AIDA Europe Research Series on Insurance Law and Regulation 7

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Covid-19 and Insurance

Springer

AIDA Europe Research Series on Insurance Law and Regulation

Volume 7

The AIDA Europe Research Series on Insurance Law and Regulation is the first book series of its kind and area of specialization. It comprises volumes on topics researched and written with an international, comparative or European perspective.

The regulatory response to the financial crisis in 2008 has pushed towards the adoption of transnational principles and rules also in the field of insurance by encouraging the convergence of national regulations to common regulatory framework. The need for a common legal language emerges to fully understand the process of transnational convergence in place and its impact on national legislation. On the other hand, persisting national peculiarities must be examined in the light of the transnational convergence of rules and concepts. Moreover, new risks, business practices and customers' issues are emerging worldwide, so requiring increasingly global responses.

The scope of the series is to bring together academics, practitioners and policy makers in order to exchange views and approaches to the topics concerned, which are based on the new transnational dimension of insurance law, business and regulation. All contributions are peer reviewed.

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Covid-19 and Insurance

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ISSN 2662-1770 ISSN 2662-1789 (electronic)
AIDA Europe Research Series on Insurance Law and Regulation
ISBN 978-3-031-13752-5 ISBN 978-3-031-13753-2 (eBook)
https://doi.org/10.1007/978-3-031-13753-2

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Since the misnamed Spanish flu in 1918, we have had more than a dozen different epidemics of typhus, cholera, and plague around the world. In 1994, nearly a million people evacuated in panic, fleeing the plague from Surat in western India. We have experienced SARS, Ebola, and Zika—which all in their own ways disrupted the lives of local people; left a mark on the local economy; destabilized finances, including the banking system; and affected the insurance sector. Usually, however, after a few months, the local or national economies recovered.

This was not the case with COVID-19. In spite of the warnings from science and international organizations about a possible pandemic outbreak and although we knew so much about the potential effects of the epidemic and had time to develop defense mechanisms, we are still going through this pandemic and its effects very painfully. This applies equally to the state of our health—both physical and mental—as it does to the state of our health care, our labor market, as well as our economy as a whole.

What makes COVID-19 different from previous global infectious diseases is not just the havoc it wreaked but also the processes the virus had already found. The coronavirus attacked the world at a crucial time. Western Europe was still recovering from the previous crisis of 2008. Governments had been making far-reaching savings on public spending and research. Investment in new technologies, including pharmaceuticals, was only at the beginning of the road, and universities were suffering from permanent underinvestment. The pandemic and its terrible death toll came as a horrific surprise to us all.

What we observed during the pandemic on the streets of Italian, Spanish, American, or Polish cities would have been regarded by many as impossible in the Western world—not with the level of life and prosperity we were used to. We did not imagine that people could be banned from leaving their homes; that offices, factories, and shops could be closed; and that travel could be forbidden or significantly restricted. We did not know either how the decisions taken by states would affect the economy and, later on, the decisions of entrepreneurs and the customers of those

entrepreneurs. Everything we knew about pandemics and civilizational catastrophes and their impact on the functioning of the market has been checked.

However, it can be said that for most governments, for some scientists, and also for most economic sectors, the pandemic was a kind of a wake-up call. Vaccines were ready in record time. Very quickly, teaching and meetings began to take place remotely. The digitalization of relations with companies or public administrations accelerated.

It is forcing us today to change some of our previous ways of doing things, assessing risks and making provision for potential shocks in the future. The effects of the pandemic will stay with us much longer than the effects of the virus itself. There are still many lessons to be learned and understood about how the world, countries, and economic sectors should function in the face of similar crises.

This publication looks at the impact of the COVID-19 pandemic on the private insurance sector, one of the economic branches that was, in various ways, impacted by the pandemic to a large extent. Thanks to the involvement of experienced academics, lawyers, and insurance specialists, we have now an overview of how governments, the judiciary, businesses, and finally customers have dealt and are dealing with the complex effects of the pandemic. We have had an amazing opportunity to trace how actions concerning the different branches of insurance were taken by individual countries or regions and what impact they had on the insurance market. There is no doubt that the pandemic has had a negative financial impact on some types of insurance, for example, travel insurance or health insurance. On the other hand, it has provided an opportunity to look at risks, particularly in business interruption insurance, from a different angle. In many cases, it has forced the judiciary to revisit previous approaches to the scope of the risk. Many court judgments and jurisprudential trends have been followed closely in the book, and many are still to come.

In the meantime, in some markets, insurers are introducing pandemic risk exclusion clauses in their general conditions in the absence of public support for the coverage of a risk that is not economically affordable for them. At the same time, along with the need for a public-private solution for pandemic risk coverage, there is a demand for new forms of insurance that may be appropriate for pandemic risk coverage, such as parametric insurance.

The pandemic has challenged many of the previous traditional approaches to risk and insurance coverage and to how insurance products are distributed. It has accelerated digitalization in all phases of insurance—from risk selection and contracting to claims settlement. It has taught and can teach the insurance market a lot, although we do not know if it has said the last word.

Oviedo, Spain — María Luisa Muñoz Paredes
Warsaw, Poland — Anna Tarasiuk
April 2022

AIDA Europe

AIDA Europe was established in 2007 with the aim of promoting, either directly or through its members, the development of insurance and related laws. It attempts to achieve this, mainly through:

- furtherance of the study and knowledge of international and national insurance law and of related matters;
- proposition of measures aiming at the harmonization of insurance law or the means for resolution of insurance disputes;
- facilitation of exchange of academic know-how between its members or any other European organization dealing with insurance-related matters, similar to those of AIDA Europe;
- support of academic work in the field of insurance, e.g. through cooperation with universities or the sponsoring of academic research and papers.

