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THE SELF-GOVERNING P2P INSURANCE BUSINESS MODEL - *MISCHARACTERIZING INSURANCE CONTRACTS?*

Dissertation to obtain a Master's
Degree in Law and Financial Markets

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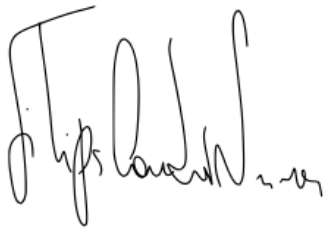
ANTI-PLAGIARISM STATEMENT

I, **Filipa Cardoso Nunes**, hereby declare that the work I present is my own work and that all my citations are correctly acknowledged. I am aware that the use of unacknowledged extraneous materials and sources constitutes a serious ethical and disciplinary offence.



"The English courts know an elephant when they see one,
so too a contract of insurance"

Clarke

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First, to Professor Margarida Lima Rego, who always guided me and made me question everything I knew, always pushing me towards doing more and better.

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ABBREVIATIONS

AI Artificial Intelligence

B2C Business to Consumer

COVID-19 Coronavirus disease

EIOPA European Insurance and Occupational Pensions Authority

EU European Union

GDPR General Data Protection Regulation

IDD Insurance Distribution Directive

IoT Internet of Things

ITF *InsurTech* Task Force

MS Member State

NCA National Competent Authority

OECD Organization for Economic Co-operation and Development

P2P Peer-to-peer

PEICL Principles of European Insurance Contract Law

PRIIP Packaged Retail Investment and Insurance Products

STATEMENT OF THE NUMBER OF CHARACTERS

The body of this dissertation, including spaces and notes, occupies a total of 199.840 characters.

ABSTRACT

InsurTechs revolutionized the insurance industry introducing new P2P models such as the self-governing model. The main goal of this thesis is to identify if the self-governing P2P business model represents a mischaracterization of the traditional insurance contract. The disruptive techniques such model uses offer the regulators and the market itself challenges by presenting new solutions clearly made to satisfy the need for insurance yet not falling easily under its scope namely for licensing purposes. Given its use of large data sets and technology such as AI, P2P insurance endangers both market stability and consumer protection, making cross-sectoral regulation such as the GDPR essential. The focus shouldn't be on the existence of an insurance contract but on the presence of insurance.

Keywords: P2P Insurance, Insurance Law, Data Protection, Insurance, Regulation, Artificial Intelligence, *InsurTech*

RESUMO

As *InsurTechs* vieram revolucionar a indústria seguradora através da introdução de novos modelos de P2P, como o self-governing model. O objectivo principal desta tese é identificar se o modelo em análise representa ou não uma descaracterização do contrato de seguro tradicional. As técnicas às quais este modelo recorre oferecem desafios aos reguladores e ao próprio mercado, apresentando novas soluções aptas para satisfazer a necessidade de seguro e, contudo, não podendo ser enquadradas no actual quadro regulatório para efeitos de licenciamento. Uma vez que recorrem a grandes quantidades de dados através de tecnologia como seja a AI, os seguros P2P metem em causa a estabilidade do mercado e a protecção dos consumidores, tornando instrumentos intersectoriais como o RGPD essenciais. O foco não está na existência de um contrato de seguros mas sim na presença de seguro.

Palavras-chaves: *P2P Insurance*, Direito dos Seguros, Protecção de Dados, Seguros, Regulação, Inteligência Artificial, *InsurTech*

TABLE OF CONTENTS

1. INTRODUCTION

It is rather hard to avoid entering into an insurance contract that, by definition, is a standard one leaving the policyholder as the weak party. P2P models are shifting the paradigm in a way that resembles the origins of insurance, and forcing us to look differently to one of the most ancient businesses in the world, leveling the players. In a highly regulated market, P2P disruptive techniques challenge the regulators and the market itself by presenting new solutions clearly made to satisfy the need for insurance yet not falling easily under its scope, brought by new players without a license to operate and who, at times, refuse to admit that their products are, in fact, insurance products. The focus is on the P2P self-governing model, as it is the most challenging and only real P2P model.

It will be analyzed in detail, starting by the relevant definitions and elements of traditional insurance contracts to conclude whether or not we can say that we are in the presence of an insurance contract under the existing European framework. We will proceed to discuss its specific challenges with a special focus on data protection due to the large amounts of data these new realities need to operate, dissecting certain aspects such as hidden bias and discrimination through the use of Artificial Intelligence.
Specific cases will also be analyzed such as Teambrella and TongJuBao, both using P2P self-governing model, giving a practical view on the matter.

The main goal of this thesis is to identify whether the self-governing P2P business model is, in fact, mischaracterizing the traditional insurance contract or not. For that purpose, the followed methodology consists in the research and analysis of bibliography, both international and European as well as case studies. The approach will be essentially from a European Law point of view, given the importance for harmonization in multidimensional matters such as *InsurTech*, cooperation between Member States being the key to success.

To answer this main question and conclude that what matters is not if we are in the presence of an insurance contract, several others will be taken in consideration and further explored:

1. What are the main differences regarding the self-governing model that set it apart from the other P2P insurance models, making it represent a real and innovative legal concern? To answer this question, we will take a look into the elements of a

traditional insurance contract and conclude which are present in the self-governing model and which are not. Some of the elements are no longer present and yet that doesn't mean we are not in the presence of an insurance product or at least an hybrid that fulfills the need for insurance. This will lead us to the second research question;

2. Can we apply the existing framework (IDD and Solvency II) to entities using the self-governing P2P insurance business model? We will answer this question from a regulatory point of view, exploring the licensing requirements present both in the Solvency II and IDD directives, and focusing on the *InsurTechs* that operate without an insurance intermediate i.e. as insurance-like product providers to conclude that the regulatory approach is more efficient to provide a timely solution for these entities;
3. Given the large use of highly disruptive new technology and the additional concerns it rises, as well as the grey areas in terms of regulation, a third question will concern the use of Artificial Intelligence in the self-governing model - how to overcome the obstacles and make sure effective protection is provided under the GDPR? The focus will be on potentially discriminatory practices and hidden bias that may lead to the elimination of the advantages of P2P Insurance (such as tailor made products for the policyholders´ needs). The conclusion, differently from IDD and Solvency II, is that we find it easier to apply the GDPR and grant effective protection to the data subjects under the existing framework no matter the entity due to its cross-sectoral application.

The conclusion will point towards a positive answer to the main question - the self-governing model indeed represents a mischaracterization of the traditional insurance contract and the insurance scene in general hence we believe the focus shouldn't be on the existence of an insurance contract itself but instead on the presence of insurance. The fact that the entities using the self-governing model fall easily outside the scope of the existing regulation for licensing purposes - IDD and Solvency II, doesn't mean they are not fulfilling the need of insurance and that they should be de-regulated, quite the opposite.

Whether or not the P2P self-governing model can be treated as insurance is of extreme relevance as one cannot predict the technological developments. Policyholders need extra protection and regulators guidance, given the higher complexity of such models

and difficulty to understand the business itself. The lack of definitions such as "insurance" and "P2P insurance" may not be such a bad thing - avoiding definitions may just be the key to protect the policyholders and treat what clearly should be an insurance contract as such.

2. THE *INSURTECH* PHENOMENON

2.1. WHAT IS *INSURTECH*?

InsurTech is a relatively new concept and like every definition that combines different areas with very different approaches it is not given without some doubt. Considering that we don't even have a clear definition of what insurance is[1] in its traditional form, *InsurTech* comes into scene to create even more doubt on what was already uncertain.

The concept of *InsurTech* is the mix of two words - insurance and technology. It is *"the use of technology innovation designed to squeeze out savings and efficiency from the current insurance industry model".*[2] It can refer to a company - namely a startup, that through technology disrupts the insurance field. This definition uses the target criteria, being the targets savings and efficiency[3].

A second definition, from the international board of regulators, defines it as *"Technology-enabled innovation in insurance that could result in new business models, applications, processes or products with an associated material effect on the provision of insurance products and services"*[4] . This definition gives us a broader sense of this new reality and the wide range of situations it evolves. Considering the approach of this paper, this last definition allows to give a better insight on *InsurTech*.

Going as far as 2007, we didn't have *InsurTech*. The term was first used around 2010 but it's hard to trace a precise moment in time. It is a result of technological advances much like *FinTech*. And much like what happens with *Fintech*, there is the urge to make the new technological concepts compatible with the ones we knew as steady realities. The fact is that the concepts traditionally known are not adapted to the new developments and often bring new challenges in terms of their application.

In order to understand *InsurTech* we must first comprehend Insurance and its background. Insurance is one of the most ancient activities in the world. In the face of uncertainty, what could we do? How to effectively mitigate potential risks? The first insurance traces can be found in the Antiquity civilizations where the losses and

[1] Here will take in consideration the definition used in The Principles of European Insurance Contract Law ("PEICL"). According to Article 1:201(1) "Insurance contract" means a contract under which one party, the insurer, promises another party, the policyholder, cover against a specified risk in exchange for a premium".
[2] Definition from Investopedia available at https://www.investopedia.com/terms/i/insurtech.asp
[3] Presentation on *InsurTech* given by Margarida Torres Gama, during a FinTech class.
[4] FSB, "Financial Stability Implications from FinTech", 27 June 2017, available at https://www.fsb.org/wp-content/uploads/R270617.pdf

misfortunes were shared between all the participants, much like what happens with some new *InsurTech* services these days and the reason why some call it social insurance. Some authors even defend that *InsurTech* can mean a return to insurance's origins[5]. Typically, in insurance, the policyholder shares a risk with an insurance company through the celebration of an insurance contract. The risks are then granted by the insurance company against the premiums ´ payment. Being based on uncertainty, not every single risk the policyholder pays for will materialize but when it does, the insurance company will use the amount the policyholder paid to cover the risk.

Despite being a conservative industry, because it's based on complex calculations, insurance relies on technology and can benefit greatly from its use.

There's not a single disposition in the current framework recognizing *InsurTechs* as new market players but the fact is that they entered the insurance scene and must be taken into consideration, specially for liability purposes, considering their typical approach and the technology used[6].

Furthermore, we believe avoiding strict legally binding definitions is the key to acknowledging future developments preventing the existing framework from being constantly outdated leaving regulatory breaches. However, definitions on reports, best practices and papers as well as other sources that combine efforts of both supervisory authorities, Member States, *InsurTechs* themselves and other relevant agents can be of much help to understand the state of the situation provide a timely answer. It is undeniable that innovation and technology can be of much help in the insurance business. Being able to efficiently determine the actual risks at stake and price each in a more accurate way is a task that can be easily preformed through advanced technology and insurers can benefit much from it having access to more information than ever in an age where information is the most valuable asset.

InsurTechs can be seen as a new type of player brought to life through the startup hype. However, not only they do not fall easily under the current European framework, namely Directive (EU) 2016/97 of the European Parliament and of the Council on

[5] REGO M.L., CARVALHO J.C. (2020) Insurance in Today's Sharing Economy: New Challenges Ahead or a Return to the Origins of Insurance?. In: Marano P., Noussia K. (eds) InsurTech: A Legal and Regulatory View. AIDA Europe Research Series on Insurance Law and Regulation, vol 1. Springer, Cham

[6] As an example, Article 1:202 of the Principles of European Insurance Contract Law defines "insured", "beneficiary", "person at risk", "victim", "insurance agent", amongst others. There's no mention of such reality as InsurTechs.

Insurance Distribution (hereinafter called "IDD") scope nor Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of insurance and reinsurance (hereinafter "Solvency II"),. Many insurance intermediaries are relying on *InsurTech* to operate without the proper updated framework. Regarding the P2P insurance self-governing model in specific, this issue will be our main focus and will be further analyzed, the requirements for licensing will be explored, to conclude there are dispositions favorable to its future application and others that represent an obstacle harder to overcome.

By now, *InsurTech* still brings a lot of uncertainty. We can include it in a wide range of situations from companies that intermediate risk to companies that only design applications to help insurance companies achieve better results, working as service providers.

Our main focus will be on entities using the P2P self-governing model[7], as we consider it to be the only real P2P model and as such, the regulatory framework issues only exist in regard to this model and not all *InsurTechs,* as one may think at a first approach.

The main big issue with P2P Insurance would be how to apply the existing legislation to a new reality knowing that some elements are no longer present in an explicit way yet we are clearly in the presence of insurance with the correspondent expectations to be insured from the peers. Hence, our answer will be given from a regulatory point of view, focusing on the existing framework that provides the requirements for licensing under the European Law. On what grounds can these new players enter in the insurance business and develop their insurance activity when some of them deny providing insurance products? We find such licensing problems specially hard to overcome when it comes to P2P[8] [9]

2.2. NEW TECHNOLOGY USED TO CHANGE THE INSURANCE INDUSTRY

InsurTechs refer to the use of innovative technologies such as blockchain, virtual assets, artificial intelligence ("AI") and smart contracts in the insurance sector. Given these technologies are data driven, one cannot think about *InsurTech* without anticipating the data

[7] The self-governing P2P model will be explained in detail in Chapter 4 of this study.
[8] OECD report on "Technology and innovation in the insurance sector" stating that "poucas empresas InsurTech conseguiram licença para subscrever seguros e a maior parte tem licenças de corretor" – available at https://www.oecd.org/pensions/Technology-and-innovation-in-the-insurance-sector.pdf
[9] OECD suggests in their 2017 report this might represent a challenge to technological innovation developments.

protection issues may rise. Technological advances, namely AI related, are changing the insurance scene and *InsurTechs* are proof of that, bringing new business models namely peer-to-peer (P2P) models[10].

AI, according to Accenture´s Insurance Technology Vision 2017 report [11] mentioned that the focus of many *InsurTechs* was on the IoT, AI and Big Data, representing half of the total investment at a global scale on *InsurTechs* in 2016.

AI's use in P2P insurance will be object of a deeper analysis, considering the potential obstacles the General Data Protection Regulation ("GDPR") may offer and whether or not it grants sufficient protection to the peers/data subjects in this new context namely in terms of discriminatory practices and hidden bias that eventually can lead to the elimination of the advantages of P2P insurance such as misselling. Differently from the licensing regulatory issues arising from IDD and Solvency II, we find the GDPR a relevant instrument to effectively grant protection of the peers/data subjects, gaining more importance than ever specially for being a cross-sectoral instrument.

2.3. STATE OF THE SITUATION

2.3.1. EU APPROACH ON *INSURTECH*

Insurance is a regulated market with strict rules and a major concern for consumer protection. In order to make sure there is stability in the market, these strict rules are needed. *InsurTechs* endanger this market stability and so the European Insurance Occupational Pensions Authority ("EIOPA") is focused on promoting cooperation between startups, national competent authorities ("NCA´s") and insurers through the creation of sandboxes, roundtables and task forces to find a way to guarantee the balance between applying traditional insurance norms to this new kind of technology guaranteeing that both consumers and the market are protected. It is pointless to prevent them from existing - they're a new reality and legislation must be adapted in order to accommodate them and hold them accountable for liability purposes.

[10] Defined by EIOPA as "risk-sharing network where a group of individuals with mutual interests or similar risk profiles pool their premiums together to insure against a risk", ex vi presentation on InsurTech given by Margarida Torres Gama during a FinTech class.
[11] Available at: https://www.accenture.com/t20170418t020959__w__/ph-en/_acnmedia/accenture/conversion-assets/nonsecureclients/documents/pdf/2/accenture-technologyvision-insurance-2017.pdf

The experience of the NCA´s with *InsurTechs* is still limited[12] and so the main concerns have not been properly addressed because most of the NCA´s didn't feel the need to establish a difference between traditional insurance and the new *InsurTech* realities[13]. The real problem with *InsurTech* lies in P2P Insurance. Additionally, many realities considered P2P insurance do not represent a challenge simply because they are not real P2P models, as a licensed intermediary is involved somehow in the process either as a broker, a reinsurer, or a carrier. In such cases, we will not find any licensing problems as IDD and Solvency II will apply.

However, the digitalization process within the insurance business took a shift during the pandemic of COVID-19 accelerating its development. At a European level, the value of *InsurTech* companies has been increasing significantly, reaching 23 Billion € in 2021, according to *Dealroom Mundi Ventures Insurtech Report*[14]. The same report shows that the majority of *InsurTech* in Europe is in the United Kingdom, Germany and France, being the United Kingdom the most significant.

EIOPA announces best practices and guidelines on *InsurTech* namely regarding regulation, and promotes cooperation through Roundtables that gather supervisory authorities, consumers, experts, startups, to get a broader view on the matters and created an InsurTech Task Force ("ITF"), responsible for analyzing the licensing issues, proportionality, and outsourcing.

Concerning the use of AI, extra care is recommended, and the establishment of a European Insurance Innovation Hub is suggested.[15] Overall, the conclusions point towards the absence of necessity of additional regulatory measures regarding *InsurTech*, as per stated by the majority of the NCA´s[16], probably since we are still at an early stage. However, there are several areas where this seems not to be the case such as P2P insurance, outsourcing and cloud services[17].

