
Publikationen der Kölner Forschungsstelle Rückversicherung
Band 2/2022

Annual Report 2021 of the Cologne Research Centre for Reinsurance

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Foreword

The challenges facing the reinsurance industry remain considerable. For the reinsurance sector, 2021 was marked by claims for natural disasters (Hurricane Ida, flooding in Europe, etc.) and the coronavirus pandemic.

The Cologne Research Centre for Reinsurance analyses the latest developments in the reinsurance market and, where appropriate, monitors these through research projects. In the process, the Research Centre for Reinsurance links its research activities with practices in the reinsurance sector. Hereby, and facilitated through organisation of the annual Cologne Reinsurance Symposium and the Annual Meeting of the Sponsoring Group Reinsurance [Förderkreis Rückversicherung], a bi-directional transfer of knowledge between theory and practice is pursued.

The content of these two scientific events, as well as the completed research projects, are incorporated into scholarship and instruction at the Institute of Insurance Studies, rounding out practice-oriented training in the field of reinsurance.

There are ten researchers and four professors currently on the staff of the Cologne Research Centre for Reinsurance. Thereby, all material and personnel costs are fully financed by third-party funds provided by the Sponsoring Group Reinsurance. This funding helped facilitate the doctorate of Mr Frank Cremer, among other things.

At the 14th Annual Meeting of the Sponsoring Group Reinsurance held in 2021, a decision was taken to provide financial support to the non-profit organisation 'Hilfe für Guinea e.V.' The donation will benefit the La Lumière Scolaire project. This project finances the construction and operation of schools for the children of disabled and homeless people in Guinea.

The Cologne Research Centre for Reinsurance is accredited as an official research focus of the Cologne University of Applied Sciences.

Cologne, January 2022

Prof. Stefan Materne, FCII
Chair for Reinsurance
Spokesman of the Cologne Research Centre for Reinsurance

Cologne Research Centre for Reinsurance

In this annual report, the Cologne Research Centre for Reinsurance documents its scientific research projects in detail, as a way of providing friends and supporters with a report on the research work carried out by the Research Centre.

The Cologne Research Centre for Reinsurance was founded in 2008. Through accreditation, in 2009 it was extended into a formal Research Focus.

Financing for the Cologne Research Centre for Reinsurance (personnel expenses for all employees, materials, literature, as well as travel expenses, etc.) is provided entirely through third-party funds made available by the Sponsoring Group Reinsurance, which currently comprises 86 participating member companies.



Research projects 2021

Below is a brief listing of the main research topics for the Cologne Research Centre for Reinsurance, together with the employees responsible for them.

Cremer, Frank: 'Availability and Standardisation of Data on Cyber Risks'



The frequency and the dimensions of cyber risks are forever growing in scale. Despite the threat on this order of magnitude, the availability of data on cyber risk is still very limited. This lack of data poses problems for many companies. A sufficient basis of data is essential to insurers that seek to provide corresponding insurance cover as part of the risk transfer, as a sustainable calculation of the risk premium is more difficult in the absence of comprehensive data on cyber damage. To help offset this shortage of data and offer some indication of the status quo on the data available on cyber risks, the researchers prepared a systematic overview to offer cyber risk stakeholders a database of publicly accessible data on cyber risks and cybersecurity. The study focussed on the data sets used in the relevant (peer-reviewed) academic literature. As a result, it was possible to identify 77 unique and publicly accessible data sets.

Cyber insurers can use the open data sets to improve their grasp and assessment of cyber risks. This way, data sets on impacts can be used to better measure financial effects and their frequency. These data could be combined with existing portfolio data from cyber insurers, and integrated with existing pricing tools and pricing factors, to assess cyber risks more effectively. A combined data set of portfolio data and external data sets can facilitate risk-adjusted pricing of cyber insurance, which in turn could also benefit policyholders.



Dirks, Jörg: 'Silent Cyber in Reinsurance – Challenges and Opportunities'

The complexity of the cyber threat and the evolving nature of the risk involved present a host of challenges for the design of insurance products, for underwriting, for risk management and for cumulative control – for both primary and reinsurance companies. Correct assessment of cyber risk is therefore indispensable, and the right approach must always be developed further. Special attention needs to be given to the variety of forms a cyber event can take.

Because connectivity and cyber technology are ubiquitous, a widespread single event can lead to a large number of cyber contracts. Silent cyber scenarios in particular need to be specially factored into risk-based pricing.

The word 'silent' or 'non-affirmative' must be understood as an issue that arises implicitly without explicit commentary or explanation. This thus comprises all insurance lines that define the insurance claim on the basis of an all-risks concept and do not explicitly exclude cyber risks.

Many conventional lines neither mention nor explicitly exclude cyber risks. By contrast, other lines define cyber risks but do not formulating them comprehensively. In both the primary and reinsurance sectors, there is still uncertainty as to whether the risk of cyber-attack might be hedged unnoticed or unintentionally through hedges outside the cyber line.

Alongside the challenges, however, silent cyber risks also pose opportunities for the reinsurance industry. Uncertainties in hedging could be eliminated through a sustainable underwriting concept, a clear and unambiguous definition of risk, through regular reviews of calculation approaches and through checks of accumulation scenarios. Forms of hedging through government pool solutions could also complete a holistic hedging of cyber risks, perhaps taking the form of close cooperation with primary insurers and reinsurers. The idea is for primary and reinsurance firms to join forces with these to create 'cyber risk pooling' and provide full protection against cyber-attacks.

Joniec, Robert: 'The Reinsurance Market as an Allocation Mechanism – The Downside of the Traditional'



The research topic in 2021 concerned the allocation mechanism in the reinsurance market and the potential disadvantages it can entail. The project can be assigned to the discipline of 'market design'. This builds upon issues in microeconomics and game theory. First, the fundamental role of reinsurers as intermediaries was defined, and the allocation mechanism was illustrated on the basis of three typical challenges (inventory risk, operational bottlenecks and low standardisation). As a final step, auction approaches were considered as alternative allocation mechanisms, but reference was also made to the need for further research and, more importantly, the need for relevant data in this regard.



Koch, Wolfgang: 'Classification of the BaFin Guidance Notice on Dealing with Sustainability Risks in Risk Management'

In the context of this research, the following theses can be stated:

- Good practice: The voluntary nature of the Notice must be stated more clearly and put to practice by the supervisory authority.

- Sustainability risks are partial aspects of existing risk types: The Guidance Notice should stress that no additional tools are required; instead, the risk-management tools already in place should be used proactively and adapted if necessary.
- Heat maps: According to the Guidance Notice, heat maps could exclude entire industries from insurance cover. This constitutes a major encroachment in the business models of insurers and insured companies. A case-by-case consideration is necessary to ensure that permitted economic activities can also continue to receive insurance cover. Moreover, the influence of the reinsurer is not clear, as it is initially the primary insurer that underwrites the transaction, and the reinsurer has no influence over this.
- For reasons of proportionality, firm-specific stress tests are not advisable. The low availability of data and the methodological problems involved render any modelling or creation of firm-specific stress tests cumbersome and/or impossible.

Lassen, Fabian: ‘Use of Auctions for Reinsurance Placement’



The placement of reinsurance may be viewed as inefficient and opaque when compared to the placement of other financial products, such as the issuance of government bonds or other securities. Traditionally, reinsurance contracts are placed as part of informal negotiations. The rules are difficult for outsiders to grasp and less transparent in an auction context. Modern auction forms and auction technologies can optimise the process of reinsurance placement relative to determinations of price and share. Clear auction rules also ensure transparency for all participants. At times, auctions have been unable to gain acceptance in the reinsurance market. Reasons for this can be seen in the general complexity of reinsurance transactions and in the heterogeneous contractual arrangements that render the standardisation of processes more difficult. Nor can auctions be a substitute for the scope of cover or the design of the contract. The use of new technologies and continuing competitive pressure in the reinsurance market can make auctions more attractive. From this, it cannot be deduced whether the use of auction has increased as a result.



Materne, Stefan: ‘Impacts of the EIOPA Opinion on the Evaluation of Risk-Mitigation Techniques (RMT)’

In 2021, the European Insurance and Occupational Pensions Authority (EIOPA) published its opinion entitled ‘EIOPA's Supervisory Opinion on the Use of Risk Mitigation Techniques by Insurance and Reinsurance Undertakings’. The opinion mainly refers to reinsurance and the securitisation of actuarial risks.

The Research Focus on Reinsurance addressed the following research questions:

- What is EIOPA's reason for introducing the term 'real risk transfer'?
- Will a new definition of (minimum) risk transfer be presented that affects the previous provisions on financial reinsurance (Art. 210 Finite Reinsurance, Directive 2009/138/EC (Solvency II), Section 167 Financial Reinsurance, German Insurance Supervision Act (VAG)), and, if so, how?
- Does EIOPA propose a differentiated approach to reducing the Solvency Capital Requirement under the standard formula in Pillar 1 of Solvency II (which would constitute a departure from the previous 'binary' approach)?
- Are there effects on intra-group reinsurance by insurance groups, and, if so, what are they?

The project will continue in 2022, supplemented by another research question.

Materne, Stefan: 'Demarcating regulatory and economic influence by the supervisory authorities.'

The focus of numerous insurance regulators has broadened in recent years. Whereas previously only compliance with the regulatory requirements was monitored and verified, in the recent past the European Insurance and Occupational Pensions Authority EIOPA has also concerned itself with economic aspects of the primary-insurance and reinsurance markets (cf. Financial Stability Reports, FSR). At its 2018 Annual Meeting, BaFin issued the surprise announcement that it would examine the price level for reinsurance – and consequently attended the Reinsurance Conference in Baden-Baden in October 2019, among other things. The outcome of this BaFin investigation was awaited with great interest, and in particular any measures by BaFin derived from its findings. Contrary to the announcement by BaFin, the result of the investigation was not communicated in 2021, either – presumably due to the coronavirus pandemic.

As soon as BaFin publishes the results of its investigation along with any measures, the Research Focus on Reinsurance will analyse the expected consequences for market events.

Pütz, Fabian: 'Reinsurance Aspects of Ecosystems in the Automotive and Mobility Field'

In 2021, Dr. Fabian Pütz conducted research on the 'Reinsurance Aspects of Ecosystems in the Automotive and Mobility Field'. For this



purpose, and based on the models and roles defined in the (academic) literature for the design of an ecosystem, he analysed the different approaches that automobile manufacturers and mobility providers have taken to integrate insurance-relevant products and services.

Essentially, technical advancement together with increasing motor-vehicle networking and automation can be expected to facilitate use of once-limited vehicle networking as a 'connected smart device' in an effort to offer further capabilities, services and functionalities via the digital interface created and – assuming sufficient vehicle automation – to introduce novel mobility concepts. While technical advancements are still at an early stage, there is no expectation that (re)insurers will be able to orchestrate an ecosystem in the mobility sector themselves as the 'owner' of the core product or central digital interfaces to the customer. Because, as expected, ecosystem ownership is not in the hands of (re)insurers, they must position themselves as strategic partners to the central stakeholders.

The possibility of positioning in this direction, however, is also a function of the strategic approach that the ecosystem owner brings to the task. Under the 'physical dominator' approach, the owners themselves occupy the technical platform and customer interface with their own brand (with services simply supplied by external partners); under a 'value dominator' approach, on the other hand, the owners can open the platform for other service providers that use the platform to offer services of their own (possibly in exchange for payment of a fee). These different approaches can currently be seen, for example, in the still-unfinalized discussions between automobile manufacturers and third-party providers with regard to access to data from the networked vehicle. Viewed strategically, however, this discussion is material only if it can be assumed that mobility patterns will not shift in favour of MaaS services anyway in the medium to long term, to the benefit of 'Mobility as a Service (MaaS)' services. In this case, for example, the MaaS provider would deploy a smartphone app to provide mobility services complete with modules for downstream services (e.g. insurance).

While this development might mean that primary insurers would risk losing the original interface to the end customer, it could also present an opportunity for reinsurers in particular to broaden their own business models – away from a 'b2b' model via strategic partnership with a platform operator, and towards, a 'b2b2c' business model. Necessary products and services might include expertise in the field of data-based pricing, white-label products for mobility providers and expertise in the management and transfer of risks of the mobility provider itself.

Rohlfs, Torsten: 'Actuarial Climate Index for Non-Life/Accident Insurers'

Carried out together with Ms Maria Heep-Altiner, this project will identify actuarial, firm-specific climate-risk exposure on the basis of a scientific approach, using a complex valuation model consistent with a potential loss of contribution margin. The firm-specific climate risk will be determined as absolute risk exposure and as an index in a market comparison.



Schmidt, Jan-Philipp: 'Simulation, Analysis and Assessment of Reinsurance Structures'

Based on Monte Carlo simulations, insurance-specific key figures for various complex forms of risk-sharing are identified in an effort to improve pricing and risk management from the perspective of cedants and reinsurers. The project will be continued in 2022.

Wang, Lihong: 'The Impact of COVID-19 on the Chinese (Re)Insurance Industry'

Lihong Wang presented the research result of the impact of COVID-19 on the Chinese (re)insurance industry. China suffered substantial economic damage due to its imposed lockdowns on a large scale and a decline in global export. Unlike many other countries, however, China also managed to make an economic recovery. Still, it is inevitable to see a further slowdown in economic growth. With more structural and systematic shifts in its society, the demand for insurance on the part of China's population is rapidly changing. This research project reviewed how COVID-19 impacted the property/casualty line of business, life & health insurance and reinsurance sectors differently. A new growth opportunity has arisen through InsurTech, which has enhanced the consumer experience and increased operational efficiency.



Research projects in cooperation with companies

Since the beginning of 2021, and working in cooperation with Munich Re, the Research Centre has been researching aspects of the pricing of intra-group renewal rights. The general aim is to build up a database with the transactions of recent years, to obtain further information or samples on the basis of these data – such as the quantity, the amount of the respective purchase price of the renewal rights, or the

domicile of the buyer and seller. Frank Cremer is in charge of this processing – with the assistance of student assistants Sevnur Aymergen and Florian Grüttner.

