

2022 K-ASEAN RMI Forum

(Risk Management and Innovation)

- **ASEAN, ESG and Digitalization** -

| Dates | December 1 – December 3, 2022

| Venue | 33214, PBL Seminar Room SungKyunKwan University, Seoul, Korea

www.zoom.us/j/3851236840 PW: Pf5ZBn

| Host | SKKU Global Insurance and Pension Research Center

| Sponsors | Korean Re, IAFICO (International Academy of Financial Consumers),

& KAI (Korean Academy of Insurance)



Opening Remark of 2022 KARMI



Dear my distinguished guests, ladies and gentlemen,

I am so excited to announce opening of the 2022 KARMI (K-ASEAN Risk Management and Innovation) forum on the 1st day of December 2022 in Korea where the notorious COVID-19 has been substantially weakened compared with a last few years. The pandemic has been classified over a few years as the most serious global risk by the World Economic Forum. It is hoped that we all can see a better new year 2023 in every corner of the world.

The KARMI conference, which has been held in Laos, Vietnam, and Korea, aims to promote academic exchange and collaboration between ASEAN, Korea and other neighboring countries, which are interacting more than ever in spite of the so-called neo-protectionism through world. The ESG and digitalization have become new buzzwords to penetrate contemporary global village including ASEAN and northeast Asia and to enable to open the world over self-protectionism.

The KARMI 2022 is being held under the name of ASEAN, ESG and Digitalization of which you can review the meaning and implication by going through more than forty paper presentations at this invaluable conference. All the subjects of the presentations have been submitted with the authors' own choice without any discretion of the conference organizer.

As a conference host, I do appreciate efforts and contributions of all the paper presenters and conference staff members, wishing that all enjoy this conference and have a really happy new year 2023.

Hongjoo JUNG

Conference Schedule

December 01, 2022

Opening Ceremony www.zoom.us/j/3851236840 , pw: Pf5ZBn	
10:00	Opening Announcement: Hongjoo Jung(SKKU, Korea)
10:10 – 10:30	Keynote Speech: ESG/Green Investment, Allocation of Portfolio Assets and Asian Economic Recovery Yoshino Naoyuki (Keio University and FSA of Japan)

ASEAN and Innovation www.zoom.us/j/3851236840 , pw: Pf5ZBn	
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Moderator: Bohyun Kim

10:30 – 11:00	The Impacts of Fintech Lending Expansion and Credit Limit on Bank Risk-Taking Behavior Eddie Junarsin (University of Gadjah Mada)
11:00 – 11:30	Evolutions and Prospects of Agriculture Insurance: Lessons from Thailand Kamolthip Mahavong and Thitivadee Chaiyawat (Chulalongkorn University)
11:30 – 12:00	The Effect of Food Safety (MRLs) on ASEAN Tropical Fruit Trade Bohyun Kim (SKKU)
12:00 – 12:30	The Role of Green Bonds in Reducing Global Warming – Indonesia’s Green Bond Performance in Supporting SDG Hallira Husin & Rofikoh Rokhim (University of Indonesia)
12:30 – 13:00	Financial Institution Risk Management in Vietnam Nguyen Thuy (Vietnam National University)
13:00 – 13:30	Asymmetry Causality between Insurance and Growth in Selected ASEAN Countries Phouphet Kyophilavong and Soyoung Lim (National University of Laos & SKKU)
13:30 – 14:00	Dual-earner Household and Food Expenditure: Seonglim Lee (SKKU)
14:00 – 14:30	The Development of Green Bank in Vietnam Tran Thi Tanh Tu / Professor, Vice President (Vietnam National University)

December 02, 2022

Risk Management of Asia www.zoom.us/j/3851236840 pw: Pf5ZBn

Moderator: Soyoung Lim

09:30 – 10:00	The Impact of Central Bank Digital Currency on Financial Stability Hiep Ngoc Luu (Vietnam National University)
10:00 – 10:30	Micro- and Small-Sized Enterprises' Sustainability-Oriented Innovation for COVID-19 Hengbin Yin (Wenzhou Business College)
10:30 – 11:00	The Dynamic Impacts of COVID-19 and the March 2020 Stock Market Crash on the Multifractality of Nasdaq Composite and Insurance Indexes Xing Li and Fang Sofia Su (Shanghai University of Finance and Economics)
11:00 – 11:30	A Comparative Study on Business Group Governance Structure in Korea and Japan Kyoungae Kim (Kookmin University)
11:30 – 12:00	Factors Influencing Consumer Perception on Life Insurance in Myanmar Chaw Su Aung (Myeik University)

ESG and Digitalization www.zoom.us/j/3851236840 pw: Pf5ZBn

Moderator: Hong Mu Lee and Soyoung Lim

13:00 – 13:30	Keynote Speech 2: Sustainability Related Risk Management and Disclosure Tae-Young Paik (ISSB, SKKU)
13:30 – 14:00	International Finance Corporation and Impact Investing Tyler Kim (IFC World Bank)
14:00 – 14:30	Comparison of Global Sustainable Reporting Standards and K-ESG Standard Hongjoo Jung (SKKU)
14:30 – 15:00	Sustainable Finance John Vong (Monash University)
15:00 – 15:30	Data Economy Ecosystem: Concepts, Anticipated Effects, & Sectoral Innovation Cases Man Cho (KDI School)
15:30 – 16:00	Private Pension Plans and Protection of Pension Benefit Rights; Focusing on Korea-Japan Comparison Hong Mu Lee (Waseda University)
16:00 – 16:30	Stable Coin and Financial Consumer Protection - Beginning from Luna-Terra Crisis Gijin Yang (Jeonbuk National University)