[12] Available at: https://www.eiopa.europa.eu/media/news/eiopa-analyses-licencing-approaches-insurtech
[13] EIOPA report on "Report on best practices on licencing requirements, peer-to-peer insurance and the principle of proportionality in an insurtech context", 2019 contains a survey that exemplifies well the early stages.
[14] Available at: https://dealroom.co/uploaded/2021/06/Dealroom-Mundi-Ventures-Insurtech_Report_Jun21.pdf?x74322 hereinafter referred to as "EIOPA report on P2P Insurance".
[15] Chatzara V. (2020) FinTech, InsurTech, and the Regulators. In: Marano P., Noussia K. (eds) InsurTech: A Legal and Regulatory View. AIDA Europe Research Series on Insurance Law and Regulation, vol 1. Springer, Cham
[16] EIOPA report on P2P Insurance
[17] EIOPA report on P2P Insurance

Considering the existing provisions applied to both insurers and insurance intermediaries, namely Solvency II Directive and IDD, as well as national regulations, strict supervision rules are applicable, and they concern prudential and behavioral supervision. Under prudential supervision, we have capital requirements, licensing, assessments, governance as the most important ones; under the behavioral supervision, market conduct rules.

EIOPA is concerned and addressing these issues namely the high capital requirements and the governance structure, which clearly doesn't match with the typical *InsurTech* structure arising from the startup scene. When it comes to licensing, EIOPA states that if they are providing services that somehow resemble insurance, they must have a license to do so and comply with the directive's requirements. Not all *InsurTech* companies however must have a license, though the ones that do are the ones that develop technology to assist or somehow intervene in insurance. According to the principle of proportionality, the risks at stake and the dimension of the *InsurTechs* should be considered to avoid treating as large insurance what isn't.

Regarding outsourcing, and because insurance companies can often contract with third parties, IDD contains two dispositions only addressing it and none seems to be fit to regulate P2P insurance.

The legal concerns are not limited to the directives above mentioned as in specific national legislation concerning insurance (which is not adapted to the new realities) and consumer protection (for instances "PRIIPs Regulation"[18]).

EIOPA created as well, a Report On Best Practices On Licensing Requirements, Peer-To-Peer Insurance And The Principle Of Proportionality In An *InsurTech* Context[19], which was of extreme help to understand the current state of the situation. Cooperation seems to be the key element in EIOPA´s approach, as the new market players are invited to give their contribute so that the supervisors understand the issues that must be tackled. To delimit the activities in need to be regulated and afterwards determine which supervisory authority will be competent to do so is a hard task regarding *InsurTechs*, namely the ones working as mere financial service providers that fall under the authority of more than one

[18] Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs).
[19] Available at: https://op.europa.eu/en/publication-detail/-/publication/128d0a4f-49fc-11e9-a8ed-01aa75ed71a1

supervisor. When technologies that operate with large data sets are applied in the insurance scene the line that separates each regulator becomes blurry.

How to behave when more than one supervisory authority is competent - apart from EIOPA, the data protection authorities, for instances? Cooperation, once again. As for the resources needed to overcome the new obstacles, supervisors clearly lack of them. To understand the new business models is a highly complex task yet a fundamental one that requires specialized human capital.

EIOPA did not come to a conclusion on whether or not P2P is allowed and concerning *InsurTechs*, this is one of the areas when the main issues arise.

One of the main principles EIOPA considers is the principle of technological neutrality[20] which can give us a clue on how to tackle issues that have disruptive innovation underlying. As pointed by MARANO and MICHELE[21], the FinTech Action Plan shows that certain dispositions currently in force that came before certain technologies may not be neutral in terms of technology which is the case of IDD and Solvency II Directives. However, we know technological advances must always be taken into consideration when applying such dispositions. Possible answers come as guidelines, best practices, as it's pointed by the *InsurTech* taskforce created by EIOPA and the creation of a European Insurance innovation hub (granting cooperation between NCA´s, EIOPA and *InsurTechs* themselves). However, no mandatory solution has been given.

EIOPA aims for a technological-neutral regulation and supervision which cannot mean a deregulation[22]. However, P2P insurance is falling outside the scope of insurance regulation.

2.3.2. THE INTERNATIONAL APPROACH

On its report[23], the OECD is approaching *InsurTech* as a smaller area inside the FinTech scene, tackling the issues both rise and finding common ground between them. The OECD recognizes the advantages of the FinTech use in general namely the increasing efficiency for the financial sector yet also points some of the difficulties that accompany

[20] MARANO, PIERPAOLO and SIRI, MICHELE. 2021. Regulating insurtech in the european union. The capco institute journal of financial transformation . 2021, Vol. 54. The authors point that are "outdated, unnecessary, or excessive about changing business models and/or the "digital" environment" - page 166.
[21] MARANO, PIERPAOLO and SIRI, MICHELE. 2021. "Regulating insurtech …"page 166
[22] MARANO, PIERPAOLO and SIRI, MICHELE. 2021. "Regulating insurtech …"page 168
[23] OECD (2017), Technology and innovation in the insurance sector, page 8

these pros, starting by the "uncertainty and doubt"[24] they generate. There's a concern on the use of the word "disruptive" to classify the technological innovation brought up by the FinTech scene but we believe a literal reading should be done when mentioning "disruptive technology" as it is, in fact, breaking with the traditional methods we knew through the use of new technology[25] such as Blockchain or the use of virtual currency.

Regarding *InsurTech*, the OECD considers it to be more beneficial for single customers rather than companies, having the potential customer more information with a significant cost reduction and celerity during the entire process. But this doesn't mean that insurance companies do not see the many advantages, on the contrary - they are investing on insurance startups and providing the funds for them to develop their new businesses[26], knowing they will also benefit from such developments.

On a final note, the international scene is more pro towards the acceptance of *InsurTech,* with the major *InsurTechs* being in the EUA and China[27].

3. PEER TO PEER (P2P) INSURANCE

3.1. HOW P2P WORKS

It is regarding P2P that *InsurTech* brings additional challenges[28] and the main reason is the way it operates.

In P2P insurance, a group of people, that may or may not know each other (most of the times there are either common interests or the individuals actually know each other with a significant level of closeness, being friends or family) comes together to insure themselves against certain risks, reducing costs and making sure the equivalent to the premium in traditional insurance is either used to cover risks or distributed in the end of a certain period if the risk doesn't materialize - a major change from traditional insurance, where the insurance company keeps the excess of the amounts paid as premiums with or without claims, most of the times. Given we are talking about P2P insurance, this all happens online through a platform that many times claim to work as a third party, collecting

[24] OECD (2017), Technology and innovation in the insurance sector, page 8
[25] "Disruptive technology" was first used by Clayton M. Christensen to refer to "technology that affects the normal operation of a market or an industry" – available at https://corporatefinanceinstitute.com/resources/knowledge/other/disruptive-technology/
[26] OECD (2017), Technology and innovation in the insurance sector, page 9
[27] Considering the investment made. Available at: https://eco.sapo.pt/2022/04/27/investimento-em-insurtech-cresceu-40-ate-10-mil-milhoes-em-2021/
[28] EIOPA report on P2P Insurance

data and managing the operations, facilitating communication and bureaucracy, with different levels of interference. By joining the platform, the individuals have to make their monetary contributions that will then be divided between the cash back pool and the insurance company[29] [30].

Because they actually know each other or have been grouped for their similar interests, the risk profiles can be known amongst the peers[31] and the asymmetry of information can be mitigated.

If the available funds are not enough to cover the risks, a reinsurer covers the amount in excess and there is no refund of the amounts in the poll[32]. However, we must argue that in this case, when a licensed reinsurer is involved, the entity is not using the self-governing model hence not real P2P insurance is at stake for the purposes of our study. In practice, we've seen a lot of entities claiming to be using P2P insurance despite not raising any deeper concerns for regulatory purposes. Still, an explanation should be given in order to fully comprehend the object of this study.

The coverage of each P2P poll differs - some only work for certain insurance types and additional technology can be added such as crowdfunding mechanisms or virtual assets as payment method, others choose a designated charity at the beginning (another reason to be called "social insurance") to donate the excess in unused premiums.[33]

P2P Insurance hasn't been given a legal definition yet nor a proper specific regulatory regime has been established[34]. The authors state that very few attempts to come up with a definition have been made and there is some reluctance in "describing the legal nature of P2P insurance[35], compiling several definitions and isolating the relevant elements of each one. These relevant elements include "digital network", "risk sharing", "mutual interests",

[29] OSTROWSKA, MARTA AND ZIEMIAK, MICHAŁ. 2020. The concept of P2P insurance: A Review of Literature and EIOPA Report. Prawo Asekuracyjne. 2020, Vol. 1, pp. 30-47. - page 35

[30] In the real P2P insurance cases, an insurance company isn't even part of the process.

[31] Imagining a family that wants to use P2P insurance to cover motor vehicle for a certain year. Not all individuals have the same risk profile - the younger has recently gotten his driving license, with a higher risk profile, the older has her driving licensing for more than 10 years and no accidents registered under her name. In traditional insurance, when asking for a simulation, the first individual would get a higher premium and would be discouraged to have motor vehicle insurance under his name. Because motor vehicle is mandatory in Europe, he would most likely ask the second individual for the insurance contract to be in her name, a typical fraudulent behavior, whereas in P2P insurance this problem would most likely disappear.

[32] Available at: https://www.investopedia.com/terms/p/peertopeer-p2p-insurance.asp

[33] Available at: https://www.investopedia.com/terms/p/peertopeer-p2p-insurance.asp

[34] OSTROWSKA, MARTA AND ZIEMIAK, MICHAŁ. 2020. "The concept of P2P …"

[35] OSTROWSKA, MARTA AND ZIEMIAK, MICHAŁ. 2020. "The concept of P2P …"

"redistribution of profits"[36]; "innovation", "mutual interests", "self-organizing system", "transparency", "reduced costs"[37]; "business model", "self-organizing system", "*InsurTech*", "not innovative"[38]. Some of the elements that are common to the definitions summed and organized by MARTA OSTROWSKA and MICHAL P. ZIEMIAK are key to understand and support what we've been stating so far in regard to P2P Insurance - the peers cooperate in an equal and transparent position, eliminating overall costs and sharing common risks while adopting this self-organizing system[39]. The authors also point towards the sharing economy concept[40], as P2P networks are part of this reality, operating as a third party where supply and demand meet, with significant advantages mainly related to reducing costs (both related to premiums and claims made).

P2P is mentioned as "often considered an alternative to traditional insurance"[41] which we agree with, especially when taking into consideration younger generations with a strong online presence and good knowledge of the digital as well as information on the costs they can avoid by choosing such alternatives. This can only be an alternative and not a solution generally adopted, as we may face the risk of excluding people without an online presence.

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36 The definition in question here the one given in the EIOPA report on P2P.

37 These elements correspond to the definition given by the National Association of Insurance Commissioners (NAIC) - "Peer-to-peer (P2P) insurance is a new innovation that allows insureds to pool their capital, self-organize, and self-administer their own insurance. The core idea of P2P is that a set of like-minded people with mutual interests group their insurance policies together introducing a sense of control, trust, and transparency while at the same time reducing costs". This definition was referenced two different sources - the EIOPA report on "Licensing, requirements, P2P Insurance and Principle of Proportionality in an InsurTech Context" and "The Concept of P2P…" referenced above.

38 These elements are present in the definition given by IAIS, Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes, Consultation Draft of 25 July 2018, that describes Peer-to-Peer as "a business model that allows insureds to pool their capital, self-organize and self-administer their own insurance. Although it is not an innovative concept, emerging technologies (like DLT) offer substantial benefits for implementing this model on a broader scale". This definition was referenced in the Article "The Concept…". However we understand the "not innovative" aspect in this definition we disagree with it as an element when P2P Insurance is the subject. Innovation is a major component of P2P Insurance - in fact, without innovation there wouldn't be P2P Insurance. The rational behind it, however, resembles very much the origins of insurance, as stated and quoted multiple times by REGO M.L., CARVALHO J.C. (2020).

39 Two more definitions are present in the Article "The Concept…": 1) Peer-to-peer system: [a] self-organizing system of equal, autonomous entities (peers) [which] aims for the shared usage of distributed resources in a networked environment avoiding central services. The peers in such a self-organizing architecture are also called "nodes", R. STEINMETZ, K. WEHRLE, "What is this "Peer-to-peer" about?"; 2) Peer-to-peer (P2P): communication or cooperation between two equally privileged, equipotent parties. Peer-to-peer insurance enables participants to reciprocally insure each other, where customers create their own risk tools and transfer only peak risks to an insurance company - A. BRAUN, F. SCHREIBER, "The current insurtech landscape: business models and disruptive potential".

40 Sharing economy concept

41 Article "The Concept…"

The term "peer" grew in reference to the sharing economy concept. One cannot simple proceed to define "peer" without mentioning the "P2P economy" or "Collaborative economy" being the digital element always present in such terms[42].

However, there is a certain difficulty in finding a single consensual definition for peer and its use is often imprecisely used to describe P2P models operating with an intermediary despite the parties involved not being all at the same level as the term "peer" suggests in a literal sense[43].

Peer is often referred to in comparison to another individual with similar characteristics, in a literal sense, in which case we are taking into consideration natural and not legal persons[44].

The main criteria we will take into consideration for the purposes of this study will be if one acts as a professional or non-professional[45], given the lack of contractual symmetry that exists when one acts as a professional, thus with more knowledge and information, and the other as a non-professional. Symmetry is at the core of the P2P relationship[46] meaning the players are leveled, despite being both professionals or not, which is a different paradigm than the one underlying traditional insurance as a Business to Consumer (B2C) business.

If symmetry is at the core of P2P relationships, the qualification as a peer depends on whether or not the counter-party has the same quality. If one is a non-professional, it can only be considered a peer if the counter-party is a non-professional as well[47].

42 LOUGHER, GUY AND KALMANOWICZ, SAMMY. 2016. EU Competition Law in the Sharing Economy. Journal of European Competition Law & Practice. 2, 2016, Vol. 7.
43 REGO M.L., CARVALHO J.C. (2020) Insurance in Today's Sharing Economy: New Challenges Ahead or a Return to the Origins of Insurance?. In: Marano P., Noussia K. (eds) InsurTech: A Legal and Regulatory View. AIDA Europe Research Series on Insurance Law and Regulation, vol 1. Springer, Cham.
44 REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
45 REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
46 REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
47 REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"

3.2. EXISTING P2P BUSINESS MODELS IN THE INSURANCE INDUSTRY

Peer-to-peer (P2P) models[48] can be divided in three[49] - the carrier model, the broker model, the self-governing model. The first two rely on traditional insurance players hence do not create a real P2P challenge in terms of regulation, as we have been defending. There is always a licensed player behind their activity (insurer or intermediary, in the carrier and in the broker model, respectively)[50]. In the self-governing model, the entities using it often act as service providers without an underlying licensed insurance or reinsurance undertaking therefore not falling under the existing European insurance regulation. Furthermore, many of these entities claim not even being insurance, creating an additional difficulty. Consequently, it raises different questions regarding how to identify the contracting parties if the traditional players are no longer there, if there is an actual insurance contract underlying and how can we apply the existing European framework to such entities namely for regulatory purposes as one cannot leave such entities pursuing the business of insurance and fulfilling the need for it (which they, in fact, do) unregulated.

For the purposes of this study and for the reasons above mentioned only the self-governing model will be considered here as a real P2P business model[51], capable of really disrupting the insurance scene and of a true mischaracterization. However, as MARTA OSTROWSKA, MICHAL P. ZIEMIAK point, "the same core rules" are present in the three models[52] and for that reason we will briefly describe them and how they operate in the insurance scene, for a better understanding of the regulatory analysis.

3.2.1. BROKER MODEL

We already anticipated that the only real P2P insurance business model considered as such is the self-governing model, as the name indicates. What sets it apart from the

[48] Defined by EIOPA as "risk-sharing network where a group of individuals with mutual interests or similar risk profiles pool their premiums together to insure against a risk", ex vi presentation on InsurTech given by Margarida Torres Gama.
[49]REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
[50] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"

[51] Following REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
[52] MARTA OSTROWSKA, MICHAL P. ZIEMIAK "A Concept…" page 35

broker model? The absence of a licensed insurance intermediary as well as many of the so called traditional elements, being the premium the most significant one[53].

As per stated by the Institute of International Finance, the major part of "P2P" would fall under the broker model[54] [55]. In the broker model, there's the interference of a licensed insurance company and the intermediary acts as a mere broker between the policyholders and the insurance company. What gives the impression of P2P is the fact that the policyholders put their money in a common pool, which will be used to pay should there be a claim. In the event of the pool not having enough to cover the claims, the insurance company covers the difference[56]. As a successful case of the broker model we have Friendsurance[57].