Publications, lectures, interviews and events in 2021

Publications

The Cologne Research Centre for Reinsurance issued the following publications during the period under report:

Materne, Stefan (Hrsg.): Jahresbericht 2020 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2021.

Materne, Stefan (Hrsg.): Annual Report 2020 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2020.

Fortmann, Michael: Versicherungsschutz für Ansprüche aus § 64 Satz 1 GmbHG in der D&O- Versicherung, jurisPR-VersR 1/2021, Anmerkung 1.

Rohlf, Torsten / Sebralla, Fabienne: Prüfung der Solvabilitätsübersicht, <https://solvency-kompakt.de/content/pruefung-der-solvabilitaetsuebersicht>.

Fortmann, Michael: Aufrechnungserklärung als Versicherungsfall in der D&O-Versicherung, jurisPR-VersR 2/2021, Anmerkung 2.

Fortmann, Michael: Versicherungsschutz von Ansprüchen aus § 64 Satz 1 GmbHG a.F. in der D&O- Versicherung, jurisPR-HaGesR 2/2021, Anmerkung 6.

Fortmann, Michael: Betriebsschließungsversicherung – neues Haftungspotenzial für Versicherungsvermittler? R+s 2021, S. 121-128.

Fortmann, Michael: Umfang des Deckungsschutzes im Rahmen der Berufshaftpflichtversicherung für Rechtsanwälte, jurisPR-VersR 4/2021, Anmerkung 1.

Winkler, Erik / Cremer, Frank: 18. Kölner Rückversicherungs-Symposium: Rückversicherung 2021 – Was sind die politischen / regulatorischen Rahmenbedingungen?, in: Die VersicherungsPraxis (VP) 06/2021, S. 40-42.

Fortmann, Michael: Betriebsschließungsversicherung – Anmerkung zu LG Flensburg, Urteil vom 17.12.2020 – 4 O 143/20, COVuR 2021, S. 158.

Fortmann, Michael: Die Prospekthaftungsversicherung, r+s 2021, S. 245.

Fortmann, Michael: Leistungen aus der Betriebsschließungsversicherung nach behördlicher Maßnahme wegen Corona-Pandemie, r+s 2021, 139.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 14. Jahrestagung des Förderkreises Rückversicherung 2021. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2021.

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 14th Annual Meeting of the Sponsoring Group Reinsurance 2021. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2021.

Cremer, Frank: Verfügbarkeit und Standardisierung von Daten zu Cyber Risiken. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2021.

Dirks, Jörg: Silent Cyber in der Rückversicherung – Herausforderung und Chancen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2021.

Joniec, Robert: Allokationsmechanismus RV-Markt – Die Schattenseite des Traditionellen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2021.

Koch, Wolfgang: Einschätzung des BaFin Merkblattes zu Nachhaltigkeitsrisiken im Risikomanagement. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2021.

Lassen, Fabian: Einsatz von Auktionen zur Platzierung von Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2021.

Pütz, Fabian: RV-Aspekte von Ökosystemen im Bereich Automotive & Mobility. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2021.

Wang, Lihong: COVID-19 Impact on Chinese (Re)Insurance Industry. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2021.

Cremer, Frank: Availability and standardisation of data on cyber risks. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2021.

Dirks, Jörg: Silent Cyber in Reinsurance – Challenges and Opportunities. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2021.

Joniec, Robert: The reinsurance market as allocation mechanism – The shadow side of the traditional. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2021.

Koch, Wolfgang: Assessment of the BaFin Guidance Notice on Dealing with Sustainability Risks in Risk Management. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2021.

Lassen, Fabian: Use of auctions for reinsurance placement. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2021.

Pütz, Fabian: Reinsurance aspects of ecosystems in the automotive and mobility field. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2021.

Wang, Lihong: Auswirkungen der COVID-19-Pandemie auf die chinesische Erst- und Rückversicherungswirtschaft. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2021.

Dirks, Jörg: Cyberrisiken in der Rückversicherung – Versicherbar auf parametrischer Basis und durch künstliche Intelligenz?, in: Zeitschrift für Versicherungswesen (ZfV), 21 | 2021, S. 673-677.

Kaya, Hüseyin / Röpke, Romina / Rohlf, Torsten (2021): Eine vergleichende Analyse von Solvenzquoten und Ratings – Update 2021, Zeitschrift für Versicherungswesen (ZfV), 24 | 2021, S. 787-792.

Heep-Altiner, Maria / Rohlf, Torsten: Die Bewertung von Klimarisiken bei Schaden-/ Unfallversicherern, Assekurata-Newsletter 69/2021.

Lectures

The following lectures were given by members of the Research Centre during the reporting period:

Cremer, Frank: Verfügbarkeit und Standardisierung von Daten zu Cyber-Risiken, 14. Jahrestagung des Förderkreises Rückversicherung, Online, 25.06.2021.

Cremer, Frank: Cyber Risk and Cybersecurity: A Systematic Review of Data Availability, Online-Präsentation am Rochester Institute of Technology, New York, 10.08.2021.

Dirks, Jörg: Silent Cyber in der Rückversicherung – Herausforderung und Chancen, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Joniec, Robert: Allokationsmechanismus RV-Markt – Die Schattenseite des Traditionellen, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Koch, Wolfgang: Einschätzung des BaFin Merkblattes zu Nachhaltigkeitsrisiken im Risikomanagement, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Lassen, Fabian: Einsatz von Auktionen zur Platzierung von Rückversicherung, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Materne, Stefan: „Rückversicherung und Risk Management, Haben Sie Ihren Rückspiegel bereits demontiert?“, Online-Präsentation auf der inscom 2021 – Insurance Conference Munich 2021, 20.09.2021.

Pütz, Fabian: RV-Aspekte von Ökosystemen im Bereich Automotive & Mobility, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Wang, Lihong: COVID-19 Impact on Chinese (Re)Insurance Industry, Online-Präsentation auf der 14. Jahrestagung des Förderkreises Rückversicherung, 25.06.2021.

Interviews

The 14th Annual Meeting of the Sponsoring Group Reinsurance in 2021 had to be adjusted to an online format, which meant a shortening of the time available; the unfortunate result of this was that the traditional interviews had to be cancelled.

Quality assurance in publications

To ensure the quality of the publications of the Research Focus on Reinsurance, the suitability of submitted texts is subject to advance critical review by an independent, external expert (Mr Ingo Wichelhaus), and by Prof. Stefan Materne. Any comments in which their reviews result must be incorporated by the respective author prior to publication.

Quality assurance for the research activities of the Research Focus on Reinsurance also takes the form of feedback on lectures at the Researchers' Corner presented at the annual meeting of member companies of the Sponsoring Group Reinsurance.

Scientific events

18th Cologne Reinsurance Symposium

On 5 May 2021, the 18th Cologne Reinsurance Symposium was hosted by the Cologne Research Centre for Reinsurance at the Cologne University of Applied Sciences. Devoted to the topic of 'Reinsurance 2021 – What are the political/regulatory framework conditions?', the event was viewed by 818 participants. Due to the special circumstances involved, the symposium was held in online format for the first time.

Professor Stefan Materne, holder of the Chair for Reinsurance, opened the event with a report on the activities of the Institute of Insurance Studies as well as the work of the four research centres located there: FaRis (Financial and Actuarial Risk Management), Reinsurance, Insurance Market and Insurance Law. He also introduced the current research topics of the eight academic staff of the Cologne Research Centre for Reinsurance (KFSRV).



Photo: Cologne Research Centre for Reinsurance
From l. to r. Rafe Courage (British Consul-General), Prof. Stefan Materne

In the first interview, Mr Rafe Courage (British Consul-General), speaking of the ratification of the EU-UK Trade and Cooperation Agreement in May 2021, emphasised: 'The agreement now gives us the clarity we all need: businesses, retailers and the citizenry.' The 'Brexit' agreement marks the beginning of a new chapter in EU-UK relations.

As Mr Courage pointed out, the first two months following Brexit were unsatisfactory for a variety of reasons (pandemic, initial situation, adjustments), but he saw a strong upturn in the following two months of March and April. While he did not want to credit the current vaccination successes of the British to Brexit alone, he did not completely rule out a link to the autonomous steps the British had taken during the transitional period. The main thing, however, he pointed out, is that the situation in both the EU and the UK will soon be back to normal.

Asked about tensions on the border between Ireland and Northern Ireland, Mr Courage emphasised that no one wanted to return to the situation that prevailed prior

to the Good Friday Agreement. This, he indicated, is something that has been stressed multiple times by the UK and Irish governments along with the EU Commission. Still, the events of recent weeks showed how sensitive and tense the situation is. While there was no easy solution, it was nevertheless a top priority to remain calm and peaceful in an effort to finally come up with solutions. Majorities of voters in Scotland and Northern Ireland voted to remain in the EU, yet every effort would be made to ensure that both countries remain a part of the United Kingdom. This applies in particular to the union with Scotland, which dates back more than 300 years.

With regard to the financial services sector, Mr Courage emphasised that the Brexit transition period through the end of 2020 came to a close without significant interruptions, thanks to multi-year preparations by authorities and the private sector. A number of steps had been taken on both the UK and European sides to maintain access to various financial services for clients, thereby minimising risks to financial stability.

Furthermore, March 2021 marked the conclusion of talks with the EU Commission on the Memorandum of Understanding (MoU). This, he observed, will provide a framework for voluntary regulatory cooperation in the financial-services sector between the UK and the EU and will establish the Joint UK-EU Financial Regulatory Forum. The aim of the Forum is to create a platform to facilitate dialogue around issues relating to financial services. With the formalities already completed, the text outlining the Forum could soon be signed.

With regard to Solvency II, Mr Courage first pointed out that UK insurers had undertaken a restructuring prior to the end of the transitional period to ensure that they could meet most of their EU liabilities. A review by the Bank of England currently in progress aimed to create appropriate ways to adapt the structural characteristics of the UK insurance sector and the UK supervisory approach to the requirements of Solvency II. Adaptation of certain aspects would not preclude the granting of equivalency by the EU, he noted. The UK Treasury, he observed, had provided extensive answers extending to more than 2,500 pages to an EU Commission questionnaire that was more than 1,000 pages long. This gave the EU had all the information it needed to make a determination on any equivalency petition issuing from the United Kingdom. At the same time, he concluded, the UK remained open to further discussions with the EU.

In the second interview, Prof. Materne discussed the regulatory framework and challenges in the (re-) insurance sector with Dr. Frank Grund (Executive Director Insurance Supervision, German Federal Financial Supervisory Authority [BaFin]).



Photo: Cologne Research Centre for Reinsurance
From l. to r. Prof. Stefan Materne, Dr. Frank Grund (Insurance Supervisor, BaFin)

Based on the previous interview with Mr Courage, the first topic concerned the varying de-grees of establishment of banks and insurance firms in Germany in the course of Brexit: There had been 54 approved applications by banks, compared to 3 approved applications by indemnity/accident insurance companies

(Markel Insurance, New-line Insurance Company, Domestic and General Insurance). Dr. Grund specifically highlighted the outstanding significance of Frankfurt as a business location in the banking sector, although the insurance sector in Germany lacked a comparable lo-cation. Nor does the topic play a major role for reinsurers, as access to the UK rein-surance market is secured through EU reinsurer Lloyd's Brussels.

He also expected the UK to seek general recognition of equivalency. While he could not provide information on the precise state of negotiations, he assumed that this was not a technical issue but a political one instead: 'In substantive terms, there can be no doubt that the supervisory regime in the UK today is equivalent to European standards. There is, however, a political question as to how long this will last and how the supervisory systems will diverge.'

Dr. Grund added that measures were in place for the grandfathering of prior rights. Still, '... on the other hand, things look bad for new business', unless correspondence insurance is maintained along with the restrictions it involves. He assumed that the tool of correspondence insurance would remain available in future if it is not excessively abused and would be operated systematically as a business model: 'It's not about how long we continue to allow correspondence insurance [...]; the question is whether what you do is still correspondence insurance.' The best thing is to be careful, not to use correspondence insurance systematically, and not to use it for canvassing purposes. Where approvals of business operations by third-country reinsurers in Germany were concerned, Dr. Grund defended as a completely comprehensible legal assessment the occasionally stricter interpretations of European requirements by BaFin.

Apart from this, a solution had been found for the USA in the form of the Covered Agreement that went into effect in April 2018. By way of clarification in Section 67 (1)

of the German Insurance Supervision Act (VAG), six American reinsurers have been fully registered to date (and 12 companies have submitted documents). The observation period for evaluation and implementation in American federal law runs from 1 March 2021 to 1 September 2022. If the two model laws developed are not implemented in each state by 1 September 2022, the Federal Insurance Office (FIO) can ensure implementation under what is known as 'pre-emption authority'. Eight states had implemented both model laws to date, he noted. The first of the model laws had already been implemented by 25 states, while 20 others were still in the process of implementation. The second model law had been implemented by 8 states, while 6 others were still engaged in consultations. Dr. Grund stressed that the Commission was following implementation of these measures very closely and that the Covered Agreement was on track. On the other hand, even if US ratification were to fail, he could not imagine a rescission ab initio of existing reinsurance contracts with US reinsurers.