16:30 – 17:00	Institutional Consideration for Improving for Soundness of Insurance Companies in Korea Moonyn Hwang (SKKU)
17:00 – 17:30	Drivers and Real Effects of Energy Efficiency Premium in Residential Real Estate: Evidence from the UK Qizhou Xiong (University of Oxford)
17:30 – 18:00	The Lessons of the Covid-19 Pandemic for Emergency Preparedness & the Future Challenges David E. Alexander (University College London)
18:00 – 18:30	Uncertainty, Risk and Accident – Human Factors in Complex Systems Gyuchan Jun (Loughborough University)

December 03, 2022

Environment and Trade www.zoom.us/j/3851236840 pw: Pf5ZBn

Moderator : Bohyun Kim

09:00 – 09:30	Implementing the Origin Management System in Developing Countries Yoonjin Oh (SKKU)
09:30 – 10:00	Self-regulating Digital Finance Yukyung Huh (New York University)
10:00 – 10:30	Current Issues on Water Quality Management Dongll Seo (Chungnam National University)
10:30 – 11:00	Insurance for Coal in Southeast Asia: Is There a Future? Adi Salleh (Samsung Reinsurance)
11:00 – 11:30	Consumer's Insurance Knowledge and Longevity Risk Management Sungsook Kim (Keimyung University)
11:30 – 12:00	Comparative Study on the E-Commerce Consumer Protection Act Yoon Lee (Jeonbuk National University)

Risk Management and Insurance www.zoom.us/j/3851236840 pw: Pf5ZBn

Moderator : Hongjoo Jung and Bohyun Kim

13:00 – 13:30	A Study on Risk Management for Mold Design Schedule Planning Based on Big Data Analysis Youn Sook Kim (Waseda University)
13:30 – 14:00	Can your Insurance Premium Reduced if Your Risk Gets Lowered? Hongjoo Jung (SKKU)
	Evolution of HLE and Prediction of Disability Population in China

14:00 – 14:30	Wei Tang and Fang Su (Shanghai University of Finance and Economics)
14:30 – 15:00	Micro and Small Enterprises' Sustainability-Oriented Innovation for Public Emergency Bonghwan Cho (Myongji University)
15:00 – 15:30	Commercial Health Insurance and Working Hours- Evidence from China's Public- Private Joint Medical Insurance Mingxin Zhang (Fudan University)
15:30 – 16:00	The Financial Regulatory Sandbox in Korea Misoo Choi (Seoul Digital University)
16:00 – 16:30	Global Risks and Property Insurance Market Outlook Kate Baek (Allianz Insurance HK)
16:30 – 17:00	The Importance of a Societal Perspective in Health Economic Studies when Evaluating Public Health Intervention Lena Schnitzler (Maastricht University)
17:00 – 17:30	Insure Tech Trends in Korea Soyoung Lim (SKKU)
17:30 – 18:00	A Random Forest-Based Approach for Predicting Spreads in the Primary Catastrophe Bond Market Despoina Makariou (University of St. Gallen)

December 01, 2022

Abstract

ESG/Green Investment, Allocation of Portfolio Assets and Asian Economic Recovery

Yoshino Naoyuki

Keio University & FSS of Japan

When it comes to the ESG issues, probably climate change may rank the first of all. This paper reviews such an important and various issues as the rate of return, Risk and ESG, Different definition of ESG by rating agencies, Greenness Score (ICMA), Distortion of portfolio allocation, Tax on Greenhouse gas, Purchase of Green bond by the Central Bank, SMEs (more than 50%) vs Large businesses

The Impacts of Fintech Lending Expansion and Credit Limit on Bank Risk-Taking Behavior

Eddie Junarsin

University of Gadjah Mada, Indonesia/USA

Literature suggests two contradictory views regarding the impacts of fintech lending on banks. The competition-instability proponents believe that fintech lending expansion erodes bank market and threatens banks as traditional intermediaries, thus intensifying bank risk-taking and potentially disturbing financial stability. In contrast, the competition-stability proponents believe fintech lending reduces asymmetric information in the credit market, thereby reducing bank risk-taking and increasing bank resilience to a systematic shock. This paper aims to examine the impacts of fintech lending expansion on bank-risk taking, i.e., shadow banking and bank risk. This study utilizes the OLS, random effects, fixed effects, and two-step GMM regressions to test the conjectures. Consistent with the competition-stability hypothesis, evidence indicates that shadow banking increases as banks actively seek channels to diversify their risks but are less likely to use fintech lending as a credit channel. This paper also corroborates the notion that fintech lending expansion encourages banks to diversify their risks. Pertaining to the relationship between fintech lending and bank risk, our results suggest that fintech lending expansion encourages banks to work more efficiently in improving their credit quality rather than to intensify bank risk-taking behavior. The findings also indicate that synergy between fintech lending and banks would increase bank credit quality.

The Effect of Food Safety (MRLs) on ASEAN Tropical Fruit Trade

Bohyun Kim
Sungkyunkwan University, Korea

Regulation is an indispensable means of shaping the welfare of economies and society (OECD, 2011). In the era of globalisation, regulation is not necessarily intended for the domestic industries and consumers only, especially in terms of international trade today, because a regulation imposed by one country affects all trading parties, irrespective of whether the impact is positive or negative. Among the international standards, food safety is fundamentally crucial for public health, and global oversight of food safety has become more stringent through the implementation of TBT and SPS measures.

This research assesses the impact of Maximum Residues Limits (MRLs), which is one of the food safety standards under TBT and SPS measures, on the ASEAN tropical fruit trade by estimating a gravity model. To this end, the tropical fruit import volume and value data (i.e., mango, banana and pineapple) from the European Union, the United States, Korea and Japan are collected to test the effect of MRLs (MRLs for Chlorpyrifos) on the ASEAN tropical fruit trade. Unlike the previous studies, the grace period between the date of notification and enforcement is considered. The results suggest that the residue standards and grace period do not exhibit any statistical significance. The same results are drawn in the logarithmic differentiation between the enforcement year and previous year.