AIDA Europe organizes conferences mainly geared to the European-based jurisdictions, offering to all interested stakeholders a platform for an open- and solution-minded scientific- and practice-related dialogue on key developments in the area of insurance, reinsurance and related law also supporting its members in their respective endeavours. Conferences are open to all stakeholders and regularly attract representatives from the insurance sector, academia, private practice, regulatory authorities or law-making bodies.

AIDA Europe also maintains a keen focus on supporting the development of young academic talents by sponsoring academic work and by inviting young academics to its conferences. AIDA Europe's Scientific Committee, which supports

AIDA Europe through the scientific agenda setting, also manages AIDA Europe's Calls for Papers.

AIDA Europe is a non-profit organization, pursuing altruistic goals and has its seat in Zurich, Switzerland. Its events are open to all interested parties. For further information, please see https://aidainsurance.org/regional-groupings/aida-europe.

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Abbreviations

AFJP	Administradora (argentina) de Fondos de Jubilaciones y Pensiones (Retirement and Pension Fund Administrators)
AI	Artificial intelligence
AIRA	Polish Act on Insurance and Reinsurance Activity of 11 September 2015, as amended
ALOP	Advance Loss of Profits
ANS	Agência Nacional (brasilera) de Saúde Suplementar (National Supplementary Health Agency)
AOSCD	The Polish Act on Out-of-Court Settlement of Consumer Disputes of 5 August 2015, as amended
ARC	African Risk Capacity
ART	Aseguradoras de Riesgos del Trabajo (Occupational Risk Insurance Companies)
AR$	Argentinian peso
ATP	Asistencia de Emergencia al Trabajo y la Producción (Emergency Assistance Programme for Work and Production)
AUH	Asignación Universal por Hijo (Universal Child Allowance)
BCC	Brazilian Civil Code (Law no. 10.460 of January 10, 2002, as amended)
BDPL	Brazilian Date Protection Law (Federal Law no. 13,709/2018, entered into force on September 18, 2020)
BOP	Businessowners Policy
CAR	Construction All Risk
CARES	The (US) Coronavirus Aid, Relief, and Economic Security Act (Public Law 116–136).
CAV	Connected and automated vehicles
CC	Polish Civil Code (Act of 23 April 1964 as amended)
Cc	Spanish Civil Code of 1889
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company

CCS	Consorcio de Compensación de Seguros (Spanish Insurance Compensation Consortium)
CDC	Centers for Disease Control and Prevention
CNSP	Conselho Nacional de Seguros Privados (National Council of Private Insurance)
COE	Committee of Ministers of the Council of Europe
COVAbG	German Law to Mitigate the Consequences of the COVID-19 Pandemic Under Civil, Insolvency and Criminal Procedure Law of 20 March 2020
DGSFP	Dirección General de Seguros y Fondos de Pensiones (Spanish Directorate General of Insurance and Pension Funds)
DON	Disease Outbreak Notice
D&O	Directors and officers
ECHR	European Convention on Human Rights
ECMWF	European Centre for Medium-Range Weather Forecasts
ECtHR	European Court of Human Rights
EIOPA	European Insurance and Occupational Pensions Authority
ESG	Environmental, social, and governance
FCA	Financial Conduct Authority (United Kingdom)
FONDEN	Fund for Natural Disasters (Mex.)
GDP	Gross domestic product
GDPR	General Data Protection Regulation (Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016)
GWP	Gross written premium
HAD	Highly automated vehicles
IBGE	Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)
ICA	Greek Insurance Contract Act, Law 2496/1997
IDD	Insurance Distribution Directive (Directive (EU) 2016/97 of the European Parliament and of the Council of 20 January 2016 on insurance distribution, as amended)
ILS	Insurance-linked securities
IMAR	Instituto Mixto Argentino de Reaseguro (Argentine Mixed Reinsurance Institute)
IMD	Directive 2002/92/EC of the European Parliament and of the Council of 9 December 2002 on insurance mediation (no longer in force)
IndeR	Instituto Nacional de Reaseguros (National Reinsurance Institute)
IRB	IRB-Brasil Resseguros S.A.
ISO	The US Insurance Services Office
ITF	International tennis regulation
LCS	Ley 50/1980, de 8 de Octubre, de Contrato de Seguro (Spanish Law on Insurance Contract)

MiCRO	Microinsurance Catastrophe Risk Organization (Haiti)
MID	Motor Insurance Directive (Directive 2009/103/EC of the European Parliament and of the Council of 16 September 2009)
NDBI	Non-damage business interruption policy
NOAA	National Oceanic and Atmospheric Administration (US)
OAR	Operational all risk
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PFSA	Polish Financial Supervisory Authority
PLD	Product Liability Directive
PRIA	Pandemic Risk Insurance Act of 2021 (US)
RGAA	Reglamento (argentino) General de la Actividad Aseguradora (Regulation of the Insurance Activity), Res. N° 38.708 of 6 of November 2014
ROI	Return on investment
R$	Brazilian real
SAE	SAE Society of Automobile Engineers
SAP/SSAP (pl.)	Sentencia-s de Audiencia Provincial (Ruling/s of a Spanish Provincial Court)
SMB	Small and medium-sized businesses
SNSP	Sistema Nacional de Seguros Privados (Brazilian Private Insurance System)
SRT	Superintendencia de Riesgos del Trabajo (Labour Risks Regulator)
SSN	Superintendencia de Seguros de la Nación (Argentine Insurance Regulator)
STS/SSTS (pl.)	Sentencia-s del Tribunal Supremo (Ruling/s of the Spanish Supreme Court)
SUSEP	Superintendência de Seguros Privados (Brazilian Private Insurance Authority)
TRIA	Terrorism Risk Insurance Act of 2002 (US)
U.S.	United States of America
UN	United Nations
UNWTO	World Tourism Organization
USD	United States dollars
WHO	World Health Organization