3.2.2. CARRIER MODEL

In the carrier model no intermediary exists and once again, a properly licensed insurance intermediary is one of the parties, yet it operates mostly online, being the most significant example Lemonade[58] [59] . Here, it's the insurance company itself that is involved in every aspect of the value chain, from dividing the likely minded peers into groups to claim management, once again through a common pool. Similarly to the broker model, and following the line of M.L.REGO and J.C.CARVALHO, having a licensed insurance intermediary as a party, the carrier model is not a true P2P model much like the broker model and in such terms it would fall more easily under the European framework for insurance namely IDD and Solvency II. As such, it doesn't represent a real challenge to us for the purposes of this study.

[53] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
[54] Available at: https://www.iif.com/Publications/ID/1246/Innovation-in-Insurance-How-Technology-is-Changing-the-Industry
[55] Following the same line REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …"
[56] Available at: https://www.iif.com/Publications/ID/1246/Innovation-in-Insurance-How-Technology-is-Changing-the-Industry - page 11
[57] https://www.friendsurance.com
[58] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" and LEVANTESI, SUSANNA, PISCOPO GABRIELLA, "Mutual peer-to-peer insurance: The allocation of risk" in Journal of Co-operative Organization and Management, Volume 10, Issue 1, 2022, available at (https://www.sciencedirect.com/science/article/pii/S2213297X21000264)
[59] https://www.lemonade.com/fr/en

3.2.3. SELF-GOVERNING MODEL

From the previously identified P2P business models, the self-governing model is considered to be the only real P2P model and that makes it the interesting and challenging one. When we can't identify the traditional elements and the only thing that exists is a platform providing mere technical solutions for insurance is when the regulatory trouble arises namely in terms of licensing. Without and underlying insurance or reinsurance intermediary both Solvency II and IDD won't be easily applicable and we can't certainly have such realities operating with insurance yet remaining unregulated. By creating a solution for the peers in need of such services, the platform is providing an insurance-like solution that other way wouldn't exist and fulfilling the need for insurance, even thought the peers may be responsible for managing most of the relevant aspects during the entire process. Additionally, working with large amounts of data and innovative technology such as AI, the self-governing P2P model represents an additional challenge in terms of data protection potentially leading to discriminatory practices and hidden bias. The solution for whether or not a certain P2P business model should fall under the scope of insurance regulation and payments services or not, for MARANO and SIRI[60], should be evaluated case by case and the principle of technological neutrality is essential in this context, to determine whether or not certain dispositions need to be adapted. We believe several key dispositions will need to be adapted both in IDD and in Solvency II, despite some of their enlarged concepts such as insurance distribution and the lack of a definition for an insurance contract, which works positively towards regulating self-governing entities.

3.3. ADVANTAGES OF P2P MODELS IN THE INSURANCE BUSINESS

InsurTechs bring several benefits to customers and the financial system could benefit a great deal from their existence, especially with P2P insurance. P2P models enhance transparency, promote competition and allow the peers to pay less for services given that several tasks are performed by the peer himself through the use of a cell phone, for instances. While this benefits mostly younger generations it also creates the risk of exclusion for older generations and people who don't have an online presence either because they don't have the means or because they are simply not interested in using technology due to

[60] MARANO, PIERPAOLO and SIRI, MICHELE. 2021. "Regulating …"

trust motives. This risk of exclusion could lead us to discriminatory practices and ultimately could endanger the right to an insurance. P2P insurance cannot be the only solution precisely for these reasons.

The possibility of a highly customized consumer experience is also a plus and can put an ending to one of the major problems insurance faces - misselling[61] [62]. By understanding which products are fit for a specific client through the use of large data sets with accurate data, the result should be tailor made. IDD contains mechanisms to prevent misselling, namely product oversight and governance requirements. Being applicable to every distribution channel, contains sanctions on articles 31 to 36 and demands further developments on national laws (article 38 of IDD). It also contains information requirements and duties (together with article 2:201 from PEICL). With *InsurTechs*, misselling can be avoided, given that tailor made products that are suggested based on the client profile (and should take into consideration its risk aversion amongst other aspects) will grant both a more personalized experience and a product fit to purpose. But on another hand, the data used to do so can be a problem - algorithms can be biased and lead to discriminatory practices and unfair results. With P2P models, namely with the self-governing model, there is a great deal of independence of peers but there's still a chance of biased results.

Additionally, prevention of fraudulent behavior and diminishing the number of claims annually made, given the incentive to behave in good faith and the solidarity underlying P2P insurance. This is the opposite of what happens in traditional insurance contracts, where individuals often lie throughout the process of contracting insurance (with the goal of paying less and having the maximum coverage possible) and in the claims management phase (trying to obtain a higher payment for less damages)[63]. But the answers change when we're taking into consideration a poll created by individuals who don't know each other and are simply put together through the use of technology, for instances - the lack of trust can push them further away from this P2P model, despite common interests.

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[61] According to Professor Margarida Lima Rego, misselling is "the willful or negligent sale of unsuitable products" (in Product Oversight and Customer demands and needs: contract law implications, *Insurance law and practice - Challenges, New Technologies and Corporate Governance,* 2018).

[62] Articles 20 and 25 from IDD.

[63] As an example, motor vehicle insurance, when someone claims for instances a problem with a glass but because the car was in need of a paint they also try to get that into the claim - moreover, some insurance intermediaries actually help with this.

Furthermore, insured individuals using P2P methods don't have to worry much about claims denied nor understanding the standard clauses of their insurance contracts. Often, they are the ones setting their own terms and conditions.

If at the current stage of *InsurTech* development its applications may not seem relevant or even substantial, the next years will most certainly prove this wrong as a result of the generation renewal. Younger consumers don't value proximity with a broker and rather avoid overall costs than paying for a service they barely use. If there's a chance they can create their own poll and having a highly personalized experience with insurance 24h per day they will surely take it.

3.4. CHALLENGES OF P2P MODELS IN THE INSURANCE BUSINESS

Some of the risks concerning *InsurTechs* are common to P2P insurance, as the latter is a specific area within the first. They concern fair pricing, the right to privacy and personal data, non-discrimination, self-determination, exclusion and security.[64]

One of the first and most relevant challenges is that P2P models can potentially exclude people without an online presence as they operate exclusively online either via a mobile application or a website. These new models, in fact, tend to be chosen by a segment of younger people who can solve basic IT issues and rather have their costs at minimum and their time maximized.

The main challenge we identify regarding real P2P business models is the attempt to fall outside the scope of insurance regulation and supervision for licensing purposes under both IDD and Solvency II. We are, in fact, in the presence of a model that fulfils the need for insurance and yet the elements we traditionally considered essential are no longer present, which is the case of the premium. Despite not having premium, we can have some sort of compensation, fee or other amount charged at some point.

Given they operate with large data sets, it is impossible not to mention data protection challenges. Our focus was specifically on discriminatory practices and hidden bias, potentialized by AI. The challenges P2P represents in terms of consumer protection regarding discrimination and bias are specially important in the phase of product design, mostly when there's little interaction with the peers. Such negative outcomes may eliminate

[64] Some of them pointed here: CHATZARA V. (2020) "FinTech, InsurTech, and the Regulators". In: Marano P., Noussia K. (eds) InsurTech: A Legal and Regulatory View. AIDA Europe Research Series on Insurance Law and Regulation, vol 1. Springer, Cham

the advantages we pointed such as mitigation of misselling and possibility of a product tailor made for the peers' needs.

4. SELF-GOVERNING MODEL AS THE ONLY REAL P2P MODEL

The self-governing model lets go of every element we thought to be essential in a traditional insurance contract or better yet transforms it in a sense that it may seem like it is no longer there and has been replaced for something else. For instance, the *policyholder* would be replaced by the *peer*.

It is considered the only real P2P insurance business model[65] precisely because it is no longer possible to identify these elements and, most importantly in our opinion, because there is no underlying licensed insurance or reinsurance undertaking. The risk seems to be carried by the peers themselves and the premium[66], corresponding to the amount paid by the policyholder in exchange for covering the risk, has been replaced by a certain amount the peers choose to place in a pool with the possibility of being recovered should the risk not materialize or even being donated to a designated charity by the end of the established period. In the self-governing model, a mere technical service using highly disruptive technology[67] seems to be provided to the peers, who are in charge of managing everything else based on the rules they previously set - instead of a contract with a wide range of complex clauses. However, there are different levels of interaction that can lead us towards justifying more easily that self-governing entities should be subjected to both IDD and Solvency II. The degree of interaction can go from the entity being a mere service provider[68] of a platform used by the peers to an entity that has a significant impact throughout the process of insuring, creating an expectation on the peers, either managing claims or even grouping the peers according to the available data and pricing the risk accordingly.

The first question we raise regarding the self-governing model is related to which characteristics it has that sets it further apart from the carrier and the broker models. Which differences make it the "problematic" model for P2P Insurance? To provide the proper

[65] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" - page 35

[66] To make things even harder, there's the possibility of using virtual assets to pay meaning there's a chance that no actual money exists in the pool and certainly no premiums are paid to the self-governing entity. The most relevant aspect that sets this apart from traditional insurance is, of course, the lack of trust when it comes to the use of virtual assets and the uncertainty it generates.

[67] EIOPA report on P2P Insurance – page 26

[68] Which seems to be the case of Teambrella, analyzed in the case studies´ chapter.

answers to this first question, we will proceed to analyze the elements of a traditional insurance contract under the current European regulatory framework, given our approach.

The main conclusion concerning this question is that even if some essential elements are no longer present to qualify such contracts as insurance ones (and they are not), it cannot mean we are not in the presence of insurance as the need for insurance is indeed being fulfilled. And if such need for insurance is being fulfilled, there is the correspondent need to regulate and supervise in order to protect the peers and ensure market stability. This conclusion brings us to the next, and most relevant question, about the self-governing model, related to regulation. If self-governing entities fulfill the need for insurance, they should comply with the mandatory requirements IDD and Solvency II establish for licensing purposes, yet this does not seem a possibility for now.

Given self-governing entities are data driven, and taking in special consideration the use of AI, there's a higher risk of discriminatory practices and hidden bias potentially harmful, especially for peers. The GDPR, as a cross-sectoral framework, and both IDD and Solvency II are applicable to AI´s use, and despite the difficulties of their application to such new realities can grant effective protection to the data subjects. These questions are intimately related, as one of the major concerns when data driven technology is involved is which regulator is the responsible entity, to what extend and based on which criteria[69].

4.1. DEFINITIONS AND ELEMENTS

As an introductory note, it is important to state that no legal definition of insurance exists nor of insurance contract and yet a definition would guide us towards accepting or not the self-governing model for the purposes of this study, namely due to the regulatory questions raised[70].

However, the lack of legally binding definitions is part of the solution as it gives the possibility of adjusting the concepts to new realities making it harder to fall outside the scope of the existing legislation and preventing technological advances from requiring constant updates and new sets of rules. Therefore, the reports and best practices are fundamental guides for these matters.

[69] On its P2P Report, EIOPA raises the question on whether regulation and supervision should be activity-based or not - "same activity, same rules". Even with licensing issues, there's some gray area and the possibility of another authority other than EIOPA be the competent for such matters.
[70] MERKIN, Rob/ STEELE, Jenny: Insurance and the law of obligations, Oxford University Press, Oxford 2013, page 39

Insurance has core elements which indicate what is insurance and what isn´t [71] and several judicial definitions can be pointed for that matter [72]. An important note is that IDD does not provide a definition of insurance or insurance contract, nor it points us towards a concept. Instead, it focusses on insurance distribution[73] to ensure protection is granted no matter the channel used. Similarly, Solvency II doesn´t define insurance. Even though ours is a regulatory approach, we considered important to mention the defintion of insurance contract under the Principles of European Insurance Contract Law[74] *"under which one party, the insurer, promises another party, the policyholder, cover against a specified risk in exchange for a premium"* (Article 1:201 of the PEICL).

Looking at the self-governing model, no such parties are involved, at least not with their traditional meaning. There's a service provider, the self-governing entity, that provides the application ("app")/platform for the peers to use; there's no actual policyholder but instead peers; and there's no premium in its traditional form. Despite the lack of a consensual definition of insurance, certain elements are known to be the core of insurance and even in the PEICL´s dispositions they are present - it is the case of the premium. The premium, as a pecuniary payment, is commonly known as *the* essential element by definition of an insurance contract as pointed by M.L.REGO and J.C.CARVALHO[75]. The authors highlight precisely the absence of premiums in the contracts made under the self-governing model, taking by example the case of Teambrella[76] whose users have virtual currency in their wallets. However, we believe certain entities using the self-governing model may have similar figures to premium even though they don´t expressly call it premium and are not even allowed to charge premiums, which is the case of P2P Protect - TongJuBao.

4.2. SPECIFIC CHALLENGES OF THE SELF-GOVERNING MODEL

The significant differences between traditional insurance and the new P2P models raise major challenges in terms of regulation and supervision. Both the supervisors and

[71] MERKIN, Rob/ STEELE, Jenny: Insurance and the law of obligations, Oxford University Press, Oxford 2013 - page 5
[72] MERKIN, Rob/ STEELE, Jenny: Insurance and the law of obligations, Oxford University Press, Oxford 2013 - page 47
[73] Article 2(1)(1) of IDD.
[74] Considering the lack of definitions, we found the PEICL useful and cannot deny its importance namely to confront the existing definitions with the new realities we are analyzing. However, we understand they would be truly useful for a contractual perspective instead of a regulatory one.

[75] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" page 41.
[76] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" page 41.

regulators face a major challenge - to understand the new models themselves, which are of highly complexity. Only after fully understanding what they are exactly dealing with can they address the issues the new models bring appropriately and effectively.

The OECD mentions the *"currently applicable provisions on prudential capital and/or fit and proper requirements may be the cause that most InsurTech providers do not obtain insurance and/or insurance mediation licenses"*. Despite such provisions being of extreme relevance for financial stability they are also obstacles for the new players to enter the market. The national regulatory authorities have several approaches from the so called sandboxes to "enactment of new regulation" with a clear focus on data protection[77].

For licensing purposes, what sets the self-governing model further apart from the carrier and the broker models is the autonomy of the non-licensed entity providing the platform. Given it acts often as a pure technical service provider, providing the platform for the peers to pool their money[78], there is no insurance undertaking behind such business model with the proper license to operate, differently from what happens with the other two "P2P" insurance business models. To pursue the business of insurance a license is required and not having one means to escape the complex yet needed regulatory framework applicable to the insurance sector, which is a risk both for market stability and the peers themselves. Examples show us that this is something already being done[79] by some InsurTechs using the self-governing model. As EIOPA points out, such entities that allegedly only provide the platform for the peers to use freely believe the peers themselves carry the risk through when they put their "premiums" on the money pool[80]. Furthermore, the exclusive use of disruptive technology raises data protection concerns that may complementary fill in the gaps that one cannot tackle through insurance regulation.

4.2.1. APPLYING THE EXISTING FRAMEWORK AND OBTAINING A LICENSE

Insurance is a highly regulated market with very strict rules, namely in terms of regulation, for good reasons.

[77] CHATZARA, V. 2020. "FinTech, InsurTech, ..."
[78] EIOPA report on P2P Insurance – page 26
[79] REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" with the Teambrella example.
[80] EIOPA report on P2P Insurance – page 26

In order to sell insurance, the entities who wish to do so must have a license to operate[81], contributing both to consumer protection, market stability and efficiency as well as the stability of the financial system as a whole[82]. Given these specific bureaucratic requirements, which can be incompatible to some extend to the rationale behind *InsurTech*[83], many of them didn't even try to apply for a license simply because they didn't feel the need to do so - most work together with insurance companies who, of course, have the proper authorization under the existing framework, for instances when the funds in the pool are not enough to cover the claims. This can bring us to another issue related to the availability of the funds should the risk materialize and certain claims being fully paid for while others don´t. [84] These *InsurTechs*, however, have not adopted the self-governing model thus do not represent a real challenge for us. Many self-governing entities claim not selling insurance and as such, giving the way they conduct their business, operate under the Service Payments´ Directive[85]. This is not ideal, given these entities are, as we have been saying, fulfilling the need for insurance and must, for such reason, be licensed to do so under the existing framework.

The directives that regulate in specific these authorizations and establish the requirements are Directive 2009/138/EC of the European Parliament and of the Council of 25 November (commonly known as "Solvency II" and hereinafter referred to as such) and Directive 2016/97 of the European Parliament and of the Council of 20 January 2016 (commonly known as "IDD" and hereinafter referred to as such). We won't find in any of these directives a specific disposition regarding P2P insurance, as previously mentioned. There are a lot of relevant concepts without a proper definition such as P2P insurance itself, but has we have been defending we don't consider the lack of definitions a bad thing for

[81] Given the regulatory approach here and the analysis of both Solvency II and IDD, all licensing issues will be analyzed taking in consideration these directives and only them. No specific criteria from any member state will be discussed, given the need to find common ground within the European law and the possibility each Member State has to develop their own criteria regarding licensing.
[82] EIOPA Report on P2P - page 13
[83] The idea that technology comes to make everything easier, faster and better in a sense that many of the formal barriers no longer exist. If we consider, for instances, the possibility of filling a claim 24h a day without the intervention of an individual that is subjected to a labor schedule and whose availability is limited, we can see how the main goal to make life easier can be accomplished.
[84] EIOPA points an "inequality" issue between the claims made throughout the year (typically the settled duration in these cases).
[85] DIRECTIVE (EU) 2015/2366 of the European parliament and of the council of 25 November 2015 on payment services in the internal market

the purposes of regulating the self-governing entities or anything that includes technology for that matter, quite the opposite.