In contrast to the Covered Agreement, an attempt is made to develop a global capital standard under the Insurance Capital Standard (ICS). The aim is to create a level playing field for international insurance groups with this global capital standard once the observation phase concludes in late 2024. Not all of the eligible insurance groups were taking part in the observation phase, however. French (re)insurers, for example, were apprehensive of unequal competitive

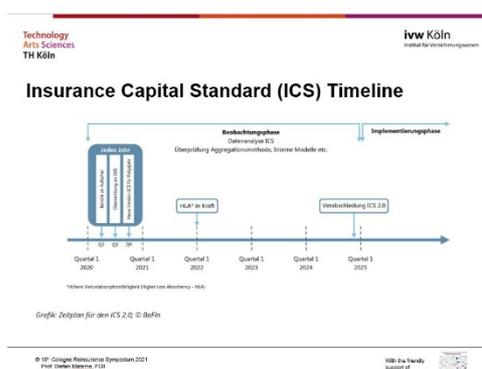


Fig. 2: 18th Cologne Reinsurance Symposium on 5 May 2021.

conditions due to different supervisory regimes. This criticism is likely directed specifically at the aggregation method used by the Americans. In this context, Dr. Grund emphasised his great gratitude to the German companies involved (Allianz, Hannover Rück and Munich Re) for participating in the observation phase, although he knew that their effort '... is not painless and costs money, too.' The effort is worthwhile, however, in Dr. Grund's view: 'It strengthens the role of those involved in negotiations there if their own market takes part'. The objective remained to establish an Insurance Capital Standard that is not so divergent from Solvency II: 'Ultimately, Solvency II is the gold standard.'

According to Dr. Grund, the 'Statement on the use of risk mitigation techniques by insurers and reinsurers' issued in September 2020 by EIOPA is clearly designed to prevent arbitrage via reinsurance: 'Ultimately, the aim is to prevent tailor-made reinsurance contracts [for SCR relief, ed.] without having the corresponding economic impact.' For EIOPA, as the European supervisory authority, to address these issues

and raise awareness is perfectly acceptable. Given optimisation not only of the SCR calculation under the standard formula but also of the corresponding transfer of risk, there are no difficulties involved in unrestricted recognition of reinsurance in the corresponding modules.

Asked about the interpretation decision by BaFin published in August 2019 on the 'Delimitation of financial reinsurance from traditional reinsurance in non-life', Dr. Grund explained that the ERD percentages introduced for the transfer of actuarial risk were very well understood within the industry. A delimitation of financial reinsurance is indicated under Art. 208 (2) (2) of Commission Delegated Regulation (EU) 2015/35.

As in the previous year, the EIOPA recommendation on the waiver of distributions of dividends will be implemented again in 2021. BaFin, he pointed out, was very conscientiously considering on a case-by-case basis whether, given their risk-bearing capacity, companies can afford to distribute dividends. Dr. Grund saw no added value in the debate around transforming EIOPA into a supervisor with direct oversight of insurance companies that operate internationally. He also saw questions about whether the legal conditions were in place to create an institution similar to the ECB in the insurance sector.

BaFin would comment on price levels in reinsurance and present an interim report at year's end. At the moment, however, neither a threat to reinsurers' stability nor a special need for supervisory action beyond the normal level of risk is discernible: 'Reinsurance contributes to stability in financial markets.'

At the end of the interview, Dr. Grund gave an outlook and discussed the role of the new BaFin President Mark Branson, among other things. A banker by training, Mr Branson knew that insurance companies are not banks, and he will be certain to take the risks specific to the insurance industry into account. According to Dr. Grund, these continue to manifest themselves in environment of low interest rates and in adequate supervisory and regulatory reflection. Mr Branson will continue to pursue a practice-oriented approach to regulation.

Our intention for 2022 is to host the 19th Cologne Reinsurance Symposium with in-person attendance. First, however, we must await issuance of the hygiene measures that will be in force at that time. Anyone who has ever attended a Cologne Reinsurance Symposium knows that mask-wearing or social distancing would hardly be feasible in our auditorium, with its virtual air conditioner, or during the subsequent get-together.

With this in mind, we will be monitoring further developments and contact you again as soon as a determination can be made as to whether or not the 19th Cologne Reinsurance Symposium 2022 will be feasible.

Below you will find the panellists of the 17th Cologne Reinsurance Symposium 2020, which had to be cancelled due to COVID-19, as well as the impressions of the 16th Cologne Reinsurance Symposium 2019, which was held with participants in attendance.

17. Kölner Rückversicherungs-Symposium 2020



Impressions of the Cologne Reinsurance Symposium



Handing out name tags



Lecture by Prof. Materne



Roll-up banners



Auditorium



Information material



Foyer



President of the Cologne University of Applied Sciences and students



Get-together



Get-together



Get-together



Bachelor students in the 4th and 6th semester with a concentration in reinsurance and employees of the Cologne Research Centre for Reinsurance

14th Annual Meeting of the Sponsoring Group Reinsurance 2021

The 14th Annual Meeting of the Sponsoring Group Reinsurance was held 25 June 2021. The event was held online again this year due to COVID-19.



Prof. Stefan Materne opened this year's annual conference before nearly 135 attendees and announced that the companies in attendance represented around 90 percent of reinsurance premiums worldwide. In this connection, he recited a cartel pronouncement prohibiting price fixing, collusion concerning market behaviour, etc. Following this formal order of business, Prof. Materne presented the activities of the Cologne Research Centre for Reinsurance and the Chair for Reinsurance. He reported on

- current research projects,
- online scientific events:
 - the workshop on the EIOPA Initiative 2020, 'Supervisory Statement on Risk Mitigation Techniques', and the 18th Cologne Reinsurance Symposium 2021.
- participation by academic staff members in various online events:
 - Annual Meeting of the German Association for Insurance Sciences (DVfWV),
 - customer events by various reinsurers, brokers and rating agencies,
 - Symposium of the Gesamtverband der versicherungsnehmenden Wirtschaft (GVNW).
 - conferences.
- unfortunately, due to the coronavirus pandemic, activities held in the past had to be cancelled in 2021:
 - the traditional seminar on Presentation Skills in English, led by Colin Brett,
 - excursions,
 - and the summer festival of the Cologne Research Centre for Reinsurance.

As in years past, the academic staff members proceeded to present their research topics as part of the Researchers' Corner. It was possible to retain the format of the events held in person within the original framework, similar to Clostermanns Hof:

Over the course of three rounds, three or two parallel presentations were given in break-out sessions, after which the respective lectures were discussed (See the following page for lecture topics.).

A presentation of the activities of the previous year was followed by the first of the three sessions of the Researchers' Corner, with presenters Frank Cremer, Jörg Dirks and Wolfgang Koch.

Following the first lectures, Prof. Materne thanked the companies involved in the Sponsoring Group Reinsurance for their valuable support, which had made it possible to finance the various events and scientific work of the Research Centre throughout the year. He made special mention of the financial support of the excursions, without which some students would have been unable to participate. The Sponsoring Group Reinsurance also provided full financing for the employment of staff members and their research. This also includes work in pursuit of the doctoral degree by Mr. Frank Cremer, in cooperation with the University of Limerick. The Sponsoring Group Reinsurance also supports two students each year with a concentration in reinsurance as part of the Germany Scholarship.

This was followed by the second session of the Researchers' Corner, featuring presenters Lihong Wang and Robert Joniec. Following the second session of the Researchers' Corner, Prof. Materne reported on the Social Commitment project.

The report on proper use of funding was followed by the third and final session of the Researchers' Corner, with Fabian Lassen and Dr. Fabian Pütz.

Researchers' Corner 2021

Once again, the Researchers' Corner was offered as an additional form of knowledge transfer. Seven of the researching members of the Research Centre presented their current developments, each in a brief lecture followed by a discussion:

Session 1

- a) Frank Cremer (M.Sc., FCII, cand. PhD): Availability and Standardisation of Data on Cyber Risks.
- b) Jörg Dirks (M.Sc., FCII): Silent Cyber in Reinsurance – Challenges and Opportunities.
- c) Wolfgang Koch (M.Sc., FCII): Classification of the BaFin Guidance Notice on Dealing with Sustainability Risks in Risk Management.

Session 2

- a) Robert Joniec (M.Sc., FCII, cand. PhD): The Reinsurance Market as an Allocation Mechanism – The Downside of the Traditional.
- b) Lihong Wang (M.Sc., FCII): The Impact of COVID-19 on the Chinese (Re)Insurance Industry.

Session 3

- a) Fabian Lassen (M.Sc., FCII): Use of Auctions to Optimise Reinsurance Costs.
- b) Fabian Pütz (PhD, FCII): The Emergence of Ecosystems and the Opportunities and Risks They Present.

After expressing his thanks once again, Prof. Materne, brought the 14th Annual Meeting of the Sponsoring Group Reinsurance to a close.

Afterwards, the employees of the Cologne Research Centre for Reinsurance celebrated the successful annual meeting with the obligatory after-show party – that this year's iteration had to be held in the virtual space did not detract from the mood.

Frank Cremer: „Availability and standardisation of data on cyber risks“
 (see also the project descriptions beginning at p. 6)

14th Annual Meeting of the Förderkreis Rückversicherung
 [Sponsoring Group Reinsurance]
 Researchers' Corner, 25 June 2021
**Availability and standardisation of data on
 cyber risks**

Frank Cremer, M.Sc. / FCII / PhD cand.

The magnitude of cyber risks

- 'NotPetya' ransomware attack caused approx. 10 billion US dollars in damage in 2017
- In 2017, 'WannaCry' led to damage of approx. 92 million pounds sterling
- Ransomware attack on the Colonial Pipeline
- 'Cybercrime cost the global economy an estimated 945 billion US dollars in 2020' (Maleks Smith et al., 2020)

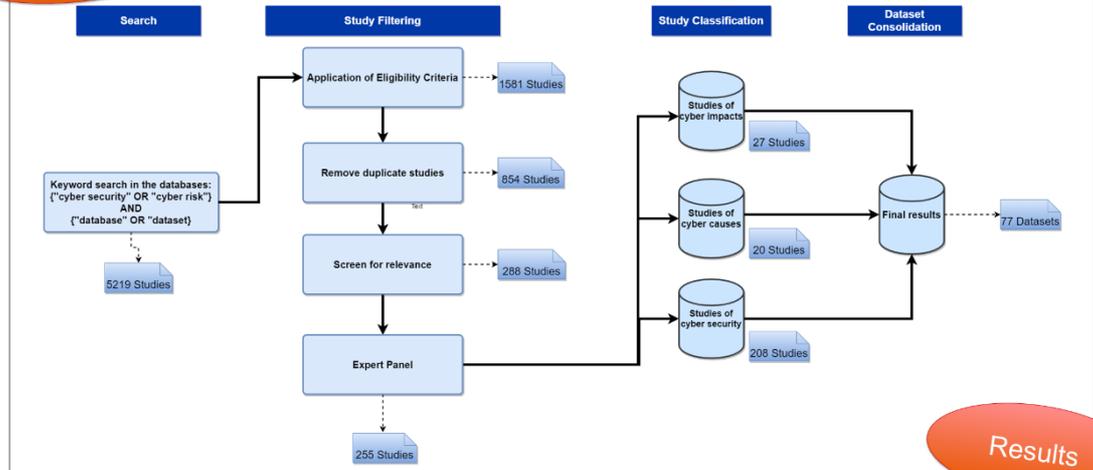
Data availability is limited

- Lack of data due to missing history
- Companies that have suffered cyber damage rarely publish this fact
- Cyber risks are dynamic and mutable

'The average cyber insurance claim increased from 145,000 US dollars in 2019 to 359,000 US dollars in 2020.' (FitchRatings, 2021)

Motivation and point of departure

Methodology



Results

Publicly available data sets

Causes of cyber risks

- 14 data sets

Impact of cyber risks

- 25 data sets

Cybersecurity

- 55 data sets

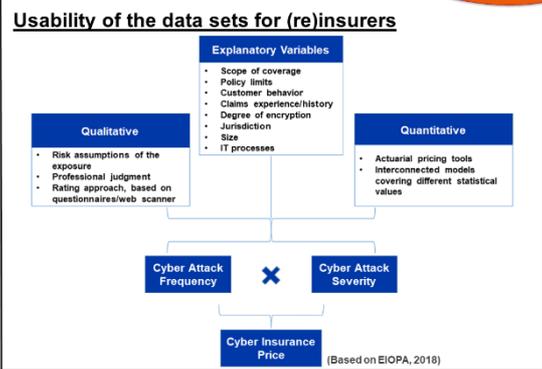
Origin of the data sets

1. USA	(53.3%)
2. Canada	(10.7%)
3. Australia	(5.3%)

Issue of standardisation

- Primarily from the USA
- Individual characteristics

20 additional data sets on impacts via Google Dataset Search



**14th Annual Meeting of the Förderkreis Rückversicherung
[Sponsoring Group Reinsurance]
Researchers' Corner, 25 June 2021
Silent cyber in reinsurance – Challenges and
opportunities
Jörg Dirks, M.Sc. / FCII**

- Silent cyber: Risks from cyber exposure that primary and reinsurance companies 'either did not register at all or failed to sufficiently assess.' (Göling, 2018)
- Cyber is developing more dynamically than any other hazard.
- The greatest business risks are looming in the cyber sector.

Silent Cyber Exposure

The most important business risks: Global

Region	Top Risks
America	1. Business Interruption (2) 2. Pandemic outlook 3. Cyber incidents (1) 4. Natural catastrophes (3)
Europe	1. Cyber incidents (1) 2. Business Interruption (2) 3. Pandemic outbreak 4. Changes in Legislation (3)
Africa & Middle East	1. Pandemic outbreak 2. Business Interruption (1) 3. Cyber incidents (2) 4. Fire, explosion (3)
Asia Pacific	1. Cyber incidents (1) 2. Pandemic outbreak 3. Business Interruption (2) 4. Natural catastrophes (4)

Prognose Bruttoprämie für Cyber-Versicherung

Versicherungsprämie im Jahr 2036 in Mrd. EUR

Land	erwartungsgemäß (Mrd. EUR)	stärker als erwartet (Mrd. EUR)
Deutschland	~15	~20
Schweiz	~2	~3
Österreich	~1	~2

Silent Cyber – Ausblick in die Zukunft...

Umfang der Risiken

- Artificial Intelligence
- 5G Technologie
- Cloud Service

Attacken durch...

