ICIR International Center for Insurance Regulation

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

ANNUAL REPORT 2019 2020

Contents

Prof. Dr. Helmut Gründl

Ten Years of ICIR at the Goethe University Frankfurt

Dear Friends of the ICIR,

In 2020, the ICIR celebrates ten years at the Goethe University in Frankfurt am Main, the European financial and financial regulation center. It is with immense pride and pleasure that we can look back at a successful decade of achievements of our research center that is dedicated to insurance and regulation.

Innovative Foundation

Founding the ICIR more than 10 years ago has created a presence for insurance topics in the otherwise banking-oriented city of Frankfurt, contributing to the internationalization of the Goethe University, addressing future-oriented insurance topics to be debated among the different stakeholders and inspiring young students to pursue their career in academia, in insurance regulation and supervision, or in the insurance industry.

In this context, great recognition and gratitude go to my colleagues Prof. Dr. Wolfram Wrabetz, Prof. Dr. Manfred Wandt and Prof. Dr. Hartmut Nickel-Waninger from the ICIR Executive and Advisory Board, who were the founding architects of the ICIR. They, in cooperation with the sponsors of the ICIR, have set up the framework for this international and interdisciplinary research center as the basis for implementing all our activities. Through the guidance of our Advisory Board and our Executive Board members, the ICIR's international network has succeeded in unfolding over the years. I would hereby like to mention Prof. Karel Van Hulle from the Executive Board and Dr. Monica Mächler as chair of the Advisory Board, who have accompanied us with their international perspectives throughout the years. By sharing his unique expertise in insurance regulation through his excellent text book on Solvency II, his teaching activities at Goethe University and by worldwide presentations, Prof. Van Hulle has created great international visibility of the ICIR and the Goethe University over the last decade. In addition, there are so many other persons from the ICIR's boards and beyond who have made excellent contributions to the ICIR's development. The space of this foreword is not sufficient to list them all.

In particular, I would like to thank the Goethe University, the German Insurance Association (GDV) and the State of Hesse, and all members of the Executive and Advisory Board for their continuous commitment to a fruitful evolution of the ICIR.

I would also like to thank all former and current team members for all their excellent daily work and dedication to achieve the goals. Their drive and energy have contributed substantially to this success. ▶

Taking Stock

Looking back at the last ten years allows a snapshot of the outcome so far: 1 post-doctoral degree and 9 doctoral degrees were awarded to young scientists who have been doing research on topics of European insurance law, life insurance, financial stability and digitalization. We supervised 180 bachelor and master theses, implemented 6 executive education programs, and we had 48 policy platform events in the House of Finance at which we discussed current topics of insurance regulation.

Since October last year, further highlights have reflected the outcome of long-standing international relationships and the innovative potential of the ICIR. To mention a highlight on the research side, Dr. Irina Gemmo and Dr. Christian Kubitza succeeded in publishing a contribution in the Journal of Public Economics that was set up during their time at the ICIR. Other papers are presently in the review, revision and resubmission process in renowned international journals. In November 2019, in cooperation with the Goethe Business School, the ICIR had the privilege to welcome 25 delegates from the Bangladesh Insurance Development and Regulation Authority and the Bangladesh Insurance Sector Development Program of the World Bank to the newly designed 'Insurance Supervision and Regulation Training´ in Frankfurt. This program provided scope to exchange global perspectives on insurance topics in a multi-stakeholder setting with representatives from the government, policy, regulation, industry and education sector.

In the midst of the present Covid-19 crisis, in March 2020, not only did we set up online lectures at short notice; we also introduced the new and innovative ICIR Digital Policy Forums addressing current developments and their impact on the insurance sector. We have received a fantastic commitment by executives and colleagues from academia to share their views as speakers, and welcomed online an international audience in four forum events. It was an impressive experience to raise the potential of the digital forum to provide digital space for the policy dialogue. In this context I would like to thank Jozefina Kontic and Karel Van Hulle for their leadership and commitment in setting up the program.

Embracing the Future

From October 2020 on, the ICIR goes into a new five-year funding period. We are very grateful to the State of Hesse, the GDV and the Goethe University for their commitment to provide funding for the future development of the ICIR. With great personal commitment, the President of the Goethe University, Prof. Dr. Birgitta Wolff, and her team, in particular Sebastian Keil, have given enormous guidance to make the new funding period possible. Prof. Wrabetz, Dr. Mächler, Dr. Wiener, the Deans Prof. Maurer and Prof. Günther, and many others have substantially contributed to this new funding agreement. Thank you very much indeed!

In close cooperation with our stakeholders, we are now going to develop the strategic goals of the "new" ICIR for the upcoming years. Widening international cooperation as well as modernizing communication and networking through digitalization can foster the knowledge transfer and improve access to educational formats on a global scale. Through our research, through education formats and policy events, we will continue to accompany the development of insurance and insurance regulation.

Thank you all for the last ten years! I look forward to meeting you all in person again soon.

Yours sincerely,

Prof. Dr. Helmut Gründl
Managing Director of the ICIR

Dr. Monica Mächler

ICIR – Yesterday, Today and Tomorrow

In **2010, the year of its inception**, the name of the "International Center of Insurance Regulation" (ICIR) already said it all in summing up its program, namely "International", "Center", "Insurance" and "Regulation". The establishment of a center at the Goethe University in Frankfurt am Main focusing on insurance regulation at the location of CEIOPS, followed by EIOPA as well as the ECB and the ESRB came just at the right time, shortly after the financial crisis of 2007–2009 and after the adoption of the Solvency II Directive in 2009. With this initiative, the scientific curriculum was augmented at the important interface between insurance business and insurance regulation. This initiative had been made possible thanks to the generous support by the Federal State of Hesse and by the umbrella association of the German Insurers, the Gesamtverband der *Deutschen Versicherungswirtschaft (GDV)*.

With Prof. Dr. Helmut Gründl it was possible to find a personality as the holder of the Endowed Chair for Insurance and Regulation as well as Managing Director of the ICIR who had already served as professor at the Dr. Wolfgang Schieren Chair for Insurance and Risk Management at Berlin's Humboldt University and was the ideal choice to be placed in charge of the ICIR. Within the interdisciplinary Executive Committee, Prof. Dr. Manfred Wandt as well as Prof. Dr. Wolfram Wrabetz as representative of law studies and Prof. Karel Van Hulle as the "designer" of Solvency II, were at his side from the outset. Almost since the very beginning, the ICIR was also assisted by an Advisory Board assembling internationally renowned representatives of insurance regulation and supervision and of the insurance industry.

In alignment with its objectives and the mission of the Goethe University, **over the last ten years** the ICIR has developed and fostered a wide range of activities in the areas of research, teaching and communication.

The list of titles of the **research projects** portrays the challenges faced by insurance and insurance regulation in recent years: capital requirements, low interest-rate environment, life insurance features, investment behavior, potential systemic risk, transparency, the implementation of European directive-based law within national regulation, the further development of Solvency II, insurance contract law aspects, and more recently sustainability as well as health risks… the list of topics certainly is long. All this has led to numerous outstanding dissertations, articles for scientific journals, publications and conference contributions that have been recognized and distinguished with well-known awards.

At the same time, in the field of **teaching**, the members of the Executive Board of the ICIR including Prof. Dr. Hartmut Nickel-Waninger as well as Prof. Dr. Jens Gal, Dr. Christian Thimann, Tom Wilson, PhD and various part-time lecturers, succeeded in providing bachelor and ▸

master students as well as doctoral candidates with access to the central topics of insurance and insurance regulation from an economic and legal perspective and introducing them to the fascination of this particular subject area.

The results from research and training have been **communicated** in many and various means to insurance practitioners, policymakers and an interested public at large. In doing so, the ICIR has found different formats such as the Global Insurance Supervision Conference, the Talks on Insurance and Regulation, the Karel's Club meetings and, most recently, in the new format of the Digital Policy Forum, to bring academics, regulators, supervisory authorities and insurance practitioners together for a rich exchange of views.

To achieve all this was only possible because Prof. Dr. Helmut Gründl had managed to attract highly qualified **students, doctoral and professorship candidates as well as further specialists and colleagues** to work together constructively. Many young academics have been trained in this fruitful working environment and continue today, as ICIR alumni and alumnae, their careers at German and foreign universities as well as in the insurance industry. The environment of the ICIR was sustainably supported by cooperating with other academic and policy-shaping institutions in Germany, Europe and in the United States.

It is an immense pleasure to know that the ICIR will **continue to pursue its objectives in the future**. The latest challenges surrounding the covid-19 pandemic have made it clear how important further analytical in-depth studies of insurance and insurance regulation issues are. Central questions on the regulatory framework conditions of insurance as a key protective mechanism remain to be answered. It is therefore even more important for the ICIR to contribute a sound scientific voice to the ongoing discourse. May the ICIR continue to play a productive role and be supported by recurring success stories that are true to its program, namely **"International", "Center", "Insurance"** and **"Regulation"**.

Monica Mächler

Dr. Monica Mächler
Chair of the ICIR Advisory Board

10 Years at a Glance
Some Highlights

2010

24 November 2010
ICIR Inauguration at the Goethe University

2011

Dialogue Event
Solvency II – A Blueprint for Worldwide Solvency Regulation?
with the German Association of Insurance Sciences (DVfVW) and the Munich Risk and Insurance Center (MRIC)

Conference on Transatlantic Insurance Group Supervision
with EIOPA and NAIC (US)

1st Talk on Insurance and Regulation (TOIR)
40 Years of EU Insurance Regulation – The Long and Winding Road
with Gabriel Bernardino, EIOPA

Executive Education for Insurance Managers
for/with the Deutsche Versicherungsakademie (DVA) and the German Insurance Association (GDV)

2012

Conference on Global Insurance Supervision (GIS)
with EIOPA

Insurance Dialogue
Life Insurance Products under Solvency II
with DVfVW and MRIC

Seminar on Insurance and Regulation
Critical Comments on Solvency II
with Dr. Elke König, BaFin

2013

Publication
Die Umsetzung der Solvency II-Richtlinie durch die VAG-Novelle
(Gal/Sehrbrock)

GIS Conference 2013

Karel's Club – Executive Insurance Forum
The Future of Life Insurance

Policy Letter
Own Risk and Solvency Assessment Within the Solvency II Framework and its Interplay with the Quantitative Solvency Capital Requirements
(Gründl/Gal)

2014

Research
The Effects of a Low Interest Rate Environment on Life Insurers
(Berdin/Gründl)

Policy Letter
Own Risk and Solvency Assessment Within the Solvency II Framework and its Interplay with the Quantitative Solvency Capital Requirements
(Gründl/Gal)

GIS Conference 2014
Fit For Global Thinking?
with EIOPA, The World Bank and St. John's University