The main question we raise regarding licensing is whether or not we can apply both IDD and Solvency II to entities using the self-governing P2P insurance business model. This question is specifically relevant for such entities given they operate without an insurance or reinsurance intermediate specifically licensed to conduct the business of insurance leaving them potentially unregulated under the current insurance framework.[86] We believe the solution should be given case by case, given the high complexity and almost uniqueness of each entity and considering the level of autonomy each has as well as the technology used to operate. The most important step to understand the business of the self-governing entities itself and to what extend the entities participate in the final result - are they merely providing a platform or do they interfere in other parts of the process receiving some sort of payment in return? However, every single case regarding this model won't fall easily under the scope of both IDD and Solvency II and our answers points towards, in general, not being able to fit self-governing entities under both directives.
Nonetheless, we must refer that the avoidance of strict legally binding definitions in the future is important in order to prevent new entities and further technological advances from falling even more outside the scope of the existing regulation.

The significant differences between traditional insurance and the new P2P models raise major challenges in terms of regulation and supervision.
Both the supervisors and regulators face a major challenge - to understand the new models themselves, which are of highly complexity. Only after fully understanding what they are dealing with can they address the issues the new models bring appropriately and effectively.

4.2.1.1. IDD[87]

Directive (EU) 2016/97 of the European Parliament and of the Council of 20 January 2016 on Insurance Distribution ("IDD" hereinafter) replaced its ancestor, the Insurance Mediation Directive 2002/92/EC back in 2018 introducing real changes.

[86] InsurTechs acting through insurance or reinsurance intermediaries do not raise any questions as these last ones will typically be subjected to regulation either under IDD, Solvency II or domestic regulation (for the cases in which they do not have the EU passport).
[87] Available at: https://www.eiopa.europa.eu/insurance-distribution-directive_en

We started by analyzing key dispositions that would lead us to a clue on whether or not self-governing entities could fall under IDD´s scope, to conclude that there is a significant number of articles containing obstacles and other dispositions that could be modified in a future revisit to IDD to accommodate all types of self-governing entities, considering each can have a different level of participation in the process. Overall, we don´t think at this point self-governing entities can fall under IDD´s scope.

The spirit underlying IDD itself, namely the urge to protect policyholders throughout the process of insurance distribution leveling the playing field between distributers, has us saying such entities cannot be left unregulated for insurance purposes, as they clearly fulfil the need for insurance, despite always considering the insurance distributer as a professional, quite the opposite of P2P.

IDD is a minimum harmonization directive as per stated in Recital 3[88], allowing MS and the supervisory authorities to take further steps into protecting policyholders and making sure the adequate provisions are applied. This is an important note when addressing entities that use the self-governing model and can be used, in our opinion, as an argument pro to applying IDD in the future to these new entities, relying on MS to adopt additional measures that take into consideration the specifics of each concrete model. Being a "minimum harmonization directive"[89], IDD allows Member States to adopt additional provisions in order to effectively protect customers namely concerning authorizations and also take measures to regulate certain activities that don´t fall under its scope and are not considered insurance[90]. This leaves room to accommodate entities using the self-governing model, at least for Member States in their domestic framework. However, it is not desirable in our opinion, as differences between domestic framework would lead to unequal treatment.

As per stated in its article 1(1), it *"lays down the rules concerning the taking-up and pursuit of the activities of insurance and reinsurance distribution in the Union",* being applicable to "*any natural or legal person who is established in a Member State or who wishes to be established there in order to take up and pursue the distribution of insurance and reinsurance products" (*Article 1 (2)). This is an

[88] Recital 3 of IDD states that "… this Directive is aimed at minimum harmonization and should therefore not preclude Member States from maintaining or introducing more stringent provisions in order to protect customers, provided that such provisions are consistent with Union law, including this Directive".
[89] EIOPA report on P2P Insurance – page 14
[90] EIOPA report on P2P Insurance – page 14

important note for us, as its application to both legal or natural persons can be of extreme relevance for self-governing entities, typically startups. Combining this provision with recital 3[91], agents that distribute insurance to third parties are also covered under IDD, another important note that guides us towards accepting more easily self-governing entities under IDD´s scope, despite the difficulties to consider them as agents. Furthermore, and in an identical way, recital 12[92] includes a wide variety of persons that operate online providing information essential for the customer to decide whether or not to contract given a certain criteria that can be personalized by the customer and terminating with the actual celebration of an insurance contract, either directly or not.

Recitals 16[93] and 17[94] reinsure the need for the same protection level and the possibility to establish comparisons enhancing competition. MS however, should take the differences between distribution channels and their characteristics into consideration when applying IDD in order to have a proportional and adequate application of such dispositions. Recital 17 even provides an example for insurance intermediates exclusively attached to *"one or more insurance undertakings"*. This shows the attempt to level the playing field amongst distributers and as far as we can tell, self-governing entities couldn't be left outside.

Given we won't have an actual insurance contract celebrated, at least most of the times, referring these recitals must seem contradictory or even unnecessary. But they point us towards the spirit of IDD and the underlying concept of insurance it has, given the

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[91] Recital 3 states that "This Directive should apply to persons whose activity consists of providing insurance or reinsurance distribution services to third parties."

[92] Recital 12 states that "This Directive should apply to persons whose activity consists of the provision of information on one or more contracts of insurance in response to criteria selected by the customer, whether via a website or other media, or the provision of a ranking of insurance products or a discount on the price of an insurance contract when the customer is able to directly or indirectly conclude an insurance contract at the end of the process. This Directive should not apply to websites managed by public authorities or consumers 'associations which do not aim to conclude any contract but merely compare insurance products available on the market."

[93] Recital 16 states that "This Directive should ensure that the same level of consumer protection applies and that all consumers can benefit from comparable standards. This Directive should promote a level playing field and competition on equal terms between intermediaries, whether or not they are tied to an insurance undertaking. There is a benefit to consumers if insurance products are distributed through different channels and through intermediaries with different forms of cooperation with insurance undertakings, provided that they are required to apply similar rules on consumer protection. Such concerns should be taken into account by the Member States in the implementation of this Directive."

[94] Recital 17 states that "This Directive should take into account the differences in the types of distribution channel. It should, for example, take into account the characteristics of insurance intermediaries who are under a contractual obligation to conduct insurance distribution business exclusively with one or more insurance undertakings (tied insurance intermediaries) which exist in certain Member States 'markets, and should establish appropriate and proportionate conditions applicable to the different types of distribution. In particular, Member States should be able to stipulate that the insurance or reinsurance distributor which is responsible for the activity of an insurance, reinsurance or ancillary insurance intermediary is to ensure that such intermediary meets the conditions for registration and is to register that intermediary."

absence of an actual definition of insurance[95]. If one reflects on the needs self-governing entities are fulfilling one must reconsider their importance and see how they can point us towards a potential future solution.

Despite not having a definition of an insurance contract, IDD clearly defines insurance distribution in article 2 (1) (1) as *"the activities of advising on, proposing, or carrying out other work preparatory to the conclusion of contracts of insurance, of concluding such contracts, or of assisting in the administration and performance of such contracts, in particular in the event of a claim, including the provision of information concerning one or more insurance contracts in accordance with criteria selected by customers through a website or other media and the compilation of an insurance product ranking list, including price and product comparison, or a discount on the price of an insurance contract, when the customer is able to directly or indirectly conclude an insurance contract using a website or other media;"*. P2P self-governing entities can have different contributions to the celebration of a contract, depending on the specifics of the model. At some point, information at least will be provided to the peers. Additionally, a risk profile will be given to the peer and a price will be named. None of this would be possible without the intervention of the self-governing entity, even when it claims only providing a mere platform. Self-governing entities are indeed providing at least preparatory work, yet we can't deny that some may play a bigger role than others[96]. Ultimately, and when the self-governing entities merely provide a platform, we could argue if the peers themselves wouldn't need licenses to operate[97] and if so, these platforms would most certainly not be used by the regular peers but instead by groups of professionals - who, being professionals on both sides, could still be considered peers, as they are leveled[98]. In every case, the general idea of solidarity underlying self-governing entities is incompatible with their use for professionals. The main idea is precisely to pursue fairness, end conflicts of interests and avoid profiting when the risk doesn't materialize hence no loss is registered.

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[95] We believe this to be a good thing as it leaves us some margin to consider other types of contracts that won't be typical insurance contracts yet fulfill the need for insurance.

[96] As we can see through the differences between the case studies including Teambrella and TongJuBao.

[97] As pointed on EIOPA´s report on P2P "as all members of the group are at the same time insured persons and "insurers", they all need licenses to operate" - page 28. However, this doesn't seem reasonable to us, quite the contrary - it seems excessively bureaucratic for both supervisory authorities and MS. Additionally, it would be a maintenance of the B2C tendency in insurance, as in order to obtain a license most of the agents would have to either be professionals of the insurance area or have an extensive knowledge, at least.

[98] Following the understanding of REGO M.L., CARVALHO J.C. (2020) "Insurance in Today's …" - "both a professional and a non-professional can be qualified as peers; it will depend on the qualification of the counterparty", page 29

Recital 28 demands a certain level of professionalism which we believe to be one of the biggest obstacles to making self-governing entities falling under IDD´s scope. Many of them are precisely trying to escape this reality and have zero interest in following insurance's strict rules[99]. In a highly regulated market such as insurance, self-governing entities can end up jeopardizing and endangering market stability as well as customer protection by leaving every aspect throughout the process to non-professionals, from claims management to risk profiles, and creating the conflicts of interest they wish to end amongst the peers.

Another barrier we identify to IDD´s application to self-governing entities is the exclusion from its scope of application of ancillary insurance[100]. The ancillary insurance intermediaries excluded in fact are the ones who meet every condition identified in article 1(3). Ancillary insurance intermediaries are defined under IDD on article 2/1/(4)[101] and represent an additional concern regarding the self-governing model as some entities could just fit into such classification[102]. The European Commission defines them as businesses that sell insurance as an "add-on to products and services proposed by them"[103] giving travel agencies as an example. As pointed by MARANO, IDD spared ancillary insurance intermediaries from the dispositions applicable to insurance intermediaries considering it was disproportionate and the main goal of consumer protection wasn't at stake[104]. For the author, the scenario changed with the technological developments that enhanced the possible applications of their business and so this wasn't taken into consideration for the purposes of the exemption and the solution would be to "reconsider" its existence when IDD should be revisited.[105] Following this understanding, we have the example of

[99] Which seems to be the case of Teambrella, given their statements.
[100] Defined by IDD on article 2 (4) and excluded from its scope on article 1(3).
[101] "Ancillary insurance intermediary" means any natural or legal person, other than a credit institution or an investment firm as defined in points (1) and (2) of Article 4(1) of Regulation (EU) No 575/2013 of the European Parliament and of the Council who, for remuneration, takes up or pursues the activity of insurance distribution on an ancillary basis, provided that all the following conditions are met: (a) the principal professional activity of that natural or legal person is other than insurance distribution; (b) the natural or legal person only distributes certain insurance products that are complementary to a good or service; (c) the insurance products concerned do not cover life assurance or liability risks, unless that cover complements the goods or service which the intermediary provides as its principal professional activity." – for the purposes of IDD.
[102] Which seems to be the case of P2P Protect - TongJuBao.
[103] Available at: https://ec.europa.eu/info/business-economy-euro/banking-and-finance/insurance-and-pensions/insurance-distribution_en
[104] MARANO,PIERPAOLO.2021. Management of Distribution Risks and Digital Transformation of Insurance Distribution—A Regulatory Gap in the IDD. *Risks* 9: 143. Available at: https://doi.org/10.3390/ risks9080143, page 2
[105] MARANO,PIERPAOLO.2021. "Management of Distribution …"

TongJuBao, which fits into this category and yet the main goal is to provide insurance products. This will be discussed in the case studies´ section.

Recital 5[106] points the many types of agents and distributers IDD applies to. It is clear the need to include as many agents involved in insurance distribution as possible within the spirit of IDD to protect consumers and to grant equality of treatment between operators. Should entities using the self-governing model fall outside the scope of IDD and maximize potential risks as well as creating inequality between operators when they pursue and provide, in fact, products that fulfil the need of insurance? We don't believe so. It is IDD´s goal to include all these entities within its scope yet it is difficult to predict technological developments of such magnitude. We don't believe we can read it in a non-exhaustive way. To reinforce this idea, recital 6[107] requires all consumers to have the same protection level no matter the distribution channel used and recital 8[108], in a similar way, explicitly enhances the need for all consumers to have access to the same protection level no matter what channel was used including ancillary insurance.

The concept of remuneration[109], is one of the concepts that we believe to be broad enough to include as many types of pecuniary transactions as possible, allowing eventual fees or commissions some of these entities may charge to their users/peers.

It is given great importance to certain requirements related to the essential knowledge of the legal entities who wish to conduct the business of insurance, chapter IV with organizational requirements. Naturally, this is not compatible to the "easy going" spirit of some businesses that operate solely based on technology and sell a product without the proper knowledge, training or structure to do so, article 10 (1). Additionally, if most of the

[106] Recital 5 states that "Various types of persons or institutions, such as agents, brokers and 'bancassurance ' operators, insurance undertakings, travel agents and car rental companies can distribute insurance products. Equality of treatment between operators and customer protection requires that all those persons or institutions be covered by this Directive."

[107] Recital 6 states that "Consumers should benefit from the same level of protection despite the differences between distribution channels. In order to guarantee that the same level of protection applies and that the consumer can benefit from comparable standards, in particular in the area of the disclosure of information, a level playing field between distributors is essential."

[108] Recital 8 states that "In order to guarantee that the same level of protection applies regardless of the channel through which customers buy an insurance product, either directly from an insurance undertaking or indirectly from an intermediary, the scope of this Directive needs to cover not only insurance undertakings or intermediaries, but also other market participants who sell insurance products on an ancillary basis, such as travel agents and car rental companies, unless they meet the conditions for exemption."

[109] Article 2 (9) of IDD stating that "'remuneration 'means any commission, fee, charge or other payment, including an economic benefit of any kind or any other financial or non-financial advantage or incentive offered or given in respect of insurance distribution activities;"

process is conducted by the peers themselves, the vast majority won't fulfill the requirements IDD contains namely in terms of knowledge (see Annex I of IDD ex vi article 10(2)). This situation is incompatible with the spirit of P2P insurance, as we have been stating. If any doubts still existed, Article 16 restricts the intermediaries limiting them to registered ones for distribution purposes.

Certain dispositions are easier to adapt as they don't really raise that much concerns in terms of substance. This is the case of Article 23 of IDD, containing the "default paper requirement", granting that detailed information must be provided to the policyholders on paper. As EIOPA states on its report *"Article 23 of the IDD and Article 14 of the PRIIPS regulation establish the requirement to provide information to the customer on paper or, if the consumer agrees, in a durable medium other than paper or by means of a website"*[110].

To conclude, we can find a set of dispositions that seem to indicate a possibility of applying, in the future, IDD to self-governing entities and more importantly the need to include entities pursuing the business of insurance. The recitals we analyzed contribute a great deal to this conclusion - it is absolutely essential to protect consumers at all times throughout the process of insurance distribution and contribute to market stability, competition, no matter the channel used to do so. It would be problematic and somehow contradictory to exclude such entities from one of the most relevant pieces of European legislation leaving them potentially unregulated. The efforts EIOPA has understanding the complexity of P2P insurance would be in vain if self-governing entities would fall completely outside the scope of such directives from now on leaving them unregulated for the purposes of insurance.

The key here seems to be avoiding focusing on the existence of an insurance contract (as IDD doesn't even define it) but instead create an even broader concept of insurance distribution, include certain activities these so-called service providers have in its scope and consider the paradigm of the insurer distributer as a professional entity able to comply with very strict requirements namely capital related ones. Similarly, to EIOPA´s answer, we believe the answer is hidden on each specific self-governing entity and its performance throughout the process - does it actively participate providing information and managing claims, contributing for the celebration of a contract, for example, or is it a mere service

[110] EIOPA report on P2P Insurance

provider that sets a platform for the peers to use and nothing else? The differences may justify the application of the Service Payments´ Directive as mentioned above but this cannot be a final solution when we have entities that clearly sell insurance. As we will see later with the study cases, two different entities using the self-governing model can have different participations in the process.

EIOPA even seems to incentive MS to create additional measures to effectively protect policyholders, keeping in mind IDD is a minimum harmonization directive[111]. Yet we believe solution should be at a European level and not discretionary between each MS - the key in the sharing economy era is always harmonization between all MS and revisiting IDD in the future to include self-governing entities should be a priority.