- Ransomware
- Data Breach
- DDoS
- BEC-Scams

Steigendes Potenzial durch Betrug und Fälschung

- Deep fakes
- Social engineering
- Phishing
- Identitätsdiebstahl

Steigerung des Risikobewusstseins

- Lieferketten
- Folgemärkte
- Behörden & Regulierungen
- Kunden & Partner

Absicherung von Silent Cyber

Herausforderungen

- Akkumulation
- Risikogerechtes Pricing
- Mangel an Daten (historische Schäden)
- Informations-Asymmetrie
- Kumulrisiko
- Explizites vs. Nicht explizites Cyber Szenario (Silent Cyber)
- Einheitliche Definition und Leistungen

Chancen

- Klare Definition von Leistungen
- Regelmäßige Überprüfung der Kalkulationsansätze
- Kontrolle der Kumulzuszenarien
- gezieltes Exposure-Management für eine effiziente Nutzung der Kapazitäten

Robert Joniec: „Reinsurance market as allocation mechanism – The downside of the traditional“ (see also the project descriptions beginning at p. 7).

14th Annual Meeting of the Förderkreises Rückversicherung
[Sponsoring Group Reinsurance]
Researchers' Corner, 25 June 2021
Reinsurance market as allocation mechanism –
The downside of the traditional

Robert Joniec, M.Sc. / FCII / PhD Cand.

Theoretical background market design

Market design is an discipline in economics that combines the architecture of a market with its goals and builds on game theory and microeconomics

- Market rules (allocation mechanism) influence participants' incentives and hence the overall outcome
- Labour market, mobile network (frequencies), organ transplants, financial markets... reinsurance

Reinsurers act as intermediaries / market makers of / for actuarial risk and capital

- Asset-liability management
- Product development
- Actuarial diversification

RoE vs WACC

Source: Willis Towers Watson

Intermediation, inventory, congestion, standardisation, barriers to market entry

Tasks of an intermediary (Spulber, 1996)

- The main task of intermediaries is market clearing, i.e. pricing, so that purchases = sales (reinsurance cycle?)
- Generating information (R&D yes, but private?)
- Product and quality guarantee (Strong, but standardisation?)
- Monitoring and contractual services (Strong, but automation?)

Structural challenges in the reinsurance market

- Capital inventory vs underwriting inventory
- 1.1. Renewal congestion leads to lower 'thickness' among other things (approx. 65%, see)
- Globalism, competition over price and wording inhibit standardisation

Can the effects of the challenges be quantified?

Electronic footprint of an auction placement

Reinsur. auction platforms

- Current providers: AON, GC, Tremor
- Auction platforms offer a glimpse into the relationship between allocation mechanism and placement
- Research helps establish facts
- More data are required
- Bidders do not apply strategies, but some could be identified depending on the rules

First insights into possible strategies, impact of rules

- First come, first served
- Subsequent participation forces underbidding
- Behaviour strongly influenced by individual rules

Wolfgang Koch: „Assessment of the BaFin Guidance Notice on Dealing with Sustainability Risks in Risk Management“ (see also the project descriptions beginning at p. 8).

**14th Annual Meeting of the Förderkreises Rückversicherung
[Sponsoring Group Reinsurance]
Researchers' Corner, 25 June 2021**

**Assessment of the BaFin Guidance Notice on Dealing with
Sustainability Risks in Risk Management**

Wolfgang Koch, M.Sc. / FCII

<ul style="list-style-type: none"> Sustainability risks (ESG risks) in the 'Environment' area subdivided into physical risks and transition risks Good practice approach: 'Compendium of non-binding procedures' Principle of proportionality: Measures should be based on the type, magnitude and complexity of the risks involved 				
<u>Delimitation into a separate risk type 'Sustainability risks' is not possible (Section 2.7)</u>				
<p style="text-align: center;">Market risk / default risk</p> <ul style="list-style-type: none"> Falling share and bond values of fossil-focussed companies Physical damage to tangible assets 	<p style="text-align: center;">Actuarial risk Damage/accident</p> <ul style="list-style-type: none"> Decline in motor-vehicle business due to mobility transition and working from home Physical damage (frequency and intensity) 	<p style="text-align: center;">Actuarial risk Life/health</p> <ul style="list-style-type: none"> Heat effects (mortality of older age groups) Possibly opposite effects in longevity and mortality risk (diversification) 	<p style="text-align: center;">Reputational/ strategic risk</p> <ul style="list-style-type: none"> Consequences of non-compliance with climate-related specifications 	<p style="text-align: center;">Operational risk</p> <ul style="list-style-type: none"> Stiffer regulatory requirements (new expertise)
<u>Requirements for risk management (Section 6)</u>				
<p style="text-align: center;">Integration of risk-management process</p>	<ul style="list-style-type: none"> Expand guidelines and escalation processes for involvement of the management level Risk indicators depending on risk appetite and risk-bearing capacity. Proposal: Risk indicators of the Network for Greening the Financial System (NGFS) 			
<p style="text-align: center;">Methods</p>	<ul style="list-style-type: none"> Exclusion criteria / limits for companies (by means of heat maps) Standards-based screening, e.g. Principles for Responsible Investment (PRI) 			
<p style="text-align: center;">Risk-analysis method or risk-classification method</p>	<ul style="list-style-type: none"> Check whether transaction is risky based on heat maps If so, more intensive analysis, e.g. through sustainability rating Risk classification: Dialogue, contractually agreeing progress, rejection 			
<p style="text-align: center;">Tools for risk inventory or portfolio analysis</p>	<ul style="list-style-type: none"> Use available tools for risk inventory or portfolio analysis Conducting risk workshops is conceivable 			
<p style="text-align: center;">In-house reporting</p>	<ul style="list-style-type: none"> Address sustainability risks in the framework of existing reporting channels, otherwise specific reporting ORSA: Sustainability risks in the risk profile 			
<u>Assessment of the Guidance Notice</u>				
<ul style="list-style-type: none"> Good practice: Voluntary nature of the Guidance Notice must be stated more clearly and enacted by the supervisory authority. Integration into the RM process: Make proactive use of existing risk-management instruments and adjust them if necessary. Heat maps According to the Guidance Notice, heat maps could exclude entire industries from insurance cover. Case-by-case considerations are still necessary. Moreover, the influence of the reinsurer is not clear. Proportionality: Individual stress tests are challenging (data availability / methodological problems). 				

Fabian Lassen: „Use of auctions for reinsurance placement“
 (see also the project descriptions beginning at p S. 8).

14th Annual Meeting of the Förderkreis Rückversicherung
[Sponsoring Group Reinsurance]
Researchers' Corner, 25 June 2021
Use of auctions for
reinsurance placement

Fabian Lassen, M.Sc. / FCII

1. Current relevance	2. Auctions								
<ul style="list-style-type: none">  2020 Nobel Prize in Economics for auction theory  Trend towards automated placement (InsurTechs and market initiatives such as Ritablock and B3i) as well as increasing fields of application for blockchain technology  Sustained competition and cost pressures in combination with low-interest-rate environment  Auctions are proving to be a successful model <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">Examples of successful auctions</p> <ul style="list-style-type: none">  Award of frequencies  Subsidies for wind farms  Energy prices </div>	<div style="background-color: #e0e0e0; padding: 5px; margin-bottom: 10px;"> <p>What is an auction? Mechanism for pricing and distributing goods based on a transparent procedure. By contrast, informal negotiations do not follow clear rules and are usually non-transparent.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #800040; color: white;">Sealed bids</th> <th style="background-color: #800040; color: white;">Open bids</th> </tr> </thead> <tbody> <tr> <td><i>(Bids are known only to the seller)</i></td> <td><i>(Bids are known to all bidders)</i></td> </tr> <tr> <td>Second-price auction</td> <td>Ascending-bid auction</td> </tr> <tr> <td>Highest-price auction</td> <td>Descending-bid auction</td> </tr> </tbody> </table>	Sealed bids	Open bids	<i>(Bids are known only to the seller)</i>	<i>(Bids are known to all bidders)</i>	Second-price auction	Ascending-bid auction	Highest-price auction	Descending-bid auction
Sealed bids	Open bids								
<i>(Bids are known only to the seller)</i>	<i>(Bids are known to all bidders)</i>								
Second-price auction	Ascending-bid auction								
Highest-price auction	Descending-bid auction								
4. Advantages	5. Disadvantages								
<ul style="list-style-type: none"> › Tool for determining optimal prices and share allocation (e.g. divide and place programme into individual parts / layers) › Transparency and greater control over the placement of the reinsurance programme › Reinsurers can control their portfolio more accurately and have greater ease of access to new customers (higher competition) › Optimising reinsurance costs (one-off effect?) 	<ul style="list-style-type: none"> › Price one-dimensional, hence consider other factors, such as a reinsurer's rating › Effort to convert process › Challenge with specific reinsurance programmes (standardisable reinsurance programmes, by contrast, good, e.g. NatCat programmes: however, problem with unclear wording in the event of loss) › Contractual components must be defined before the auction begins → no longer flexible 								
6. Current developments and outlook									
<ul style="list-style-type: none">  Auctions not widespread in Europe, different auction methods in use  New technologies such as blockchain can increase the degree of automation and attractiveness of auctions, as more complex processes can be mapped here and participants can be authenticated at the same time (smart contract)  Reinsurers not only want to be a capacity supplier but also act as a service provider  What does this mean for reinsurers? Is this a positive development with opportunities or more of a negative one with many risks? Which auction approaches are suitable? 									

Fabian Pütz: „Reinsurance aspects of ecosystems in the automotive & mobility field“
 (see also the project descriptions beginning at p. 10).

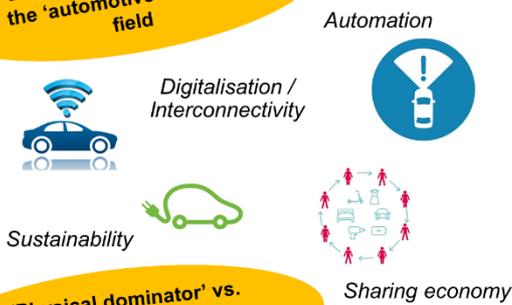
14th Annual Meeting of the Förderkreis Rückversicherung
 [Sponsoring Group Reinsurance]
 Researchers' Corner, 25 June 2021

‘Reinsurance aspects of ecosystems in the
 automotive & mobility field’

Fabian Pütz, PhD / M.Sc.

Drivers of ecosystems in the ‘automotive / mobility’ field

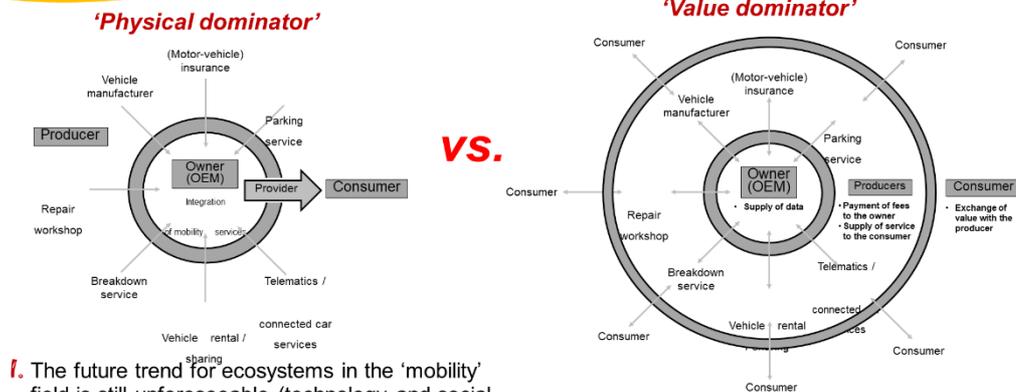
Roles in the ecosystem



A business ecosystem is ‘an economic community [in which] individuals coevolve their capabilities and roles, and tend to align themselves with the directions set by one or more central companies.’ (Moore, 1996)

- The ‘owner’ is a central stakeholder who performs the governance of the ecosystem
- The ‘provider’ furnishes the (technological) interface or platform
- The ‘producers’ offer products/services within the ecosystem
- The ‘consumer’ uses the ecosystem to meet his or her needs

‘Physical dominator’ vs. ‘Value dominator’ approach



I. The future trend for ecosystems in the ‘mobility’ field is still unforeseeable (technology and social acceptance)

II. Scope and ‘ownership’ of ecosystems still unclear

III. Strategic positioning of the (re)insurer (?)

Integration of reinsurance services / expertise



❖ (Data-based) pricing

❖ ‘White-label’ platforms (products and services)



❖ Risk management & risk transfer (b2b)

- I. Holistic strategic cooperation possible with platform operators as sources of supply for products and capacity
- II. Reinsurers with less competition at the direct customer interface (‘b2b2c’)
- III. International support of platform operators required (?)

Lihong Wang: „COVID-19 Impact on Chinese (Re)Insurance Industry”
 (see also the project descriptions beginning at p. 12).

**14. Jahrestagung des Förderkreises Rückversicherung
 Researchers' Corner am 25. Juni 2021**

COVID-19 Impact on Chinese (Re)Insurance Industry

Lihong Wang, M.Sc. / FCII

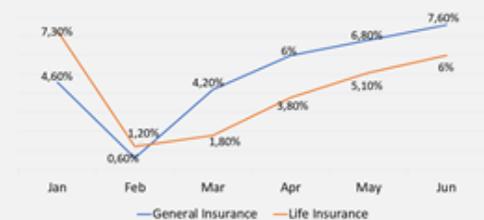
Introduction

COVID-19 dominates headlines in global media. The insurance market has been greatly impacted by the outbreak of the COVID-19 pandemic. China is the first country to impose lockdown on a big scale and the first one to make an economic recovery. With the further economic slowdown and more structural and systematic swifts in its society, China finds its population having rapid changes in their insurance demands. The occurrence has also become a testing case for the (re)insurance operations.

Statistics

After a sharp decline in Feb 2020, the insurance premiums growth in China continue to grow and display resilience. The annual growth rate reached 6.1%, a further strong increase (7.8%) in GWP in the first quarter of 2021, as China's economy continues to recover.