IFRS 4 and Solvency II
A Workshop with the Chair for Audit and Accounting of Goethe University and GenRe

ICIR SAFE Research Workshop
Banking, Insurance – Interconnectedness, Systemic Risk and Regulation

SAFE ICIR Workshop
Banking, Insurance – Interconnectedness, Systemic Risk and Regulation
with Prof. J. David Cumminc, Prof. Mary A. Weiss, Prof. Loriana Pelizzon

2015

Policy Article
Solvency II at the Gates – Benefits and Risks of the New Insurance Regulation
Helmut Gründl

GIS Conference 2015
Insurance: Globally Under Pressure?
with EIOPA, The World Bank and Research Center SAFE

Talk on Insurance and Regulation
The European Regulation of Endowment Life Insurance and Occupational Pension Schemes
with Sven Giegold, Member of The Greens in the European Parliament

Research
Insurance in an Ageing Society

DZ Bank Career Award 2015
Irina Gemmo

2016

OECD Report
The Evolution of Insurer Portfolio Investment Strategies for Long-Term Investing
(Gründl/Dong/Gal)

ICIR SAFE
Research and Policy Workshop
Systemic Risk in the Insurance Industry – Models, Measures and Reality
with Speakers from IAIS, EIOPA, ESRB, BaFin, GDV, MunichRe, AXA, Standard Life UK, ICIR, Research Center SAFE, Hochschule Coburg, Koç University, University of Bologna, University of Udine

Policy Article
From Solvency II to Solvency III?
Karel Van Hulle

2017

Policy Article
Solvency II's Unexpected Indirect Regulation of the Reinsurance Contract
(Wandt/Gal)

GIS Conference 2017

Frankfurt Insurance Research Workshop 2017/2018

International Research Collaborations and Fellowships 2017/18
St. John's University, School of Risk Management, Insurance and Actuarial Science (US), Isenberg School of Management (ISM), University of Massachusetts (US), University of Guelph (Canada), The Sloan School of Management, MIT (US), The Wharton School, The University of Pennsylvania (US), ETH Zurich

New Lecture
European Insurance Regulation
Karel Van Hulle

DZ Bank Career Award 2017
Fabian Regele

2018

Guest Editor
Helmut Gründl
Geneva Papers on Risk and Insurance – Issues and Practices with a Focus on Insurance Regulation

Certificate for Master Students
"Insurance. Investment. Pensions. Regulation."

ICIR SAFE Lunchtime Series in Brussels
Systemic Risk in the Insurance Sector
with speakers from the European Commission, Allianz SE, ICIR/Goethe University

Policy Dialogue
Climate Risk and Sustainable Finance in Europe: The Role of Insurance
with Manuela Zweimüller (EIOPA) and Christian Thimann (Athora)

GAUSS Young Talent Award 2018 of DGVFM/DAV
Jan-Hendrik Weinert

2019

Book
Solvency II – Solvency Requirements for EU Insurers – Solvency II is Good for You
Karel Van Hulle

Book
Solvency II – Eine Einführung Grundlagen der neuen Versicherungsaufsicht
Gründl/Kraft

New Lecture
Insurance and Finance
Christian Thimann

GIS Conference 2019
Sustainable Insurance: Embracing Global Challenges

Policy Dialogue
The Pan-European Personal Pension Product (PEPP)
with speakers from EIOPA, GDV and Goethe University

Executive Education
Insurance Supervision and Regulation Training for the Bangladesh Insurance Sector Development Program

Geneva Association Ernst Meyer Prize 2019
Christian Kubitza

2020

Policy Article
Pandemic Insurance through Pandemic Partnership Bonds: A Fully Funded Insurance Solution in a Public Private Partnership
Gründl/Regele

Policy Article
European Insurance Regulation: Priority Actions
Karel Van Hulle

ICIR Digital Policy Forums
Insurance 2030: Towards Sustainability
Is Regulation Pushing the Change or Is Insurance Taking the Lead?
with speakers from the European Commission, EIOPA, ESRB, BaFin, GDV, Insurance Europa, Allianz, MunichRe, Athora, UNIQUA, The Greens/European Free Alliance, Goethe University

ABOUT THE ICIR

ICIR
The Three Pillars

Research
The International Center for Insurance Regulation (ICIR) is recognized as a leading scientific institution fostering independent research on insurance regulation and market solutions to regulatory questions. As an integral part of Goethe University in Frankfurt, the ICIR is committed to Goethe University's values and mission statement.

Education
The ICIR offers several lectures and seminars within the Bachelor and Master degree programs at the Faculty of Economics and Business Administration of Goethe University in order to increase professional knowledge in the field of insurance economics and insurance regulation.

Policy Platform
The ICIR provides an international and interdisciplinary platform for scholars, executives of the insurance industry, regulatory authorities, and policy makers to exchange ideas and shape strategic thinking about the future development of insurance and insurance regulation.

Funding and Partners

We would like to express our gratitude towards our funding partners, Goethe University, cooperation partners, and all the people within our network, for their continuous trust and tremendous support shaping the ICIR's development.

The ICIR receives generous funding by the State of Hesse (Land Hessen) and the German Insurance Association (Gesamtverband der Deutschen Versicherungswirtschaft (GDV)) for a period of ten years.

Goethe University, a research-oriented university at the heart of Europe's financial center Frankfurt am Main, provides an outstanding and modern infrastructure located on the Campus Westend in the House of Finance.

Goethe University gives the ICIR a unique scientific environment for interdisciplinary research.

In addition, the ICIR has received further research funding from the German Association for Insurance Studies (Deutscher Verein für Versicherungswissenschaft e.V.) in Berlin, the Frankfurt Association for the Promotion of Insurance Studies at Goethe University (Förderkreis für die Versicherungslehre an der Johann Wolfgang Goethe-Universität) and Goethe Finance Association e.V. (GFA).

The Executive Board

Prof. Dr. Helmut Gründl
Professor
Chair of Insurance and Regulation
Goethe University

Managing Director
International Center for
Insurance Regulation (ICIR)

Prof. Karel Van Hulle
Honorary Professor
Goethe University
Associate Professor
KU Leuven

Member
Board Bermuda Monetary Authority (BMA)

Member
Public Interest Oversight Board (PIOB)

Prof. Dr. Manfred Wandt
Professor
Chair of Civil Law,
Commercial and Insurance Law,
Private International Law,
and Comparative Law
Goethe University

Managing Director
Institute for Insurance Law

Founding Director
International Center for
Insurance Regulation (ICIR)

Prof. Dr. Wolfram Wrabetz
Honorary Professor
Goethe University

Representative of the Federal State of
Hesse for the Insurance Sector

Founding Director
International Center for
Insurance Regulation (ICIR)

The Advisory Board

Gabriel Bernardino
Chairman, European Insurance and Occupational Pensions Authority (EIOPA), Frankfurt

Dr. Frank Grund
Chief Executive Director of Insurance and Pension Funds Supervision, Federal Financial Supervisory Authority BaFin, Bonn

David Hare, PhD
Partner, Actuarial & Advanced Analytics, Deloitte UK, Edinburgh

Dr. Monica Mächler
Member of the Supervisory Board of Directors, Zurich Insurance Group Ltd. (Chair of the ICIR Advisory Board)

Alberto Corinti
Member of the Board of Directors of IVASS – Istituto per la Vigilanza sulle Assicurazioni, Rome

Dr. Denis Kessler
Chairman of the Board of Directors and Chief Executive Officer of SCOR SE, Paris

Prof. Dr. Hartmut Nickel-Waninger
Honorary Professor, Goethe University

Dr. Norbert Rollinger
CEO, R+V Group, Wiesbaden
(Vice-Chair of the ICIR Advisory Board)

Prof. Dr. Heinrich Schradin
Director of the Seminar for Business Administration, Financial Economics, Risk Management and Insurance, University of Cologne, Cologne

Dr. Klaus Wiener
Member of the Management Board of the German Insurance Association, (Gesamtverband der Deutschen Versicherungswirtschaft e. V. (GDV)), Berlin

Dr. h.c. Petra Roth
Former Lord Mayor of Frankfurt am Main

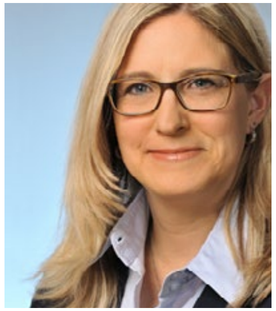
Raj Singh
Member Executive Committee and Chief Risk Officer, EFG International

The ICIR Team

**Prof. Dr.
Helmut Gründl**
Chair of Insurance
and Regulation
Managing Director,
ICIR

Jozefina Kontić
ICIR Management
(until 09/2020)

Dea Lapi
Chair Management
(until 03/2020)



**Bettina
Mathis-Kupczyk**
Chair Management

**Nicolaus Jan Karol
Grochola**
Research Assistant
and Doctoral Student

Fabian Regele
Research Assistant
and Doctoral Student

Kar Man Tan
Research Assistant
and Doctoral Student

Minh Huong Dao
Student Assistant

Alejandra Gil Gaviria
Student Assistant

Lisa Fischer
Student Assistant

**Victor Krug Kovacs
Borges**
Student Assistant

Maximilian Stellfeld
Student Assistant

Xingrong Zhang
Student Assistant

The ICIR Team 2010–2020

RESEARCH

Insurance.
Risk.
Regulation.