It is important to state that IDD wasn't build taking into consideration the technological developments we are addressing specifically hence not regulating them expressly[112] and representing a potential issue to its application to these new technologies. However, it represents a real development towards acknowledging new realities such as AI and changes towards a mitigation of the three financial markets branches as we once knew them through regulation.

The concept of insurance distribution is rather enlarged in IDD (Article 2 (1) (1)), as well as its scope of application on article 1(2), meaning a wide range of entities can fall under the scope of this directive, possibly including new players. But this is a mere possibility for now as IDD and its strict requirements are not fit to support real P2P insurance such as self-governing entities, who do not possess the knowledge nor the structure to distribute insurance in a professional way and who would fail to fulfill the organisational requirements (articles 10 and following) and governance requirements (article 25). The rational behind real P2P is contrary to B2B and, most importantly, B2C. The strict professional requirements IDD establishes require a high knowledge of the business of insurance[113] that most of the self-governing entities wouldn't fulfill simply due to their P2P nature.

[111] EIOPA report on P2P Insurance

[112] MARANO,PIERPAOLO.2021. "Management of Distribution …"
[113] See Annex I ex vi article 10(2) of IDD

The use of the principle of proportionality, has EIOPA has been suggesting, can be of much help to prevent big regulatory changes in the current framework and adapt the existing framework hence not complying is not an option[114]. In that way, recital 72 of IDD.

4.2.1.2. SOLVENCY II

Similarly to what we witnessed with IDD, Solvency II also has several dispositions containing obstacles rather hard to overcome when it comes to self-governing entities. And much like what we concluded with IDD, we don´t believe self-governing entities can be licensed under Solvency II ´s regime.

Solvency II is essentially a prudential supervisory framework with a risk-based approach and contains three major pillars, harmonizing the matters covered by Solvency I, which was a set of 14 different directives[115]. Some of the critics pointed to Solvency I were related to its simplicity namely it not being risk-sensitive and not covering properly "market, credit and operational risks"[116] with severe consequences to both shareholders, supervisory authorities and insurers themselves. After the 2008 crisis, compliance with an adequate piece of framework for insurers was absolutely mandatory much like Basel for the banking sector[117] and so Solvency II was the presented solution.

The three pillars in which Solvency II was build upon are related to quantitative capital requirements (Pillar 1); risk management and governance requirements (Pillar 2) and public disclosure, reports to the competent supervisory authorities and transparency in an attempt to promote competition (Pillar 3)118. In every pillar we find obstacles to self-governing entities.

The first and main issues regarding Solvency II´s application appear on the first dispositions related to its scope of application.

Article 4 contains exclusions based on the size of the undertakings. When we take into consideration some of early examples of P2P insurance we may argue that size wouldn't be a concern, at least for now, given the composition of the pools created and the fact that many of them operate for small losses (mostly with peers that actually know each other due to the personal bonds they have, providing a deeper understanding of each risk

[114] EIOPA report on P2P Insurance
[115] https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120
[116] Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120
[117] Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120
[118] Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120

profile that contributes for the money pool and diminishing the moral hazard)[119]. If, in the future, most of the entities using the self-governing model, would work in similar terms then Article 4´s size exclusions would most likely not be an issue. A closer analysis on article 4 will also show that all the criteria established must be fulfilled for the insurance undertaking to be, in fact, excluded from the scope of Solvency II. The criteria sets high quantitative limitations and even thought *InsurTech* is a growing business worth billions, some of the positive aspects of using this type of social insurance will make it harder, in our opinion, for the limits to be exceeded in many cases namely in life insurance. It is the possibility that the peers have of additional information that justifies that size limit won't be a problem for the many cases. However, this is not linear as we have been defending, there are different types of self-governing entities and each has a different level of participation. If we think about the peers being simply grouped according to their preferences and needs, exclusions due to size would be a problem. As a conclusion, we can even question if the entities using the self-governing model actually represent a real alternative to the way insurance has always been conducted or not. In some cases, we don´t believe it can be considered an alternative at the risk of excluding certain categories of people.

Regarding exclusions due to size, it is important to state that undertakings excluded of Solvency II´s regime under this article may still require authorization to benefit from the single license regime[120].

Entities excluded from the scope of Solvency II *ex vi* one of these articles can still, in some cases, provide insurance services[121] leaving the directive here the possibility for other entities do to the same and for the Member States to establish specific rules regarding P2P insurance[122]. The problem with these entities that, even though may fall outside of the scope of Solvency II, can still obtain a license is the lack of harmonization it leads to. They will be subjected to national supervision leaving a wide margin for Member States to operate and even choose which regulation to apply - Solvency I, Solvency II, both of them or even develop their own framework [123]. The difference, however, is the absence of the

[119] EIOPA even mentions on its P2P report that the pools created can even have "natural limits on their size and ability to displace traditional insurance".
[120] EIOPA report on P2P Insurance - page 13
[121] EIOPA report on P2P Insurance - page 28 - they won't be regulated under Solvency II.
[122] EIOPA report on P2P Insurance - page 28. In such case, the entities won't be "subject to EU passport".
[123] EIOPA report on P2P Insurance - page 13

EU passport for these entities which allows them to fully operate and pursue their insurance business in any other EU Member State without any need to be granted an additional license. This cross border effect that the licensing provided under Solvency II allows is a major advantage specially for technology driven undertakings however, as pointed by EIOPA, there's a chance these national developments for those who cannot obtain a license under Solvency II may represent a possibility for *InsurTechs*, as specific conditions will be taken into consideration namely market conditions[124]. Either way, our conclusion is towards the benefits of obtaining a license under the Solvency II regulatory framework for harmonization and practical purposes, benefiting both the consumers and the self-governing entities applying.

For the purposes of the self-governing model, the exclusions operated by article 5 are very relevant. These are exclusions related to non-life insurance, being number (3) specially important [125]. Given we are in the presence of entities that most of the times don't operate with premiums, don't make any sort of payments and even use virtual assets and wallets, claiming they merely provide for the platform and nothing else, and the peers end up covering themselves with their own funds, self-governing model entities would be excluded from the scope of Solvency II, at least in non-life insurance.

On article 13, we get a more comprehensive view on which entities are considered insurance, reinsurance and financial undertakings as well as outsourcing for the purposes of trying to apply Solvency II to the self-governing model only to conclude that it is not possible. Starting by Article 13(1), that subjects "insurance undertaking" to authorization, and considering that only insurance and reinsurance undertakings can fall under its scope of application (article 2(1)), we believe solution for self-governing entities finds its first barrier here.

For the purposes of Solvency II, an insurance undertaking is subjected to authorization under article 14 of the same directive[126]. Article 14 establishes the principle of authorisation, meaning insurance and reinsurance are activities subjected to authorisation and the entities who wish to pursue such activities under Solvency II must require it to the

[124] EIOPA report on P2P Insurance - page 14
[125] Article 5 (3) states that "operations carried out by organisations not having a legal personality with the purpose of providing mutual cover for their members without there being any payment of premiums or constitution of technical reserves".
[126] For the purposes of article 13 (1) of Solvency II, an insurance undertaking is "a direct life or non-life insurance undertaking which has received authorization in accordance with article 14".

competent supervisory authority of their Member State. Article 15 delimits the scope of this given authorisation.

The conditions for granting such authorisation are present in article 18, even though extremely complex to comply with for self-governing entities, EIOPA recognizes some flexibility to fit *InsurTech* companies in general as long as their core business is insurance. This may be harder to overcome in practice as they would have to limit their activity to insurance[127]. However, we consider article 18 pro self-governing entities, to be considered case by case.

One of the possibilities to be considered to accommodate self-governing entities in the future, would be to include their activity within article 2 list of activities.

Going back to the definitions Solvency II provides, article 13, even though there is no definition of what insurance or an insurance contract are yet number (1) defines "insurance undertaking" which could be helpful to understand whether or not these entities using the self-governing model could be considered as such. The definition, however, uses the exact same words that wants to define and makes it depend on the "received authorization" as per the following article (containing the principle of authorization[128]) meaning it gives little clue on the matter but most importantly, doesn't exclude these new realities.

In point (28), there's a definition of outsourcing that opens the possibility for both the carrier and the broker model to be used yet not the self-governing model. For the purposes of this directive, outsourcing "*means an arrangement of any form between an insurance or reinsurance undertaking and a service provider, whether a supervised entity or not, by which that service provider performs a process, a service or an activity, whether directly or by sub-outsourcing, which would otherwise be performed by the insurance or reinsurance undertaking itself".*

[127] EIOPA report on P2P Insurance

[128] Article 14 of Solvency II states that "1. The taking-up of the business of direct insurance or reinsurance covered by this Directive shall be subject to prior authorisation. 2. The authorisation referred to in paragraph 1 shall be sought from the supervisory authorities of the home Member State by the following: (a) any undertaking which is establishing its head office within the territory of that Member State; or (b) any insurance undertaking which, having received an authorisation pursuant to paragraph 1, wishes to extend its business to an entire insurance class or to insurance classes other than those already authorised." in https://www.eiopa.europa.eu/rulebook/solvency-ii/article-2196_en

The term *"*outsourcing*"* can be found throughout Solvency II for the purposes of governance[129] and has a full article dedicated to the matter, article 49[130]. The main idea to retain is that the responsibility for all of the insurance and reinsurance undertakings obligations´ fall upon themselves even when resorting to outsourcing and there are certain fundamental activities that cannot be object of outsourcing if there's a possibility they may result in specific harmful results. Amongst these results we find the most relevant the increase of operational risk (article 49/2/b), jeopardizing the work of the supervisory authorities in terms of verifying whether or not the insurance undertaking is complying with its obligations (article 49/2/c) and the possibility of affecting the service provided to the policyholders (Article 49/2/d). Despite the obligation of the insurance and reinsurance undertakings giving notice of the outsourcing to the supervisory authorities[131], we believe that all the above mentioned can be at stake when P2P insurance is the matter and can understand the concerns and the rationale behind such prohibitions, giving us a clue for what could potentially happen with the self-governing model.

To verify if the insurance and reinsurance undertakings are complying with their obligations becomes harder regarding this new entities given the additional difficulties arising from their nature and the way they operate, which can also mean higher costs with compliance.

But resorting to outsourcing should be done by the insurance or reinsurance undertaking and we´ve already discussed the difficulties in understanding if self-governing entities can fall under that definition or not because of being subjected to authorization. Clearly, Solvency II was not elaborated to take in consideration such entities. Therefore, article 49 can be useful for the broker and the carrier models as well as outsourcing in general yet not

[129] Article 41 (3) "General governance requirements", requiring the insurance and reinsurance undertakings to have in written form and implement policies related to, amongst others, outsourcing, and these should be annually revisited as well as subjected to previous approval and adapted whenever needed.

[130] Article 49 "(1) Member States shall ensure that insurance and reinsurance undertakings remain fully responsible for discharging all of their obligations under this Directive when they outsource functions or any insurance or reinsurance activities. (2) Outsourcing of critical or important operational functions or activities shall not be undertaken in such a way as to lead to any of the following: (a) materially impairing the quality of the system of governance of the undertaking concerned; (b) unduly increasing the operational risk;(c) impairing the ability of the supervisory authorities to monitor the compliance of the undertaking with its obligations; (d) undermining continuous and satisfactory service to policy holders. (3) Insurance and reinsurance undertakings shall, in a timely manner, notify the supervisory authorities prior to the outsourcing of critical or important functions or activities as well as of any subsequent material developments with respect to those functions or activities." - in https://www.eiopa.europa.eu/rulebook/solvency-ii/article-2230_en

[131] Article 49, point 3

for the self-governing model, that doesn't involve by definition a licensed insurance or reinsurance undertaking.

However, overall, Solvency II faces similar issues and we don´t believe it is possible to apply per se to the self-governing entities. Instead, it will depend very much on their specific nature and structure as well as level of interference in the process. Additionally, it is important to mention that EIOPA´s best practices include additional requirements for *InsurTechs* in general[132] due to their nature and these are related to the technologies they use (AI, for instances), their level of complexity, the use of outsourcing and risk concentration[133]. We find this reasonable and in accordance to what we have been saying - it will all depend on the specifics of each self-governing model.

There is a possibility for undertakings[134] that that fall outside the scope of Solvency II to still pursue the business of insurance and they will be subjected to national supervision with the down side of a lack of harmonisation given the national regimes vary amongst MS[135]. In any way this should result in a differentiation between the protection given to consumers, as EIOPA very explicitly defends[136]. This solution in practice is not beneficial for the undertakings falling outside Solvency II´s scope, as most of the MS will apply similar criteria and they won't have access to the EU passport[137].

The requirements under Pillar II, regarding governance and risk management, similarly to what happened with IDD, can be hard to comply with for small entities. However, EIOPA´s position here is also very direct in order to protect consumers and market stability stating that "lack of resources can never be an excuse for not complying with supervisory standards"[138], specially given they are proportional as per stated in articles 41º and following[139]. The fact is that self-governing entities are using highly disruptive technology making the process even harder and less transparent, and in that sense they should comply with the adequate measures to prevent potential harm.

[132] EIOPA Report on P2P - page 23
[133] EIOPA Report on P2P - page 23
[134] Using the terms EIOPA uses in its report on P2P insurance
[135] EIOPA Report on P2P - page 13
[136] EIOPA Report on P2P - page 13
[137] EIOPA Report on P2P - page 14
[138] EIOPA Report on P2P - page 16
[139] Article 41(2) states that "the system of governance shall be proportionate to the nature, scale and complexity of the operations of the insurance or reinsurance undertaking".

Similarly to IDD, one of the most difficult obstacles in terms of requirements has to do with the specific knowledge the members must have in order to fall under Solvency II´s regime, as per stated in article 42º. Even though EIOPA considered there's a certain flexibility[140] which could imply some *InsurTechs* could fulfill this requirement, we find it hard to see most of self-governing entities to be able to comply with such an exhaustive list of qualification, experience and knowledge in different areas. It will always depend on their structure[141].

A major barrier can be found in the strict capital requirements[142] it established since it's entering into force back in 2016. The capital requirements may seem disproportionate for the reality of self-governing entities namely start-ups just like they were for smaller insurers[143]. However, we must take into consideration that throughout Solvency II we can find traces of proportionality which is "an integral part of the Solvency II regime"[144], leaving here a possibility for P2P insurance. For instances, Article 29(3) contains examples of the use of the principle of proportionality in Solvency II, much like what we stated for IDD. It should be applied in order to balance results and adequate them to the new entities.

Objections previously established to the risk portfolio of the insurers were lifted and Solvency II allows investments under the "prudent person principle" stated in article 132 of Solvency II making the capital requirements adequate to the risks at stake[145].

All the exclusions from Solvency II, according to EIOPA, have practical reasons underlying and several assumptions namely the smaller entities having "typically less complex risk profiles"[146] and we underline the "typically". Looking at these new entities, the main problem is exactly the high complexity of their business, the total absence of the traditional elements and the difficulties that the regulators have understanding how they actually operate, requiring capable individuals from several different areas to fully understand the extend of the business that goes beyond insurance itself. Another

[140] EIOPA Report on P2P - page 17
[141] For instances, in the example of P2P Protect - Tong Ju Bao, we believe it would be possible to fulfill this requirement.
[142] Articles 100º and following, with special relevance to Minimum Capital Requirement (article 128º and following) which sets high barriers in the million order.
[143] Capital Requirements, Disclosure, and Supervision in the European Insurance Industry New Challenges towards Solvency II (Maria Grazia Starita, Irma Malafronte (auth.)) (z-lib.org).pdf, page 3
[144] Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120 page 3
[145] Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_3120
[146] EIOPA Report on P2P - page 13

assumption is made by EIOPA regarding the "disproportionately high"[147] costs with compliance considering the "immaterial nature of the risk"[148] and a last assumption mentions the "excessive regulatory burden"[149].

4.2.2. DATA PROTECTION

If there is an extremely relevant branch of the financial markets for data protection it is insurance due to the core of its business. Data is considered the most valuable asset we know nowadays therefore the one in need of additional protection. It is also a major part of the insurance process from the beginning as the information gathered will be determining the risk profile of the policyholder and consequently putting a price on that risk in the form of premium. And it is a major part of P2P insurance namely the self-governing entities, who wouldn't exist without accurate data.

When it comes to the P2P insurance and data protection, regulation can be full of grey areas. If P2P insurance itself was already problematic, the use of large data sets full of personal and sensitive information and its collection makes it all harder to regulate and supervise in order to protect the peers. The key here is, once again, cooperation namely in the form of cross-sectoral regulation such as the GDPR. If we found major obstacles to the application of both IDD and Solvency II to self-governing entities the conclusion here is that we find it easier to apply the GDPR and grant effective protection to the data subjects under the existing framework no matter the entity due to its cross-sectoral application.

Data drives insurance so processing it in an accurate way and having access to high quality data is for insurance in particular just as important as it is an obligation under the GDPR´s new principles.