2020 YTD Insurance Revenue Growth compared to 2019



Source: <https://www.pwccn.com/en/insurance/publications/how-china-recovering-its-implications-mainland-insurers-sep2020.pdf>

Impact of COVID-19

Economic Impact

A slowdown in economy growth present a big challenge to the Chinese insurance industry, for both life and non-life sectors.

Insurance Distribution

The lockdowns prevented the traditional insurance sale-force to conduct face-to-face meetings and they are forced to digitize and meet virtually.

Macro Impact

Insurance Operations

insurers had to upgrade their systems and use electronic filings, online quotes and fast-paced claims handling.

Product Innovation

Many insurance companies filed new products that related to COVID.

Impact on Lines of business

Life insurance

Life insurance grow over the period from January to December 2020, however, the growth has slowed down significantly while showing signs of financial stress.

Non-Life insurance

Motor as the dominant line of business in P&C lines of business and thus Non-Life suffer initially a hard hit due to decline in automobile sales and further from corporate budget cuts.

Accident & Health Insurance

The increasing living standard and rising healthcare costs fuel the rising demand. The health insurance sector has seen a surge of demand on coverage, also via online platforms and social media.

Impact on the Reinsurance

COVID claims in China impact mostly life and health side, rather than on the BI aspect, unlike Europe, the UK or the US where BI claims are serious concerns.

Outlook

Grow

The insurance industry benefits from built-up positive image during the COVID-19 crisis and an economical recovery in China.

Transform

Insurers and intermediary will have to rapidly transform their operational and distributional aspects and utilize social media and platforms for further digitalization.

Connect

Insurers will accelerate the use of technologies to connect their systems and third-party providers into the new eco-systems.

Excursions 2021

As a result of the pandemic, no excursions could be conducted in 2021.

Planned research projects and events in 2022

Planned research projects:

The following research projects are expected to continue in 2022, in some cases with the publication of findings:

Cremer, Frank: 'Insurance Cover for Cyber Risks – An Analysis of Cyber Wording'

This study examines the wording used by cyber insurers and attempts to identify the gaps in insurance cover with the aid of selected cyber risks. The research analyses which cyber risks are covered by cyber insurance, and which claims would currently go uninsured. The aim of this approach is to identify the sources of this circumstance, and to articulate solutions to this problem. This research also underscores the need for comprehensible and standardised cyber formulations in the context of a sustainable approach to risk transfer.

Cremer, Frank: 'Reinsurance Aspects of Cumulative Cyber Risk'

Cyber risks pose a challenge to the insurance sector by virtue of the steady increase in claims and the difficult-to-calculate financial impact on the firms affected. Extensive networking and the increasing use of cloud technologies in the industry make cumulative cyber risk an issue of great importance to insurers. Within the framework of this research, the status quo of reinsurance aspects of cumulative cyber risk will be examined and elaborated in detail. This also includes identifying the current limits of insurability. An additional aim of this research is to develop approaches for insuring cumulative cyber risk and to identify the extent to which the boundaries might be broken down.

Dirks, Jörg: 'Challenges for the Reinsurance and Retrocession Market due to an ESG-Compliant Business Orientation'

The consequences of climate change are increasingly making issues of sustainability a focus for firms and the general populace. With public debate around the use of resources, or concerning fairer working conditions, spurring attention to this topic, firms find themselves confronted with criteria of sustainability.

Sustainability criteria are subsumed under the acronym 'ESG' and are thus not confined to climate change alone. In essence, what are known as 'ESG criteria' are defined as a standard of sustainable investing in the fields of Environment, Social and Governance.

Primary insurers and reinsurance companies alike, as well as retrocession partners and investors, are increasingly factoring aspects of sustainability into their business decision-making. They consider the sustainability of investments of capital, for instance, or the social commitment of a contractual partner. This is why a convincing sustainability profile can also gradually evolve into a competitive advantage.

Companies that neglect this issue must fear reputational damage as a consequence. Across-the-board consideration of the concept of sustainability in a business model of a primary insurer or reinsurance firm is thus quite extensive and touches upon nearly all of the relevant divisions of a company.

The core business of the reinsurance industry is constantly shaped by new risks and global challenges. An ESG-compliant business orientation extends far beyond investing processes. ESG criteria must also be increasingly integrated into the underwriting processes.

An ESG-compliant business orientation and a corresponding adaptation to underwriting presents fresh challenges for the reinsurance and retrocession market, as certain ESG criteria present a hurdle to ongoing business activities in underwriting. Specifically the discrepancy between competitiveness and the principles of good corporate governance needs to be carefully analysed.

The research will provide a general overview of ESG criteria. The advantages and disadvantages of an ESG-compliant business orientation will also be analysed and the fields of action in ESG most urgent and critical to the reinsurance industry identified.

Joniec, Robert: 'Adaptation and Added Value of New Technologies in the Reinsurance Market, Based on the Example of Auctions'

Based on the previous year's topic, the research project for the year to come will be dedicated to the question of whether auctions are suitable allocation mechanisms for the transfer of risk in reinsurance. In spite of the broad (technological) development of financial markets and the reinsurance market in recent decades, auctions or auction-like mechanisms are not relevant in this connection. Still, existing research results are indicative of the characteristics and challenges of other goods (contracts) that narrow the benefits of an auction-typical allocation. In this broad field of research, we identify relevant findings based on parallels to the characteristics of the reinsurance market. The results of the research serve as a basis for a discussion of whether reinsurance contracts should be auctioned as a matter of principle.

Koch, Wolfgang: 'Climate-Change Scenarios in the ORSA'

In addition to a qualitative risk assessment, EIOPA would also like to make the quantitative risk assessment on climate change mandatory for ORSA reports, even though this is still not possible in all areas, e.g. due to a lack of data on which to base such an assessment. Nevertheless, even in the absence of data or granularity, companies should break new ground and try out new methodologies.

By examining the long-term risks of climate change, companies should be able to answer the question of whether their business model is sustainable in the long term. BaFin expects companies to apply climate-change scenarios in the ORSA. It will provide supervisory monitoring of whether and how companies have implemented this. Against this backdrop, the aim will be to investigate qualitative and quantitative methods for the ORSA in an effort to present (re)insurers with a clear overview of possible routes of implementation.

Lassen, Fabian: 'Requirements for Introduction of an Industry Standard for Renewal Information and Settlement of Reinsurance Contracts'

The majority of all compulsory reinsurance contracts are renewed on an annual basis. In the process, a great deal of information is transmitted to reinsurers from the cedant, either directly or through a broker. In addition to preliminary contract documents, many figures are also provided in spreadsheet form. How the spreadsheets are structured, and precisely what information is shared, is up to the cedant. The situation is similar where the transmission of information about settlements and claims is concerned. For the reinsurer, this means that all data must be viewed and reformatted for further processing. Depending on the complexity of the business to be covered, this will occasionally require more and occasionally less time. Introducing an industry standard would make it possible to work more efficiently and save costs in the long term. The aim of this research project is to investigate how a possible industry standard can benefit cedants, brokers and reinsurers. After all, an industry standard can only be implemented if all stakeholders benefit.

Materne, Stefan: 'Impacts of the EIOPA Opinion on the Evaluation of Risk-Mitigation Techniques (RMT)'

The project of the same name from 2021 will be carried on, supplemented by the additional research question of how national supervisory authorities in the insurance sector ('Supervisors') – and BaFin in particular in the German context – implement this EIOPA Opinion in the individual countries.

Materne, Stefan: ‘Impacts of the European Floods in 2021 on the Reinsurance Market’

The past reinsurance contract renewal already showed significant price increases and reduced provision of capacity by reinsurance companies for NatCat cover. The latter applies to aggregate cover amounts in particular.

This project examines whether European flooding will further affect the reinsurance market in the medium term. It will consider trends in deductibles under reinsurance programmes for NatCat, for example.

Another aspect will be the extent to which reinsurance brokers can add value for their cedants and, if so, for which ones.

Rohlf, Torsten: ‘Value-Oriented Management of Insurance Companies’

Is it possible to analyse the value-oriented management of insurance companies based on external data? For this purpose, selected key figures will be examined with respect to various issues, with both commercial and regulatory reporting considered in combination.

Rohlf, Torsten / Kraus, Holger: ‘Captives’ (book project)

Project to draw up a manual for captives in Germany, for publication by Springer Verlag. The aim of the project is for individual practitioners to submit a book chapter for each relevant topic. Publication of the book is planned for 2022.

Schmidt, Jan-Philipp: ‘Simulation, Analysis and Assessment of Reinsurance Structures’

Based on Monte Carlo simulations, insurance-specific key figures for various complex forms of risk-sharing are identified in an effort to improve pricing and risk management from the perspective of cedants and reinsurers.

Wang, Lihong: ‘Chinese Online Insurance Developments in 2022 – Growth and Challenges’

Lihong Wang will provide an update on developments in Chinese InsurTech. China’s InsurTech has quickly evolved from a purely online distribution channel to technology-enabled transactions and aims to grow into a technology-embedded ecosystem. With the impact of COVID-19 and the global economic recession, China’s insurance sector is under tremendous pressure. In the meantime, with still low insurance penetration and density, online insurance is one of the new opportunities for growth. By 2021, there were more than 140 insurers selling traditional and new insurance products through online platforms. This research project will focus on the state of the online insurance

market in terms of growth, trends, the impact of COVID-19 and regulatory challenges. One of the latest particular challenges is that the Chinese Banking and Insurance Regulatory Commission is seeking to prevent and control the operational risk of the insurance industry in an effort to serve the economic development more effectively.

Winkler, Erik: ‘Introduction of the International Regulatory Standard: “Insurance Capital Standard (ICS)”’

In the future, discussions around equivalence decisions and bilaterally negotiated agreements such as the ‘Bilateral Agreement Between the United States of America and the European Union On Prudential Measures Regarding Insurance and Reinsurance’ could be a thing of the past for Internationally Active Insurance Groups (IAIGs). An association of insurance authorities from more than 200 countries, the International Association of Insurance Supervisors (IAIS) has been working since 2013 to develop a risk-based, globally applicable capital standard (Insurance Capital Standard – ICS). The overall objective is to establish an overarching regulatory framework for large international insurance groups, complete with minimum standards for risk assessment and the resulting capital requirements. This would not only ensure fair competition in international business but would also promote stability on worldwide financial markets and, with this, protection for policyholders. It is in the nature of things that the effort to develop a global capital standard involves reconciling the interests of many different jurisdictions with different systems of their own. The preference in Europe, for example, is to calculate capital requirements using the consolidation method, whereas the aggregation method is used in the United States. The IAIS aims to bring interest groups together while developing a global minimum capital standard for IAIGs, yet without excluding the local supervisory regime in the respective jurisdictions.

Planned scientific events

- **19th Cologne Reinsurance Symposium 2022**

Given the uncertainties surrounding it, it remains to be seen whether the 19th Cologne Reinsurance Symposium can be held. We will continue to monitor further developments and will be in touch with you as soon as the feasibility of the event in 2022 can be foreseen.

- **15th Annual Meeting of the Sponsoring Group Reinsurance 2022**

The 15th Annual Meeting of the Sponsoring Group Reinsurance will be hosted by the Cologne Research Centre for Reinsurance on 24 June 2022.

It is our hope to be able to organise the events in a face-to-face format once again in 2022.

A note on our own behalf

Staff members of the Cologne Research Centre for Reinsurance

Including Spokesman Prof. Stefan Materne, the work of the Research Centre is carried out by a total of four professors, the other three being Prof. Dr. Michael Fortmann, Prof. Dr. Jan-Philipp Schmidt and Prof. Torsten Rohlf's.

The strong practical orientation of the Cologne Research Centre for Reinsurance is ensured particularly through the research of Ms Lihong Wang and Messrs Manuel Dietmann, Jörg Dirks, Robert Joniec, Wolfgang Koch, Fabian Lassen and Dr. Fabian Pütz. In addition to their involvement with the Research Centre, each of these (part-time) members of the academic staff is also employed full-time position in the reinsurance sector.

Mr Frank Cremer also contributes to these research activities while completing his PhD in cooperation with the University of Limerick and performing duties in science management at the Research Centre.

The task of science management remains in the proven hands of Mmes Evelyn Hartrampf (currently on parental leave) and Maaïke Heuwold together with Mr Cremer. Specifically, activities include

- organisation and coordination of all research and knowledge-transfer activities, including the two major scientific events: the Cologne Reinsurance Symposium and the Annual Meeting of the Sponsoring Group Reinsurance, and
- office management at the Cologne Research Centre for Reinsurance.

Memberships and activities of participating professors

Prof. Stefan Materne, FCII

Prof. Materne is active in the advisory boards of the European Insurance and Occupational Pensions Authority (EIOPA), the Hamburg Society for the Promotion of the Insurance Industry (HGFV) and ARIAS Deutschland and in the committee of the German Association for Actuarial Science (DVfVW).

In addition, Prof. Materne is a Fellow of the Chartered Insurance Institute (FCII) and a member of the International Insurance Society (IIS).

Prof. Dr. Torsten Rohlfs

Prof. Rohlfs is an associate member of the Promotionskolleg NRW, a member of the Scientific Advisory Board of the Association of the German Insurance Industry (GVNW) and a cooperation partner of the 'Solvency kompakt' competence platform.

He is also a member of the Board of Examiners for Auditors (Prüfungskommission für Wirtschaftsprüfer) and participates in the Rating Committee at ASSEKURATA Assekuranz Rating-Agentur GmbH.

Prof. Dr. Jan-Philipp Schmidt

Prof. Schmidt is Vice President of the German Society for Insurance and Financial Mathematics (DGVM) and a member of the Expert Committee of the German Society for Insurance and Financial Mathematics (DGVM).

He also heads the Board of Examiners for Actuaries of the German Association of Actuaries (DAV).

He also serves as an expert for professional journals: Annals of Actuarial Science, Der Aktuar, European Actuarial Journal and Zeitschrift für die gesamten Versicherungswissenschaft.