Insurance Developments in the Light of the Occurrence of the COVID-19 Pandemic

Sara Landini and Kyriaki Noussia

Abstract The COVID-19 pandemic has accelerated the pace of evolution of insurance in many aspects and in relation to many sectors and insurance lines (e.g., health insurance, or cargo marine insurance, life insurance, business interruption insurance, travel insurance, etc.). Moreover, the occurrence of COVID-19 underlined the importance in the managing of pandemic risk. This chapter discusses the insurance developments in relation to the transformation of the insurance industry, not only, but mainly, due to the occurrence of the COVID-19 pandemic. There is also a discussion about the impact of the pandemic risk in the governance of insurance companies under Solvency II. Conclusions and forecasts on the way forward, as well as recommendations for the future of insurance in the light of the COVID-19 pandemic but also post-pandemically, are attempted.

1 The Impact of New Technologies on Insurance

InsurTech did not emerge suddenly, as insurance companies have always collected and analyzed data to assess risks and to calculate exposures and premium payments.[1] However, InsurTech and its impact were accelerated in that more data has become available from multiple sources, as well as because the analysis of such data has now become much more efficient. Such magnified availability of data coupled with technologies and tools, such as algorithms provide efficient tools for analysing it and drawing conclusions. The emergence of analytics data and the vast use of

[1] Frick and Barsan (2020). Available at SSRN : https ://ssrn.com/abstract=3686489.

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M. L. Muñoz Paredes, A. Tarasiuk (eds.), *Covid-19 and Insurance*, AIDA Europe Research Series on Insurance Law and Regulation 7,
https://doi.org/10.1007/978-3-031-13753-2_1

algorithms has created disruption; for, insurers have suddenly had to invest in acquiring the respective technical capabilities or subcontract such tasks to third-party providers. In addition, competition grew as new companies targeting specific markets emerged.

Insurance has offered for years the option to conclude a contract online, however the latest developments have been the result of the acceleration with which the digitization and its disruptive character has occurred. It is estimated that in the next 10–15 years integrated "pay as you go" user behaviors, will be dominant in the market based on the policyholders' everyday conduct, which will entail a large change across all lines of insurance. With the new wave of deep learning techniques, such as convolutional neural networks, Artificial Intelligence (AI) could replace many of the functions of the human mind, causing insurance to shift from its current state of "detect and compensate" to "predict and prevent," and in this way transforming every aspect of the industry in the process.

The pace of change will also accelerate as brokers, consumers, financial intermediaries, insurers, and suppliers become more adept at using advanced technologies to enhance decision making and productivity, lower costs, and optimize the customer experience. The process of AI integration in the insurance industry will force carriers to respond swiftly to the changing business landscape. Insurance executives must understand the factors that will contribute to this change and how AI will reshape claims, distribution, and underwriting and pricing, and therefore will need to train and build the requisite human capital which will be able to embrace the emerging technologies, and create the culture and perspective needed to be successful players in the insurance industry of the future. The explosion of data which is anticipated from connected devices in the years to come is causing large disruption already. The increased presence of physical robotics, be it in relation to 3D printing technology or autonomous transportation vehicles or precision robotics in medicine, will shift risk pools, change customer expectations, and enable new products and channels.[2]

All of the above coupled with the occurrence of the COVID-19 pandemic have multiplied the shockwaves in adaptation and resilience of the insurance market.[3] COVID-19 caused an unprecedented acceleration of the pace with which our lives and ways of transacting became largely if not fully digitized almost overnight. The blockchain (i.e., a decentralized and encrypted digital ledger) has the potential to disrupt many traditional business models.[4] AI and its related technologies transform

[2] R. Balasubramanian et al., Insurance 2030 – The impact of AI on the future of insurance, https://www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance.

[3] R. Balasubramanian et al., Insurance 2030 - The impact of AI on the future of insurance, https://www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance.

[4] Friedlmaier et al. (2018). Forthcoming, available at SSRN: https://ssrn.com/abstract=2854756 or https://doi.org/10.2139/ssrn.2854756.

holistically the insurance industry, from distribution to underwriting and pricing to claims.[5] It is also obvious that the pandemic's financial shocks have implications for the balance sheets of insurance companies in every product line.[6]

2 AI and the Insurance Industry

AI has yet to penetrate the insurance industry in many ways and it is believed that so far it has only scratched the surface. There are many processes that could be greatly improved using AI including pricing, claims handling and fraud detection. In relation to pricing, with the help of AI, insurance companies can price their policies more competitively and personalize them for each customer.[7] AI being able to notice behaviours and trends, insurance companies are going to be able to take advantage of that data.[8] The use of telematics and the data flow offered also transforms the insurance industry as the availability of personally tailored insurance is viable. In Italy, Telepass the only electronic toll processor, launched insurance products for its existing customers able to be offered based on the existing data flow available. In Denmark, Maersk issued Insurewave, a blockchain technology tool which can help have all coverages pre-verified and negotiated and is able to assist the offering of marine cargo insurance, to be activated only as the circumstances may detect. In March 2021, Lloyd's of New Zealand teamed up with an insurance start-up company, to offer a revolutionary earthquake insurance product, which uses cutting-edge technology and real-time GeoNet data, to automatically pay customers within five days following a strong earthquake. Such an innovative parametric insurance product helps remove complexity and provide enhanced coverage and clarity for policyholders through simpler products. Such an insurance product does not replace traditional insurance coverage wholesale, as conventional earthquake insurance that covers significant loss still operates; but is designed to provide immediate cash flow to allow quick financial recovery, because it uses data from the government agency responsible for measuring earthquakes, to objectively identify areas where customers have experienced a strong earthquake, hence, allowing transparency and

[5] R. Balasubramanian et al., Insurance 2030 – The impact of AI on the future of insurance, https://www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance.