As some scholars have argued, the findings of this study imply that stricter regulations do not necessarily have a negative impact on the tropical fruit trade because it can help exporters resolve information asymmetry, enhance consumer trust, ensure quality assurance and adopt adequate risk management.

This research only applies Chlorpyrifos as a single proxy for the residue tolerance standards. Future studies should employ more extensive and diverse samples with more representable pesticides for a more reliable result. Despite the data being too small due to its minimal data accessibility, this research contributes to the literature and highlights the importance of food safety in the ASEAN tropical fruit trade by considering the grace period as well as MRL standards.

Evolution of Prospects of Agriculture Insurance lessons from Thailand

Kamolthip Mahavong

Chulalongkorn University, Thailand

Thitivadee Chaiyawat

Chulalongkorn University, Thailand

Agriculture insurance in Thailand is quite limited to crop insurance. Thailand adopts Indemnity-Based Crop Insurance with the main purpose to compensate for the loss of production from crop damage due to uncertainties in weather and climate sensitivity, plant diseases, and pests. In the past, the program offered Multiple-peril crop insurance (MPCI) covering cotton, maize, and soybeans, however, it was closed because of high administrative costs and loss adjustment expenses. Livestock insurance is also available for dairy cows and beef cattle while there is no strong demand and is fraught with many challenges and constraints. Crop insurance in Thailand mainly focused on rice and maize is designed Named Peril Insurance.

Rice insurance program in Thailand via a government premium subsidization started in 2011 provides coverage for damage caused by natural disasters such as flood, drought, cold, wind storm, hail, fire, and subsequently adding pests and wild elephants. Claim payment is paid only under the condition of the provincial governor's declaration of an emergency assistance zone of disaster. From 2020 rice insurance program offers 3 insurance schemes for different groups of farmers.

Current rice insurance scheme has positive sides but there still face challenges which are 1) adverse selection issues 2) no interest in voluntary insurance and 3) an inefficient claim survey process and claim payment. However, The private sector has an interest in offering more various types of crop insurance for example longan insurance, durian insurance, cassava insurance, sugar cane insurance, rubber insurance, etc. Future modern types of crop insurance can be operated in Thailand which are 1) Parametric Index Insurance 2) Area-Yield Index Insurance 3) Satellite Index Insurance /Normalized 4) Revenue Insurance and 5) Whole Farm Insurance. Therefore, crop insurance in Thailand still has room to grow. A variety of modern insurance products could raise farmers' interest and attention in consuming insurance. More developed technology could enhance lower administrative costs and claim-handling expenses. This could cause a lower premium offered to farmers and hopefully, they will be more willing to voluntarily consume crop insurance.

Financial Institutions' Risk Management in Response to the Prolonged Macro Uncertainty of Vietnam

Nguyen Thuy

Vietnam National University, Vietnam

There is an argument that macroeconomic policy can increase resilience and promote prosperity by reducing instability and delivering low inflation. However, others state that macroeconomic policies sometimes do not help the business but might influence the business operation.

The world in the early 2020s has to face many macro uncertainties that are not only in national but also international scope. Organizations, businesses, and especially financial institutions which are the most sensitive to macro fluctuations are struggling with systematic and huge risks. This article introduces the context of financial institutions after many macro fluctuations such as the COVID-19 pandemic, wars, and hyperinflation. On that basis, the article gives an overview of the risk management of financial institutions in response to macro fluctuations. The article also uses the case study method with two large financial institutions in Vietnam to describe the risk management framework, risk management activities, advantages, and limitations of this activity. Findings from the case analysis lead to implications for financial institutions in Vietnam.

The Role of Green Bonds in Reducing Global Warming
– Indonesia’s Green Bond Performance in Supporting SDG

Hallira Husin

University of Indonesia, Indonesia

Rofikoh Rokhim

University of Indonesia, Indonesia

With the ambition to achieve the Sustainable Development Goals (SDGs) agenda in 2030, many countries are increasing the implementation of green financing one of which is through green bonds. The question is how appealing are green bonds for investors? This question is relevant as green bonds have been applied in some countries to help them to achieve sustainable development goals as part of sustainable finance. This paper focuses on comparing the green bond yield and conventional bonds yield to see if there is a significant difference between them. This becomes important as the environmental aspect is not the only consideration for investors in choosing green bonds however, they also pay attention to the return value. The analysis was carried out on the performance of green bonds against conventional bonds in Indonesia from 2018 to 2021 and compared the yield of green bonds with yields of conventional bonds with an independent sample t-test. The results show that Indonesian green bonds have an increased performance every year and green bond yields have no significant difference from conventional bond yields where green bonds have slightly higher yields.

Keywords: Green bonds, Sustainable Development Goals (SDGs), Conventional Bonds, Gains – losses, Yield, Bonds Price, Investment portfolio.

Asymmetry Causality between Insurance and Growth in Selected ASEAN Countries

Phouphet Kyophilavong

National University of Laos, Laos

Soyoung Lim

Sungkyunkwan University, Korea

Insurance is one of the most critical parts of any modern economy. However, the literature has found limited asymmetrical causal effects from the dynamic interaction between the insurance market and economic performance. In this paper, we aim to fill this gap in the literature by investigating the asymmetric causality between insurance and growth in selected ASEAN countries from 1980–2021 (Hatemi-J, 2012). Empirical studies have shown the following: (1) there is asymmetric causality between insurance and growth that the standard symmetric causality test does not find; (2) the asymmetric causality between the two series has different insurance indicators and country-specifics; and (3) the negative shock to insurance and growth is stronger than the positive shock for most of those variables.