Staff news



Since 1 May 2021, Sevnur Aymergen and Florian Grüttner have been working as student assistants in our Cologne Research Centre for Reinsurance. Both are currently in their third semester of the Bachelor's programme in Risk and Insurance. They provide active assistance to our staff, organising events and compiling statistics and tables for scientific work.



Prof. Dr. Torsten Rohlfs is also a member of the Cologne Research Centre for Reinsurance. Prof. Rohlfs teaches at the Institute of Insurance Studies at the Cologne University of Applied Sciences. His specific areas of expertise are accounting / controlling and risk management of insurance companies. He is also an auditor, and prior to joining the Cologne University of Applied Sciences, he served as Senior Manager at KPMG AG Wirtschaftsprüfungsgesellschaft in the field of auditing and consulting for insurance companies.

In July 2021, Ms Maaïke Heuwold left the Cologne Research Centre for Reinsurance as planned to elevate her role at the Institute of Insurance Studies at the Cologne University of Applied Sciences to a full-time position. We would like to offer our heartfelt thanks to Ms Heuwold for her 3 years at the Research Centre – always with great dedication and success.



Societal and social responsibility

As part of our social commitment, through an annual donation the Cologne Research Centre for Reinsurance supports the La Lumière Scolaire project in Guinea, which assists with the construction and ongoing operation of schools for children of disabled and homeless people. The lives of these children on the streets of Guinea are fraught with risk. They are the targets of social discrimination and are subject to deep-seated prejudices. Lacking the necessary school fees and confronted with a variety of barriers that prevent them from attending school, they would never attend public school otherwise. The project wants to change this situation, because every child has a right to receive an education. Interested parties are encouraged to visit <https://hilfe-fuer-guinea.de> for further information.

Since its inception, the Cologne Research Centre for Reinsurance has created full-time jobs for its academic staff members and part-time jobs (50%) for its research assistants; this amounts to a total of 15 and 34 years of employment agreements, respectively. The research assistants have used this income to finance their respective programmes towards the Master's degree.

For the Research Centre for Reinsurance – and for the Cologne University of Applied Sciences as well – the active implementation of equality of opportunity for women and men is an integral part of sustainable university development. To us, equality of opportunity means ensuring equality and balanced participation by both genders in all aspects of the Research Centre for Reinsurance, together with equal wages and working conditions.

Again in 2021, the Cologne Research Centre for Reinsurance dealt with the topics of climate protection and sustainability within the scope of its social and environmental responsibility. Because these topics are at once global, national and individual missions, the Cologne Research Centre for Reinsurance developed the ideas to date and took measures to actively practice climate protection and sustainability. Prof. Dr. Torsten Rohlfs, together with fellow colleagues from the Cologne Institute of Insurance Studies, has taken the topic of sustainability and climate change as an opportunity to consider the prospects of risk from the insurers' point of view. Under the title 'Klima- und Nachhaltigkeitsrisiken für die Versicherungswirtschaft' ['Climate

and Sustainability Risks for the Insurance Industry’], in 2022 Prof. Dr. Torsten Rohlfs, Prof. Dr. Maria Heep-Altiner, Prof. Dr. Jan-Philipp Schmidt and Marcel Berg published a contribution to the academic literature in the field of insurance studies in which the authors systematically discuss the opportunities and risks that these factors pose for the insurance industry.

Sponsoring Group Reinsurance

The Cologne Research Centre for Reinsurance is fully financed by third-party funds provided from the Sponsoring Group Reinsurance, in which there are currently 86 companies involved. These are 48 risk carriers (with an approx. 85% market share in reinsurance premiums worldwide) as well as 38 cedants and reinsurance-oriented service providers.

Förderkreis Rückversicherung



Current as at 31 December 2021

The Cologne Research Centre for Reinsurance ensures bidirectional knowledge transfer between theory and practice, in particular to the Sponsoring Group Reinsurance. It accomplishes this, firstly, via broad personal contacts by Prof. Materne and the academic staff; ongoing, bilateral project cooperation; and the exchange of views with the respective experts in the field; and secondly, via the two major scientific events held each year.

The Sponsoring Group Reinsurance finances all costs (personnel, materials, travel, etc.) arising from the activities of the Cologne Research Centre for Reinsurance,

together with the excursions and the Germany Scholarships awarded to students with a research focus in reinsurance.

The Cologne Research Centre for Reinsurance would like to express its sincere thanks to the companies participating in the Sponsoring Group for their continuous support and the independence that this support provides – all the more so in the extraordinary year 2021.

Publications of the Cologne Research Centre for Reinsurance

As of January 2022

2022

Materne, Stefan (Hrsg.): Jahresbericht 2021 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2022.

Materne, Stefan (Hrsg.): Annual Report 2021 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2022.

Cremer, Frank / Sheehan, Barry / Fortmann, Michael / Arash N., Kia / Mullins, Martin / Murphy, Finbarr / Materne, Stefan: Cyber risk and cybersecurity: A systematic review of data availability, The Geneva Papers on Risk and Insurance - Issues and Practice

Cremer, Frank / Bauer, Dan: Pricing of Renewal Rights, Zeitschrift für das Versicherungswesen (to appear).

Humberg / Christian / Sheehan, Barry / Shannon, Darren / Fortmann, Michael / Materne, Stefan: Diversification and Solvency II: The Capital Effect of Portfolio Swaps on Non-life Insurers, The Geneva Papers on Risk and Insurance - Issues and Practice (to appear).

Cremer, Frank / Materne, Stefan: Das Cyber-Kumulsrisiko In: Institut für Versicherungswesen (Hrsg.): Risiko im Wandel als Herausforderung für die Versicherungswirtschaft, Springer Verlag (to appear).

2021

Materne, Stefan (Hrsg.): Jahresbericht 2020 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2021.

Materne, Stefan (Hrsg.): Annual Report 2020 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2021.

Fortmann, Michael: Versicherungsschutz für Ansprüche aus § 64 Satz 1 GmbHG in der D&O-Versicherung, jurisPR-VersR 1/2021, Anmerkung 1.

Rohlf's, Torsten / Sebralla, Fabienne: Prüfung der Solvabilitätsübersicht, <https://solvency-kompakt.de/content/pruefung-der-solvabilitaetsuebersicht>.

Fortmann, Michael: Aufrechnungserklärung als Versicherungsfall in der D&O-Versicherung, jurisPR-VersR 2/2021, Anmerkung 2.

Fortmann, Michael: Versicherungsschutz von Ansprüchen aus § 64 Satz 1 GmbHG a.F. in der D&O-Versicherung, jurisPR-HaGesR 2/2021, Anmerkung 6.

Fortmann, Michael: Betriebsschließungsversicherung – neues Haftungspotenzial für Versicherungsvermittler? R+s 2021, S. 121-128.

Fortmann, Michael: Umfang des Deckungsschutzes im Rahmen der Berufshaftpflichtversicherung für Rechtsanwälte, jurisPR-VersR 4/2021, Anmerkung 1.

Winkler, Erik / Cremer, Frank: 18. Kölner Rückversicherungs-Symposium: Rückversicherung 2021 – Was sind die politischen / regulatorischen Rahmenbedingungen?, in: Die VersicherungsPraxis (VP), 6/2021, S. 40-42.

Fortmann, Michael: Betriebsschließungsversicherung – Anmerkung zu LG Flensburg, Urteil vom 17.12.2020 – 4 O 143/20, COVuR 2021, S. 158.

Fortmann, Michael: Die Prospekthaftungsversicherung, r+s 2021, S. 245.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 14. Jahrestagung des Förderkreises Rückversicherung 2021. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2021.

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 14th Annual Meeting of the Sponsoring Group Reinsurance 2021. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2021.

Cremer, Frank: Verfügbarkeit und Standardisierung von Daten zu Cyber Risiken. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2021.

Dirks, Jörg: Silent Cyber in der Rückversicherung – Herausforderung und Chancen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2021.

Joniec, Robert: Allokationsmechanismus RV-Markt – Die Schattenseite des Traditionellen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2021.

Koch, Wolfgang: Einschätzung des BaFin Merkblattes zu Nachhaltigkeitsrisiken im Risikomanagement. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2021.

Lassen, Fabian: Einsatz von Auktionen zur Platzierung von Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2021.

Pütz, Fabian: RV-Aspekte von Ökosystemen im Bereich Automotive & Mobility. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2021.

Wang, Lihong: COVID-19 Impact on Chinese (Re)Insurance Industry. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2021.

Cremer, Frank: Availability and standardisation of data on cyber risks. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2021.

Dirks, Jörg: Silent Cyber in Reinsurance – Challenges and Opportunities. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2021.

Joniec, Robert: The reinsurance market as allocation mechanism – The shadow side of the traditional. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2021.

Koch, Wolfgang Assessment of the BaFin Guidance Notice on Dealing with Sustainability Risks in Risk Management. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2021.

Lassen, Fabian: Use of auctions for reinsurance placement. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2021.

Pütz, Fabian: Reinsurance aspects of ecosystems in the automotive and mobility field. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2021.

Wang, Lihong: Auswirkungen der COVID-19-Pandemie auf die chinesische Erst- und Rückversicherungswirtschaft. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2021.

Dirks, Jörg: Cyberrisiken in der Rückversicherung – Versicherbar auf parametrischer Basis und durch künstliche Intelligenz?, in: Zeitschrift für Versicherungswesen (ZfV), 21 | 2021, S. 673-677.

Kaya, Hüseyin, Röpke, Romina, Rohlfs, Torsten (2021): Eine vergleichende Analyse von Solvenzquoten und Ratings – Update 2021, in: Zeitschrift für Versicherungswesen (ZfV), 24 | 2021, S. 787-792.

Heep-Altiner / Maria, Rohlfs / Torsten: Die Bewertung von Klimarisiken bei Schaden-/Unfallversicherern, Assekurata-Newsletter 69/2021.

2020

Materne, Stefan (Hrsg.): Jahresbericht 2019 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1-2/2020, 2. Auflage.

Materne, Stefan (Hrsg.): Annual Report 2019 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2-2/2020, 2. Auflage.

Rohlfs, Torsten, Mahnke, Alexander (Hrsg.): Betriebliches Risikomanagement und Industrieversicherung: Erfolgreiche Unternehmenssteuerung durch ein effektives Risiko- und Versicherungsmanagement, Springer Gabler Verlag

Fortmann, Michael: Rechtliche Gefahren für Manager im Zusammenhang mit Cybervorfällen, in: Zeitschrift für Versicherungswesen (ZfV), 9 | 2020, S. 273-276.

Rohlfs, Torsten: § 22. Bericht über die unternehmenseigene Risiko- und Solvabilitätsbeurteilung (ORSA-Bericht), in: Versicherungsunternehmensrecht, Diehl (Hrsg.), C.H. Beck Verlag, S. 509-512.

Rohlfs, Torsten / Glößner, Johannes: § 35. Rechnungslegung von Versicherungsunternehmen, in: Versicherungsunternehmensrecht, Diehl (Hrsg.), C.H.Beck Verlag, S. 791-814.

Rohlfs, Torsten / Glößner, Johannes: § 36. Rechnungslegung von Versicherungskonzernen, in: Versicherungsunternehmensrecht, Diehl (Hrsg.), C.H.Beck Verlag, S. 814-842.

Fortmann, Michael: Managerhaftung und deren Deckung in Zeiten des Coronavirus SARS-CoV-2, in: juris PraxisReport Versicherungsrecht (jurisPR-VersR) 5 | 2020 Anmerkung 2.

Fortmann, Michael: Betriebsschließungsversicherungen in der Coronakrise, in: Zeitschrift für Versicherungswesen (ZfV), 10 | 2020, S. 300.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 13. Jahrestagung des Förderkreises Rückversicherung 2020. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2020.

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 13th Annual Meeting of the Sponsoring Group Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2020.

Dietmann, Manuel: Präventive Sanierungsplanung bei Versicherungsunternehmen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2020.

Dirks, Jörg: Cyberrisiken in der Rückversicherung – Versicherbar auf parametrischer Basis und durch künstliche Intelligenz? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2020.

Joniec, Robert: Kapital ist fungibel, der Markt wird effizienter – Doch wie valide sind Forschungsergebnisse? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2020.

Koch, Wolfgang: Entwicklung der Sovereign Cat Pools in Schwellen- und Entwicklungsländern. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2020.

Lassen, Fabian: Environmental Social Governance – Ein Blick auf die Rückversicherer. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2020.

Pütz, Fabian: RV-Aspekte von Produktrückrufen im Automobilbereich. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2020.

Dietmann, Manuel: Preventive recovery planning for insurance companies. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2020.

Dirks, Jörg: Cyber risks in reinsurance – Insurable on a parametric basis and through artificial intelligence? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2020.

Joniec, Robert: Capital is fungible, the market is growing more efficient – But how valid are research results? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2020.

Koch, Wolfgang: Trend in sovereign cat pools in emerging and developing economies. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2020.

Lassen, Fabian: Environmental social governance – A look at the reinsurer. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2020.

Pütz, Fabian: Reinsurance aspects of product recalls in the automobile sector. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2020.

Wang, Lihong: China's Belt and Road Initiative (BRI) – Its impact on the global (re)insurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2020.

Materne, Stefan (Hrsg.): Die Rückversicherung nach HIM. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2020.

Pütz, Fabian / Materne, Stefan: Transfer von Naturkatastrophenrisiken von Schwellenländern über Cat-Bonds (I.), in: Zeitschrift für Versicherungswesen (ZfV), 15-16 | 2020, S. 499-503.

Fortmann, Michael: Coronakrise und Betriebsschließungen – noch kein Ende der Unsicherheit in Sicht, in: Zeitschrift für Versicherungsrecht, Haftungs- und Schadenrecht (VersR), 17 | 2020, S. 1073-1081.

Pütz, Fabian: Das Risiko von Produktrückrufen im Zeitalter von vernetzten automatisierten Fahrzeugen, in: Versicherungspraxis (VP), 9/2020, S. 17-22.