[6] Jerry (2021).

[7] For example, a home insurance company could use AI to get information about a person's geographical location, marital status and likelihood of filing a claim to set premiums based on the defining criteria.

[8] E. Rivelli, How AI is bringing the insurance industry into the future, https://www.bankrate.com/insurance/car/artificial-intelligence-meets-the-insurance-industry/.

fast and fair claims payment which are measured and based on the strength of any earthquake, with progressive step payments, as per the strength of the earthquake.[9]

3 Pandemic Risk and Insurance

In 2006, the European Actuarial Consultative Group published a paper bringing the pandemic risk to the attention of insurers and at the same time underlining how this should be considered in the Solvency evolution that led to the review of capital levels according to a risk-based logic considering all the risks to which it is exposed. The company and not just the risks taken.[10] The paper is inspired by the report of the actuaries in light of the application of Solvency II (Dir. 2009/138 / EU) and also of the governance of the product introduced by the IDD directive on product distribution (Dir. 97 / 2016 / EU).

The paper notes how the pandemic risk is emerging based on some data relating to recent viral infections:

- Spanish flu, 1918 (H1N1): This is considered the deadliest flu pandemic recorded in the last 400 years. In a normal influence, 90% of deaths concern people over the age of 65. However, 99% of the deaths caused by the Spanish flu in 1918 were people under the age of 65.
- Asian flu, 1957: the global death toll was around 2 million, significantly lower than the number of deaths caused by the Spanish. The difference also lies in the fact that this time the deaths were recorded more among the elderly and children.
- Hong Kong flu, 1968: this flu had a similar trend to the 1957 pandemic, but with fewer deaths (36,000 in the United States).

It is significant that for pandemics the spread around the world has been very rapid. The report concluded that a new pandemic could not be ruled out and it was calculated that the next one would have to occur in about 10 years from 2006, so COVID delayed the actuarial consultation group a bit compared to expectations re the' age of 65. Some evaluations indicated that the death toll around the world was 40–50 million people. However, it is not clear how much these deaths were actually caused by the Spanish flu and how many of them were due to other consequential reasons or as a result of various factors such as malnutrition or the presence of other viral or bacterial infections, frequent at the time and not treated due to lack of means.

The report continues, trying to imagine the future consequences and trying to think in terms of "what if scenario." History shows that a pandemic normally comes in waves with a couple of months in between. The second wave is usually worse than

[9] Lloyd's, Lloyd's launches pioneering parametric earthquake insurance policy in New Zealand, https://www.lloyds.com/about-lloyds/media-centre/press-releases/lloyds-launches-pioneering-parametric-earthquake-insurance-policy-in-new-zealand.

[10] Van Broekhoven et al. (2006), www.actuary.edu.

the first. Subsequent waves may be lower due to the increased resistance to the virus. The combination of the availability of drugs that slow down the infection and the time between the first and second waves can help reduce the impact of the pandemic. The impact of the increase in mortality on the insurance market should not be particularly important. If we would assume a death rate of 60% of the population death rate for policyholders, then a hypothetical 0.25% more mortality for the entire population would translate into a rate of 0.15% for the insured population.

The impact on the health insurance sector is stronger, where there would be an increase in patients and a reduction in available health personnel who would be affected by infection. It is more difficult to determine the economic cost of the pandemic, defined as a loss of production (in% of GDP). The main concern was that it could cause a global economic shock. Globalization and cross-border connectivity significantly alter the transmission mechanism of the next pandemic compared to those of the past, reducing its absorption capacity. Most economies will not be able to eliminate exogenous shocks by reallocating capital and jobs where they can be used relatively more safely and therefore productively.

While the pattern of economic impact will remain largely similar around the world, the actual extent of the impact of pandemics will be specific to each country: the larger a country's economy, the better it is able to absorb shocks more easily; in countries dependent on foreign and international capital, trade is the hardest hit; countries with market structures with less regulation of capital and labor markets will be able to recover more quickly; diffusion will play a crucial role, deriving directly from the ability of a country to contain the disease and restore regularity.[11]

It is important to know how these aspects impact insurance governance and product governance as designed by Solvency II (EU Directive 138/2009) and by IDD (EU Directive 97/2016).

4 Pandemic Risk and Governance

The study group of actuaries in 2006 highlighted how the proposal for a Solvency directive would have required consideration of the pandemic risk. This is the Solvency II Directive (Directive 2009/138 / EC on the taking-up and pursuit of insurance and reinsurance activities). As is well known, Solvency II had an important impact on the tasks of the governing bodies. The board of directors is called to a qualitative management with increased tasks and responsibilities for the performance of which it will be necessary that the members of the administrative body are effectively involved in the life of the company and that they are selected, and now more than before, are also held account of their in-depth professional skills. In fact, they must have the ability to have a prospective vision and control of risks,

[11] Madhav et al. (2017), https://www.ncbi.nlm.nih.gov/.

including those deriving from non-compliance with regulations, guaranteeing the pursuit of the objective of safeguarding the assets also in the medium-long term.