11 Degrees

1 Post-Doctoral Degree

Prof. Dr. Jens Gal, Goethe University Frankfurt
Habilitation at the Faculty of Law, Goethe University Frankfurt

10 Doctoral Degrees

Dr. Elia Berdin, Generali Assecurazioni
Dr. Ming Dong, Deutsche Asset & Wealth Management
Dr. Irina Gemmo, ETH Zurich
Dr. Franca Glenzer, HEC Montréal
Dr. Christian Kubitza, University of Bonn
Dr. Tobias Niedrig, Allianz SE
Prof. Dr. Sebastian Schlütter, Mainz University of Applied Sciences
Dr. Rayna Stoyanova, Inter Hannover
Dr. Jan-Hendrik Weinert, Viridium Gruppe
Fabian Regele (in submission process)

ICIR Research Portfolio

Insurance Industry and Financial Stability

Rising Interest Rates and Liquidity Risk in the Life Insurance Sector
Christian Kubitza (University of Bonn), Nicolaus Grochola, Helmut Gründl

Systemic Risk and Late Resolution of Economic Shocks
Christian Kubitza (University of Bonn), Helmut Gründl

Diversification of Business Activities and Systemic Risk
Fabian Regele, Helmut Gründl

Asset Concentration Risk and Insurance Solvency Regulation
Fabian Regele, Helmut Gründl

Fundamentals-Based Insurance Runs
Christian Kubitza (University of Bonn), Nicolaus Grochola, Helmut Gründl

Comparative Study of African and European Insurance Regulation
Nana Adwoa Dekyem Amo-Mensah

Business Diversification in the Dilemma between Individual and Systemic Stability
Fabian Regele

(Life) Insurance and Risk Management

The Influence of Market Risks on the Stock Return of Life Insurance Companies
Sebastian Schlütter (Mainz University of Applied Sciences), Mark J. Browne (St. John's University), Helmut Gründl, Nicolaus Grochola

Do Solvency II Reports Appropriately Inform About European Stock Insurers' Market Risk Exposures?
Nicolaus Grochola, Sebastian Schlütter (Mainz University of Applied Sciences)

Digitalization in the Insurance Industry

Privacy Concerns in Insurance Markets: Implications for Market Equilibria and Social Welfare
Irina Gemmo (ETH Zurich), Mark J. Browne (St. John's University, New York), Helmut Gründl

How Information Affects Whether People Gamble With Insurance
Kar Man Tan

Sustainable Insurance

Profitable Sustainable Investments for Insurance Companies
Sebastian Schlütter (Mainz University of Applied Sciences), Helmut Gründl, Emmanuel Fianu (Mainz University of Applied Sciences)

Insurance Economics and Climate Risk: The Role of Sustainable Underwriting
Fabian Regele, Greg Niehaus (University of South Carolina, Darla Moore School of Business)

Current Research
Working Papers Abstracts

Fabian Regele, Helmut Gründl

Asset Concentration Risk and Insurance Solvency Regulation

Historical evidence like the global financial crisis from 2007–09 highlights that asset concentration risk plays an important role for the stability of financial institutions. Due to their large investment portfolios, insurers seem to be particularly exposed to this risk type. However, current regulatory frameworks like Solvency II and the Global Insurance Capital Standard (ICS) consider only name concentration risk explicitly, but neglect sector concentration risk. We show by means of a unique dataset of US insurers' asset holdings that substantial sector concentrations exist, potentially exposing insurers to severe contagion risks. We also find some evidence for sectoral search for yield behavior of insurers. By using a theoretical asset model, we demonstrate that the current regulatory approaches are conceptually inadequate to cover asset concentration risk and can lead to inappropriate levels of solvency capital. Our findings have important implications to improve risk-based solvency regulation, in particular with regard to the ongoing review process of Solvency II and the ICS in the insurance sector.

Presented at 2019 SRIA, 2019 DVfVW, 2019 EGRIE, 2018 ARIA

Fabian Regele, Helmut Gründl

Diversification of Business Activities and Systemic Risk

A high level of individual stability of financial institutions is an important determinant for robust financial systems and typically fostered by both, micro- and macroprudential regulation. By means of business diversification, financial institutions can typically lower their individual default risk, which lowers contagion risks and hence, reduces systemic risk. This paper provides empirical evidence that insurance companies with a diversified business mix of life and non-life insurance business have a lower individual default risk and a lower contribution to systemic risk than monoline insurers. More specifically, insurance holdings, on average, with a fraction of slightly more than 54% of premiums written in life insurance show the smallest contribution to systemic risk. These findings have important implications for the design of regulatory frameworks, as business diversification potentially increases individual and systemic stability.

Presented at 2018 AEA, 2018 DVfVW, 2017 ARIA, 2017 EGRIE

Fabian Regele

Business Diversification in the Dilemma between Individual and Systemic Stability

Business diversification can decrease the idiosyncratic default risk of financial institutions and therefore, reduce systemic risk. However, business diversification can also increase systemic risk if it leads to a rise in common exposures across institutions. This paper analyzes the interaction between individual and systemic stability due to common exposures stemming from insurance business diversification. I find evidence for mediocre levels of common exposures across insurers within the same insurance business lines (life or non-life), but negligible levels across insurance business lines. The findings suggest that insurance business diversification has only small counteracting effects on individual and systemic stability due to common exposures. Thus, business diversification might be a promising tool for the synchronization of micro- and macroprudential policies to increase financial stability in the insurance sector. The findings might also be relevant for other financial institutions that engage in business diversification and are subject to systemic risk, for example, banks.

Fabian Regele, Greg Niehaus
Insurance Economics and Climate Risk: The Role of Sustainable Underwriting

Insurance companies can influence the aggregated climate risk contribution of firms by means of their underwriting decisions, but little evidence is available on the economic channels of climate risk to influence insurers' underwriting decisions. Anecdotal evidence of insurance markets reveals substantially different strategies of insurers to adapt their underwriting decisions to climate risk. Therefore, we aim to define and analyze an economic framework for sustainable underwriting strategies for commercial insurance business and loss mitigation. We study which economic channels influence insurers' underwriting strategies and how unique characteristics of climate risk influence the economics of supply and demand for insurance.

Nicolaus Grochola, Mark J. Browne, Helmut Gründl, Sebastian Schlütter
The Influence of Market Risks on the Stock Return of Life Insurance Companies

Market risks account for an important part of the risk profiles of life insurance companies. In an empirical setting we investigate how particular drivers of market risk, such as changes in interest rates or the credit standing of counterparties, impact the stock performance of life insurers. By using panel regression models and daily market data from 2012 to 2018, we find that sensitivities towards market risks are highly diverse across companies as they are linked to their business mix characteristics and balance sheet variables. In line with the current literature, our analysis shows that insurers on average benefit from rising interest rates. In addition, we find that this effect is stronger for large firms and for those with a high share of life insurance business. Notably, for the effect of rising default risks of government bonds on insurers' stock returns, we detect a trade-off between higher returns and taking more risks. Credit risk is relevant for European insurers in contrast to U.S. insurers, who on average benefit from rising credit default swap spreads of sovereign debt.

Nicolaus Grochola, Sebastian Schlütter
Do Solvency II Reports Appropriately Inform about European Stock Insurers' Market Risk Exposures?

The capital requirements of Solvency II allow insurance companies to make some discretionary choices. Besides extensive possibilities regarding the choice of a risk model (ranging between a regulatory prescribed standard formula to a full self-developed internal model), insurers can make use of some transitional measures and adjustments, which can have a substantial impact on their reported solvency level. The aim of this article is to study the impact of the transitionals and adjustments on the solvency ratio and to identify the drivers of those discretionary decisions. To measure the latter, we estimate the sensitivities of 55 listed European insurance companies' stock returns to movements in risk drivers such as long-term interest rates and credit default swap spreads of sovereign debt while controlling for an overall stock market index. In a panel regression model, we then test whether those sensitivities and other balance sheet figures are able to explain the usage of long-term guarantee measures which we exploit from Solvency II reports for the years 2016, 2017 and 2018. We find that particularly the usage of the volatility adjustment is positively related to the interest rate risk as perceived by financial markets, even when controlling for the portion of life insurance in technical provisions. Our results indi cate that the choice options in the implementation of Solvency II can substantially diminish the connectedness between reported Solvency II figures and a market-oriented, risk-based view.

Christian Kubitza, Nicolaus Grochola, Helmut Gründl
Fundamentals-Based Insurance Runs

Insurers massively sell savings policies that guarantee minimum payouts. Upon an interest rate rise, such guarantees incentivize investors to terminate policies ("surrender"). This interaction between interest rates and surrender incentives reduces the duration of life insurance policies and negatively affects insurers' liquidity. We first provide firm-level empirical evidence that surrender activity significantly increases after an interest rate rise. Second, we empirically assess the economic relevance of life insurance surrender activity for life insurers and financial markets. Finally, to quantify the potential costs from surrender activity, we build a granular model of life insurer cash flows. Under realistic assumptions, the model predicts that a sharp interest rate rise generates substantial asset sales but relatively small fire sale externalities. Instead, runs plausibly erase up to 30% of life insurers' capital under fair value (mark-to-market) accounting. These costs are driven especially by long-dated investments of insurers, contrasting their positive role for asset insulation.

Presentation at the 2021 ASSA Annual Meeting (Poster Session)

Kar Man Tan
How Information Affects Whether People Gamble With Insurance

This paper attempts to understand how individuals adjust their insurance demand as more information about their risk surfaces. It will extend by allowing the probability of a loss event happening to be updated in each period. With the advent of insurtech, an individual's risk can be calculated more accurately since it is based on a group of people with similar characteristics rather than only predefined categories. Instantaneous availability of information means that individuals can gain more updated information about their risk probabilities. This has the possibility of making them more motivated to seek better coverage or lower premiums, often by switching carriers. However, differences in information availability occur as a result of different probabilities of a loss-event happening. Extreme events, such as pandemics, which cost huge losses occur with a lower probability, while common events but less severe, such as misplacing items, occur with a higher probability. Individuals would then know the probability of less severe events with greater precision than severe events, therefore affecting their preparation and reaction. It is hypothesized that individuals would tend to insure rather than self-protect for high frequency but low severity events. For low frequency and high severity events, individuals are hypothesized to react by increasing self-protection measures whenever information gets updated but will under-insure because when the risk variation is larger, individuals would believe that their own risk is lower. The possible findings from this project could have two major implications 1) individuals who are more willing to part with information will probably have greater overall welfare and 2) by underestimating their risk probability, individuals would likely suffer greater losses in the event of a catastrophe. Insurance regulation needs to take into account these developments, 1) by strengthening privacy laws so that individuals who are more concerned about sharing information can feel safer doing so knowing that they are protected and 2) by making it compulsory for individuals to have some coverage in case of extreme events or at least setting up an emergency fund.

Fabian Regele at the University of South Carolina's Darla Moore School of Business

In late 2019, I had the great opportunity to visit Prof. Greg Niehaus from the Darla Moore School of Business at the University of South Carolina in Columbia. I was invited to stay there from October to December 2019 and it was an academically and culturally highly enriching experience for me.

Compared to large and hectic cities like New York, Columbia is a relatively small and quiet Southern city (population of 130.000 people), but I always felt comfortable and was very impressed by the curious and kind attitude of the people living in Columbia. Besides a lot of cultural and sports activities, I particularly enjoyed the mainly good weather condition during my stay, and, of course, the famous Southern food.

I addition to these personal experiences, I appreciated very much the constructive and welcoming atmosphere at the university and the numerous research discussions with the faculty members, providing me with a lot of valuable input for my ongoing research projects. I also benefited a lot from the interesting presentations at the department's research seminars that gave me great insights into current finance research.

During my stay, I discussed with Greg Niehaus some of the economic implications of climate risk on insurers' underwriting decisions, which build the basis of our joint research project. For example, as insurance is often a necessary requirement for commercial firms to conduct their business activities, insurance companies can influence the firms' climate footprint by means of their underwriting decisions.

