: Business efficiency, ESG strategy, Data envelopment analysis, Truncated Regression, Insurance industry.

Title: Human Resource Risks: Evidence from Annual Reports from the European Union, India and the U.S.

Author (s): Niels Olaf Angermüller, and Thomas Berger

Human resources are a driver and a risk factor for achieving business objectives. Such HR risks should form part of risk management to derive the realistic risk exposure of a company. As companies have to inform the public on their relevant risks, HR risks should also be disclosed. Evidence from existing studies shows that HR risks are not gaining the same attention as other risks, e.g. financial risks. This also stems from the fact that as of today there are no conceptualizations for HR risk management and only little empirical evidence on the prevalence of HR risks. We therefore analyzed the annual report of listed companies from the European Union, India and the US. We found that information on HR risks are not very often disclosed, especially not in quantitative terms and that mostly companies reported risks related to recruiting and retention. One interesting finding of our study is, that companies which apply the COSO risk management standard are far more likely to disclose HR risks. Our study also provides a basis for categorizing HR risks for further conceptualizations.

Keywords: Human resource management; human resource risk; human resource management risks; strategic human resource management.



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