The process that led to the Solvency II Directive has been long; we believe it is useful to recall it to highlight the dynamics that have led to the current regulatory system. In 2000, the Commission decided to initiate a fundamental review of insurance regulation and in 2003 set up a committee of high-level representatives of national public authorities in the field of supervision of insurance, reinsurance and occupational pensions: the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) whose task was to "advise the Commission, in particular as regards the preparation of draft implementation measures in the insurance, reinsurance and occupational pensions sector so as to contribute to the coherent implementation of EU directives and the convergence of supervisory practices of Member States throughout the Community" (Art. 2 EU Commission Decision 2004/6 / EC of 5 November 2003 establishing the Committee of European Insurance and Occupational Pensions Supervisors, OJ 2004, L 3/30). In fulfilling these obligations, CEIOPS had to maintain close operational ties both with the Commission and with the European Insurance and Occupational Pensions Committee (EIOPC), an advisory body to the Commission composed of representatives of the authorities' insurance supervision and regulation of EU countries, whose task is to assist the Commission in adopting measures to implement EU directives in the insurance sector. In the following years, the Commission asked CEIOPS to conduct extensive consultations and quantitative assessment impact studies on different regulatory scenarios. In 2007, the result of these activities was concentrated in the proposal for a directive known as Solvency II.

The Directive marks a fundamental change in capital adequacy, risk management, and disclosure requirements to: protect European policyholders and consumers; keep the European framework in line with the latest developments in insurance, risk management, financial techniques, international financial relations and prudential regulations; rationalize the way groups are controlled and ensure greater cooperation between supervisory authorities, particularly on multinational insurance groups.[12]

To this end, and similarly to what the regulatory frameworks proposed by Basel II and Basel III aimed to do in the banking sector, the directive lays the foundations for a more prudential insurance system and establishes more complete solvency requirements than those of the previous one. System. As with Basel, the directive sees three central pillars: adequate financial resources (pillar 1); an adequate governance system (including risk management) and effective supervision of insurers (pillar 2); public disclosure and regulatory reporting (pillar 3).[13]

[12] Monaco (2018), p. 457; Erdélyi (2016), p. 27 ss.; Michaell and Smith (2010), p. 357, 359 ss.; Faroult (2011a), p. 48; Faroult (2011b), p. 40; Sandström (2011), p. 625; Torre-Enciso and Hernandez Barros (2010), p. 119; Nagy et al. (2010), pp. 5–20; Doff (2008), p. 193; Doff (2007); Eling et al. (2007), pp. 69–85.

[13] Basel II is a set of international banking regulations put forth by the Basel Committee on Bank Supervision, which leveled the international regulation field with uniform rules and guidelines. Basel II expanded rules for minimum capital requirements established under Basel I, the first

In this logic of an increased prudentialism of the sector, as is known, Solvency II has had an important impact on the tasks of the governing bodies. The board of directors is called to a qualitative management with extended tasks and responsibilities, for the performance of which it will be necessary that the members of the administrative body are effectively inserted in the life of the company and that they are selected, now more than before, considering their in-depth professional skills. In fact, they must have the ability to have a prospective vision and control of risks, including those deriving from non-compliance with regulations, ensuring the pursuit of the objective of safeguarding assets also in the medium-long term.

The basis of this is the interaction between the bodies performing control and risk management functions – in addition to the Board of Directors, the Internal Audit function, the Risk Management function, the compliance and procedural function, the actuarial function. Thus, it is correct to say that the affirmation that "corporate governance in insurance company law is the precondition for the proper exercise of insurance business."[14] Moreover, the internal control system finds a central position in the second pillar of Solvency II, within the provisions being dedicated to controls and governance.

The administrative body has ultimate responsibility for the internal control and risk management systems of which it ensures the constant completeness, functionality, and effectiveness, also with reference to outsourced activities. The administrative body ensures that the risk management system allows for the identification, evaluation, and control of risks, including those deriving from non-compliance with regulations, guaranteeing the objective of safeguarding assets, also in a medium-long term perspective. Whilst the expression "ultimate responsibility" relates to offices and functions expressly responsible and complying with the law and regulations, one cannot exclude the responsibility of the Board of Directors which has direct supervision over the other bodies and control functions.

Solvency II aimed to update the prudential regulation of European insurance companies by requiring companies to maintain a margin of additional capital resources to guarantee their business. With Solvency I, the amount of regulatory capital was determined as a fixed amount as a percentage of mathematical reserves, and capital at risk in the life business, as a percentage of annual premiums or the average burden of claims in the non-life business. Solvency II, while following the same approach, provides for capital protection margins no longer calculated on a fixed basis but destined to change in relation to the actual risks of the company, to the real and proper insurance risks and to those of the investment portfolio. In fact, we deal with a risk-oriented system. The mechanism was constructed according to a

international regulatory accord, and provided the framework for regulatory review, as well as set disclosure requirements for assessment of capital adequacy of banks. The main difference between Basel II and Basel I is that Basel II incorporates credit risk of assets held by financial institutions to determine regulatory capital ratios. Report of the Committee of Wise Men on Regulation of European Securities Markets, 15 February 2001, https://www.ec.europa.eu/internal_market/securities/docs/lamfalussy/wisemen/final-report-wise-men_en.pdf.

[14] Montalenti (2014), p. 399.

model that assigns a probability to events that may occur, and which may affect the volatility of the financial instruments and/or the riskiness of the insurance portfolio. While in the Solvency I system the required margin was determined based on the economic/equity elements largely inferable from the financial statements, in Solvency II the required margin is determined based on the capital, and by taking into account how this is absorbed by the overall risks to which the company/group is exposed, and the risks that are aggregated based on various criteria. Qualitative/quantitative elements are thus important, such as the necessary capital increases due to deficiencies in governance identified.