Supervisory authorities continuously increase their work on this topic (e.g. EIOPA (2019), PRA (2019), IAIS/SIF (2018)), but there is still little evidence available on the economic channels of climate risk to influence insurers' underwriting decisions. For example, anecdotal reports of insurance markets reveal substantially different strategies of insurers to adapt their underwriting portfolios to climate risk: Some insurers plan to stop completely underwriting climate-adverse projects in the future, while others plan to limit their underwriting activities in this regard and others even do not plan to change their underwriting strategies. Motivated by these differences in the underwriting behavior, we aim to study how climate risk basically influences the economics of supply and demand for insurance. It is important to understand in greater detail how climate risk affects the insurance business and how insurance markets react to it, for example, in order to develop adequate regulatory incentives fostering sustainable underwriting decisions by insurers.

Towards the end of my research stay, I attended the annual conference of the Southern Risk and Insurance Association (SRIA), presenting my joint research project with Prof. Helmut Gründl on the topic "Asset Concentration Risk and Insurance Solvency Regulation". The conference took place in Charleston, a city on South Carolina's coastline. Besides the valuable research feedback I got at the conference, my trip to this charming city was a great completion to my research stay.

I am very grateful to Prof. Greg Niehaus for inviting me to the University of South Carolina and making my stay so valuable and enriching for me. I also specially thank Prof. Helmut Gründl and the International Center for Insurance Regulation (ICIR) for making my great stay possible. ◆

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Prof. Dr. Manfred Wandt

Colloquium
Versicherungswissenschaften Rechtsprechung Oberlandesgericht Frankfurt am Main, 24. Oktober 2019
Prof. Dr. Manfred Wandt

21.-23. November 2019
8. Herbstakademie Versicherung und Recht
Prof. Dr. Manfred Wandt,
Prof. Dr. Meinrad Dreher,
Johannes Gutenberg-Universität Mainz

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Liability Insurance Law
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Insurance Economics
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Finanzen III
Prof. Dr. Helmut Gründl

The bachelor degree lecture "Finance III" covers corporate finance, insurance and risk management topics. The main goal is to equip students with the fundamental concepts of valuation, capital structure and risk management of financial institutions. They learn about the reasons why risk financing matters and how to use derivatives for hedging risks and what the difference is.

Lecture
Insurance Products and Their Distribution
Versicherungsprodukte und deren Absatz
Prof. Dr. Hartmut Nickel-Waninger

The objective of the lecture is to understand the fundamental concept of insurance as well as the delineation between individual and social insurance. Moreover, selected insurance products are to be introduced from the non-life (motor vehicle insurance, building insurance), life insurance and health insurance segments. The calculations used for the various insurance products are dealt with in detail. The sales policy of an insurance company represents a further focal point of the module. In the process, the sales strategies and sales policy instruments of insurance companies are presented, followed by a discussion of their respective benefits and drawbacks. Students are enabled to understand the fundamental concept of insurance along with the clear delineation between individual and social insurance systems. They acquire an overview of the large variety of insurance products available and receive an in-depth insight into selected insurance products from the non-life, life and health insurance segments. They develop a firm command of quantitative methods of insurance calculation and receive an insight into distribution policy of the insurance industry and are to understand the benefits and draw-backs of various distribution channels.

Seminar
European Insurance Regulation
Europäische Versicherungsregulierung
Prof. Karel Van Hulle

The seminar aims at providing students with basic knowledge about insurance regulation and supervision in the EU. During the seminar, students will first receive a general introduction about insurance regulation and supervision in the EU. They will then have to research a topic relating to insurance regulation and/or supervision, to present their research and to discuss the outcome with fellow students. Students will be able to select the relevant topic from a list provided in advance. The topics will relate to areas such as Solvency II, market conduct, insurance distribution, supervisory co-operation.

Insurance Economics
Master Program

Lecture

Asset and Liability Management in Insurance Companies

Prof. Dr. Helmut Gründl

The goals of the lecture are to understand asset and liability management (ALM) strategies used in insurance companies, and to understand the new Solvency II insurance regulatory rules. The contents of the ALMI lecture are separated into two categories: Liability Management and Asset Liability Management. The first part – Liability Management – focuses on topics such as risk pooling, insurance pricing, reinsurance and alternative risk transfer (e.g. catastrophe bonds). Students are supposed to understand the sources of risks in insurance companies, and to learn techniques to measure and limit these risks. The second part – Asset Liability Management – integrates both asset management and liability management strategies to arrive at an integrated risk management of insurance companies. It aims to help students understand the motivation and importance of conducting ALM, and to familiarize students with methodologies such as simultaneous and classic modeling based on the Markowitz approach. We discuss ALM topics of liability-driven investments and capital management in more detail. We also discuss the Solvency II regulatory regime and its implications for ALM.

Seminar

Insurance Technology and Its Limits

Versicherungstechnologie und ihre Grenzen

Prof. Dr. Hartmut Nickel-Waninger

During this seminar, students establish how enterprises can identify and evaluate their risks so that they can develop concepts for bearing such risks on that basis. The central topic of the seminar varies each year and includes current developments unfolding e.g. in the fields of liability insurance and aviation risks or current topics in the fields of life insurance and health insurance. Apart from the discussion of current theoretical and practical problems posed, a central element of the seminar is the processing of complex insurance theory models by students. In addition, an external expert attends the courses each year and delivers a topic-related presentation on current practical developments of the subject selected.

Seminar

Selected Topics in Insurance Regulation

Prof. Karel Van Hulle

The objective of the seminar is to build on the knowledge acquired in the bachelor seminar on European Insurance Regulation. Students are required to research a specific topic, to report about their research and to discuss the results of the research with their fellow students. As opposed to the bachelor seminar, the topics in the master seminar will have to be researched on a comparative basis. The topics will be provided in advance and will relate to issues such as the ORSA, key governance functions, assessment of fit and proper requirement for key function holders, internal model approval, market conduct issues, insurance distribution, etc.

25 – 29 November 2019, House of Finance

Executive Education
Insurance Supervision and Regulation Training

In November 2019, the International Center for Insurance Regulation (ICIR) and the Goethe Business School (GBS) of Goethe University welcomed a delegation of 25 participants from the Bangladesh Insurance Development and Regulation Authority (IDRA) and Bangladesh Insurance Sector Development Program (BISDP) of the World Bank to the Insurance Supervision and Regulation Training in the House of Finance. A training program that was designed and implemented in cooperation with the GBS.

The lecturers and experts for the training course came from different sectors and institutions: academia, insurance regulatory, supervisory authorities and the financial industry with representatives from the Goethe University, EIOPA, the Austrian Financial Market Authority (FMA), DeNederlandsche Bank, the Insurance Supervision Agency (ISA) Macedonia, Access to Insurance Inititative (a2ii), Allianz SE, Standard Life Germany and PwC Germany. This multi-stakeholder approach made it possible to embed different perspectives for the respective insurance and insurance regulation topics.

The program provided insights into how supervisory authorities, policy makers and insurance companies can create access and improve affordability to insurance. Participants had the opportunity to gain a better understanding of the insurance demand and supply side in emerging markets. For example, one of the key messages of the interactive workshop with a2ii was that regulators need to adopt proportionate approaches to regulation and supervision, as innovation brings new risks and new market players. Policy makers therefore need to understand the role that insurance plays in society and to enforce public policy. The industry, on the other hand, faces the challenge of designing valuable, financially viable and scalable solutions to promote resilience for all.

With this training, the ICIR is extending its field of activity to shape the international dialogue between science, regulation, policy makers and industry in an educational and training context. ◆

Executive Education
Seminars and Courses on Solvency II

The ICIR supports the Deutsche Versicherungsakademie (DVA) and the Gesamtverband der Deutschen Versicherungswirtschaft (GDV) in developing an executive education training program for professionals from the insurance industry. The objective of the training is to equip insurance experts and managers for the future requirements of Solvency II.

Prof Dr. Helmut Gründl is the scientific advisor and teaches within the curriculum of the following certification programs:

- Certified Insurance Risk Manager Solvency II
- Certified Compliance Officer Solvency II
- Certified Internal Auditor Solvency II

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Helmut Gründl, Fabian Regele

LEIBNIZ INSTITUTE SAFE Sustainable Architecture for Finance in Europe

Pandemic Insurance through Pandemic Partnership Bonds: A Fully Funded Insurance Solution in a Public Private Partnership

This Policy Letter outlines a pandemic insurance solution through a pandemic-related "Insurance Linked Bond". It would be originated by governments, with a principal amount to cover significant costs resulting from a pandemic. These bonds, which would be traded on a secondary market, generate a risk-adequate return for private and institutional investors that is financed through the insurance premiums paid by the public domain. In case of a pre-defined pandemic trigger event, the principal of the bond becomes available for the originating governments to cover pandemic-related costs. Through this approach, governments can insure themselves against future pandemic-related risks, while funding comes primarily from private and institutional investors.

I. Introduction

We are presently in the middle of a crisis, in which financing and transferring hundreds of billions of euros to mitigate the economic consequences of the "Corona lockdown" are at the center of the political discussion. Nevertheless, it is necessary to already look beyond the current crisis and be better prepared – also in financial terms – for the next pandemic outbreak.

The consequences of an ex-post financing of the crisis are increased indebtedness on the private and/or the public side, and waiving necessary (infrastructure) investments, combined with possible intergenerational unfairness as to bearing the burdens in the long run. In contrast, insurance solutions covering the economic consequences of pandemic outbreaks would be desirable, because insurance indemnity payments cover losses without leading to future burdens, neither for the beneficiaries, as it would be the case through providing loans, nor for the tax payers who have to finance crisis-related government spending.

Why is there a lack of private pandemic insurance solutions then? The reason does not lie in underestimating the risk exposure by insurance purchasers in the past. It rather lies in the nature of the pandemic risk that poses an existential threat to insurance companies: pandemic risks are cumulative risks that make traditional risk pooling impossible because they affect many or all policyholders at the same time. Thus, insurers face the risk of under-reserving potential claims. Additionally, a pandemic outbreak typically goes along with a decline of asset prices on the capital markets. This means that insurers face a "double hit", one on their insurance underwriting side and one on their investment side, possibly resulting in financial distress. Therefore, insurers have been and will be reluctant to offer pandemic insurance. And if they did, it could only be at a very high price. High insurance prices combined with the hope for government support will probably keep the demand for pandemic insurance at a low level. Therefore, it is doubtful whether we will see a large private pandemic insurance market in the future.

Yet, through a Public Private Partnership a viable pandemic insurance solution is feasible. It enables to partly substitute ex-post debt-financed government spending by an ex-ante financed insurance solution. We suggest setting up a Pandemic Partnership Bond solution to cover costs related to major pandemic outbreaks as an ex-ante insurance solution.