Dual-earner Household and Food Expenditure

Seonglim Lee

Sungkyunkwan University, Korea

This study explored the impact of employed women's earnings on food expenditure using longitudinal data from the KLIPS in Korea applying the hybrid model analysis. This study found that dual-earner households spent significantly less on food than sole-male breadwinner households. As a reason, this study highlights the role of the intra-household gender earning gap, the employed mother's low earnings compared to those of fathers. A larger intra-household gender earning gap and the father's higher earnings were related to a lowered increase (or a greater decrease) in spending on food. The results indicated that the extent to which dual-earner households increased spending on food depended on the employed mother's earnings, not household income. The poor status of women in the labor market has an impact on women's earnings. This, in turn, affects the budget for food in the household and, consequently, the quality of the family's diet. A higher-income family with an employed mother in a low-paying job may have reduced food expenditure according to the woman's earnings. Less food expenditure and a low-quality diet may be possible even in dual-earner households with higher socioeconomic backgrounds.

The Development of Green Bank in Vietnam

Tran Thi Thanh Tu

Vietnam National University, Vietnam

Green bank is sustainable bank in a broad sense while green bank refers to its operational activities that encourage environmental activities and reduce carbon emissions, such as stimulating the use of green products and services; applying environmental standards for approval of loans or providing preferential credits for projects reducing CO₂. (UN ESCAP, 2012).

December 02, 2022

The Impact of Central Bank Digital Currency on Financial Stability

Hiep Ngoc Luu

Vietnam National University, Vietnam

This paper examines what determines Central Bank Stable Coins in contemporary world, using literature review and survey among expert group.

Comparison of Global Sustainability Reporting standards and K-ESG standard

Hongjoo JUNG

SKKU, Korea

This research aims to compare the globally used GRI (Global Reporting Initiative), SASB (Sustainability Standard Board), and TCFD (Task force on Financial Disclosure) and the recently developed Korean ESG (K-ESG standard) to see what are common or difference, while trying to let them reduce any discrepancy. In particular, the paper shows that the K-ESG lacks in emphasis of consumer group or interest much less than the other standards. For instance, SASB put more weights on consumer group as a stakeholder than employee group as can be seen under Social Capital and Human capital criteria. This implies that K-ESG should be transformed or updated in more consumer oriented standards, if it wishes to be developed as a globally compatible standard.

The Dynamic Impacts of COVID-19 and the March 2020 Stock Market Crash on the Multifractality of Nasdaq Composite and Insurance Indexes

Xing Li and Fang Sofia Su

School of Finance, Shanghai University of Finance and Economics, China

In this study, the dynamic effects of COVID-19 pandemic and the March 2020 stock market crash on the multifractality of NASDAQ Composite Index and NASDAQ Insurance Index time series are explored. The daily INS Index from December 1, 2017 to January 14, 2022 are used for this research. The "scissors difference" of Nasdaq Insurance Index and Nasdaq Composite Index is observed in the study series. Firstly, the apparent and intrinsic multifractality of these time series are analyzed and the dynamic impacts of COVID-19 pandemic are determined. Secondly, the multifractal cross-correlation between the INS/COMP is investigated. Furthermore, the dynamic influence of COVID-19 pandemic on the cross-correlation is examined. The multifractal analysis results reveal that two series both before and after COVID-19 outbreak have multifractal characteristics. The stronger multifractal characteristics and the greater multifractal degree are obtained after COVID-19 outbreak. The intrinsic multifractality increase largely after COVID-19 outbreak. The multifractal cross correlation analysis illustrates that the cross correlation between two series both before and after COVID-19 outbreak are multifractal. There are the stronger multifractal cross-correlation and greater multifractal degree after COVID-19 outbreak. The contribution of the intrinsic multifractal cross-correlation increases after COVID-19 outbreak.

A Comparative Study on Business Group Governance Structure in Korea and Japan

Kyoung Ae Kim

Kookmin University, Korea

Business groups differ in terms of who controls the operating company (e.g. family, state and bank) and control mechanisms (pyramids and others). Therefore, this study compared the business groups of the two countries with different corporate governance structures by examining Korean chaebol and Japan's Keiretsu among Asian business groups.

The chaebol played a key role in the rapid growth of the Korean economy. In the course of economic development, the size and business scope of chaebols also expanded rapidly. However, even after the high growth period following the government-led economic development in the 2000s, chaebols continued to expand their external appearance. In particular, since the 2000s, the business sector has been actively advancing into the service industry rather than the manufacturing industry, which has been the main business of chaebols since the 1970s. Developing countries with the ability to allocate capital and other scarce resources in the early stages of economic development often encouraged the proliferation of business groups by encouraging a small number of entrepreneurs to enter new industries deemed important to economic development. In the case of Korea, there has been state intervention to promote economic development. In a situation where sales of business groups currently account for about 84% of Korea's GDP, it was necessary to understand the relationship or relational context between subsidiaries at the business group level. In the case of Korea, as of 2020, the sales to GDP of 71 domestic business groups are approximately 1,600 trillion won, or 84%, in the order of Samsung (20.8%), Hyundai Motor (11.3%), SK (8.7%), and LG (7.7%). Therefore, it can be said that the influence of large domestic business groups on the Korean economy is very great.

The Japanese business group, on the other hand, originally consisted of Japan's three major zaibatsu, namely Mitsui, Mitsubishi, and Sumitomo during and prior to World War II. These large-scale zaibatsu have led Japan's economic growth by occupying a monopoly position in each industry for each affiliate. These zaibatsu actively helped the Japanese Empire during World War II, but were dismantled by the Allied Forces, including the U.S., the occupying country, as they were defeated. After that, a new type of business group, keiretsu, was formed through the reunification of business groups. However, due to the bursting of the bubble in Japan in the 1990s, many keiretsu disappeared or merged. Although there is an analysis that Japan's keiretsu system is fading, keiretsu still occupy

the central axis of the current Japanese economy, which has a very complex structure.