Article 5 of the GDPR contains the main principles which relate to the use of personal data in a very broad way, allowing future developments to fall under its scope. On article 5(1)(a) personal data must be *"processed fairly, lawfully and in a transparent manner in relation to the data subject"*. One of the main problems we identified concerning AI´s use of data in P2P insurance[150] is the lack of transparency and information - the majority of the

[147] EIOPA Report on P2P - page 13
[148] EIOPA Report on P2P - page 13
[149] EIOPA Report on P2P - page 13
[150] For the purposes of our study only AI´s use of data in P2P insurance matters yet the problem is not an isolated case.

data subjects would fail to point every time data is being collected and how[151]. This data, however, is useful to price adequately the specific risks amongst other aspects.

The GDPR is the most relevant framework since May 2018, introducing not only new requirements insurers must comply with but also creating a set of new rights adequate to protect the data subjects from new technological advances. Even though it's not the only legally binding framework when it comes to data protection (Convention 108+ and the ePrivacy Directive, namely, with emphasis on the last one as the first is a convention, still in force and now modernized in order to be harmonized with the GDPR), it is the most relevant one.

The main question regarding AI, P2P insurance and technological advances in general seems to be whether the GPDR is compatible or not and if so, does it specifically take into account this new reality with the much-needed harmonization? This question has been partially answered above, as we mentioned the GDPR´s cross-sectoral nature, a real advantage for the data collected for the purposes of P2P insurance. We won't find any major problems applying it to the new realities that can fall under its scope. However, certain definitions may need to be revisited such as the concept of minimization and necessity[152].

The GDPR and its principle based approach, grants the effective protection of data subjects against potential unlawful decisions and even accommodates future developments in AI and insurance where we can fit *InsurTechs* namely P2P Insurance. However, the same principle base-approach creates several obstacles for private companies bringing uncertainty regarding the application of its dispositions and making it harder to comply with. Parallel to the principle based approach there's the privacy by design and by default (article 25º of the GDPR) that enhances protection when grants that the data controller implements all the needed measures during the entire development process of an AI application to make sure only absolutely necessary data regarding a certain aspect will be effectively processed. The measures include pseudonymisation[153], for instances.

[151] If we think about wearable devices that can, for instances, determine blood pressure, sleep quality and stress levels (just to name a few) that can give detailed health reports on a daily basis, we can see how this data would be of extreme precision and use to health insurance.
[152] EIOPA "Discussion paper on blockchain and smart contracts in insurance" 2021 - page 13
[153] Which means the data should be kept in a way that doesn't allow identification of the data subject.

Private companies with all sizes fall under the GDPR scope and what matters is that the data subjects are based in the European Union[154]. This can make compliance even more hard to P2P insurance entities, that usually don't have the structure nor fill the capital requirements that a large company does, namely the ones only operating online and with very few interaction throughout the process of insuring the peers. When it comes to records regarding data processing, companies with less than 250 employees are excluded from this responsibility (Article 30 (5) GDPR). However, if there's a chance of a risk for the data subjects´ fundamental rights and freedoms or special categories of data (Article 9), this ceases. We believe P2P insurance entities could potentially endanger fundamental rights and freedoms[155], and so keeping the records will be mandatory for them. To delimit the scope of our study we will only focus on discrimination.

Data authorities have seen their powers extended and should it be the case of non-compliance with the new framework higher fines will be applied and a right to compensation and liability is expressed on the article 82º of the GDPR.

Data protection impact assessments ("DPIA"), on article 35, must be conducted and are specially important here. The article establishes an obligation of executing a Data Protection Impact Assessment (DPIA) before actually implementing a decision that can affect the data subject, avoiding potential harm to fundamental rights and evaluating its impacts on such rights. There are certain levels of impact through which the data controller will identify the measures to effectively address the risk management and four benchmarks underly the impact assessment[156]: 1) identification of the rights at stake that will be potentially harmed; 2) identification of risks arising in the design phase and during the operation; 3) balance the risks represented for the fundamental rights on one hand and on the other the controller´s interests; 4) definition of the control the data subject has over the data processing. Automated decision making can have a strong negative impact on fundamental rights and lead to discriminatory practices and companies that put economic results above social and ethical values must be held accountable for that. Only the GDPR effectively and efficiently addresses these issues. In fact, for businesses that use automated

[154] For the purposes of our study we are focusing on European law, as we have been stating.
[155] The Committee of Experts on Internet Intermediaries prepared a study on the impact of automated data processing techniques that contains an extensive list of fundamental rights potentially violated through the use of AI – Available at: https://rm.coe.int/algorithms-and-human-rights-en-rev/16807956b5
[156]" JANSEEN, HELEEN L."An approach for a fundamental rights impact assessment to automated decision-making" *in* International Data Privacy Law, 2020, Vol. 0, No. 0.

decision-making, complying with the 35 of the GDPR can be a hazard due to this obligation to a DPIA.

Reading together articles 35 and 22, we can easily understand how hard it can be for a company, namely an *InsurTech* with limited resources, to comply with. Even without the intention of not complying with these dispositions, they may be in breach and consequently triggering the penalties the GDPR establishes, which are rather high. This legal uncertainty for private companies, however, represents an enforcement in rights for the data subjects.

To comply with such complex framework is not an easy task specially when things are constantly evolving making it hard to keep up. Within the European Union, the GDPR´s main goals were in accordance with insurers´ needs namely harmonization across the national laws that finally had a unique regulatory framework with a wide territorial scope of application; the control over personal data and inherent rights to it provided to data subjects; the concern for privacy rules in this new globalized and technological advanced era that constantly endangers users.

Despite the efforts to pursue harmonization, that is only possible until a certain point due to differences of treatment in national legislations which means that some insurance contracts will have a different treatment. Taking the example of medical data for health insurance, that data is differently processed amongst the different member states.

The GDPR and the guidelines from the European Data Protection Board ("EDPB") are said not to entirely take into consideration all the changes and technological innovation, or at least not as expected, with many of them being obstacles to insurers actually embracing digital innovation. Of course, should this be in order to protect fundamental rights and freedoms, and the slow process is a perfectly adequate price to pay. Thinking about blockchain, for example, that due to its characteristics and how it operates can be potentially incompatible with the GDPR because of the negative effects on the clients´ rights namely the right to be forgotten and the right to rectification. On the other hand, for insurers, this technology could mean an increase in transparency.

The EDPB guidelines also suggest that automated processes should be a subsidiary mean and not used by default in line with the GDPR. They should be used when necessary solely and if there is a less intrusive mean at disposable that is the one that the insurers should give preference to. Again, considering the principles established on Convention 108+ regarding data protection, this seems to be adequate to protect consumer's rights. But the downside would be the flourishing of *InsurTech* and its benefits, which will ultimately

end up with certain advantages clients might benefit from such as lower costs and real-time insurance solutions.

Lastly, breaches under the GDPR can result in penalties of up to 20 M euros or 4% of a firm's annual worldwide turnover, whichever is higher, which represents a heavy fee for some *InsurTechs* to pay, namely P2P insurance entities and their solidarity spirit.

4.2.2.1. INSURERS' OBLIGATIONS UNDER THE GDPR

The principle based approach earlier mentioned has a major downside for insurers as it makes it harder for them to understand what they must comply with in order not to trigger the high penalties and fees established under the GDPR.

Several issues are raised here, namely the potential adverse effect that this approach can represent to further technological developments in insurance. The way the GDPR tackles these issues is somehow not beneficial for technological advances and may slow down the implementation of AI or even obstacle to *InsurTechs*. Both the GDPR and the European Data Protection Board Guidelines are said not to respect the principle of technological neutrality[157].

On the guidelines, automated processing is suggested to be discouraged as the word "necessity" is emphasized and articles 15, 22 and 35 of the GDPR may confirm this. Article 22, namely, points towards the prohibition of a solely based on automated means decision, even though it contains exceptions.

To help battle the uncertainty the GDPR brings to companies, the reports and guidelines from the European Commission, experts committees and the EDPB can be really helpful. These non-binding instruments, however of extreme help to interpret the GDPR, cannot go further nor beyond its provisions which at times seems like it.

The Insight Briefing from Insurance Europe[158] points the need for consistency as some national guidelines are leading towards fragmentation on the implementation of the GDPR´s rules concerning, for instances, the use of cookies and the impact assessments under the article 35º (extremely relevant for InsurTech). The same Insight Briefing points the issue of international data transfers to countries outside the EU. The GDPR has

[157] As stated on the Insight briefing from Insurance Europe, which can be found at: https://www.insuranceeurope.eu/sites/default/files/attachments/Insight%20Briefing%20-%20Two%20years%20of%20the%20GDPR%20—%20what%20next.pdf

[158] "Insurers 'views on the EU's General Data Protection Regulation (GDPR)", May 2020

extraterritorial application, meaning even though it is part of the European framework it has global impact which is enhanced due to AI´s use in the digital economy. For insurers, the countries currently covered by adequacy decisions is still not enough.

4.2.2.2. CONSUMERS' RIGHTS UNDER THE GDPR

Customers have now a deeper understanding on how important their personal data is, namely for insurance companies and that came with the GDPR´s hype. By enhancing data subjects´ rights, including detailed dispositions that often are hard to comply with by private companies, the GDPR can be very effective when it come to P2P Insurance in specific. Concerning new rights the GDPR establishes for data subjects, articles 13 and 14 are specially important when automated decision-making is involved, including profiling[159]. Articles 15 (right of access by the data subject, granting the possibility of knowing when his/her personal data is being processed and access to an extensive list of information about it. This includes getting a copy of the data processed and asking for the purposes of such processing), 16 (right to rectification of inaccurate data, which the policyholder can ask the insurer for), 17 (right to be forgotten, erasing personal data in a vast range of situations amongst others unlawfully processed data and no longer needed data. Given that this is not an absolute right, even thought the policyholder might ask the insurer to delete certain data this may not be granted namely for compliance with legal obligations the insurer might have), article 18 (right to restriction of processing namely when data is not accurate or needed), article 20 (right to portability, transmitting the once given data to another controller namely when the processing was through automated means) and 21 together with recital 70 (the right to object to data processing, very relevant when it comes to profiling, granted at any time and unless *"the controller demonstrates compelling legitimate grounds for the processing which override the interests, rights and freedoms of the data subject or for the establishment, exercise or defense of legal claims"*. Again, not an absolute right in certain cases such as when there is a legitimate interest).

The most relevant aspects of the GDPR when AI and P2P Insurance are the issues are the ones related to automated decision as well as profiling. But given the great amount

[159] Article 4 (4) of the GDPR '"profiling 'means any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyse or predict aspects concerning that natural person's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements".

of uncertainty that the dispositions might represent, clarification is often needed and recreating the legislators intention might be very useful. On article 15(1)(h), the GDPR goes a step further when it comes to protecting data subjects, given them the right to confirmation on whether the data is being processed and if so, controller should give the data subject information on the existence of an automated decision-making and "meaningful information about the logic involved" and also its significance with the correspondent consequences. These are the additional guarantees the data controller must provide to the data subject when automated decisions are used, given their potential to violate fundamental rights.

A major concern regards profiling, defined in the GDPR and which consists in collecting available data and creating profiles on individuals using techniques that can be both beneficial as they allow segmentation but also harmful for the same purposes. On the Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679[160] , it is stated that profiling consists in three elements: automation of the process form; personal data and the main goal must be to "evaluate personal aspects about a natural person"[161]. Profiling can exist without automated decisions and automated decisions can include or not profiling. But depending on how the data is used, they can merge. A recommendation from the Council of Europe on Profiling[162] refers to the possibility of generating new data using aggregation techniques. Profiling, ultimately, can lead to discriminatory decisions impacting in fundamental rights such as self-determination, analyzed below. One of AI´s use in P2P insurance is precisely profiling though the data peers generate everywhere specially in social media, providing relevant information on their lifestyles in a much more accurate way than a simple form and creating an additional risk for the peers/data subjects.

Article 22 contains a restriction based on transparency, to automated decisions and profiling. It expressly prohibits decision-making solely based on automated processing (including profiling). This prohibition however has some exemptions[163] on its number 2 and should be seen in line with the GDPR principles and Recital 71. For the purposes of

[160] Available at: https://ec.europa.eu/newsroom/article29/item-detail.cfm?item_id=612053
[161] Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679. Page 7
[162] Recommendation CM/Rec (2010)13 available at https://rm.coe.int/16807096c3
[163] See recital 71

articles 22 and 15 *"meaningful information about the logic involved"* should be interpreted as a simple way to explain the rationale behind the decision yet not an explanation on how the algorithm works. This raises another issue on whether or not there is the right to an explanation under the GDPR concerning to automated decisions and if so on what grounds. It should be seen and read not as a right (meaning it would need to be invoked) but as a general prohibition[164]. Even though this article is part of the "Rights of the Data Subject" chapter, they don't have to refer to an active exercise of such rights. This will allow a broader protection of data subjects.

While one of the goals is to make life easier for the peers, P2P Insurance´s use of new technology speeds the decentralization [165] through immediate orders that are automatically executed (provided that certain conditions are fulfilled yet barely requiring the intervention of the policyholder or an insurance undertaking in real time)[166]. It's exactly this new technology that brings us to the autonomy and potential lack of protection of using a mere platform not licensed to operate.

The access to non-traditional data powered by AI offers privacy and data protection problems which can lead to unlawful and unethical results and it can also create a risk of financial exclusion[167].

Data protection faces tremendous challenges brought by AI, specially considering the traditional principles that regulate such matter (namely the ones in Convention 108+). In the face of the new developments, regulation becomes insufficient to effectively prevent the violation of fundamental rights and freedoms. Of course there's a good side to it - to make consumers having access to more personalized products and services through better use of data.

4.2.3. THE USE OF ARTIFICIAL INTELLIGENCE

AI and data protection are intrinsically related, with AI constantly resorting to personal data and making great use of it in its several applications[168]. The AI applications

[164] Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, page 20
[165] EIOPA report on P2P - page 26
[166] EIOPA report on P2P - page 26
[167] As mentioned on "Artificial Intelligence in Financial Services: Managing machines in an evolving legal landscape", Linklaters, 2019
[168] MANTELERO, A., "Artificial Intelligence and Data Protection: Challenges and Possible Remedies", 2019

and machine learning in particular, can learn from data and high quality data is much needed to guarantee the robustness of AI applications. In fact, as mentioned by the Commission Vice-President for the Digital Single Market *"without data, we will not make the most out of artificial intelligence (...)"*[169].

AI´s use raises several legal questions (not to mention ethical, but given the already wide scope of this paper, they won't be mentioned but can be found on the Ethics Guidelines for Trustworthy AI[170]) and liability is not so obvious to establish at times due to the complex matters and processes.

Machine learning (that includes deep learning, commonly used by companies like Google or Netflix to get a better insight on the consumer's preferences) are the core of AI. However, our focus here is not on how AI operates but instead how it is and can be used by Insurance.

Finding a definition is not an easy task. Accordingly to the Council of Europe's[171], it should be restricted to the technologies used on a case-by-case basis and it's *"A set of sciences, theories and techniques whose purpose is to reproduce by a machine the cognitive abilities of a human being. Current developments aim, for instance, to be able to entrust a machine with complex tasks previously delegated to a human"*.

For the European Commission on its communication regarding AI the definition includes *"systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."*[172]

The insurance business is one of the oldest in the world. It also has certain characteristics that make it slightly more resistant to substantial changes even though we are witnessing the rise of P2P insurance.

[169] Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_18_3364
[170] Available at: https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai
[171] Available at: https://www.coe.int/en/web/human-rights-rule-of-law/artificial-intelligence/glossary
[172]" A Definition of AI: Main Capabilities and Disciplines" which can be found at: https://ec.europa.eu/digital-single-market/en/news/ definition-artificial-intelligence-main-capabilities-and-scientific-disciplines

Insurance companies must find a way to stay competitive and keep up with all the technological changes, facing the new challenges, taking advantage of what is most precious for them - information.

InsurTechs can provide a wide range of solutions and most of them will use AI. It is fair to say that AI has a major role to play helping insurance companies to understand how *InsurTechs* and their services can be of extreme use in order for the first ones to pursue their ancestral activity in a much more efficient way.

Typically, insurance business is not considered to be very trustworthy, something P2P insurance claims to battle.

Because of the way insurance operates, the impacts might be slower when compared to other financial services. Furthermore, in the case of mandatory insurance, policyholders tend to contact the less possible with the insurance company limiting their interactions to the conclusion of the contract of an insurance they must have and the hypothetical event of a claim, should the risk materialize. Given that AI and insurance both need robust and accurate sets of data to preform its tasks, the contributes of the first are obvious.

From facilitating more formal tasks that have a direct impact on customer service and even marketing such as processing claims through bots, making premium payments to more complex applications, AI is reshaping the insurance industry. Virtual assistants[173] , for instances, resemble very much a normal conversation through e-mail or chat with an insurance intermediary, with the advantage of being in real time. As for claim processing, AI technology helps diminishing the time spend analyzing claims and machine learning models can be very helpful to predict the costs through the data they collect. AI has been helping facing fraudulent behavior namely with claims, by identifying certain patterns and creating profiles. Each of these tasks is a goal for P2P insurance.