The Pandemic Partnership Bond is not a new invention; it is an arrangement in the sense of "Catastrophe Bonds" that have successfully evolved as "Alternative Risk Transfer" solutions during the last decades. More specifically, in 2017 the World Bank issued a Pandemic Bond that can, to a large extent, serve as a blueprint for the suggested solution. The difference between the suggested Pandemic Partnership Bond and the World Bank Pandemic Bond is that governments originate the bonds, either as single states or as a collective, in our solution. The bond investors, very importantly, do not bear any sovereign risk, since the Pandemic Partnership Bond transfers only a specified pandemic risk to the investors in return for risk-adequate remuneration. ▸

II. Basic Structure of a Pandemic Partnership Bond
As an example, EU member states as the "sponsors" or "originators" issue a Pandemic Partnership Bond with a given principal amount and maturity, e.g. 3 – 5 years. Typically, a special purpose vehicle is set up for the transaction. The principal amount should be high enough to cover significant costs related to a pandemic outbreak; in a first step it could possibly lie in a range between 20 to 50 billion euros. The bonds' issuance proceeds are transferred into a trust fund. At the same time, the originators of the bond also pay their "insurance premium" into the trust fund. Thus, the Pandemic Partnership Bond solution is fully funded from the beginning, and the originator governments have no access to the capital raised.

It is necessary to already look beyond the current crisis and be better prepared

The trust fund invests the capital under a specified investment strategy. It should target a minimum safety level in terms of liquidity and guaranteed payoffs. To prevent possible pressure for investing in government bonds, they should be excluded from the investment universe.

The Pandemic Partnership Bond would be a "principal-at-risk" bond. This means that if a specified pandemic risk materializes, the principal (and, possibly, outstanding interest payments) is not paid back to the investors. The retained funds are then made available to the originator government(s).

Whether or whether not the principal has to be paid back should depend on multiple triggers. Potential triggers can be the official declaration of a major disease outbreak by the World Health Organization (WHO) and the number of disease cases within a given time period (e.g. two weeks) across a given geographic area (e.g. EU member states). For a Pandemic Partnership Bond that is going to be issued in the near future, one would probably exclude COVID-19 diseases as triggering events.

There are many more potential parameters conceivable for creating a parametric triggering mechanism, for instance a specific drop in GDP levels; the level of complexity should be taken into account, however. The main aim of introducing a multi-trigger mechanism is to reduce moral hazard of the originator governments as to "pulling the trigger", and thus to reduce the risk premium required by the investors.

After their issuance, the bonds can be traded on a secondary market, which makes them liquid investments. As long as the pandemic risk does not materialize, the investors receive a risk-adequate return, and when the bond expires the principal is paid back. The above mentioned "insurance premiums" that are paid into the trust fund by the originator governments are needed to generate risk-adequate return for the investors. The rate of return typically includes two components. The first component is a basic interest rate as the investors' compensation for lending money. Such a rate should be a dynamic money market rate like the LIBOR. The second component is a fixed risk premium for the emergence of a pandemic outbreak, which has to be high enough to compensate the investors for assuming the systematic risk exposure behind a pandemic outbreak. Investors get compensated for the risk of losing their investments in "bad times", that is in times when their other investments also perform poorly.

Through a Public Private Partnership a viable pandemic insurance solution is feasible

If several governments were the originators of a Pandemic Partnership Bond, the share of the funds made available to them in the event of a pandemic would equal the ▸

share of their initial "insurance premiums". They get what they pay for. It is, of course, also possible that some originators support other governments by paying their insurance premiums. Such subsidization, if necessary, would have the advantage of being a transparent and direct support, in contrast to issuing euro bonds in an expost loss financing scenario, for instance. The wealth transfer between the member states resulting from joint debt instruments is difficult to measure and is accompanied by unwanted incentives towards extending public debt volumes.

The Pandemic Partnership Bond can be an interesting investment for different investor groups

III. Further Points of Discussion

Two pandemic bonds worth a total of US-$320 million, similar to the proposed Pandemic Partnership Bond, were issued by the World Bank in 2017. These bonds were set up to provide funds to low-income countries and cover the potential outbreak of six diseases. The bonds could be separated in two risk classes. Class A with 6.5 per cent risk premium plus Libor and a maximum loss of 16.7 per cent of the principal, and class B with 11.1 per cent risk premium plus Libor and a maximum loss of the total principal. These bonds have been criticized for their high complexity (the prospectus contains almost 400 pages), the low amount of funds and relatively high financing costs compared to sovereign debt. This criticism highlights general problem areas that we discuss in the following in the context of a Pandemic Partnership Bond.

The high level of complexity mainly stems from calculating the risk premium and the triggering factors that allow the originator to keep the principal. As pandemics happen rarely, there is a high level of parameter uncertainty when calculating the risk premium. Thus, a certain level of complexity is unavoidable and cannot be reduced.

However, the choice of the triggering factors can reduce complexity. Only as few triggers as possible should be used. It might be sufficient to start with two triggering factors, which are the declaration of a major disease outbreak by the WHO and the number of disease cases within a given time period (e.g. two weeks) across a given geographical area (e.g. EU member states). This reduces the scope of moral hazard in terms of any influence on the WHO's decision process, as the numbers of disease cases are independently assessed.

The volume of funds to be raised by a Pandemic Partnership Bond depends on the purpose for which the funds should be used. For example, should the funds be used to cover costs of the health system due to the disease outbreak or to back up unemployment costs? As COVID-19 has shown, pandemicrelated costs can become tremendously high and cannot be easily assessed in advance. Hence, a Pandemic Partnership Bond is not the appropriate tool to fully cover potential pandemic costs. Moreover, as such a risk securitization mechanism depends on the investors' demand for the bond, the amount of capital to be raised is naturally limited.

Pandemic Partnership Bonds are well-suited instruments for financing future pandemic-related risks

Another strand of criticism relates to the relatively high financing costs of a pandemic bond compared to government debt. As the interest rate of a pandemic bond necessarily includes a risk premium for covering the systematic risk of a disease outbreak, the interest rate is by nature higher than interest rates on public debt, which covers the relatively low levels of sovereign default risk, depending on the issuing government, of course. However, this perspective should be extended by several points: first, raising sovereign debt is a process that takes some time, for example, as it needs to be approved by ▸

parliaments in advance. This delay, in comparison to ex-ante financed pandemic bonds, might cause additional costs for society, for example, if firms default on a large scale because they quickly run out of money. Second, issuing new debt has to be refinanced in the long term by means of higher tax rates or higher debt costs. Thus, the burden of higher debt levels is typically borne by the younger generations, which constitutes a problem of intergenerational fairness. Therefore, the difference between the costs of a Pandemic Partnership Bond and sovereign debt as instruments to cover costs of pandemics is smaller than measured by the mere difference between the pandemic bond's risk premium and sovereign debt rates.

IV. The Demand Side

The Pandemic Partnership Bond can be an **interesting investment for different investor groups**:

Institutional investors that search for yield in the present low interest rate environment may be interested in adding a Pandemic Partnership Bond to their portfolios, especially because its rate of return is fairly priced.

Private Investors may be interested in investing relatively small amounts of money (for example €1,000 – €10,000). From their point of view, the investment can be interpreted as a "bet" with a relatively high return, on the one hand, combined with the risk of a complete loss, on the other. Such loss is bearable for a small investment volume, and at the same time the lost money is used for compensating pandemic-related costs. Thus, even the lost money can, to some extent, return to the investors.

From the originator governments' point of view, the Pandemic Partnership Bond is an opportunity to **utilize people's wealth** instead of income (via income taxes) for funding pandemic-related costs. Yet, it is not a compulsory funding scheme via a wealth tax. Instead, funding is provided on a voluntary basis in exchange for a risk-adequate return.

V. Conclusion

Pandemic Partnership Bonds are well-suited instruments for financing future pandemic-related risks. Their main advantages are:

- **They are a genuine insurance solution: for the beneficiaries there is no need to repay the money later on.**
- **They are fully funded from the outset, that is ex-ante to a pandemic outbreak.**
- **Funding mainly comes from private investors and partly (as insurance premiums) from the public side.**
- **They are a fair investment opportunity for a broad range of investors, yielding high, riskadequate returns.**
- **The rates of return only reflect the riskiness of the pandemic and not the solvency status of the originator governments.** ◆

Karel Van Hulle

European Insurance Regulation: Priority Actions

Rarely has the future looked more uncertain than now. Shortly after the EU had adopted an ambitious programme to address climate change, a pandemic has led to the deepest economic recession since World War II. Governments must protect their citizens against uncertainties but they cannot do this alone. Can the insurance industry, whose speciality is the management of risk, help to address the challenges facing society today and how can regulation help the insurance industry to do this?

Insurers must be strong and well capitalised

In order to allow insurers to play their unique role, regulation must ensure that insurers are strong and well-capitalised so that they are in a position to fulfil their promises to policyholders.

High on the agenda of the European Commission is the first fundamental review of Solvency II. Most (re) insurance undertakings in the EEA are well capitalised (average SCR ratio is 234%). How can Solvency II be further improved, without putting the strong capital position of the insurance industry at risk?

The review must pay attention to the role of insurers as institutional investors. It must also create a regime that allows insurers to continue offering long-term guarantees. This not just a matter of making a couple of technical ▸

changes to the regime but requires the introduction of a principle based solution for the treatment of long-term assets and liabilities that can stand the test of time.

One cannot deny however that the economic climate has changed. The Solvency II regime must be updated to reflect the consequences of the low interest rate environment and the disastrous effects of the Covid-19 pandemic. Attention must be paid also to macro-prudential supervision and to the potential consequences

Regulation must ensure that insurers are well-capitalised to fulfil their promises to policyholders

of insurance failures and their cross-border impact on policyholders.

In terms of macro-prudential supervision, systemic risk is not specifically dealt with in the standard formula for the calculation of the SCR. As Solvency II is a risk-based solvency regime, it would be logical to deal with systemic risk at least as a pillar 2 measure (for instance in the Own Risk and Solvency Assessment).

As for insurance failures and their cross-border implications, there is at present no EU-wide regime for the insurance sector in the case of distress. Only a few Member States have a comprehensive regime for recovery and resolution. Not all Member States have an insurance guarantee scheme that protects policyholders in the case of an insolvency. However, the introduction of a requirement for all (re) insurance undertakings to prepare a pre-emptive recovery plan and to develop resolution plans, as proposed by EIOPA, might lead to an unjustified increase of the regulatory burden on small and medium-sized insurers. Similarly, introducing minimum requirements for insurance guarantee schemes needs to be done with caution. The cross-border aspects are difficult to resolve. It would also seem logical to examine the impact of insurance guarantee schemes on the confidence level of Solvency II. It is not in the interest of policyholders to develop a solvency regime that is overly prudent.

