Use of Auctions for Reinsurance Placement

Fabian Lassen, M.Sc. / FCII

ivwKöln
Institut für Versicherungswesen

Fakultät für Wirtschafts-
und Rechtswissenschaften

Technology
Arts Sciences
TH Köln

Technology Arts Sciences
TH Köln

ivwKöln
Institut für Versicherungswesen

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

1. Current relevance

- 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

Examples of successful auctions
- Award of frequencies
- Subsidies for wind farms
- Energy prices

2. Auctions

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.

Sealed bids	Open bids
(Bids are known only to the seller)	(Bids are known to all bidders)
Second-price auction	Ascending-bid auction
Highest-price auction	Descending-bid auction

3. Placement of reinsurance

- › Direct or broker (often face-to-face)
- › Informal negotiations on contractual components and prices
- › Complex and at times lengthy negotiations

4. Advantages

- › 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?)

5. Disadvantages

- › 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

- 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?

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

Fabian Lassen (M. Sc. FCII) works as an underwriter at R+V Re (R+V Versicherung AG), where he is responsible for the Austrian and Swiss markets. He is also a staff member at the Cologne Research Centre for Reinsurance at the Cologne University of Applied Sciences.

The method of operation of auctions and their use in a variety of economic sectors is already well documented. Auctions are already in use for the Placement of reinsurance on a small scale. So why is it important to revisit this field, which has already been studied in such considerable detail?

- Two researchers, Paul R. Milgrom and Robert B. Wilson of Stanford University, were honoured with the Nobel Prize in Economics in 2020 for their improvements in auction theory and the invention of new auction formats.

- A trend towards automation is in the Placement of reinsurance is emerging. In this connection, a variety of InsurTechs and market initiatives, such as B3i and Ritablock, are dealing with various fields of application of blockchain technology.

- The persistent low-interest-rate environment, together with existing competition and cost pressures from primary insurers, mean that insurers are in search of savings potentials.

- Auctions are proving to be a successful model in many areas of the economy, e.g. in the allocation of frequencies in mobile communication, subsidies for wind farms or energy pricing.

Auction theory is a special field within game theory. What can generally be understood as an auction? An auction is a mechanism that can be deployed in the pricing and distribution of goods. In an auction, clear rules are laid down in advance, transparently explaining the group of participants, the exact procedure and the final distribution of the goods in question based on the bids submitted by the participants.

This is also the biggest difference to informal negotiations, which do not follow set rules. Over time, the well-known 'rules' of informal negotiations have taken shape as market practices. Auctions are distinguished based on whether the bids are sealed or submitted openly. 'Open' bids are disclosed to all participants (bidders). If, on the other hand, the bids are sealed, they are known only to the individual bidder and the seller.

There are many other ways in which to structure an auction; some can have a great impact on the course and outcome of the auction. Here we dispense with describing auctions in greater detail and refer instead to the existing literature on the subject.

The rather complex process involved in reinsurance Placement is traditionally conducted within the framework of informal negotiations. Reinsurance Placement has evolved over the years. Reinsurance cover is usually placed either through brokers or directly. The broker acts as the cedant's representative and provides market transparency with regard to the conditions and prices of reinsurance. Brokers are also viewed as important sales partners for reinsurers.

The Placement process traditionally occurs through informal negotiations, usually on an annual basis. The elements of the agreement – such as the contract structure and conditions, pricing and the distribution of shares – are negotiated among several reinsurers. These negotiations can be very complex and lengthy at times.

Ordinarily, the parties most involved in a reinsurance contract make an offer for the coming contract year. Based on the offers collected, the cedant or an intermediary broker identifies a price for the reinsurance programme at which enough reinsurers agree to carry a share of the reinsurance agreement. In most cases, not all stakeholders will be asked about pricing, often, a uniform price is ultimately chosen for all reinsurers.

This is why the Placement of reinsurance is considered inefficient and opaque in comparison to other financial products (e.g. the market for government bonds or automated issuance of securities). The rules are difficult for outsiders to understand and are not transparent in an auction context.

In the reinsurance sector, auctions can also be used as a tool for determining optimal prices and share distributions. Here, reinsurance programmes can be divided into different parts or layers, so that all of the reinsurers taking part in the auction can bid for programme components that are optimal for them.

Auction rules ensure transparency for all participants. With the process already specified in advance, pricing and share allocation are more efficient than they would be under a traditional Reinsurance-Placement scheme.

The greatest positive effect for the cedant is that it can optimise its reinsurance costs. This arrangement also makes it possible to appeal to and involve a greater number of bearers of risk, hence involving greater market capacity. For reinsurers, auctions offer the potential to gain access to new customers. In addition, reinsurers can opt only to participate in certain elements of cover, depending on the strategy they pursue.