The requirements of the prudent management indicate the need for management that can guarantee the solvency of the company through compliance with insurance techniques, efficient asset management and adequate internal control and management procedures risks to give policyholders greater security and at the same time guarantee more effective management of the company, also with a view to obtaining a higher degree of competitiveness between companies. The requirements of Solvency II and of delegated Regulation No. 2015/35 cover extensively some of the main aspects of the prudent person principle, such as asset and liability management, investments in derivatives, liquidity risk management and concentration risk management.

To this end, the organizational structure is expected to be based on the principles of clarity and transparency with an appropriate division and separation of the responsibilities of the functions and bodies of the company. Particular attention is given to the organization of an effective information flow system. Some central functions are then identified: the internal audit function, the compliance control function, the risk management function, and the actuarial function. The corporate governance system is subject to periodic internal review, at least annually. Furthermore, the Guidelines issued by EIOPA on the application of the prudent person principle are implemented, which complete the regulatory framework that is defined on this aspect. Based on this regulatory framework, insurance and reinsurance undertakings are required to identify, measure, monitor, manage, control and report risks adequately, guaranteeing the safety, quality, liquidity and profitability of the portfolio as a whole, and locating the activities according to criteria that ensure their availability.

We should now consider how the possible costs connected to the pandemic must be treated and calculated in the new risk-based logic of Solvency. The analysis of the economic costs carried out by a study group of actuaries shows that a substantial part of the costs of pandemics borne by the insurance sector would be the consequences of an economic recession. Another important aspect are the consequences of a greater number of claims. The economic downturn could also have indirect impacts.

First, in the short term after the onset of a pandemic, the demand for insurance products would decline, as customers would tend to allocate their financial resources to primary goods and services. Second, insurance company funds would be managed less efficiently. The capital market would operate in a less cost-efficient way and would be considered riskier, thus, leading to fewer efficient but safer investment methods. The impact will obviously depend largely on the duration of the pandemic.

In March 2021, the Organisation for Economic Co-operation and Development (OECD) published a paper on Responding to the COVID-19 and pandemic protection gap in insurance.[15] The paper stresses out the consequences of the pandemic which are affecting the insurers. It is realised that the COVID-19 pandemic together with the measures taken to limit the spread of the disease have significantly disrupted economic activity in countries around the world, resulting in significant business interruption losses which have been absorbed by governments. What should be the case for insurance companies? Few companies have business interruption coverage that is likely to respond to these types of losses—exposing the existence of an important protection gap for some pandemic-related business interruption losses. The paper offers an overview of how business interruption insurance against pandemic risk could be provided with support from governments, and some of the challenges and considerations necessary for establishing such a program.

The OECD estimates that one month of strict confinement measures leads to approximately USD 1.7 trillion in revenue losses. Governments have generally implemented programs, to support businesses that have faced significant disruption as a result of COVID-19, focused on ensuring the availability of financing for businesses or income for their employees. Some commercial property insurance policies include coverage for business interruption losses which provides policyholders with protection against some of the losses that they incur due to lock down, subject to the terms and conditions of the individual policy.[16]

A number of insurance and risk management associations have indicated their support for developing a program to cover pandemic-related business interruption losses, including risk management.[17] The experience gained in establishing catastrophe risk insurance programs will be beneficial so as to respond to other catastrophe and future pandemics. The paper provides an overview of catastrophe risk programs and good practices for sustainable insurance coverage, for supporting broad coverage, lowering the aggregate cost of coverage, minimizing public financial exposure, and encouraging risk reduction through program design. The paper indicates some goals that could be of particular importance for insurers too: 1. Improving the affordability of coverage, by pooling a large share of a country's exposure to a catastrophe risk; 2. Risk diversification. An insurance company (or pool) with a higher level of risk diversification will have lower economic and (often regulatory) capital needs (other things equal) and can therefore offer lower pricing. The impact of a catastrophe risk insurance program on improving affordability will be greatest where the program is able to establish a highly diversified pool of risks; 3. Reduced cost of reinsurance, thanks to diversification and pooling. There would also be challenges in terms of designing a program to incentivise actions that policyholders can take to reduce their risk in the case of other types of

[15] https://www.oecd.org.

[16] SHRM (2020), Navigating COVID-19: Impact of the pandemic on small businesses, Society for Human Resource Management, https://shrm.org (accessed on 6 November 2020).

[17] Ladbury (2020).

perils; 4. Lower capital required thanks to pooling. The cost of capital requirements for the coverage of catastrophe events would need to account for the high-level of uncertainty regarding frequency and severity; 5. Coverage limits; 6. Risk selection. In these terms open insurance, the use of big data and AI can help; 7. Flexibility to leverage market capacity. Many programs provide government-backed coverage as reinsurance (the paper considers the example of backstop through co-insurance in the United States for terrorism) which means that, through the use of retention requirements, direct insurers will absorb most or all losses for smaller-scale events and only high loss events above the threshold would be covered by the program; 8. Returning risk to the market thanks to reinsurance or retrocession of risk.

5 Product Governance and Pandemics

Attention must be paid to the adequacy of the products on the market with a new mapping of the risks in the changing social dynamics. The "Product Governance" rule is identified in Art. 25 IDD [Dir. 97 (2016)] where it is envisaged, with the exception of large-risk policies, that the insurance companies, as well as intermediaries that make insurance products to offer for sale to customers, adopt, manage and control a process of approval for each insurance product or for any significant modification of an existing insurance product, before it is marketed or distributed to customers.