AI operates with large data sets and is a rather useful asset for insurance in general, making risk assessments easier to preform and collecting more accurate data sets potentially avoiding the little white lies policyholders tell when entering into an insurance contract (or any other contract, given what we have been defending). Both the collection and the analysis of such data is rather expensive and the outcomes were not always accurate until

[173] Virtual assistants namely chatbots (that use NLP technology) resemble very much a natural person which can be misleading at times for customers. Frequently asked questions have immediate answers leading to better customer engagement and higher satisfaction. Of course, more complex issues cannot find answer through chatbots.

AI came into scene and changed the way insurers and policyholders interact with one another [174]. In fact, AI is not offering challenges in EIOPA´s Consultative Expert Group on Digital Ethics in insurance opinion, but instead "offering possibilities" despite "exacerbating"[175][176]. It is curious to see how EIOPA pursues and battles for ethics in the use of AI and this Consultative Group of Experts starts its report exactly by stating how it is not possible to add ethics in an algorithm in order to come to right solutions[177].

Several governance principles were established to reach the desirable "ethical and trustworthy" results of AI´s application in the insurance sector and they are the principle of proportionality, the principle of fairness and non-discrimination, the principle of human oversight, the principle of data governance of record keeping, the principle of transparency and explainability and the principle of robustness and performance[178]. The principle of proportionality, for this purpose, demands an "AI use case impact assessment in order to determine the governance measures required for a specific AI use case"[179]. The principle of fairness and non-discrimination will be discussed on the next topic, where discriminatory results and hidden bias will be addressed. Additionally to the already existing governance requirements[180], the use of AI will require extra measures and a certain level of human comprehension of the mechanism, which will involve extra costs with the adequate training. In every case, one of the principles that guides the use of AI is the principle of human oversight, according to which the "adequate levels of human oversight" shall be granted throughout the entire process ("life cycle")[181]. This ends up with eventual fears on how AI´s use will determine the end of insurance as we know by replacing human interaction throughout the value chain for algorithms and machine learning - human interference is the only way to ensure fair and unbiased decisions are adopted and in that sense, absolutely essential for the purposes of insurance, either social or private insurance. Regarding the principle of robustness and performance, the Group of Experts enhances the need to use

[174] EIOPA report on Artificial Intelligence - page 4
[175] EIOPA report on Artificial Intelligence - page 4
[176] A first note on the report on AI - it is important to mention this study only covers private insurance, leaving outside of its scope mandatory social insurance, as it is expressly mentioned on page 4.
[177] EIOPA report on Artificial Intelligence page 4. For the purposes of this report, the group claims that "Ethics is thought to mean approaches that are fair based on international and national recommendations, standards and treaties, and of course legislation. Our understanding is that this represents what most people would understand as ethical."
[178] EIOPA report on Artificial Intelligence - page 8
[179] EIOPA report on Artificial Intelligence - page 8
[180] See IDD
[181] EIOPA report on Artificial Intelligence - page 8

robust AI at all times, in a sense that they should, for instances, be resistant to cyber-attacks, even when using outsourcing, being this robustness closely monitored[182] .

EIOPA actively defends the use of AI and knows for a fact it is being used more and more[183] stating that all parties can benefit from its use in the insurance business namely due to the diminishing of costs and increasing of efficiency in general throughout the value chain[184] as well as battle fraud[185]. A specially relevant issue the use of AI can end with (or, at least, help preventing) is misselling - one of the issues the insurance sector struggles with, despite the dispositions contained in IDD. More accurate data is the way towards tailor made products fit to purpose. AI already falls under both Solvency II and IDD´s scope[186] as well as the GDPR and ePD [187] yet that doesn't mean we are free of concerns nor that it will be easy to apply such specific legislation.

With the use of AI a new set of problems and concerns also arise and EIOPA itself has been aware of them[188] as we can see through the results of the expert group on digital ethics in insurance that developed a set of governance principles for "ethical and trustworthy"[189] AI adapted to the insurance business[190]. This sort of non-binding guidance EIOPA provides is and will keep being of extreme importance, given the rapid evolution of technology and the impossibility of law to anticipate it, most of the times. Regulation and supervision gains more and more importance in this context of AI precisely for this reason. Even so, the Artificial Intelligence Act[191] is being discussed and the European

[182] EIOPA report on Artificial Intelligence - page 8
[183] Available at: https://www.eiopa.europa.eu/media/news/eiopa-publishes-report-artificial-intelligence-governance-principles_en
[184] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en
[185] Available at: https://www.eiopa.europa.eu/media/news/eiopa-publishes-report-artificial-intelligence-governance-principles_en
[186] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en
[187] EIOPA report on Artificial Intelligence - page 6
[188] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en
[189] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en and https://www.eiopa.europa.eu/media/news/eiopa-publishes-report-artificial-intelligence-governance-principles_en
[190] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en and https://www.eiopa.europa.eu/media/news/eiopa-publishes-report-artificial-intelligence-governance-principles_en
[191] The proposal can be consulted here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0206

Commission has a risk-based approach proposal always balanced with the principle of proportionality[192], much like what happened with P2P Insurance[193].

There are several possible applications for AI throughout the value chain starting in the stage of product design, such as analyzing the clients´ data in order to provide information on relevant products for that specific person, pattern prediction, optimization of prices, the use of virtual assistants available 24/7, voice, facial and even character recognition, prevention solutions/advice based on the available data such as recommending changing habits connected to a certain policy, fraud detection in claim´s management [194].

We recognize a great potential in the use of AI with undeniable results despite the issues arising. The most relevant issues, in our opinion, are discriminatory results and hidden bias that can lead to unfair and disproportionate results and even exclusion of certain groups of vulnerability[195] as well as the exclusion of people without an online presence.

4.2.3.1. DISCRIMINATORY RESULTS AND HIDDEN BIAS

As mentioned in the EIOPA report, one of the guiding principles on the use of AI is precisely the principle of fairness and non-discrimination in a sense that a balance is established between the results of its specific use and the interests here considered, taking into consideration the possibility of exclusion and inequalities[196]. Even though there are a number of rights potentially at stake through the use of AI in P2P insurance as mentioned above, our focus will be on non-discrimination due to its impacts. However, we must make an additional note on how these issues related to discriminatory results are not exclusive to AI´s use in P2P insurance nor new. Including them as a major concern seems only natural given the higher usage of such technologies, specially during and after the COVID-19 pandemic, and the amplified results when AI is used in P2P insurance, leaving for instances the peers to vote without any supervision based on the data they have.

[192] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en

[193] The principle of proportionality and a risk-based approach is mentioned in the EIOPA report on P2P. The first one gains more importance in the context of technology-related matters when the existing legislation cannot face the current state of the situation nor anticipate future developments.

[194] Figure 1 in EIOPA report on AI

[195] Available at: https://www.eiopa.europa.eu/media/speeches-presentations/contribution/ai-governance-ensuring-trusted-and-financially-inclusive_en

[196] EIOPA report on Artificial Intelligence - page 8

The non-discrimination principle can be found on the article 21 of the Charter of Fundamental Rights of the European Union, prohibiting discrimination based on any ground such as *"sex, race, color, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation"*. Unless we are able to prove that the differentiation established based on such classifications is lawful, we presume that it is not. Also relevant is the Article 2 of Council Directive 2000/78/EC of 27 November since it distinguishes and prohibits both direct and indirect discrimination[197]. The trouble with AI´s use in P2P insurance and data protection are the discriminatory results arising from practices that we didn't even thought possible until recently. The main issue, discrimination, is ancient.

The accuracy of data is undeniably helpful, specially in decision-making processes for insurance. But problems regarding human bias arise as well. Bias are prejudices against certain people, minorities, groups and they can appear in different forms. The Council of Europe has already addressed this issue but regarding Big Data when suggesting a by-design approach that helped to prevent *"potential hidden data biases and the risk of discrimination"*[198]. The idea is to avoid leaving AI development solely under the responsibility of AI designers because their own understanding and values will shape the results and often conduct to bias that will lead to discriminatory results. They should always be accompanied by experts to prevent this as well as through the use participatory forms of risk assessment[199] allowing that those who will be potentially harmed can detect and prevent bias. These can be preventively removed (better safe than sorry when it comes to discriminatory practices) as well as through training, tests and redress[200].

Product liability should be taken into consideration should it be the case of actual discrimination but we believe the existing framework is rather incompatible with AI. On a final note, bias can lead to marginalization of certain groups typically protected under the non-discrimination principle in every area using AI. When the decisions are human-based we can also have these risks, of course. The trouble is the amplification with the help of AI and the difficulty to control the negative impacts once they're out there.

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197 Which establishes the framework for equal treatment in employment and occupation. Article 2 mentions direct and indirect discrimination stating that "For the purposes of this Directive, the "principle of equal treatment" shall mean that there shall be no direct or indirect discrimination whatsoever on any of the grounds referred to in Article 1.

198 "*Guidelines on Artificial Intelligence and data protection"*, Consultative Committee Of The Convention For The Protection Of Individuals With Regard To Automatic Processing Of Personal Data, January 2019
Section IV, 4.2

199" Artificial Intelligence and Data Protection: Challenges and Possible Remedies", MANTELERO.

200 Which is suggested on the Guidelines, Section IV, 4.2 stating that "Controllers and, where applicable, processors should carefully consider the design of their data processing, in order to minimise the presence of redundant or marginal data, avoid potential hidden data biases and the risk of discrimination or negative impact on the rights and fundamental freedoms of data subjects, in both the collection and analysis stages".

Back in 2012, the European Court of Justice forbid insurance companies to charge different prices based on scientific evidences related with gender, limiting significantly the application of risk assessment criteria based on actuarial science. There's a fine line between criteria of differentiation and discrimination[201], often crossed in insurance and constantly at stake when AI enters into scene hence the need for human supervisory. Insurance often uses differentiation based on statistical data and very often it collides with the suspect classifications on article 21 of the Charter of Fundamental Rights of the European Union, above mentioned so it shouldn't be accepted in every case. The use of AI and large data sets opens the door to the violation of the non-discrimination principle, if the right measures are not adopted.

During each phase of the development of AI applications, a human rights by-design approach should be adopted and potential biases must be avoided at all costs, being them unintentional or not, to efficiently avoid the risk of discrimination amongst consumers. Should we be able to make P2P insurance fall under IDD´s scope and we would most certainly have framework to prevent such risks amongst the peers. But as mentioned before we find it hard, at this point, to apply IDD to P2P insurance. AI, however, falls under IDD´s scope.

In the stage of product development, covered under IDD, there's a risk the use of AI can lead to discriminatory practices and hidden bias and it is precisely during that stage of the value chain that this must be prevented. On one hand, it is easier to process large data sets through the use of AI, and there is no denying that. On the other hand, however, the total absence of human presence often may lead to such results. Best chances, it can lead the insurance sector towards ending misselling[202].

In usage-based insurance products[203] the data collected determines the risk of each policyholder according to their habits, placing a premium accordingly. This means that policyholders, who are providing data free of charge everywhere, at all times, most of the times, will pay an adequate price. But it also means that we could face the possibility of exclusion for some policyholders with higher risk profiles[204] hence the use of certain data is already being excluded from insurance in some countries namely in health insurance[205]. On a personal note, we fully subscribe the limitations on the data used as a mechanism to avoid discriminatory practices

[201] REGO Lima, M., Statistics as a basis for discrimination in the insurance business in Law, Probability and Risk, 2015

[202] Misselling is one of the main advantages we believe the use of P2P insurance can bring to the insurance scene, as mentioned in Part I, namely when AI is involved. It has been further explained when analyzing IDD.

[203] eiopa report on AI

[204] AI governance principles report - page 11

[205] AI governance principles report - page 27, names a few jurisdictions where certain data is already excluded from insurance pointing for instances Denmark, which forbids DNA related data in life and health insurance and the jurisdictions that are now restricting health related data when applying for credit insurance.

specially regarding the use of health data, and social media related data (very often inaccurate or at the risk of being misinterpreted when processed through AI) . Of course, with self-governing entities that leave the claim decision process for the peers to vote and barely interfere, discriminatory practices can arise out of the peers´ behavior much like what could happen with a biased algorithm.

As part of the AI Governance Principles the Group of Experts mentions the principle of fairness and non-discrimination[206] and establishes a difference between private and social insurance for its application and effects mentioning that only private insurance is a subject of the report. P2P insurance has an underlying solidarity idea that often doesn't seem very compatible with the idea of profiting. However, and given the different levels of participation of self-governing entities, we still find it useful to guide us towards understanding such entities and how to effectively protect the peers/data subjects from discriminatory outcomes. Even though we are mostly dealing with subjective concepts such as "fairness", as the Group of Experts points[207], IDD itself includes as a general principle under article 17º an honest, professional, fair in the customers´ best interests, in line with the GDPR.

Bias and assumptions gain a new dimension with P2P insurance. The higher the level of independence of the "mere service provider" the higher the probability of a biased outcome either because the peers have too much autonomy in managing and deciding each other's outcomes or simply because the AI technology used will always reflect potentially biased data. If we consider relatively small entities without a strong structure with the competent professionals, they will most likely fail to remove bias from the data used simply because the costs are higher and their structure won't allow it.

In certain cases and with restrictions, it is allowed to use certain criteria for the purposes of risk assessments and underwriting, despite the special protection European framework provides, depending on the national law of each Member State[208]. This is the case of "age, disability, religion and sexual orientation"[209]. These are exceptional situations where proportionality must be carefully taken into consideration and either way special groups must be given additional protection as those will be typically the ones endangered by the outcomes. It is within the duties of the insurance intermediary to take the proper measures and contribute, ideally in a preventive way, to the prevention of such results.

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[206] AI governance principles report - page 21
[207] AI governance principles report - page 22
[208] AI Governance report - page 29. Note that, as the group points, price optimization practices are not a reason to be considered for this purposes.
[209] AI Governance report, figure 9 - page 29

Once again, we find such obstacles more difficult to overcome in the claim´s management phase when a self-governing entity is involved when they have very little interference in that process. Differently, when the self-governing entity uses AI to manage claims, the same problems with traditional insurance using AI arise here, despite all the limitations we have been pointing.

If the younger costumers are already convinced with the new digitalized insurance models much like what happens with the banking sector, there's still a large part of the population with different consumer habits that will most likely stay away from P2P either either motivated for the lack of trust these new realities represent or simply because they barely have or don´t have at all an online presence. If so, for these last consumers, there's a risk of becoming uninsurable[210].

4.3. CASE STUDIES

4.3.1. TEAMBRELLA

At the beginning of the investigation for this thesis, Teambrella had a website containing its terms and conditions and how their business was conducted overall. However, we notice the website link isn't working anymore and the most updated information has been provided through the mobile app and their social media accounts. Through the LinkedIn profile page, they state their operating sectors are services, consulting and IT, providing "peer-to-peer coverage service powered by blockchain technology"[211]. There's a single mention to InsurTech yet nothing disclosures that insurance-like products are sold through their app.

On its Facebook page, Teambrella states to be "*a peer-to-peer platform aimed at providing an alternative to classic insurance. As part of the sharing economy, it exists on the verge of insurance and crowdfunding. You may choose to go to a typical insurance company and play by its rules, or you may gather a team of like-minded people with the same cause or interest and set your own rules. Together with your teammates you can control every aspect of the coverage: decide on what situations you would like to cover, who is accepted into the team, the risk level, amount of reimbursement in case of a claim and many more. The process is just, fair and transparent. The teammates need to keep it fair, as otherwise they can't expect a fair treatment if they have an incident. There are no set premiums. You only pay when there are claims. If there are no claims in your team, then you pay nothing. Our platform is powered by digital currency. The*

[210] Term used in "OECD (2017), Technology and innovation in the insurance sector", page 7
[211] Available at: https://www.linkedin.com/company/teambrella

related technology gives broader options for a community to manage all online processes. Also, digital currencies have increased privacy and protection against potential fraud".[212]

For Teambrella, *"insurance sucks"*[213]. Entering into a contract of insurance with a licensed insurer or reinsurer seems to be associated with a bad experience where one of the contracting parties only wishes to profit and lack of trust is often an issue inviting to fraudulent behavior. So Teambrella allows the peers to organize themselves into teams and decide their own terms and conditions as well as voting on whether or not a claim should be accepted. They even claim the absence of *"conflict of interest because everyone's interests are aligned"*[214].

As for the claims´ payment, Teambrella mentions wallets for each peer, paying according to their own risk profile, and no common pool[215] contributing to full disclosure and transparency. The payment only occurs in the event of a claim, which means no premiums are paid as the premium is typically paid on a continuous basis by the policyholder. Furthermore, Teambrella claims not profiting from this activity. Instead, they profit through proxies[216]. The proxy is a sort of an optional team leader who is allowed to decide on behalf of other peers and the money goes to Teambrella when these proxies buy Teambrella a license to operate[217]. This situation is quite similar to traditional insurance, the way we see it - when a proxy buys a license from Teambrella to share their knowledge and profit from it.