Factors Influencing Consumer Perception on Life Insurance in Myanmar

Chaw Su Aung

Myeik University, Myanmar

Insurance is one of mankind's greatest inventions, an extraordinarily useful tool to reduce risk (Kunreuther, H. C., et al., 2013). Insurance, the risk-transfer mechanism which is socially valuable, is a vital sector of financial services industry (Fadun, 2013). Insurance companies play an important role in the welfare of human well-being by providing protection to millions of people against life risks such as uncertain death or accident. In Myanmar, insurers underwrite two types of insurance that are life and general insurance. Life insurance is one of risk management important tools for the policy owner to manage their financial plan when the accident occurs. Life insurance is a contract between a policy owner and an insurance company, where the policy owner agrees to exchange the death benefit or coverage financial amount upon the death of an insured person by paying the premium for a period to an insurance company. Life insurance policies are categorized into term life, whole life, universal life and variable universal life (Rejda & McNamara, 2017). According to the Asia Insurance Review, Myanmar insurance sector had a long and eventful history and furthermore, Myanmar insurance has a potential trend to become one of the huge insurance markets in ASEAN.

On January 2021, the Insurance Business Regulatory Board invited Myanmar-owned companies to submit expressions of interest in applying for either a life insurance business license or a general insurance business license. There are currently 24 local and foreign insurance companies operating in Myanmar, representing an investment value of USD 152.1 million. In terms of foreign entrants to the market, five foreign insurance companies have a license to conduct life insurance business with 100% foreign shareholding: AIA, Chubb, Dai-ichi Life, Manulife, and Prudential. Life insurance business licenses have been awarded to three foreign-Myanmar joint ventures: between Capital Life Insurance and Taiyo Life Insurance Company, between Citizen Business Insurance and Thai Life Insurance, and between Grand Guardian Life Insurance Company and Nippon Life Insurance. With intensified competition in the industry, it is vital for the insurance companies to explore and evaluate consumer preference and information to identify the appropriate marketing strategies and business development. Insurers may seek to differentiate themselves by offering value-added services and nonmonetary benefits. For example, life insurance companies in Asia and Europe provide administrative support for medical visits, health management and telemedicine. Customer perception plays a major role in buying behavior. Customer perception refers to the process by which a customer selects, organizes and interprets information or stimuli to create a meaningful

picture of brand or the product (Kotler, 1997). Therefore, insurance companies are ready to spend money and effort to influence customer perception and drive profitable consumer behavior.

Sustainability Related Risk Management and Disclosure

Taeyoung Paik

ISSB (International Sustainability Standard Board) & Sungkyunkwan University, Korea

Recently, Sustainability and/or ESG has become an important business paradigm in contemporary business world. ISSB (International Sustainability Standard Board) is now designing a comprehensive disclosure standard for global corporation to use in the near future. This paper shows what will be new standards subject to certain constraints.

International Finance Corporation and Impact Investing

Tyler Kim

IFC, World Bank, Singapore

The purpose of study is to investigate impact investment with the rising awareness of sustainable growth. Impact Investing refers to investments made into companies or organizations with the intent to contribute to measurable positive social and environmental impact, alongside a financial return. Impact investment can provide a variety of benefits. First, establishing impact investments can offer commercial returns. Second, it can bring transparency and discipline to how investments are managed to achieve impact. Thirdly, it can address regulatory barriers facing investors. Lastly, it can build clarity, credibility and comparability.

Micro- and Small-Sized Enterprises' Sustainability-Oriented Innovation for COVID-19

Hengbin Yin

Wenzhou Business College, China

The economic impact of a public emergency, such as the COVID-19 pandemic, is often reduced by micro and small businesses (MSEs) undertaking sustainability-oriented innovation for public emergencies (SOIPE), which includes production and service innovation, information innovation, marketing innovation, and labor innovation. The originality of this study lies in its prediction and evaluation of COVID-19's challenges and SOIPE's requirements to have a keen observation and discovery ability. In this paper, we combined nominal group technique, fuzzy analytical hierarchy process, least squares, and a case study to investigate governance, economic, financial, sociocultural, and environmental sustainability and demonstrate the MSEs' sustainability evaluation model. In a qualitative study and literature review, MSEs were found to use SOIPE in a variety of ways. Some studies focused on marketing innovation, while others were hampered by their limited understanding. From both a theoretical and empirical perspective, this study suggests that MSEs should identify their optimal SOIPE based on the impact and volatility of a public emergency.

In addition, this study presents an assessment of the impact and environmental volatility of a public emergency, as well as MSEs' SOIPE, which is more helpful for enterprises. Finally, this study creatively introduces the SOIPE of MSEs, which has important policy ramifications.

**Data Economy Ecosystem:
Concepts, Anticipated Effects, & Sectoral Innovation Cases**

Man CHO

KDI School of Public Policy & Mgt, Korea

During the last five decades, human beings have experienced the emergence of several epoch-making technological advancements that affect our daily lives, often termed as GPTs (General Purpose Technologies) that include the micro-processor in 1969, the World Wide Web (www) in 1989, and the smartphone in 2007. In the last ten years or so, we are also experiencing rapid expansion of two particular innovations – BigData and Machine Learning, which enables a highly efficient processing and analyzing of various alternative data in industries, academia, and governments. In my talk today, I will attempt to synthesize the recent Data-Platform-AI based innovations under the concept of “Data Economy Ecosystem (DEE)” and, in so doing, will discuss several relevant global trends, anticipated micro- and macro effects of a well-functioning DEE, the actual innovation cases observed from Korea, and, finally, policy directions to foster the ecosystem.

Private Pension Plans and Protection of Personal Benefit Right

Focusing on Korea and Japan Comparison

Hong-mu Lee

Waseda University, Japan

With the advent of a rapidly aging society, income security in old age has become an urgent issue to be resolved. This income security in old age depends mainly on public pensions, but the role of corporate and individual pensions is also becoming increasingly important.