The product approval process must be proportionate and appropriate to the nature of the insurance product. The product approval process specifies an identified reference market for each product, ensures that all risks specifically relating to that reference market have been analyzed and that the distribution strategy envisaged is consistent with the reference market itself and takes reasonable measures to ensure that the insurance product is distributed to the identified reference market.

The insurance company regularly understands and reviews the insurance products it offers or markets, considering any event that may significantly affect the potential risks for the identified reference market, to at least assess whether the product remains consistent with the needs of the market and whether the planned distribution strategy continues to be adequate.

Insurance companies, as well as intermediaries that make insurance products, make available to distributors all the necessary information on the insurance product and on the product approval process, including its identified target market. The distributors of insurance products who provide advice on insurance products not created on their own or who offer them shall adopt appropriate provisions to obtain the information referred to in the fifth paragraph and to understand the characteristics and the identified reference market of each insurance product.[18]

[18] Köhne and Brömmelmeyer (2018), pp. 704–739; Marano (2019), pp 60–96; Jorge Miguel Bravo (2020).

In April 2016, EIOPA, one of the three authorities responsible for coordinating the supervision of financial markets at European level, published a document addressed to the national supervisory authorities, which aimed to give indications on how to proceed in the transitional period between the issuance and the transposition of direct IDD into national law. The "preparatory guidelines" were issued to establish uniform, efficient, and effective supervisory practices with regard to the provisions on product governance and control envisaged by Article 25 of the IDD, pending that these provisions contained in the IDD are fully applicable. Art. 25 in fact provides that both companies and intermediaries adopt and manage specific procedures aimed at the prior approval and definition of the related contents as well as any significant modification before marketing. These procedures must include the following: analysis of the reference market, analysis of the distribution strategy; adoption of verification measures: adoption of periodic review criteria—both of the products and of the procedure itself, to guarantee the constant adequacy of the product to the needs of the market.[19]

Also, at European level, the Commission Delegated Regulation (EU) 2017/2358 of 21 September 2017 (hereinafter the "POG Delegated Regulation") integrates Directive (EU) 2016/97 of the European Parliament and of the Council, as far as concerns the requirements on product governance and control for insurance companies and distributors of insurance products, specifically governing:

- the product approval process of the subjects who make insurance products, with particular reference to the identification of the reference market, the product test, the monitoring and review of the product and the correlated relationship with distribution channels;
- the product distribution mechanisms and the information that the distributor is required to relay to the person who makes insurance products in relation to the distribution activity carried out.[20]

It is noted that "the distribution strategy must always be consistent with the reference market, identified by the person who created the product. It follows that distributors must review regulatory methods of distribution to ensure that they are valid and up-to-date and, if necessary, modify them, informing the person who created the insurance product."[21] This means that companies will have to review products and distribution policies, educating distributors on the point, in light of the new social dynamics that have been created in the pandemic and which have highlighted the importance of considering the pandemic risk.

Let us consider the problem of indirect damage coverage in all risk policies. We refer to the damage from business interruption, which has been a typical effect of the pandemic and of the measures to reduce the contagion, and we also refer to the

[19] Preparatory Guidelines on product oversight and governance arrangements by insurance undertakings and insurance distributors, www.eiopa.it.

[20] Volpe Putzolu (2019), p. 163 ss.; Camedda (2020).

[21] Volpe Putzolu (2019), p. 166.

"indirect" financial damages [which are] not covered by the "Fire or All Risks" policy, which deals with direct damages to goods. In other words, these are the financial effects of a claim capable of causing a total or partial stop of production activities. It is therefore important to give indications to distributors on whether or not to cover the pandemic risk.

The pandemic risk concerns a series of non-life insurance products and in particular: third-party liability policies where the pandemic may have affected the etiology of the damage for which the victim seeks compensation (i.e., liability of public executives who have had to make decisions in the management of the pandemic, policies for employer liability in the adoption of adequate safety measures in the workplace to reduce the risk of contagion), health policies, medical expenses policies, pecuniary loss policies for business interruption, all risks company policies. The intermediary must know the impact of the pandemic risk on the product and avoid distributing a product that excludes coverage for pandemic without disclosing it to the customer.

Pandemic risk can be considered a catastrophic risk as it is a systemic risk. Systemic risk refers to the risk of a breakdown of an entire system rather than simply the failure of individual parts.[22]

In a financial context, it denotes the risk of a cascading failure in the financial sector, caused by linkages within the financial system, resulting in a severe economic downturn. In the non-life branch, generally, catastrophic risks are excluded. In Italy, for example, they are excluded by law under Art. 1912 of the Italian Civil Code. The rule provides that "Unless otherwise agreed, the insurer is not obliged for damages caused by earthquakes, war, insurrection or popular riots." It is believed, but it is one of the interpretative keys of the rule, that the list of catastrophic events is purely illustrative and that the rule extends to all catastrophes including the pandemic risk. Although insurability in a legal sense and also in a technical actuarial sense operate on distinct levels, the one on the rules of law and the other on that of mathematical laws, for the purposes of the correct management of contracts of insurance it is essential for the company that the events, verifiable, future and uncertain covered by the coverage, have a certain regularity both in terms of the periodicity of their occurrence and in terms of determining the amount due. Therefore, on their technical insurability, the so-called catastrophic risks or those risks which, by their very nature, are completely exceptional, discontinuous, and unpredictable, as well as extremely burdensome due to their consequences, are problematic. These conditions determine the lack of adequate statistical bases, such as to allow the calculation of the premium and reserves. Hence the foundation of Art. 1912 of the Italian Civil Code which would exclude the coverage of catastrophes in general unless otherwise stipulated in the contract. It is also customary to distinguish catastrophic risks into events of human origin and events of natural origin. The risk of war, insurrection, and tumult is attributable to the former. The latter are attributable to the earthquake, hurricanes, floods, frost, and rain. These are events that can lead to claims already