Building a strong insurance industry should not lead to market concentration. The practical application of the proportionality principle should therefore be high on the agenda. Supervisors should be required to apply the proportionality principle where this is justified and they should ideally do it in the same way. The proportionality principle should be more clearly linked to risk. Size should not be a decisive criterion. Unless the regime is simplified, there is a risk for further market consolidation as some insurers might no longer be able to coop with the increasing complexity of the solvency regime.

The development of a single market for insurance is an important objective of EU insurance regulation. It must be possible for insurers to use the full potential of the internal market. In that context, it is important that the delivery of cross-border services takes place in a manner that protects both the policyholders of home and host Member States. Supervisors of home and host Member

Through a Public Private Partnership a viable pandemic insurance solution is feasible

States should cooperate more closely, with the same objective, i.e. the protection of policyholders, independent of their domicile in the EU. EIOPA's role in this area, as an arbitrator between supervisory authorities, has already been increased as a result of the ESA (European Supervisory Authorities) review. Further progress in this area would be welcome.

Major protection gaps must be addressed

Covid-19 has shown that private citizens and businesses can incur huge losses, although they were benefitting ▸

from insurance. Policies did not include cover in the case of a pandemic or the wording of policies was unclear. The insurance industry alone cannot cover the economic losses resulting from a pandemic. This is a clear case where a public/private partnership is needed, through a system of reinsurance, through the use of a government sponsored fund or by making use of capital markets. The European Commission should take an initiative in this area by bringing experts around the table to discuss a way forward before another pandemic strikes.

The insurance industry alone cannot cover the economic losses resulting from a pandemic

Covid-19 should however not make us forget that the world is regularly struck by important natural catastrophes and that many citizens and businesses in the EU are still left unprotected, in the absence of a suitable insurance solution. It is time to learn from each other's experience and to develop common solutions that resolve the important protection gap that still exists in many Member States. Here again, a public/private partnership might offer a solution. There is no reason to delay action in this area. The next catastrophe is just around the corner.

Much has been talked already about the pension gap. Initiatives, such as the PEPP have been put forward. However, it is time to take a holistic approach to the pension gap and to examine what further changes are needed to ensure that there will still be money for people when they retire. The absence of a suitable pension regime might create an intergenerational conflict, that will be difficult to resolve.

Experience has shown that in all three cases where important protection gaps exist, policyholders are often confused because they were left in the belief that the risk was covered by an insurance policy or by their pension fund. This is not always the case and it shows the crucial importance of proper advice in the sale of insurance products. In addressing the protection gap, the European Commission might also think about ways and means to strengthen the role of insurance intermediaries in offering advice to policyholders: it should not be possible to buy insurance without proper advice.

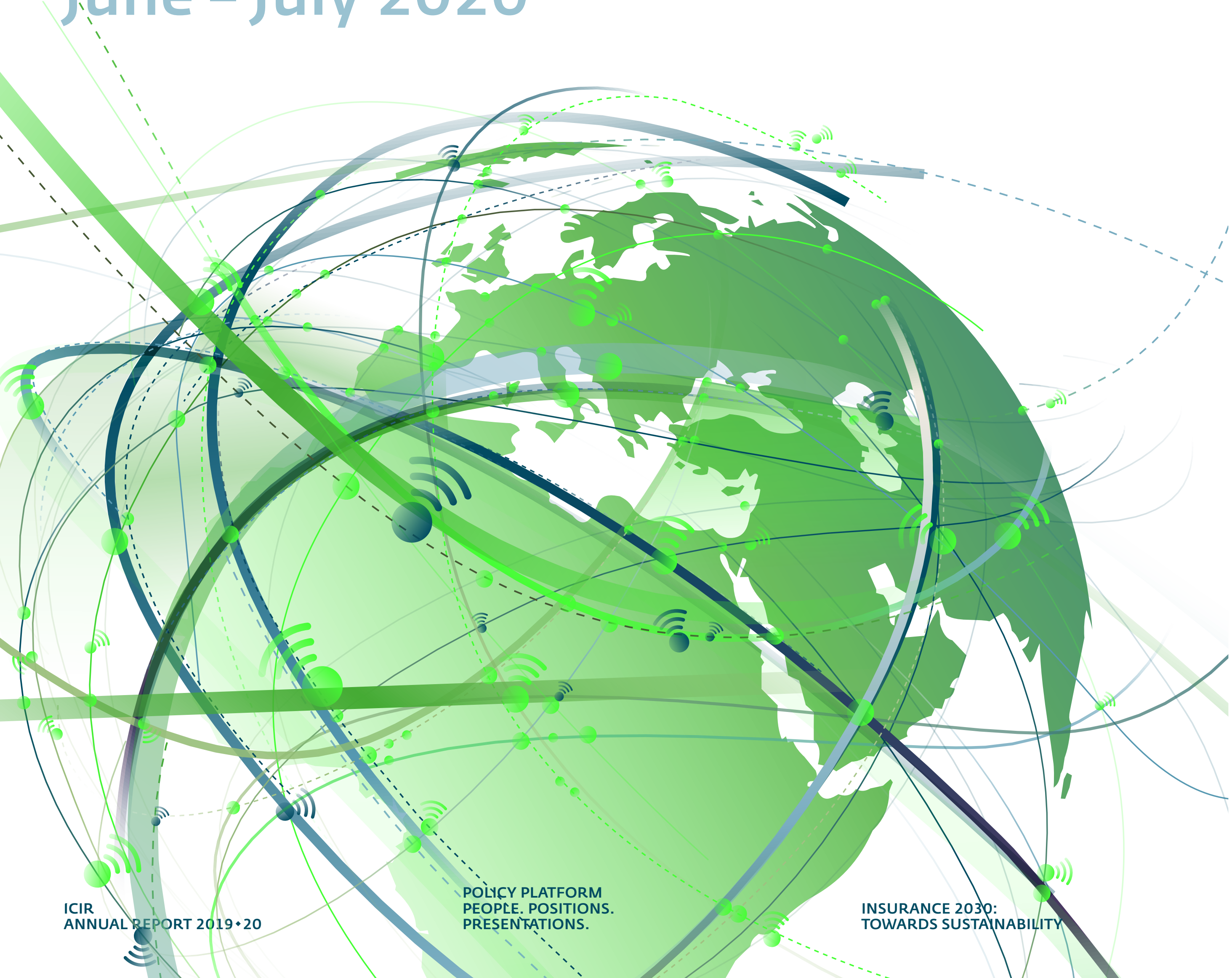
Sustainability must be taken seriously

Achieving the UN sustainable development goals is a high priority for the EU. The insurance industry has an important role to play in this respect, as an institutional investor and as an underwriter of risk. More attention paid to sustainability also strengthens the insurance industry by forcing insurers to take a long term view at risk and to improve their operational performance. EU regulation should ensure that sustainability is deeply enshrined in the day-to-day operations of all EU insurers and that investors and policyholders are informed about action taken in this area through required and no boilerplate ESG disclosures.

Digitisation should be possible and should be safe

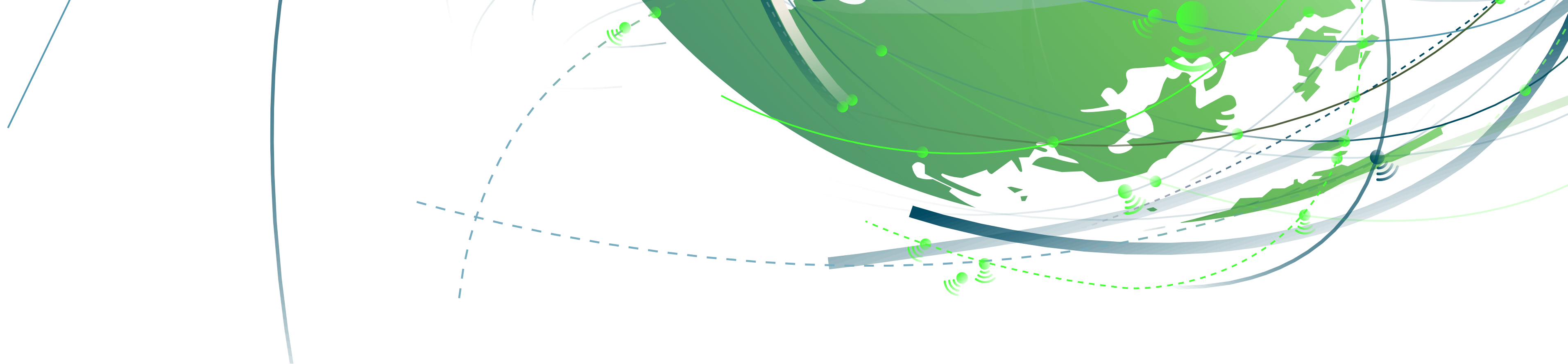
Covid-19 has digitised the world, including the insurance industry, overnight. Insurance regulation should take stock of this by removing remaining regulatory obstacles to digitisation and by offering a solution for protecting insurers and policyholders against cyber-crime. ◆

Insurance 2030: Towards Sustainability
Is Regulation Pushing the Change or Is Insurance Taking the Lead?
June – July 2020



The International Center for Insurance Regulation (ICIR) of the Goethe University organised four digital policy forums in order to discuss the future of insurance and insurance regulation in the context of sustainability and its implications for the insurance industry, for policyholders and for society as a whole.

The policy forums are intended for representatives from (re)insurance undertakings, for stakeholders, including consumers, for policymakers, for regulatory and supervisory authorities as well as for academics.



ICIR Digital Policy Forum I
10 June 2020

Impact of the COVID-19 Pandemic on the EU Insurance Sector
Economic, Business and Regulatory Consequences

- **COVID-19 virus implications for the EU insurance sector**: How is the EU insurance sector affected by the COVID-19 virus pandemic? Are there long-term implications for financial stability?
- **Policy and regulatory measures for the insurance sector:** Which measures should be taken to help the insurance sector navigate through the COVID-19 virus pandemic?
- **Role of (re)insurance for building resilient economies:** What role can (re-)insurance play for rebuilding economic and social resilience, taking account of global risks?
- **Global risk management:** Can insurance innovation, new risk management solutions and new insurance products based on global health data extend financial protection globally?