Pütz, Fabian / Materne, Stefan: Transfer von Naturkatastrophenrisiken von Schwellenländern über Cat-Bonds (II.), in: Zeitschrift für Versicherungswesen (ZfV), 17 | 2020, S. 532-538.

Fortmann, Michael: Managementhaftung und Eigenschadenabsicherung – Eine gute Kombination für Manager?, in: Neue Juristische Wochenschrift (NJW), 42 | 2020, S. 3064 – 6068.

Fortmann, Michael: Organhaftung und Versicherungsschutz bei Ansteckungsrisiken, in: Arbeitsschutz in Recht und Praxis, 12 | 2020, S. 384-386.

Fortmann, Michael: Betriebsschließungsversicherung – ein Update, in: recht und schaden (r+s), 12 | 2020, S.665-675.

Rohlfs, Torsten: § 16. Geschäftsorganisation und Risikomanagement, in: Versicherungsunternehmensrecht, Diehl (Hrsg.), C.H. Beck Verlag, S. 379-408.

Kaya, Hüseyin, Röpke, Romina, Rohlfs, Torsten (2020): Eine vergleichende Analyse von Solvenzquoten und Ratings, Zeitschrift für Versicherungswesen (ZfV), 22 | 2020, S. 719-724.

Fortmann, Michael: Nichtanwendbarkeit von Besitz- und Benzinklausel in der PHV bei Dienstwagenüberlassung, jurisPR-Vers 12/2020 Anmerkung 3

2019

Materne, Stefan (Hrsg.): Jahresbericht 2018 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2019.

Materne, Stefan (Hrsg.): Annual Report 2018 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2019.

Rohlfs, Torsten / Savic, Boban / Will, Dieter (Hrsg.): Rechnungslegung und Controlling der Versicherungsunternehmen, Verlag Versicherungswirtschaft

Murphy, Finbarr / Pütz, Fabian / Rohlfs, Torsten / Wrana, Dennis / Biermann, Michael: The impact of autonomous vehicle technologies on product recall risk, International Journal of Production Research

Morawetz, Marco / Pütz, Fabian, Rohlfs / Torsten: Risiken des automatisierten Fahrens – Herausforderungen und Lösungsansätze für die Kfz-Versicherung, Proceedings zum 14. FaRis & DAV-Symposium am 7. Dezember 2018 in Köln, Forschung am iwWKöln, Band 2/2019.

Heep-Altiner, Maria / Mullins, Martin / Rohlf, Torsten (Hrsg.): Solvency II in the Insurance Industry. Application of a Non-Life Date Model, Springer Verlag

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 11th Annual Meeting of the Sponsoring Group Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2019.

Wang, Lihong: Rising Middle Class in China and the impact on insurance and reinsurance, in Versicherungswirtschaft (VW), Nr. 02/2019, S. 30-32.

Pütz, Fabian: Reinsurance aspects of connected automated vehicles: Motor Insurance, in Versicherungswirtschaft (VW), Nr. 03/2019, S. 90-96.

Pütz, Fabian: Reinsurance aspects of connected automated vehicles: Product Liability and Product Recall Insurance, in: Zeitschrift für Versicherungswesen (ZfV), 05|2019, S. 153-156.

Pütz, Fabian: Führt das automatisierte Fahren zu einer materiellen Verlagerung von Haftungskosten auf die Herstellerseite?, in Versicherungspraxis (VP), 5/2019, S. 8-12.

Hartrampf, Evelyn: 16. Kölner Rückversicherungs-Symposium, Rückversicherung 2019 – Ausnahmezustand oder neue Normalität?, in Versicherungspraxis (VP), 6/2019, S. 31-33.

Hartrampf, Evelyn: Ausnahmezustand oder Neue Normalität in der Rückversicherung?, in Zeitschrift für Versicherungswesen (ZfV), 12|2019, S. 366-367.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 12. Jahrestagung des Förderkreises Rückversicherung 2019. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2019.

Koch, Wolfgang / Materne, Stefan: Informationsasymmetrien zwischen Rückversicherungsmaklern und Zedenten, in Zeitschrift für Versicherungswesen (ZfV), 21|2019, S. 648-654.

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 12th Annual Meeting of the Sponsoring Group Reinsurance 2019. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2019.

Dietmann, Manuel: Zunehmende Bedeutung der Risikomanagementfunktion in Versicherungsunternehmen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2019.

Dirks, Jörg: Unbemannte Fluggeräte – Evolution des Luftfahrt (Rück-) Versicherungsmarktes. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2019.

Joniec, Robert: Wie geht es dem Rückversicherung-Zyklus? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2019.

Knocks, Kai-Olaf: Der ILS-Markt 2019 – abgeschreckt oder abwartend. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2019.

Koch, Wolfgang: Informationsasymmetrien zwischen Rückversicherungsmaklern und Zedenten. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2019.

Lassen, Fabian: Senkung der Volatilität durch Einsatz eines versicherungstechnischen Swaps. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2019.

Pütz, Fabian: Transfer von Cat-Risiken von Schwellenländern aus volkswirtschaftlicher Perspektive. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2019.

Dietmann, Manuel: The increasing importance of the risk-management function in insurance companies. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2019.

Dirks, Jörg: Unmanned aircraft – Evolution of the market for aviation (re-)insurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2019

Joniec, Robert: How is the reinsurance cycle doing? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2019.

Knocks, Kai-Olaf: The ILS market in 2019 – discouragement or wait-and-see? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2019.

Koch, Wolfgang: Information asymmetries between reinsurance brokers and assignors. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2019.

Lassen, Fabian: Reducing volatility through use of an insurance swap. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2019.

Pütz, Fabian: Transferring cat risks from emerging markets from a macroeconomic perspective. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 19/2019.

Wang, Lihong: China InsurTech Development. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 20/2019.

Dirks, Jörg: Wandel der Geschäftsbeziehungen – Wird durch die Distributed-Ledger-Technologie die direkte Beziehung zwischen Erst- und Rückversicherungsunternehmen gestärkt?, in: Versicherungspraxis (VP), 11/2019, S. 17-19.

2018

Böggemann, Jan: Optimierung des Einkaufs von Rückversicherung im Industrieunternehmen, in: Die VersicherungsPraxis (VP), 6/2018, S. 6-7.

Materne, Stefan (Hrsg.): Jahresbericht 2017 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2018.

Materne, Stefan (Hrsg.): Annual Report 2017 of the Cologne Research Centre for Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2018.

Heep-Altiner, Maria / Rohlfs, Torsten: Solvency-II-Berichterstattung. Quantitative Berichterstattung für die Öffentlichkeit, 2. Auflage, Verlag Versicherungswirtschaft, Karlsruhe.

Rohlfs, Torsten: Grundlagen zum Risikomanagementprozess, <https://solvency-kompakt.de/content/grundlagen-zum-risikomanagementprozess>

Materne, Stefan (Hrsg.): Proceedings of the Researchers' Corner for the 10th Annual Meeting of the Sponsoring Group Reinsurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2018.

Schumann-Kemp, Brigitte: Bericht zum 15. Kölner Rückversicherungs-Symposium Rückversicherung 2018 – Retrozession 2018 – nach Harvey, Irma und Maria? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2018.

Materne, Stefan / Seemayer, Thomas: Rückversicherung, in: Halm/Engelbrecht/Krahe (Hrsg.): Handbuch des Fachanwalts Versicherungsrecht, 6. Auflage, Köln.

Rohlfs, Torsten / Kmita, Eveline / Kreeb, Markus (2018): Kommentierung der §§ 74-88 „Solvabilitätsübersicht“, in: Beck'scher Online-Kommentar VAG, C.H. Beck Verlag, 2018.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 11. Jahrestagung des Förderkreises. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2018.

Joniec, Robert: Wetterrisiko – Entwicklung und Standardisierung neuer Deckungskonzepte, Die VersicherungsPraxis, Fachzeitschrift für die versicherungsnehmende Wirtschaft, Ausgabe 8/2018, ISSN 0170 - 24 4 0, S. 20-21.

Lassen, Fabian, Eich, Markus, Materne Stefan: Tausche Risiko, biete Entlastung - Wie die Senkung der Volatilität durch den Einsatz eines versicherungstechnischen Swaps gelingt, in Versicherungswirtschaft (VW), Nr. 11/2019, S. 70-73.

Joniec, Robert: Weather Derivative Design in Wine Production: A Preliminary Study for Mediterranean Grapes, 1. November 2018 / Zeitschrift für Versicherungswesen (ZfV) 21|2018, S. 659-662.

Pütz, Fabian: Was bedeutet das autonome Fahren für Herstellerhaftung und Opferschutz?, in VGA Nachrichten, Jahrgang 67,2018 – Nr. 3, ISSN 0170 – 96660, S. 111-112.

Pütz, Fabian: Die Auswirkungen automatisierter Fahrzeuge auf das Geschäftsmodell der Kfz-Versicherung: Die Wirkung von Rechts- und Motivationsaspekten auf das Regressverhalten des Kfz-Versicherers 15. November 2018 / Zeitschrift für Versicherungswesen (ZfV) 22|2018, S.697-700.

Lassen, Fabian / Eich, Markus / Materne, Stefan: Entwicklung eines länderübergreifenden Versicherungspools und anderer risikopolitischer Maßnahmen zur Reduzierung der Volatilität von lokalen Naturgefahren. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2018.

Dietmann, Manuel: Interne Überprüfung des Governance-Systems in der Praxis. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2018.

Dirks, Jörg: DLT – Wandel der Geschäftsbeziehungen zwischen Erst- und Rückversicherungsunternehmen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2018.

Knocks, Kai-Olaf: Die Drohnen-Verordnung und ihre (möglichen) Auswirkungen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2018.

Koch, Wolfgang: Risikotransfer in Schwellen- und Entwicklungsländern. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2018.

Lassen, Fabian: Pooling von lokalen Naturkatastrophen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2018.

Pütz, Fabian: RV-Aspekte des (vernetzten) automatisierten Fahrens. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2018.

Dietmann, Manuel: Internal Review of the Governance System in practice. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2018.

Dirks, Jörg: DLT – Change in Business Relationships between Primary Insurers and Reinsurance Companies. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2018.

Knocks, Kai-Olaf: The Drone Regulation and Its (Possible) Impacts. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2018.

Koch, Wolfgang: Risk Transfer in Emerging and Developing Countries. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2018.

Lassen, Fabian: Pooling of Local Natural Disasters. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2018.

Pütz, Fabian: Reinsurance Aspects of (Networked) Automated Driving. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2018.

Wang, Lihong: The Rising Middle Class in China and Its Implications for (Re)Insurance Industry. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 19/2018.

Pütz, Fabian / Murphy, Finbarr / Mullins, Martin / Maier, Karl / Friel, Raymond / Rohlf, Torsten: Reasonable, Adequate and Efficient Allocation of Liability Costs for Automated Vehicles: A Case Study of the Germany Liability and Insurance Framework.

Rohlf, Torsten: Risikomanagement im Versicherungsunternehmen. Identifizierung, Bewertung und Steuerung, 2. Auflage, Verlag Versicherungswesen, Karlsruhe.

2017

Materne, Stefan (Hrsg.): Jahresbericht 2016 der Kölner Forschungsstelle Rückversicherung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 1/2017.

Materne, Stefan (Hrsg.): Forschungsbericht 2016 des Forschungsschwerpunkts Rückversicherung. In: Forschungsbericht für das Jahr 2016, Schriftenreihe Forschung am iwWKöln, Band 1/2017.

Hoos, Sebastian: Die (Rück-)Versicherung von Flüchtlingsunterkünften unter dem Blickwinkel der Terrorismusregelungen in der deutschen Sachversicherung, Zeitschrift für Versicherungswesen (ZfV) 01/2017, S. 25-27.

Kaiser, Lucas: Bedeutung von Ratings für Rückversicherungsunternehmen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 2/2017.

Schumann-Kemp, Brigitte: Bericht zum 14. Kölner Rückversicherungs-Symposium 2017 – Protektionismus durch Regulierung? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 3/2017.

Pütz, Fabian / Wichelhaus, Ingo / Materne, Stefan: Konzeption eines proportionalen Solvency Bonds zur Reduktion des vorzuhaltenden Risikokapitals für das Prämien- und Reserverisiko unter Solvency II, Zeitschrift für Versicherungswesen (ZfV) 21/2017, S. 660-662.

Materne, Stefan (Hrsg.): Proceedings des Researchers' Corner zur 10. Jahrestagung des Förderkreises Rückversicherung am 7. Juli. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 4/2017.

Materne, Stefan: Chinas Rückversicherungsmarkt stagniert aufgrund zunehmender Regulierung. Interview in Versicherungswirtschaft (VW) 12/2017, S. 49.

Wang, Lihong: Dragon with Endurance – How China's Economic Slowdown Impacts the Insurance Industry, Versicherungswirtschaft (VW) 12/2017, S. 48-50.

Materne, Stefan: Die US-Schäden testen die ILS-Investoren. Interview in Versicherungswirtschaft heute, 04.12.2017, <http://versicherungswirtschaftheute.de/maerkte-vertrieb/chinas-ruckversicherer-leiden-unter-regulierung>.

Pütz, Fabian / Materne, Stefan: Alternative Capital und Basisrisiko in der Standardformel (non-life) von Solvency II. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 5/2017. Auch erschienen in der Schriftenreihe Forschung am iwWKöln, Band 8/2017.

Böggemann, Jan: Optimierung des Einkaufs fakultativer Rückversicherung eines Industrieversicherers. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 6/2017.

Dietmann, Manuel: SFCR: Erkenntnisse zur erstmaligen Veröffentlichung. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 7/2017.

Hoos, Sebastian: Kritische Analyse der Praxisanwendung der Ereignisdefinition. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 8/2017.

Joniec, Roboert: Acturial Swap. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 9/2017.

Kaiser, Lucas: Auswirkungen verschiedener Determinanten auf das Rating von Rückversicherungsunternehmen. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 10/2017.

Knocks, Kai-Olaf: Autonomes Fahren – Evolution oder Revolution?. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 11/2017.