However, securing entitlements to defined benefit (DB) pensions and private pensions has become an important issue. Defined benefit (DB) pensions are protected by the employer's funding obligations, but there is a possibility of benefit cuts in the event of underfunding. In addition, private pension amounts may be reduced in the event of bankruptcy of an insurance company or bank.

The purpose of this study is to clarify these issues through a comparison of the actual situation of securing entitlements in Japan and Korea in this private pension system.

Stablecoin and Financial Consumer Protection - Beginning from Luna-Terra Crisis - Beginning from Luna-Terra Crisis

Gi-jin Yang

Jeonbuk National University, Korea

Stablecoins have penetrated well the world coin market by promoting the their price stability, in other words, a fixed exchange rate with fiat currency, and show significant share in the global coin market. However, in order to secure the stability of their value, regulations are indispensably required - entry/prudential regulation of issuers, reserve assets regulation, coin disclosure regulation, regulations on market price manipulation and unfair trading regulation, etc. Starting with the Terra-Luna crisis that occurred in early May 2022, this presentation aims to search the appropriate direction for stablecoin regulation in Korea, which is currently under discussion.

Institutional Consideration for Improving for Soundness of Insurance Companies in Korea

Moonyun Hwang

Sungkyunkwan University, Korea

The increase in life expectancy of policyholders is closely related to the health care and healthcare industries. Nevertheless, the financial supervisory structure does not deviate from the framework of the past, and it is a stumbling block to the development of Insurtech. The purpose of this study is to examine whether health rating modeling and ex-post verification are properly performed in handling insurance products that reflect health grades and health scores within the scope of supervisory authorities' regulations, and to examine whether there is a possibility to improve the soundness of insurance companies. Therefore, the health rating modeling and ex-post verification are compared with the internal model of bank credit risk applied to model building, and whether the standards are met with the IAIS core principles, whether it can be added to the current insurance supervision laws and management status evaluation(RAAS), etc. is examined from the perspective of approval of the insurance risk-related internal model. As a result of study, risk factor related to the solvency ratio calculation and the definition of health accident are similar. It was found that the insurance company's internal model construction standards according to the IAIS core principles do not have any problems.

**Drivers and real effects of energy efficiency premium in residential real estate:
evidence from the UK**

Qizhou Xiong

University of Oxford, U.K.

This paper investigates the determinants and real effects of the energy efficiency premium in the residential real estate market using extensive transaction and energy performance certificate (EPC) data in England and Wales. The data shows that, since the implementation of the EPC policy, there is a significant energy efficiency premium, which also exhibits significant time and regional variation. Moreover, we investigate the determinants of the energy efficiency premium to test two main hypotheses: 1) capitalisation of energy cost savings in the future and 2) environmentally responsible households' voluntary willingness to pay. The empirical analysis shows weak support for the capitalisation theory but offers strong evidence for the voluntary premium story. Finally, we find a significant yet economically moderate real effect of energy efficiency premium by looking into the lagged EPC of retrofit and new builds.

December 03, 2022

Implementing the Origin Management System in developing country

Yoonjin Oh

Sungkyunkwan University, Korea

Starting with Korea's first FTA with Chile in 2004, Korea pursued simultaneously multiple FTA agreements with many countries. However, Korea's simultaneous formations of multiple FTAs resulted in raising the compliance costs of Korean exporting firms applying preferential treatment due to the complex Rules of Origin (ROOs), reducing the effectiveness of the FTAs. In particular, the ROOs, which are essential requirements for applying for preferential tariff benefits, have been a burden on domestic exporters, especially SMEs that do not have sufficient capital, manpower, and experiences. Accordingly, the Korean government implemented various support policies and domestic measures to promote the uses of FTAs by these firms, which leads to establish a globally leading level of FTA Support and Management System for preferential origin regulations.

This study aims to share with the developing country governments Korea's experiences regarding the establishment of an origin management system (including certification of origin, etc.), which is necessary for the use of FTAs, thereby helping the developing country governments use FTAs and promote exports. In this study, we considered Korea's experience that we can share to distribute the country of origin management system, which is provided free of charge by the Korean government to SMEs, to SMEs in developing country; and presented policy plans for the introduction of the system in consideration of the circumstances and capabilities of the developing country governments.

Self-Regulating Digital Finance

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With no solid legal framework in most countries to deal with the booms and busts of the crypto industry, self-regulation serves a dual role. First, it serves as a ladder for crypto companies to evolve and build the trust of the market participants. Second, self-regulation is used as a strategy to preempt formal regulation legally imposed by the state. South Korea is a nation that is considered one of the pioneers of crypto self-regulation as its crypto industry is among the first globally to establish self-regulatory organizations (SROs) for crypto. This article critically examines the motivations, functions, and activities of the Korea Block Chain Organization, a crypto SRO formed in 2018 and is comprised of 40 crypto companies, and the Digital Asset Exchange Alliance (DAXA), a consortium of 5 major crypto exchanges formed in June 2022 in the wake of the Luna-Terra Crash. This article draws on an "audited" or "embedded" self-regulatory models set forth by American academics and proposes a framework by which the Korean crypto industry can effectively self-regulate itself.

Current Issues on Water Quality Management

Dongil Seo

Chungnam National University, Korea

Segmented water management issues • Min of Construction – Water Quantity • Min of Environment – Water Quality • Min of Agriculture and Food – Agricultural Water • Min of Ocean and Fisheries – Coastal Water Quality ● Duplication or multiplication of water projects • By different governmental ministries and institutions ● The 7th World Water Forum in Korea, 2015 • Multi Sectoral Cooperation Example (2012~) ● New law for Water Management, 2018 • Ministry of Environment (2018) • Need a new agenda for international cooperation

Insurance for Coal in South East Asia: Is There a Future?