Panelists:
Gabriel Bernardino, Chairman, EIOPA
Dr. Gunther Kraut, Head of Epidemic Risk Solutions, MunichRe
Francesco Mazzaferro, Head of the Secretariat of the European Systemic Risk Board (ESRB)
Dr. Klaus Wiener, Chief Economist and Member of the Executive Board, German Insurance Association (GDV)

Moderation:
Dr. Detlef Fechtner, Deputy Editor-in-Chief, Börsen-Zeitung

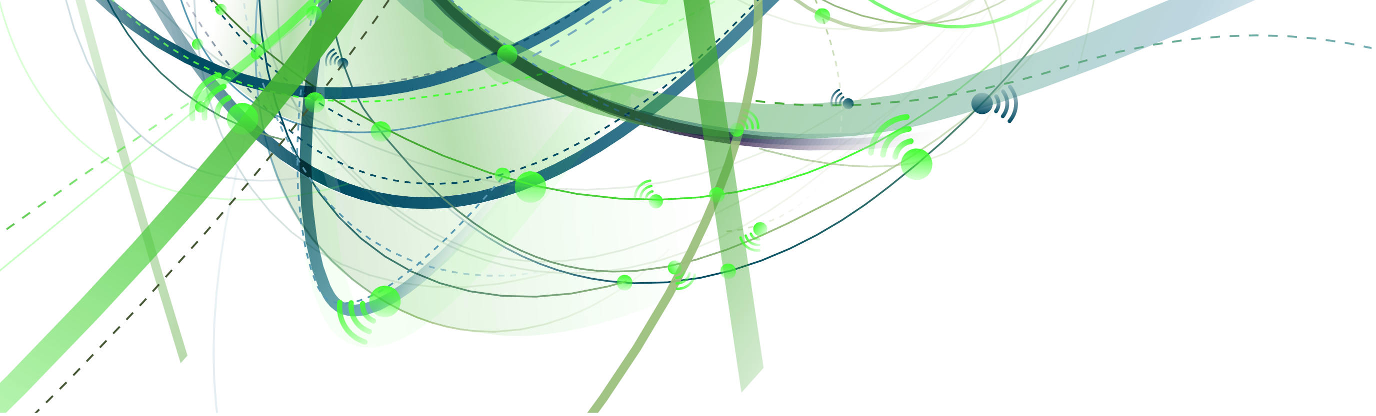
ICIR Digital Policy Forum II
18 June 2020

Insurance Regulation: Towards a Sustainable Solvency II Review
Managing the Speed of Change

- **The EU Green Deal – Insurance on the European** Commission's agenda: Understanding the implications for insurance in the coming years.
- **Solvency II review:** How can the Solvency II review embrace sustainablility and what changes are needed in the solvency regime to assist insurers in developing the right products for future generations?
- **Regulation leadership – Managing the speed of change:** the change towards a more sustainable society has two dimensions:
  1) The long-term perspective (time dimension): the transition towards (green) sustainability is a long-term process going beyond 2030. When regulation is pushing the process, what are the risks for the insurance sector and consumers?
  2) Societal implications: sustainability comes at a price for the consumer. It will affect insurance affordability and liquidity considerations. Is the path to a sustainable environment paved with a higher insurance protection gap and social divide?
- **Regulatory risk:** Is regulation limiting the innovation power of the industry for developing sustainable solutions?

Panelists:
Olav Jones, Deputy Director-General, Insurance Europe
Dr. Monica Mächler, Member of the Board of Directors, Zurich
Didier Millerot, Head of Unit, Insurance and Pensions, DG FISMA, European Commission
Justin Wray, Acting Head of the Policy Department and Head of the Insurance Policy Unit, EIOPA

Moderation:
Prof. Karel Van Hulle, ICIR, Goethe University



ICIR Digital Policy Forum III
19 June 2020

Profitable Sustainable Investments for the Insurance Industry
Green, Blue – Evolving New Opportunities and Risks

- **Change of investment behaviour:** Is regulation (or social media) pushing the change, or is the insurance industry taking the lead?
- **Criteria for sustainable investment:** How to distinguish sustainable investments from other investments? Role and risks of a taxonomy?
- **Portfolios of the future:** Besides 'green' – will 'blue' (water/energy) be the next wave of investments to support sustainability? What makes a sustainable investment profitable? How will a sustainable investment portfolio look like in the future – what is new? What are the limits of sustainable investment?
- **New opportunities and risks:** What kind of new risks will emerge from sustainable investments? Can InsurTech contribute to sustainability?

Panelists:
Anna Maria D'Hulster, Member of the Supervisory Board at UNIQA Insurance Group Member of the Board of Directors at Athora Holdings Ltd
Prof. Dr. Helmut Gründl, Managing Director, ICIR and Chair of Insurance and Regulation, Goethe University
Dr. Frank Grund, Chief Executive Director of Insurance and Pension Funds Supervision, Federal Financial Supervisory Authority (BaFin)
Dr. Günther Thallinger, CIO Allianz SE & Chair UN Net-Zero Asset Owner Alliance

Moderation:
Dr. Christian Thimann, CEO, Athora Deutschland

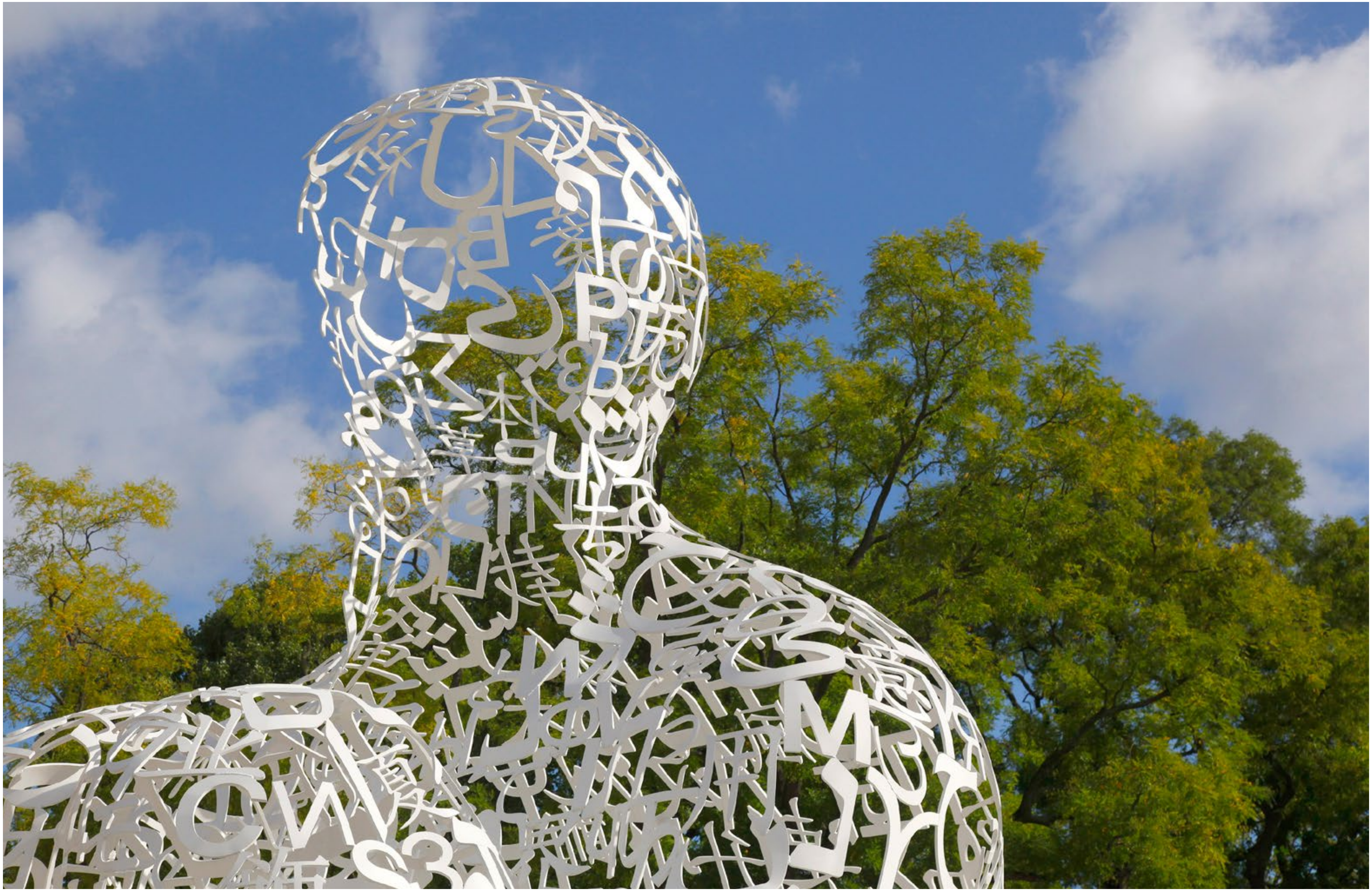
ICIR Digital Policy Forum IV
02 July 2020

Low Forever: Sustainable Pension Plans for the Next Generation?
Impact of Low Interest Rates on Pension Systems and Personal Finance

- **Public finance and the low Interest rate environment: an inevitable development?** Understanding the reasons, public benefits and consequences of a persistent low-interest rate environment
- **Private finance perspective:** What are the implications of the low-interest-rate environment for pension plans, personal finance and personal wealth management for future generations?
- **Impact of 'Low Forever' for pension systems and pension funds:** What are the features of sustainable pension plans? Is pension at risk? How will sustainability change the level of response-ability of public, institutional and private stakeholders? What is the new narrative?
- **Pension providers:** Which pension schemes will they offer? How will the insurance sector reconcile profit targets and pension protection? How will the insurance sector position itself considering future structural changes of pension systems? How will insurers empower / prepare customers to meet their future pension needs?

Panelists:
Sven Giegold, Member of the Group of the Greens/ European Free Alliance, Speaker Eurogroup of the Greens
Ilka Houben, Head of Pensions Policy, German Insurance Association (GDV)
Prof. Dr. Alexander Ludwig, Professor for Public Finance and Macroeconomic Dynamics, Goethe University

Moderation:
Dr. Detlef Fechtner, Deputy Editor-in-Chief, Börsen-Zeitung



Liquidity Risk in Insurance: Academic, Industry and Regulatory Perspectives

Life insurers are important long-term investors on financial markets. Due to their long-term investment horizon they cannot quickly adapt to changes in macroeconomic conditions. Rising interest rates in particular can expose life insurers to liquidity risk as policyholders could terminate insurance policies and invest at relatively high market interest rates. In this context, the 18th ICIR Talk on Insurance and Regulation event addressed the topic of liquidity risk in insurance with insights about identification of liquidity needs and resources, management and optimisation of liquidity position as well as about latest developments from academic, regulatory and industry perspectives followed by a panel discussion.

