Editorial

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Published online: 8 May 2020
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InsurTech is the appellation given to the use of new technology in the (re)insurance sector. The resulting innovations have the potential to change the way the insurance industry works.

Developments in technology offer possibilities for new methods of service provision as well as greater opportunities for data collection, which can lead to better risk identification and mitigation measures (OECD 2017). These innovations can affect all aspects of the traditional insurance business. Moreover, they can create new insurance business models and impact the regulatory practices of insurance markets.

On the other hand, new technologies are also changing customer protection needs. Their growing application in services and products will likely alter the configuration of inherent risks going forward. Hence, the insurance industry needs to understand these risks to continue to provide adequate coverage to customers.

InsurTech can therefore be analysed from different points of view: business, legal, organisational, actuarial and ethical. In this special issue of *The Geneva Papers on Risk and Insurance*, InsurTech is examined through the legal and economic implications of the use of innovative technology in the (re)insurance industry. These perspectives mirror the discussions held in Milan from 13–14 June 2019 at the 18th Joint Seminar of the European Association of Law & Economics and The Geneva Association, which was dedicated to Law and Economic Issues of InsurTech.

The four papers published in this special issue deal with the technological challenges faced by the insurance business, the new business models emerging as a result of these new technologies and the risks embedded in products and services by virtue of new technologies from which the insurance industry must offer safeguards.

Several technologies support InsurTech but big data and blockchain have been the major topics in insurance discourse (OECD 2017). In fact, two papers in this issue deal with the application of these technologies in insurance.

With their article “A STEEP framework analysis of the key factors impacting the use of blockchain technology in the insurance industry”, Simon Grima, Jonathan Spiteri and Inna Romanova examine the factors that may influence the extent of blockchain proliferation and penetration within the insurance industry. They applied

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a STEEP analytical framework to systematically assess the social, technological, environmental, economic and political/legal determinants that may impact the industry's appetite for blockchain technology and the significant changes that may be expected as a result. In addition, the authors support their analyses with responses from a survey conducted among a sample of 563 high-ranking insurance professionals from across Europe. They found that the key perceived enablers are the increased use of technological devices within the industry, improved customer satisfaction and government support, while the key barrier is the high upfront investment cost.

As mentioned previously, InsurTech opens up greater opportunities for data collection, which can lead to better risk identification and mitigation measures. The impact of data analytics on the insurance business, in particular auto insurance, is analysed by David J. Cather. His article "Reconsidering insurance discrimination and adverse selection in an era of data analytics" aims to demonstrate how replacing age- and gender-based pricing variables with telematics data in auto insurance risk classification systems minimises insurance discrimination and increases cream skimming adverse selection. Several recent legal cases pertaining to age- and gender-based insurance discrimination in the U.S., EU and Canada are reviewed and three forms of adverse selection that can result when insurers cannot differentiate between low- and high-risk insureds due to data limitations are discussed: regulatory adverse selection and regulatory adverse selection resulting from asymmetric information favouring insurance applicants or rival insurers. He concludes that the commercial viability of telematics-based auto insurance provides increasingly cost-effective pricing data that directly measures the driving behaviour behind insured losses. As a substitute for age- and gender-based pricing, telematics provides superior risk classification results, thus avoiding mean-based pricing that can cause adverse selection by overcharging lower risk drivers.

InsurTech can create new insurance business models as well as impact the regulatory practices of insurance markets. Technology is facilitating the rise of online peer-to-peer (P2P) platforms (often managed by insurance undertakings or intermediaries), where individuals can attract others to form co-insurance pools (EIOPA 2019). Although regulators concluded that at this point there is no clear need for special P2P insurance regulation, continued monitoring of the P2P insurance market should be considered (EIOPA 2019). The paper by Gian Paolo Clemente and Pierpaolo Marano, "The broker model for peer-to-peer insurance: an analysis of its value", identifies the regulatory risks associated with P2P models operating in insurance markets, with particular reference to the most common: the P2P insurance broker model. Using an actuarial model, they analysed how risk is allocated between the different entities involved in a P2P framework in order to highlight the different components of a P2P premium. They compared the P2P premium to those offered by traditional models proposed by classical stock insurers and mutual insurers. They concluded that the P2P model will not disrupt the existing personal lines insurance market, although it could become a sustainable business model in specific segments. However, regulatory challenges need to be solved if the P2P model is to live up to its aspirations as a fairer alternative to the pool of traditional insurance companies.

The application of new technologies to services and products can modify the risk allocation of the parties involved in design and marketing. The insurance industry

needs to embed these changes into the development of insurance products. Michael Faure and Shu Li provide a good example in their paper “Risk shifting in the context of 3D printing: an insurability perspective”. The adoption of 3D printing poses considerable liability risk to digital designers and fabricators. The authors explore the extent to which risk can be unforeseeable (and thus uninsurable) in the context of 3D printing, when legal uncertainties and the existence of adverse selection and moral hazard are considered.

Several methods to improve insurability in the context of 3D printing are proposed in their article. They focus specifically on the application of InsurTech, particularly blockchain technology, for improving insurability and on identifying problems that will constrain the promotion of InsurTech in the context of 3D printing. With the adoption of blockchain, insurers are expected to precisely evaluate the scale of risk and monitor the behaviour of insured parties in a credible and costless way.

Their main conclusion is paradigmatic of the findings of all articles in this special issue: the use of new technologies poses legal and economic issues that technology in turn can help to solve. Raising awareness of the issues to be resolved and the prospect of suitable solutions for the benefit of decision-makers are, ultimately, the objectives of this special issue.

References

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