Adi Salleh

Samsung Reinsurance, Singapore

This paper explores a future forecasting of Southeast Asia in terms of Coal reduction due to the SDG or ESG paradigm across the whole world.

Consumer's Insurance Knowledge and Longevity Risk Management

Sung-sook Kim

Keimyung University, Korea

Korea will be the super aged society in a few years (2025). A lot of consumers face longevity risk
This study examines relationship between consumer insurance capacity and longevity risk
management strategy. .

Comparative Study on the E-Commerce Consumer Protection Act

Yoon Lee

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As Cross Border E-commerce grows, related disputes between customer and sellers are also increasing. Though the customers and the sellers located in different country, there is no international law to apply to the dispute. Especially, many countries consider B2C transaction as a consumer contract, so compulsory provisions of domestic law for consumer protection are applied in accordance with private international law. Therefore, both the consumer and sellers need to check domestic e-commerce laws which they should be follow.

In this study, our first goal is checking private international laws of different countries to confirm the domestic consumer protection laws are applied to the CBEC. The next step of the research is comparing e-commerce protection act of each country focusing on the right to withdraw and refund.

We hope our study will provide implications on CBEC consumer protection and the companies which try to export their product through CBEC channel.

A Study on Risk Management for Mold Design Schedule Planning Based on Big Data Analysis

Younsook Kim

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Majority of mold manufacturers are small and mid size companies. And many of them experience a severe financial risk when finished mold delivery to customer is delayed because it is highly likely that they won't get more orders from the customer. Thus, it is very important to predict and manage entire process lead time from design to delivery in order to prevent delay. Many studies are done on mold manufacturing risk management but they are not suitable for small and mid size manufacturers to adopt in real manufacturing process. In this study, an advanced lead time prediction model is proposed using actual field data unlike the other studies which bases on uncertain probability models to analyze the process. Actual field data is collected for mold design process which has the most significant effect on entire manufacturing schedule and applied it to build and validate a new total actual work time prediction model. Scikit-learn is used for this study for faster prediction. This study will be continued to improve the accuracy further by using Keras and comparison analysis will be carried on.

Can your Insurance Premium be Reduced if Your Risk Gets Lowered in Digitalization?

Hongjoo Jung

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This is a review paper to explore recent development in law and practice of premium adjustment following risk reduction of insurance policyholders, focusing on Europe (Germany, Italy) and Korea. Differently from rapid process of digitalization, substantially using consumer data in financial markets, insurance law and practices are slowly catching up with the technological innovation. While the insured's risk increases are reflected in insurance premium in most countries by insurance contract laws, the risk reduction has not been adjusted in existing system, but may be done in the near future law, owing to the Principles of European Insurance Contract Law ('PEICL') although Germany or Italy have not adopted the principle yet. In case of Korea, however, some practices and regulatory initiatives are being shown in that direction for financial consume protection, improvement of health condition of policyholders, and symmetric treatment of policyholders, while legal foundation has not changed yet after recent submission of draft law without success. That is, in both Europe and in Korea, digitalization is supporting financial consumer protection with respect to premium adjustment followed by insurance risk reduction while process and speed of innovation differs across the countries.

Evolution of HLE and Prediction of Disability Population in China

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The evolution of the health status of the elderly population is the core basis for the formulation of long-term care policies in society, including the scientific prediction of the size of the future disability population. Based on the follow-up data of the Chinese Longitudinal Healthy Longevity Survey (CLHLS) from 2002 to 2005 and 2011 to 2014, this paper took the elderly population aged 65-105 as the target population and comprehensively defined health from the aspects of daily living activity ability, instrumental daily living activity ability and cognitive ability. Combined with the risk exposure method and multistate life table, the health status transition intensity, transition probability, healthy LE (HLE), and life expectancy (LE) of the elderly population were calculated, and the trend and relationship between health and longevity were analyzed, and the scale of the elderly disabled population from 2020 to 2050 was predicted. The results of the study showed that, from a cross-sectional view, the severe disability rates of men and women from 2002 to 2011 were 11.55%-13.63% and 17.65%-19.71%, respectively; From the perspective of longitudinal state transition, the recovery rate of female elderly is higher, and it is mainly manifested as recovery from mild disability to health. The healthy development model for China's elderly population is not a single model. The elderly with a healthy initial state fit the disability expansion mode, while the elderly with a mild initial state disability fit the disability compression mode. After considering the time trend of health and longevity changes, the scale of the elderly disabled population will increase by nearly 60% in the future. The trend of the increase of the elderly disabled population in the future is irreversible, and the establishment of social long-term care insurance covering the whole population is imminent.

Micro and Small Enterprises' Sustainability-Oriented Innovation for Public Emergency

Bonghwan Cho

Myongji University, Korea

During the public emergency (as COVID-19), micro- and small enterprises (MSEs) were observed in using sustainability-oriented innovation for public emergency (SOIPE), which are production innovation, information innovation, marketing innovation, and labor innovation. And MSEs' SOIPE have helped them defend the adverse effects of public emergency. This paper aims to study the selection criteria for MSE's SOIPE and used Chinese cases study to evaluate it, then provide suggestions to government and MSE innovation policies.

The investigation was designed using a mixed-method design. A qualitative study and literature review, as the first part, explored MSEs' possible SOIPE, as MSEs' value-creation production of new product or product customisation, its production flexibility, and its cost-down and quality-promotion production (Hahn, G., 2020; Kamble et al., 2020, 2018; Ramadan et al., 2017; Oesterreich and Teuteberg, 2016; Stock and Seliger, 2016; Lasi et al., 2014; Kagermann et al., 2013). MSEs' efficient, real-time, and all fields information gathering, evaluating, negotiating, and decision-making (de Sousa Jabbour et al., 2018; Stock and Seliger, 2016; Wang et al., 2016a; Wang et al., 2016b; Wang et al., 2016c; Herrmann et al., 2015; Lee et al., 2015; Peukert et al., 2015). MSEs' labor-training and engineering safety-improvement, related employee and decision-makers all need to be educated and trained, thereby improving their knowledge, skills and sense of benefit promotion and risk-aversion (Ying et al., 2021b; Horváth and Szabó, 2019; Szalavetz, 2019; Herrmann et al., 2015; Peukert et al., 2015).