At the 18th ICIR Talk on Insurance and Regulation, organized by the International Center for Insurance Regulation (ICIR), **Riccardo Appolloni** (Head of Group Risk Operating Framework, Generali), **Dr. Matteo Sottocornola** (Senior Expert on Financial Stability, EIOPA), **Dr. Christian Kubitza** (Researcher/Lecturer, University of Bonn) discussed the economic impact of liquidity risk for life insurers from an academic, regulatory and industry angle moderated by **Dr. Barbara Kaschützke,** (Researcher/Lecturer, Chair of Investment, Portfolio Management and Pension Finance, Goethe University).

Taking an industry perspective, Riccardo Appolloni, Head of Group Risk Operating Framework of Generali, emphasized the importance of liquidity risk manage- ▸

ment in the insurance business. "A significant shortfall in liquidity could cause the sudden collapse of an insurer, even if it is well capitalized", Appolloni stated. Therefore, accurate liquidity planning and implementing a liquidity management framework is key to prevent liquidity shortfall in case of unexpected cash outflows. Moreover, insurers need to estimate the right level of liquid resources to be held in their balance sheet, in order to avoid opportunity costs arising from the need to sell

EU authorities and standard setting bodies devoted significant effort to liquidity risk

assets at discount – especially in a low and negative interest rate environment when investors can earn a liquidity premium from financial markets.

Appolloni roughly outlined that generally a liquidity risk management framework includes – apart from needs and resources – risk metrics and tolerances, time horizons, stress scenarios and a contingency plan. While a single insurance company is limited to its own resources such as, premiums, cash inflows from asset redemption and liquid assets e.g. commercial papers, an insurance group could make use of intra-group loans and cash pooling to provide short- and mid-term liquidity, Appolloni said. Appolloni called for an aligned approach towards the assessment and management of liquidity risks and suggested that the insurance sector should benefit from the bank's experience.

Dr. Matteo Sottocornola, discussed the topic from a regulatory perspective. He agreed with Appollonis assessment that insurers currently tend to shift their asset allocation towards less liquid assets due to the low/negative interest rate environment. However, on the liability side, life insurers showed constantly low lapse rates in previous years. Consequently, despite the decrease in the liquid asset ratio, local supervisors in the EU countries would not take liquidity risk as a major concern.

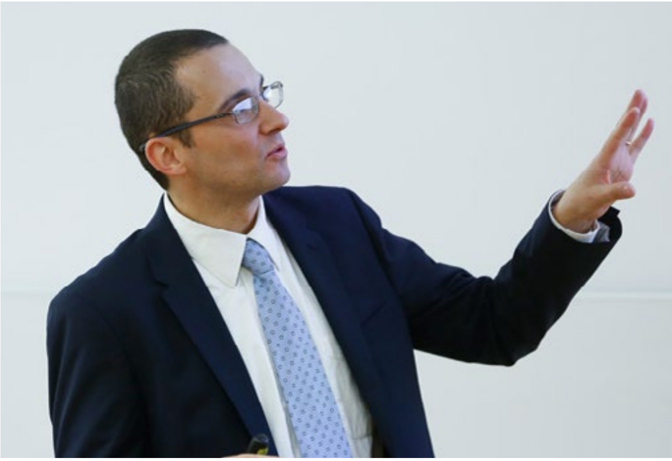
Nevertheless, EU authorities and standard setting bodies devoted significant effort to liquidity risk in the insurance industry. "There is a common understanding that the vulnerability of insurance undertakings to liquidity risk is limited compared to other exposures, but a change in asset allocations might create concerns", Sottocornola stated. Liquidity shocks – even if absorbed by insurers – could generate externalities from the insurance sector towards other financial sectors.

According to Sottoconola, this insight had been reflected into the policy monitoring process by the IAIS. Also, the EIOPA considered macroprudential tools and measures such as the introduction of standardized liquidity ratios, liquidity requirements, a temporary freeze of redemption rights and stress testing, Scottonconloa said. Moreover, the EIOPA was striving to enhance its quantitative-based tools, as its current supervisory framework on liquidity is mainly based on qualitative requirements. Sottoconola enumerated the major challenges that should be addressed in near future by the EIOPA, such as the classification of the liabilities according to liquidity criteria, the definition of a concept and identification of liability cash flow used for liquidity purpose, and the validation of cash flow data from insurers.

Liquidity shocks could generate externalities from the insurance sector towards other financial sectors

In the subsequent presentation Dr. Christian Kubitza outlined the results of his research work, which simulates the effects of interest rates on the liquidity of life insurers in Europe. Due to the correlation of surrender rates and interest rates, an interest rate rise would incentivize policyholders to surrender their insurance policies. The subsequent drain of life insurers' liquidity and fire sale costs could not only lead to significant losses of life insurers' equity but also affect market prices.

Although the average ratio of lapsed life insurance contracts in Germany is low, Kubitza presented empirical evidence that surrender payments have an economically ▸




significant size and vary substantially across EU countries. In some EU countries, up to half of the net premiums of life insurers are needed to absorb contract surrenders. In 2018, the total amount life insurers paid for surrenders was 7 percent of their total assets, Kubitza showed. Interestingly, the size of surrender payments seems to be correlated to product types: Countries with more unit-linked insurance products face more cash outflows for surrenders compared to countries with focus on traditional products.

Moreover, surrender payments would amount to roughly 16 percent of life insurers' total liquidity buffer. "An increase in surrender by a factor of 6.5 would deplete the total liquidity buffer of all life insurers in Europe", Kubitza argued. He concluded that a realistic interest rate shock could erase 10 to 30 percent of life insurers' equity and reduce market prices by 1 to 2 percent.

In order to avoid such unwanted effects, he suggested to adjust surrender values to current market conditions, which would mitigate surrender incentives and costs. Alternatively, a delay of surrender payment could prevent life insurers from losses caused by fire sales. ◆

Presentations and Moderations

October 3–4, 2019
Lisbon, Portugal
8th AIDA Europe Conference
"Landfall of the Tech Storm"
Panel: Reinsurance Principles in a Changing Legal Environment
Prof. Dr. Manfred Wandt

October 31, 2019
Frankfurt, Germany
DVFA Geldpolitik Forum
Die zukünftige Geldpolitik im Euroraum: Neubeginn oder weiter wie gehabt?
Panel: Finanzstabilität: Geldpolitik nicht aus der Verantwortung entlassen!
Prof. Dr. Helmut Gründl

November 4, 2019
Skopje, Macedonia
St. Cyril and Methodius University
Solvency II: Past, Present and Future
Prof. Karel Van Hulle

November 8, 2019
Hamburg, Germany
11. Symposium Hamburger Zentrum für Versicherungswissenschaft
Alternatives Szenario – Steigende Zinsen und Liquiditätsrisiko in der Lebensversicherung
Prof. Dr. Helmut Gründl

November 8, 2019
House of Finance, Frankfurt
Delegation Visit to the ICIR
Kyobo Life Insurance, South Korea
Prof. Dr. Raimond Maurer, Jozefina Kontic

November 13, 2019
Vienna, Austria
Verband der Versicherungsunternehmen Österreichs
Solvency II: The 2020/2021 Review
Prof. Karel Van Hulle

November 14, 2019
Stockholm, Sweden
Advokatfirman Vinge
Insurance Solvency Regulation Seminar
Solvency II is Good for You
Prof. Karel Van Hulle

November 22, 2019
Munich, Germany
Ludwig-Maximilian University
Institute for Risk Management and Insurance
Executive Master of Insurance Program
The Development of Solvency II: An Example of Good Regulation?
Prof. Karel Van Hulle

November 28, 2019
London, United Kingdom
Insurance Asset Management Conference
A Different Investment Strategy in a Changing World?
Prof. Karel Van Hulle

November 29, 2019
Arandjevolac, Serbia
Serbian Insurance Association
Third Serbian Insurance Days
Solvency II: A Dynamic Process
Prof. Karel Van Hulle

January 30, 2020
Brussels, Belgium
BIPAR
The Solvency II Review 20/21: Impact on Brokers
Prof. Karel Van Hulle

December 2019
Dubai, United Arab Emirates
MODUL University Dubai, Business

Symposium:
Negotiation and Dispute Resolution
Liability and Insurance - International Business Transactions
Prof. Dr. Manfred Wandt

Master Class
Negotiation and Drafting of Contracts, Liability and Limitation, Insurance, Dispute Resolution
Prof. Dr. Manfred Wandt

February 12, 2020
Karlsruhe, Germany
62. Karlsruher Forum
Verantwortlichkeit im Zeichen digitaler Technik
Tagungsleitung: Prof. Dr. Manfred Wandt

February 20, 2020
Frankfurt, Germany
Deutsche Bundesbank
Climate Risks and Sustainable Finance (Workshop)
Profitable Sustainable Investments for Insurance Companies
Prof. Dr. Helmut Gründl

February 27, 2020
Helsinki, Finland
Finnish Actuarial Association Annual Meeting
Solvency II Origins and Future Developments
Prof. Karel Van Hulle

February 28, 2020
Zurich, Switzerland
Geneva Association
Debate with David O'Sullivan, former EU Ambassador to the US, on 'Geopolitics: Trade Wars and their Impact on Insurance'
Prof. Karel Van Hulle

March 10, 2020
Leuven, Belgium
KU Leuven, Institute for Pension Law
Seminar on Pension Funds and Solvency II
Solvency II: Relevance for Pension Funds
Prof. Karel Van Hulle

May 14, 2020
Economic Chamber of Macedonia
The Impact of Covid-19 on the Insurance Industry: Current Challenges and Future Outlooks (Moderation)
Prof. Karel Van Hulle

September 4, 2020
Ljubljana, Slovenia
Slovenian Insurance Supervision Agency
The Low Interest Rate Impact on the Sustainability of Pension Systems
Prof. Karel Van Hulle

September 11, 2020
Ohrid, Macedonia
University of St. Kliment Ohridski
Research Conference
Lessons Learned from Solvency II
Prof. Karel Van Hulle

September 14, 2020
Financial Times Webinar
Managing Assets for Insurers: Strategies for Navigating the Global Economic Crisis
Prof. Karel Van Hulle in a dual interview on **The Future of the Insurance Industry**

ICIR EVENTS

Impressions
2010 – 2020

ICIR Inauguration
24 November 2010

Conferences on Global Insurance Supervision


International Center for
Insurance Regulation


ICIR


Global Insurance Supervision
Fit for Global Thinking?
9 – 10 September 2014
Frankfurt, Germany

GLOBAL INSURANCE SUPERVISION
Sustainable Insurance:
Embracing Global Challenges
Business Models. Protection Gaps.
Systemic Risks.
4 and 5 September 2019
Goethe University
Frankfurt, Germany

ICIR
eiopa
EUROPEAN INSURANCE

Talks on Insurance and Regulation





SPA

(Goethe University, ICIR and SAFE)



ICIR SAFE
Research & Policy Workshop

Karel's Club
Executive Insurance Forum

ICIR International Center for Insurance Regulation

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