Lassen, Fabian: Beschäftigte in der Rückversicherungsindustrie – Deutschland und USA. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 12/2017.

Pütz, Fabian: Alternative Capital und Basisrisiko in der Standardformel (non-life) von Solvency II. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 13/2017.

Böggemann, Jan: Optimizing the Purchase of Optional Reinsurance by industrial Insurer. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 14/2017.

Dietmann, Manuel: SCFR: Findings for Initial Publication. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 15/2017.

Hoos, Sebastian: Critical Analysis of the Practical Application of the Definition of an Event. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2017.

Joniec, Robert: Acturial Swap. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 17/2017.

Kaiser, Lucas: The Impact of Different Determinants on the Rating of Reinsurance Companies. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 18/2017.

Knocks, Kai-Olaf: Autonomes Driving: Evolution or Revolution? Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 19/2017.

Lassen, Fabian: Employees in the Reinsurance Industry: Germany and the USA. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 20/2017.

Pütz, Fabian: Alternative Capital and Basic Risk in the Standard Formula (NonLife) of Solvency II. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 21/2017.

Wang, Lihong: Chinese Automobile Vehicle Recall Insurance. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 22/2017.

2016

Hoos, Sebastian: Die (Rück-)Versicherung von Flüchtlingsunterkünften unter dem Blickwinkel der Terrorismusregelungen in der deutschen Sachversicherung, Zeitschrift für Versicherungswesen (ZfV) 24/2016, S. 779-782.

Lassen, Fabian: Offshore Windparks und Rückversicherung, Zeitschrift für Versicherungswesen (ZfV) 21/2016, S. 658-660.

Pütz, Fabian / Engling, Matthias / Materne, Stefan: Die Bedeutung der Ereignisdefinition im Underwriting-Prozess des Rückversicherers Technische Hochschule Köln. Forschung am iwW Köln, Band 9-2/2016 (2.Auflage). <https://cos.bibl.th-koeln.de/frontdoor/index/index/docId/379>

Lassen, Fabian / Kaiser, Lucas: Ist die Rückversicherung noch der Fels in der Brandung? Zeitschrift für Versicherungswesen (ZfV) 12/2016, S. 379.

Lassen, Fabian / Kaiser, Lucas: Ist die Rückversicherung noch der Fels in der Brandung? Versicherungspraxis (VP) 8/2016, S. 28.

Materne, Stefan: Rückversicherung: Anpassung des Geschäftsmodells ähnelt Kursänderung eines Tankers, Bericht vom 31. Mai 2016, in: Versicherungswirtschaft-Heute, Tagesreport.

Materne, Stefan (Hrsg.): Jahresbericht 2015 des Forschungsschwerpunkts Rückversicherung. Köln: Technische Hochschule Köln. (Forschung am iwW Köln, 2/2016). https://www.th-koeln.de/mam/downloads/deutsch/hochschule/fakultaeten/wirtschafts_und_rechtswissenschaften/fsrv_jahresbericht_02_2016_v2_webversion.pdf

Materne, Stefan (Hrsg.): Forschungsbericht 2015 des Forschungsschwerpunkts Rückversicherung. Köln: Technische Hochschule Köln. (Forschung am iwW Köln, 1/2016). https://www.th-koeln.de/mam/downloads/deutsch/hochschule/fakultaeten/wirtschafts_und_rechtswissenschaften/webversion_01_2016.pdf, S. 3-9.

2015

Axer, Jochen / Medert, Heiko Klaus / Voß, Birgit: Versicherungssteuergesetz – Kommentar, Karlsruhe: Verlag Versicherungswirtschaft GmbH, 2015.

Pütz, Fabian: Die Bedeutung der Ereignisdefinition im Underwritingprozess des Rückversicherers, Zeitschrift für Versicherungswesen (ZfV) 21/2015, S. 711-712.

Wang, Lihong: Competitive Market - Employer's Liability Business in China, Versicherungswirtschaft (VW) 11/2015, S. 40-42.

Knocks, Kai-Olaf / Materne, Stefan: Risiko Drohnen: Unbemannte Fluggeräte in der Haftpflichtversicherung, Zeitschrift für Versicherungswesen (ZfV) 18/2015, S. 587-590.

Materne, Stefan / Seemayer, Thomas: Rückversicherung, in: Halm/Engelbrecht/Krahe (Hrsg.): Handbuch des Fachanwalts Versicherungsrecht, 5. Auflage, Köln, 2015, S. 2359-2399.

Materne, Stefan: Rückversicherer vor substantiellen Fragen: Hurrikane nicht das Thema. Bericht vom 12. Mai 2015, in: Versicherungswirtschaft-Heute, Tagesreport.

Hoos, Sebastian: Das Geschäftsmodell der Rückversicherer – den Herausforderungen gewachsen?. Bericht zum 12. Kölner Rückversicherungs-Symposium vom 12. Mai 2015, in: Zeitschrift für Versicherungswesen (ZfV), Nr. 11/2015, S. 342-343.

Hoos, Sebastian: Das Geschäftsmodell der Rückversicherer – den Herausforderungen gewachsen?. Bericht zum 12. Kölner Rückversicherungs-Symposium vom 12. Mai 2015, in: Versicherungspraxis (VP), Nr. 7/2015, S. 34.

Materne, Stefan: Im Bereich der Rückversicherung gibt es keinen Kopierschutz, in: Versicherungswirtschaft (VW), Nr. 9/2015, S. 18-19.

2014

Materne, Stefan: Paradigmenwechsel bei Rückversicherern möglich, Interview zum 11. Kölner Rückversicherungs-Symposium in Köln, vom 15.05.2014, in: Versicherungswirtschaft-Heute, Tagesreport.

Hoos, Sebastian: Risikotransfer 2.0 – welche Rolle spielen die Rückversicherer?, Bericht zum 11. Kölner Rückversicherungs-Symposium vom 15. Mai 2014, in: Zeitschrift für Versicherungswesen (ZfV), Nr. 12/2014, S. 355-356.

Hoos, Sebastian / Materne, Stefan / Wichelhaus, Ingo: Die Verbriefung von Langlebighkeitsrisiken durch Longevity Bonds - Darstellung anhand zweier Praxisbeispiele (I.), in: Zeitschrift für Versicherungswesen (ZfV), Nr. 11/2014, S. 327-331.

Hoos, Sebastian / Materne, Stefan / Wichelhaus, Ingo: Die Verbriefung von Langlebighkeitsrisiken durch Longevity Bonds - Darstellung anhand zweier Praxisbeispiele (II.), in: Zeitschrift für Versicherungswesen (ZfV), Nr. Nr. 12/2014, S. 365-368.

Hoos, Sebastian / Heep-Altiner, Maria: Vereinfachter Nat Cat Modellierungsansatz zur Rückversicherungsoptimierung, in: Forschung am IVW, März 2014.

Knocks, Kai-Olaf: Kapitalzufluss im Cat-Bond-Markt – Günstiges Umfeld für Risikosponsoren.

2013

Wang, Lihong: Positive increase of insurance density and penetration in China, in: Versicherungswirtschaft (VW), Heft 22/2013, S. 36 - 38.

Knocks, Kai-Olaf: Das Ende der Zyklen, in: Versicherungswirtschaft (VW), Heft 12/2013, S. 69.

Materne, Stefan / Seemayer, Thomas: Mitrückversicherung, in: Lüer, Dieter / Schwepcke, Andreas (Hrsg.): Rückversicherungsrecht, München, Verlag C.H. Beck, 2013, S. 693-730.

2012

Knocks, Kai-Olaf / Seemayer, Thomas: Geschäftsmodelle in der Rückversicherung - für die Zukunft gerüstet?, Das 9. Kölner Rückversicherungs-Symposium, in: Zeitschrift für Versicherungswesen (ZfV), Heft 13-14/2012, S. 415-416.

Wang, Lihong: Case Study Passenger Carrier Liability (PCL) Insurance in China, in: Zeitschrift für Versicherungswesen (ZfV), Heft 21/2012, S. 687-690.

2011

Reimers-Rawcliffe, Lutz: Eine Darstellung von Rückversicherungsprogrammen mit Anwendung auf den Kompressionseffekt, in der Publikationsreihe Forschung am IVW, Nr. 5/2011.

Knocks, Kai-Olaf / Materne, Stefan: Kosten von Catbonds – Einflussfaktoren und aktuelle Tendenzen, in: Zeitschrift für Versicherungswesen (ZfV), Heft 21/2011, S. 707-714.

Knocks, Kai-Olaf / Materne, Stefan: Positive Aussichten für Katastrophenanleihen, in: Versicherungswirtschaft (VW), Heft 15/2011, S. 1075-1081.

Knocks, Kai-Olaf / Seemayer, Thomas: Wendepunkt in der Rückversicherung? Das 8. Kölner Rückversicherungs-Symposium, in: Zeitschrift für Versicherungswesen (ZfV), Heft 12/2011, S. 422-423.

Materne, Stefan / Seemayer, Thomas: Rückversicherung, in: Halm / Engelbrecht / Krahe (Hrsg.): Handbuch des Fachanwalts Versicherungsrecht, 4. Auflage, Köln, Luchterhand, 2011, S. 2545-2586.

2010

Seemayer, Thomas: Die EU-Sektoruntersuchung zu den Unternehmensversicherungen: Meistbegünstigungsklauseln in Rückversicherungsverträgen unter Berücksichtigung des Kartellrechts, in Zeitschrift für die gesamte Versicherungswissenschaft (ZVersWiss) (2010) 98, S. 603 – 612.

Delbrück, Hans-Helmuth / Seemayer, Thomas: D&O im Versicherungskonzern – Lücken im Selbstbehalt?, in Versicherungswirtschaft (VW), Heft 21/2010, S. 1512-1514.

Materne, Stefan / Schnusenberg, Oliver: Sprechen Sie Bias? An investigation of cultural differences in behavioral finance biases between Germany and the United States, in: Journal of Behavioral Studies in Business <<http://www.aabri.com/jbsb.html>> (19. September 2010).

Axer, Jochen / Seemayer, Thomas: Die Neuausrichtung der Vorstandsvergütung bei Versicherungsunternehmen: Idee, Regelungsgehalt und Zielsetzung (I.), in Zeitschrift für Versicherungswesen (ZfV), 2010, Nr. 14 S. 510 ff.

Axer, Jochen / Seemayer, Thomas: Die Neuausrichtung der Vorstandsvergütung bei Versicherungsunternehmen: Idee, Regelungsgehalt und Zielsetzung (II.), in Zeitschrift für Versicherungswesen (ZfV), 2010, Nr. 15/16 S. 552-555.

Knocks, Kai-Olaf / Materne, Stefan: Grenzen und Herausforderungen bei der Verbriefung von Versicherungsrisiken, in: Zeitschrift für Versicherungswesen (ZfV), Heft 11/2010, S. 767-771.

Seemayer, Thomas: Der Ereignisbegriff in Schadenexzedentenverträgen in der Rückversicherung von Haftpflichtrisiken, Schriftenreihe des Instituts für Versicherungswesen der Fachhochschule Köln, Karlsruhe, Verlag Versicherungswirtschaft, 2010.

Seemayer, Thomas / Materne, Stefan: Viele Ereignis-Begriffe verderben die Rückdeckung in Haftpflicht, in Versicherungswirtschaft (VW), Heft 5/2010, S. 356-360.

Seemayer, Thomas: Entwendungstatbestände in der Fahrzeug-Kaskoversicherung – zugleich Anmerkung zu OLG Köln vom 22. Juli 2008 in: Recht und Schaden (r+s) 2010, S. 6-11.

Materne, Stefan / Knocks, Kai-Olaf: Verbriefung von Versicherungsrisiken – Alternativer Risikotransfer für Industrieunternehmen?, in: Die VersicherungsPraxis, Heft 1/2010, S. 4-9.

2009

Materne, Stefan / Seemayer, Thomas: Die kartellrechtliche Behandlung der Praxis der Meistbegünstigung in der EU-Sektoruntersuchung, in: VersicherungsRecht (VersR) 2009, Heft 28/2009 S. 1326-1333.

Knocks, Kai-Olaf: Auch im K-Markt kann sich Verbriefung von Risiken lohnen – Bilanzielle Auswirkungen am Beispiel der Sparc Europe, in: Versicherungswirtschaft (VW), Heft 14/2009, S. 1124-1126.

Materne, Stefan / Seemayer, Thomas: Die Aufsicht über Mixed Insurance Companies nach dem VAG, in: Zeitschrift für Versicherungswesen (ZfV), Heft 14/2009 S. 466-467.

Seemayer, Thomas: Höhere Preise, mehr Eigendeckung, Wunsch nach Vielfalt: Die Rückversicherer und die Finanzkrise, in: Zeitschrift für Versicherungswesen (ZfV), Heft 13/2009, S. 428-430.

2008

Materne, Stefan / Diehl, Frank: Rückversicherung, in: Halm / Engelbrecht / Krahe (Hrsg.): Handbuch des Fachanwalts Versicherungsrecht, 3. Auflage, Köln, Luchterhand, 2008.

Seemayer, Thomas: Rückversicherer – Ruhe vor dem Sturm?, in: Zeitschrift für Versicherungswesen (ZfV), Heft 13/2008, S. 423-424.

Seemayer, Thomas: Verbriefung von Versicherungsrisiken – Zum Vortrag von Prof. Stefan Materne, in: Versicherungsbetriebswirt (VB), Heft 4/2008, S. 115.

Publisher's details

This document has been issued as part of a series of publications by the Cologne Research Centre for Reinsurance. A complete overview of all previous publications can be found at the end of this publication.

Publikationen der Kölner Forschungsstelle Rückversicherung, 2/2022
ISSN 2567-6652

Prof. Stefan Materne (ed.): Annual Report 2021 of the Cologne Research Centre for Reinsurance

Schriftleitung / editor's office:

Prof. Stefan Materne

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Chair of Reinsurance

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January 2022