The insights from qualitative study and literature helped the Fuzzy AHP part of the study, this paper integrates nominal group technique (NGT), analytical hierarchy process (AHP), and fuzzy technique for order preference by similarity to an ideal solution (TOPSIS) approach, and a case study has been used to demonstrate the fuzzy optimal selection model.

In the qualitative study and literature review, MSEs were found to have a varying SOIPE. Some ventured into marketing innovation while others were impeded by their limited understanding. The second study showed the selection criteria for MSE's SOIPE are MSE's Governance Systems, Industrial Economic Sustainability, Financial Risks, Corporation Stability.

Commercial Health Insurance and Working Hours—Evidence from China’s Public–Private Joint Medical Insurance"

Mingxin Zhang

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Recently China has launched a large-scale public-private joint medical insurance program city-by-city. As a supplement to social insurance, this low-cost commercial insurance is supervised by the government and operated by commercial insurance companies. This paper first explained how commercial insurance influences the choice of working hours by affecting the health of individuals and then estimates the impact of commercial insurance on working hours using regression discontinuity (RD) and difference-in-differences (DD) method with the help of the automatic deduction mechanism of Shenzhen supplementary medical insurance. Compared with the control group, people in treatment group worked significantly fewer hours per week. Mechanism analysis showed that healthy groups had higher work length-income elasticity and buying insurance improved the motivation of health groups to reduce their work hours. Our study contributes to the literature on the impact of inclusive commercial insurance on working hours.

The Financial Regulatory Sandbox in Korea

Misoo Choi

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The financial sandbox is an instrument to use by financial regulator to provide an opportunity to new start-ups to try an exemplary products or services to sell to customers and to use for short period of time before allowing it for a full scale, the sandbox was first developed by the U.K. as financial digitalization begins. This paper analyses the sandbox case of Korea in financial regulatory regime.

Insurtech Trends in Korea

Soyoung Lim

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Insurance plays an essential role in handling global and regional investment volumes, personal and business risks (OECD, 2021), and has evolved with other major financial sectors to overcome economic uncertainty (Low and Fekete-Farkas, 2021). People have expressed an increasingly strong preference for non-face-to-face transactions enabled by remote technology in the financial sector, mainly driven by the COVID-19 pandemic and the growth of digital-savvy consumers such as Millennials and Generation Z. For that reason, all sectors in the financial industry are paying more attention to digitalization. Insurance industry has seen a significant change with big tech companies such as Naver and Kakao entering the insurance market. To be specific, big tech companies are operating as insurance agents. That may cause concern over unfair solicitation since big tech companies could take advantage of their giant platforms to hamper the competition. For example, big tech companies could use algorithms to recommend specific products from specific insurers and might demand high commissions from those insurers. This study shows recent digitalization and insurtech trends in Korea.

The importance of a Societal Perspective in Health Economic Studies when Evaluating Public Health Intervention

Lena Schnitzler

Maastricht University, Netherland &

University of Birmingham, UK

As part of this presentation, I am happy to present one of my publications published as a 'Perspective' in the International Journal of Technology Assessment in Health Care. It reports on 'The broader societal impacts of COVID-19 and the growing importance of capturing these in health economic analyses' to optimally inform policy/decision-making processes. These wider societal costs and benefits include, for instance, the effects on the labour market and productivity, education, criminal justice, housing, consumption, and environment. We define these wider societal costs and benefits spilling over to other sectors outside health as 'intersectoral costs and benefits'. Unfortunately, these intersectoral costs and benefits are often overlooked and not captured in economic studies, which can result in an underestimation of the true economic burden of public health issues and interventions to society. In this paper, we show that the COVID-19 pandemic – as an example - highlights the importance of adopting a societal perspective for health economic evaluations to adequately capture all relevant costs and benefits.

A Random Forest-Based Approach for Predicting Spreads in the Primary Catastrophe Bond Market

Despoina Makariou

University of St. Gallen, Switzerland

We introduce a random forest approach to enable spreads' prediction in the primary catastrophe bond market. In a purely predictive framework, we assess the importance of catastrophe spread predictors using permutation and minimal depth methods. The whole population of non-life catastrophe bonds issued from December 2009 to May 2018 is used. We find that random forest has at least as good prediction performance as our benchmark-linear regression in the temporal context, and better prediction performance in the non-temporal one. Random forest also performs better than the benchmark when multiple predictors are excluded in accordance with the importance rankings or at random, which indicates that random forest extracts information from existing predictors more effectively and captures interactions better without the need to specify them. The results of random forest, in terms of prediction accuracy and the minimal depth importance are stable. There is only a small divergence between the drivers of catastrophe bond spread in the predictive versus explanatory framework. We believe that the usage of random forest can speed up investment decisions in the catastrophe bond industry both for would-be issuers and investors.

Global Risks and Property Insurance Market Outlook

Kate Baek

Allianz Hong Kong, Hong Kong

This paper aims to discuss trends and issues in the world property insurance market. To this end, the definition of property insurance and its covered risks are investigated. Then, it explores the major triggers of property losses; some recent property loss events are examined in the case of the South Korean market. Furthermore, it discusses major underwriting and pricing factors for property insurance by region. Lastly, market outlooks, as well as risk properties, are explored.

<Thank you all>

We appreciate your participation and cooperation.

Have a nice year-end and happy new year!

See you all again!

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with

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