Auctions reduce the qualities of a bearer of risk to the price alone and are no substitute for the negotiation of cover or the structure of contractual arrangements. Depending on the design of the auction, the final allocation of shares is focussed on the price. The price, however, is quite one-dimensional and does not permit conclusions to be made about qualities such as financial stability or the rating of the bearer of risk. Such factors may be included as auction components, for example, in an effort to privilege reinsurers with a higher rating within the specified framework.

The transition from traditional Placement to auctions involves effort on the part of all participants. As auctions are not sufficiently established in Europe at the moment, the transition is less worthwhile for reinsurers. Simplified access to cedants also increases competition amongst reinsurers.

Auctions are better-suited for frequently used reinsurance structures to cover natural disasters, such as NatCat excess-of-loss contracts, than they are for more specific cover concepts. This is evident particularly in discussions of contractual components. This is because these components must be determined prior to the auction. An auction can serve only to determine pricing and the allocation of shares, but not for the design of contractual clauses or the scope of cover. While this makes a portion of the Placement significantly more efficient, the need for informal contractual negotiations remains.

Although auctions have not yet prevailed in reinsurance, technological progress can enhance their appeal. Auctions have led to significant efficiency gains in some sectors. These gains are sometimes not widespread in the reinsurance sector. At this point in time, auctions are used only very occasionally for the Placement of reinsurance. One example of this is the Tremor platform, where Placement is conducted digitally and automatically by means of an auction. In addition, some reinsurance brokers also offer simple round-based auction procedures.

Some very complex transactions are executed in the reinsurance industry. In principle, modern auction forms and technologies appear to offer a good tool with which to optimise the Placement process in the area of pricing and share allocation. New technologies can enhance the attractiveness of auctions in future. Standardised processes, for example, could lead to cost advantages, with new business partners authenticated directly upon Placement by means of a smart contract.

The medium-term trend for reinsurers would be one of increased competition. Moreover, some reinsurers not only seek to serve as suppliers of capacity but also want to use service offers to secure their market position. Auctions would stand in opposition to such a strategy.

Auctions have failed to prevail in the reinsurance sector in the past. New technologies and the continued pressure of competition may be drivers for this. A variety of factors will determine whether the use of auctions in reinsurance is set to increase in future. It is ultimately the cedants who must see the potential for this, and reinsurers must be prepared to get involved in this Placement process.

Discussion

- Why haven't auctions prevailed in Europe yet?

  Some brokers are trying to place programmes in Europe via auction. The aim is to find the most economical price for the cedant. There has not been widespread acceptance of this Placement process to date. This might owe, for example, to the effort involved in the transition, or to the fact that some market participants refuse to take part in auctions.

  In recent years, the trend in reinsurance Placement in Europe has been towards greater complexity. The requirements for reinsurance underwriters have increased, with more and more subjectivities included in the contracts as a result. Consequently, nearly every reinsurer has terms and conditions of its own. Programmes such as these are, in turn, difficult to standardise – and correspondingly difficult to place through an auction.

  The problem with auctions is their focus on the price. In an industry that relies on long-term business relationships, an auction represents a rather short-term horizon. This is not commensurate with the long-term approach taken by most market participants.

Please contact Fabian Lassen (fabian_janbert.lassen@th-koeln.de) with any questions or comments.

Publications of the Cologne Research Centre for Reinsurance

As of October 2021

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.

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.

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 an Allocation Mechanism – The Downside 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 to Optimise Reinsurance Costs. Technische Hochschule Köln. Publikationen der Kölner Forschungsstelle Rückversicherung, Band 16/2021.

Pütz, Fabian: Reinsurance Aspects of Ecosystems in the Automotive & 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.

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.

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

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 – 303.

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.

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.

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.

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

Hartramph, 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.

2008 - 2018
The publications of the Cologne Research Centre for Reinsurance for the years 2008 - 2017 can be found at https://www.th-koeln.de/wirtschafts-und-rechtswissenschaften/veroeffentlichungen-der-forschungsstelle-rueckversicherung_36137.php

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

Schriftleitung / editor's office:

Prof. Stefan Materne, FCII

Lehrstuhl Rückversicherung
Chair of Reinsurance

Direktor der Kölner Forschungsstelle Rückversicherung
Director of the Cologne Research Centre for Reinsurance

Institut für Versicherungswesen /
Institute for Insurance Studies

Fakultät für Wirtschafts- und Rechtswissenschaften /
Faculty of Business, Economics and Law

Technische Hochschule Köln /
Cologne University of Applied Sciences

Gustav Heinemann-Ufer 54
50968 Köln / Cologne
Germany

Mobile   +49 171 7789 265
Mail   stefan.materne@th-koeln.de
Web   www.th-koeln.de

Gutachter / reviewer:

Ingo Wichelhaus

Vorstand BVZL International
Executive Board, BVZL International

Mobile   + 49 171 5642 673
Mail   ingo.wichelhaus@bvzl.de

Oktober 2021