[22] Schwarcz (2008–2009), p. 193.

subject to other coverage. If we take the example of the fire, we should note the subject of fire insurance, which can, however, be caused by activities attributable to popular uproar. In Italy, damage from catastrophes involve the use of state resources with increases in the public deficit. Their incessant increase leads us to believe that Art. 1912 of the Italian Civil Code cannot be understood as containing an exhaustive list. It is obvious that the uncertainty of the extensive interpretation of Art. 1912 of the Italian Civil Code does not facilitate the task of the intermediary, who should however check with the insurer the existence of the coverage and possibly, if requested by the customer, have it explicitly inserted ad hoc.

Precisely, to avoid problems, insurers expressly include exclusions of catastrophic events in the text. Here the problem is the absence, in many cases, of an express exclusion of the pandemic risk and the possibility of considering this risk excluded only from the generic exclusion of major catastrophic events even with a simple reference to the text of Art. 1912 of the Italian Civil Code, or even by reporting the text.[23] Also, to avoid problems, insurers usually expressly exclude catastrophic events. In the event that the pandemic is excluded, the exclusion must be clearly indicated to the insured.

What happens in the case of lack of an express exclusion? Is it also to be excluded because it is an extraordinary risk? The problem here is of an interpretative nature and there is a concrete possibility that courts will give an interpretation in favor of the policyholder in application of the contra proferentem rule under which in the case of contracts of adhesion (such as the insurance contract) the text is interpreted against the predisposing person (in this case the insurer).[24] Through an interpretation in favor of the adherent to the policy conditions, it could therefore be considered to include the pandemic risk not expressly excluded. Another issue and problem that arises relates to the time point from which the pandemic condition can be considered to have intervened for the purposes of exclusion. Should we consider when the WHO declares the pandemic status? The contra proferentem rule can also help in this case.

6 Future Actions

How do we ensure the continued functioning of the financial sector and the avoidance of the recession that looms when an event such as a pandemic threatens with recession and systemic failure? Insurance can act as a shield to protect in such cases. This is important in an environment in which businesses are experiencing closure and drops in business, supply chains are disrupted, and the stock market is in turmoil, such as the case is with the COVID-19 pandemic.[25] Future challenges relate on how

[23] Landini (2012), pp. 191–194; Donati (1956), p. 261; Salandra (1966), p. 333.

[24] McCunn (2019), pp. 483–506.

[25] Hafiz et al. (2020), available at SSRN: https://ssrn.com/abstract=3555980.

to protect against pandemic-related risk. There are legal challenges and economic challenges. The precedent set by the FCA in bringing a test case in court on the occurrence of the pandemic was a solution that helped stabilize the market at that time. Other initiatives included the Pandemic Emergency Financing Facility, established by the World Bank.[26] Questions that will need be addressed and be answered are: How can the insurance industry contribute to building resilience to future pandemic events? Are pandemic risks insurable? What is the appropriate allocation of functions between the insurance industry, the financial market, and the governmental initiatives in relation to the pandemic risk transfer? It is suggested that there could be limited private market for the pandemic insurance. Various initiatives have been undertaken in various countries. For example, in France a working group was established to develop a framework for providing insurance for extreme events such as COVID-19 pandemic. In the UK, it has been proposed that Pandemic Re be established to act as a government-backed reinsurance pool. In the United States, there has been a proposal for a federal pandemic risk reinsurance programme, the Pandemic Risk Insurance Act of 2020 (PRIA) to provide a federal backstop for business interruption and event cancellation losses as a result of a public health emergency such as a pandemic is.[27]

Other solutions can be found in new technology. As mentioned earlier, the COVID-19 pandemic has led to an acceleration of the digital transition. At the same time, the digital transition can help the governance of pandemic risk issues in managing insurance business. AI enables machines to solve knowledge problems and use algorithms to simulate human decision-making, and continuously improves performance by applying big data to perform specific tasks. We cannot, nevertheless, underestimate that AI also raises serious questions concerning fairness, reliability, accountability, privacy, transparency, and safety.[28] On the pandemic risk, this issue needs to be considered holistically, i.e., certainly by not excluding innovative tools in relation to the pandemic risk management.

The requirements of prudent management, as in Solvency II, indicate the need for a management that can guarantee the solvency of the company through compliance with insurance techniques, efficient management of assets and adequate internal control and management procedures, and risk management to give policyholders greater security, and at the same time guarantee a more effective management of the company, also with a view to obtaining a higher degree of competitiveness between companies.

The Board of Directors could make use of Blockchain in collecting the data on which to base its decisions. Could an AI system be part of the board? The topic has

[26] Schwarcz (2020), pp. 16, 2021–2022, Duke Law School Public Law & Legal Theory Series No. 2020-71, Available at SSRN: https://ssrn.com/abstract=3712534 or https://doi.org/10.2139/ssrn.3712534.

[27] Gründl et al. (2020). Available at SSRN: https://ssrn.com/abstract=3748753 or https://doi.org/10.2139/ssrn.3748753.

[28] Leslie (2021), p. 372.

recently been dealt with by some scholars of commercial law, showing the possible advantages and possible risks of conflict of interest of the subjects who have developed the algorithms that move the AI system,[29] with future solutions on a possible legal personality recognized to the machine and with the possibility for the same to be part of the board, in line with the theories that recognize the possibility of including legal persons among the members of the board of directors, or assuming to admit an IT services company to the board of directors.

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