Last news from Teambrella are dated from 2018 and the most significant is a photo dated from 28 of June 2018 with the following quote *"Teambrella is not an insurance company but a company which provides the platform for P2P insurance, which differs from the business models of insurance companies. Thus, it would not be a subject under regulations of the Insurance Business Act which regulates the qualifications or activities of insurance companies to protect the policyholders nor the Regulations for Management of Insurance Industries. Hence, even with current law, it seems that P2P insurance format such as that of Teambrella is capable of being implemented"*[218].

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[212] Available at: https://www.facebook.com/teambrella/
[213] Available at: https://medium.com/@teambrella/why-insurance-sucks-and-why-it-doesnt-have-to-1acdaf2f662e
[214] Available at: https://medium.com/@teambrella/why-insurance-sucks-and-why-it-doesnt-have-to-1acdaf2f662e
[215] Stating that "By removing the centralized pool of money, we've achieved what others haven't: a fully-fledged peer to peer system — no middleman, and no conflict of interest" - Available at: https://medium.com/@teambrella/why-insurance-sucks-and-why-it-doesnt-have-to-1acdaf2f662e.
[216] Available at: https://medium.com/@teambrella/why-insurance-sucks-and-why-it-doesnt-have-to-1acdaf2f662e
[217] Available at: https://medium.com/@teambrella/why-insurance-sucks-and-why-it-doesnt-have-to-1acdaf2f662e
[218] Available at: https://www.facebook.com/teambrella/photos/1894396247248505

4.3.2. TONGJUBAO

We must start by saying that information on TongJuBao, even though easier to reach than Teambrella at this point, it is not very transparent nor intuitive.

TongJuBao was founded back in 2015 by Tang Loaec and its origins are in China even though it nowadays the business has extended to the European and United States markets, even changing the name to "P2P Protect - TongJuBao", without a reference to TongJuBao in their website apart from the logo[219]. Despite the rebranding, P2P Protect - TongJuBao called themselves "quasi-insurance"[220] and we are faced once again with a self-governing entity that, at first glance, seems to be trying to avoid falling under insurance strict regulation and supervision framework.

But is TongJuBao or better yet "P2P Protect Europe" a real self-governing entity? One of the main difficulties we found during our research for case studies was to find real P2P insurance entities, the ones using the self-governing model, as we have been defending. TongJuBao claims to have created a "Peer to Peer insurance model that allow people to protect themselves against social or societal risks" creating a solution for one the oldest issues insurance faces "no one likes insurers"[221]. The majority of their claims is similar to Teambrella - the need for transparency and fair results, reimbursement of amounts made if there are no claims, lack of conflicts of interest[222].

For someone claiming being "quasi-insurance", it seems to be commonly accepted they sell, for a fact, insurance, even designing new insurance products[223].

Taking a closer look at P2P Protect Europe website[224], TongJuBao almost seems like old news and what we have here is a "unique collaborative risk sharing model"[225] that acts in many different areas given the necessities on each market and considering the new emerging

[219] TongJuBao´s website and their take on P2P Available at: https://www.p2pprotect.com/p2pprotection-227587.html

[220] P2P Protect - TongJuBao described as quasi-insurance and with some relevant information on how the startup works namely through the recommendations available at: https://www.f6s.com/p2pprotect-tongjubao

[221]Available at: https://www.f6s.com/p2pprotect-tongjubao

[222] Available at: https://www.f6s.com/p2pprotect-tongjubao

[223] "We are a digital native model that deliver the basics of insurance with the user centric philosophy of mutualist models" and "we are the only P2P Insurance model capable to create new products with speed and agility, enlarging the insurance/protection market" - https://www.f6s.com/p2pprotect-tongjubao

[224] Available at: https://www.p2pprotect.com/p2pprotection-227587.html

[225] Available at: https://www.p2pprotect.com/p2pprotection-227587.html

risks[226] traditional insurers would rather avoid, given the way they operate[227]. The way they claim to operate is a similar to a return to the "historical foundations of insurance" with solidarity purposes underneath reaching people who, under the current regulation framework, could not access the same protection P2P Protect can provide[228]. They achieve this by returning the excess of payments available should the risks be lower, by not benefiting in the case of no claims made and full disclosure regarding the rejection causes of a claim, leaving the "terms of mutual aid" for the members to vote[229] [230]. An interesting aspect about P2P protect is that risk management is performed by professionals[231]. That said, the participation here is much different from what happened in Teambrella[232] and other *insurtechs* - there is, in fact, a higher level of participation with the intervention of professionals at some point in the value chain. By using professionals with relevant experience in the insurance and financial business, one could argue if we are really in the presence of an entity using the self-governing model or if we are somehow closer to one of the other models that are not true P2P models. However, as per stated in their website, P2P Protect uses professionals "a team of French co-founders, each with more than 25 years of experience"[233] in the area. There's no mention of any licensed insurance or reinsurance undertaking intervening at some point, only professionals with experience.

On their website footer there's a registration number[234] under which they are registered. However, a quick research shows us that they are registered for baking

[226] For instances, child trafficking is not usually a risk European families think about insuring yet in China the scenario is quite different.
[227] Some of the risks that are typically excluded from common policies such as terrorism have now a chance with startups like this one. A clause excluding terrorism from a traditional insurance policy seems reasonable, in our opinion, given how traditional insurance operates.
[228] Available at: https://www.p2pprotect.com/p2pprotection-227587.html
[229]Available at: https://www.p2pprotect.com/p2pprotection-227587.html
[230] In this last case, much like what happens with Teambrella and other insurtechs, votes amongst peers seem to be commonly accepted to manage claims. P2P Protect refers "direct democracy" brought to customers through the exploration of technology - https://www.p2pprotect.com/p2pprotection-227587.html
[231] In P2P Protect´s website they state that "this would not be possible without the rigorous risk management process, validated by actuary experts, who support the financial modelling and fraud detection scores developed under the direction of a team of French co-founders, each with more than 25 years of experience in the insurance fiels or an experience as risk executives in major financial groups".
[232] In fact, P2P Protect doesn't consider Teambrella to be P2P insurance as clearly shown in their infographic. Instead, they consider Teambrella Blockchain, given the fact they use exactly this technology - https://www.p2pprotect.com/p2pprotection-227587.html
[233]Available at: https://www.p2pprotect.com/p2pprotection-227587.html
[234] Orias immatriculé n.º 21002306

operations and service payments[235] being their category "COA"[236] in Europe with the ancillary intermediation activity[237] and it is not allowed for P2P Protect to collect funds for insurance purposes[238] . As we discussed for the purposes of IDD and Solvency II, ancillary intermediation is excluded in certain crucial situations from their scope and yet this is the best it gets for P2P Protect.

This is precisely the reason why we believe P2P Protect - TongJuBao is a good example of a self-governing entity, to show a higher level of participation instead of a mere platform service provider. For entities such as P2P Protect it is even clearer that insurance is at the core of their business and there's not a chance to deny it. The requirements under European framework would more easily be fulfilled, namely regarding governance and professional requirements, despite the limitations we mentioned when analyzing IDD and Solvency II.

5. WHAT FUTURE FOR THE SELF-GOVERNING MODEL IN INSURANCE?

There's an additional obstacle for both regulators and supervisory authorities when P2P insurance is at stake with new risks arising and an ungrateful task of always running against time and technological advances. As concluded by the Group of Experts on their AI Governance Principles paper[239], *"the challenge (…) resides in allowing the European insurance sector to take advantage of the innovation offered by the digital economy, whilst, at the same time, protecting the interests of consumers and citizens".*

For this purpose, we find cross-sectoral framework such as the GDPR an effective tool to protect potentially discriminatory results and ultimately jeopardizing the right to be insured. Limiting the use of certain data would also be a desirable option when AI is used

[235] The website of the Banque de France states that *"Les intermédiaires en opérations de banque et en services de paiement doivent être immatriculés sur le registre unique des intermédiaires tenu par l'ORIAS (www.orias.fr) (article L. 519-3-1 du code monétaire et financier). Pour pouvoir s'immatriculer, les intermédiaires en opérations de banque et en services de paiement doivent satisfaire à quatre conditions professionnelles d'exercice : honorabilité, capacité professionnelle, assurance de responsabilité civile professionnelle et garantie financière, lesquelles font l'objet de vérifications par l'ORIAS lors de leur immatriculation."* - https://acpr.banque-france.fr/immatriculation-lorias

[236] "Courtier d´assurance ou de réassurance" - https://www.orias.fr/home/resultSearch

[237] Our translation of "Activité d'intermédiation à titre accessoire", that shows up on the details of P2P Protect´s registration - https://www.orias.fr/home/showIntermidiaire/828146449

[238] Searching for the registration number identified above in Orias´website we can see P2P Protect Europe with an active registration and yet a note stating "Cet intermédiaire n´est pas autorisé à encaisser des fonds destinés à un assuré ou à une entreprise d´assurance (primes ou cotisations) au termes de l´article L. 512-7 du code des assurances" - https://www.orias.fr/home/showIntermidiaire/828146449

[239] AI governance principles Report

in P2P insurance, and it's already being done in certain jurisdictions, as mentioned. However, this is not enough as data is not the only issue these entities bring to the table.

The inapplicability of both IDD and Solvency II in their current state to all entities using the self-governing model, as we have been defending, leaves a breach in the European framework that can be temporarily fulfilled by the use of the principle of proportionality, as EIOPA suggests, but it won't be enough.

To exclude P2P insurance from European legislation would be a mistake. EIOPA points several solutions on its "Report on Best Practices on licensing requirements, peer-to-peer insurance and the principle of proportionality in an *insurtech* context" namely:

- The services these entities provide being considered licensed insurance activity for the purposes of IDD, using as an argument the expectations of the peers;

- Consider the services as licensed activities but instead creating a "small insurance company status" which would follow the line of article 4 of Solvency II, with the very same argumentation of the above solution;

- Regulate such entities either under EU or "at a MS level" as platforms and admitting they do not sell insurance much like many of them state;

- Avoid regulating them under EU framework and do so at a national level.

In our opinion, the tendency will be for P2P insurance to grow and evolve, as generations change and the risk of someone not having an online presence will diminish. Considering the pros and cons of using such entities and the concepts underlying social insurance, the benefits seem to overcome the obstacles. It will be a matter of finding the proper solution for regulation and supervision and letting go of strict legally binding definitions that could make future developments fall under the same problems all over again.

As such, it should have the proper framework and we believe it should be at a European level, for harmonization purposes and considering the globalized world we live in. The state of the situation is still recent, as most of the NCA´s subjected to EIOPA´s survey didn't have much experience with *insurtechs* in general and even less self-governing entities[240]. However, we are witnessing a fast evolution and still no legally binding solution at a European level has been given besides roundtables that promote cooperation between

[240] EIOPA Report on P2P

the parties involved, papers and reports with best practices that, even though of much help, are still a non-binding solution.

6. CONCLUSIONS

The main goal of this study was to answer the question of whether or not the self-governing P2P business model is mischaracterizing the traditional insurance contract. We focused on European law to provide a final answer. To answer this main problem our study began with several smaller questions:

What are the main differences regarding the self-governing model that set it apart from the other P2P insurance models, making it represent a real and innovative legal concern?

After considering the elements of a so called traditional insurance contract under the Principles of European Insurance Contract Law ("PEICL") we concluded that the main ones are not there, with a special emphasis on the premium, as it is commonly considered essential. Despite being aware that the Principles are an optional instrument of soft law, we found them useful in terms of harmonization as it would require a different type of work to analyze each MS´s jurisdiction and which elements were considered essential. Given ours was a regulatory approach namely licensing requirements, an extensive analysis on the elements under each jurisdiction was pointless. Nonetheless, we found that despite some of the elements no longer being present the focus shouldn't be on the existence of an underlying contract of insurance but instead on the activity these entities pursue - just because there's no contact of insurance underlying it doesn´t mean these entities are not fulfilling the need for insurance. And they are indeed. If so, proper regulation must be granted for the purposes of market stability, competition and, our main concern, grant effective protection and accommodate the expectations of policyholders. We strongly believe this effective protection can only be granted if self-governing entities are to fall under IDD and Solvency II.

When questioned on whether we could apply the existing regulatory insurance framework (IDD and Solvency II) for the purposes of granting authorization and provide a license to entities using the self-governing P2P insurance business model, after analyzing the requirements present both in the Solvency II and IDD directives we conclude that they do not fall under their scope of application. This question is specifically relevant for such entities given they operate without an insurance or reinsurance intermediate specifically licensed to conduct the business of

insurance leaving them potentially unregulated under the current insurance framework. We believe the solution should be given case by case, given the high complexity and almost uniqueness of each entity and considering the level of autonomy each has as well as the technology used to operate. The most important step to understand the business of the self-governing entities itself and to what extend the entities participate in the final result - are they merely providing a platform or do they interfere in other parts of the process receiving some sort of payment in return? However, every single case regarding this model won't fall easily under the scope of both IDD and Solvency II and our answers points towards, in general, not being able to fit self-governing entities under both directives.

Nonetheless, we must refer that the avoidance of strict legally binding definitions in the future is important in order to prevent new entities and further technological advances from falling even more outside the scope of the existing regulation.

Regarding IDD´s dispositions, there's a set of dispositions that point us towards accommodating self-governing entities in the future and dispositions that create bigger obstacles. From the recitals we can conclude that it is absolutely essential to protect consumers at all times throughout the process of insurance distribution and contribute to market stability, competition, no matter the channel used to do so. It would be contradictory to leave such entities outside the scope of one of the most relevant pieces of European legislation and therefore potentially unregulated for insurance purposes.

We should avoid focusing on whether or not there's an underlying insurance contract (as IDD doesn't even define it) but instead create an even broader concept of insurance distribution, include certain activities these so-called service providers have in its scope and consider the paradigm of the insurer distributer as a professional entity able to comply with very strict requirements namely capital related ones. We concluded that each self-governing entity can have different levels of participation (providing information and managing claims, contributing for the celebration of a contract, or is it a mere service provider that sets a platform for the peers?) towards fulfilling the peers´ need for insurance and such differences may justify a different application of legislation, even considering the application of the Service Payments´ Directive for the ones who merely provide the platform. However, this cannot be a final solution when we have entities that clearly sell insurance and so each case must be carefully considered.

EIOPA even seems to incentive MS to create additional measures to effectively protect policyholders, keeping in mind IDD is a minimum harmonization directive[241]. Either way, the solution should be at a European level as the key in the sharing economy era is always harmonization between all MS and revisiting IDD in the future to include self-governing entities should be a priority.

IDD and its strict requirements are not fit to support real P2P insurance such as self-governing entities, who do not possess the knowledge nor the structure to distribute insurance in a professional way and who would fail to fulfill the organisational requirements and governance requirements. The strict professional requirements IDD establishes require a high knowledge of the business of insurance[242] that most of the self-governing entities wouldn't fulfill simply due to their P2P nature and solidarity spirit.

The use of the principle of proportionality, has EIOPA has been suggesting, can be of much help to prevent big regulatory changes in the current framework and adapt the existing framework hence not complying is not an option[243].

As for Solvency II, we also have several dispositions containing obstacles when it comes to self-governing entities. And much like what we concluded for IDD, we don´t believe self-governing entities can fall under Solvency II ´s scope of application. Even though we find obstacles in each of the 3 pillars, there's still a chance for entities excluded from its scope to provide insurance services[244]. Solvency II leaves the possibility for Member States to establish specific rules regarding P2P insurance[245]. The problem with this solution is the lack of harmonization it leads to, as they will be subjected to national supervision leaving a wide margin for Member States to operate and even choose which regulation to apply - Solvency I, Solvency II, both of them or even develop their own framework [246]. This cross border effect that the licensing provided under Solvency II allows is a major advantage specially for technology driven undertakings however, as pointed by EIOPA, there's a chance these national developments for those who cannot obtain a license under Solvency II may represent a possibility for *InsurTechs*, as specific conditions will be

[241] EIOPA Report on P2P - page 28
[242] See Annex I ex vi article 10(2) of IDD
[243] EIOPA Report on P2P - page 21
[244] EIOPA Report on P2P- page 28 - they won't be regulated under Solvency II.
[245] EIOPA Report on P2P- page 28. In such case, the entities won't be "subject to EU passport".
[246] EIOPA Report on P2P - page 13

taken into consideration namely market conditions[247]. Either way, our conclusion points towards the benefits of obtaining a license under the Solvency II regulatory framework for harmonization and practical purposes, benefiting both the consumers and the self-governing entities applying.

The most difficult obstacles in terms of requirements have to do with specific knowledge and capital requirements. We find it hard to see most of self-governing entities to be able to comply with such an exhaustive list of qualification, experience and knowledge in different areas as well as the capital requirements that may seem disproportionate for self-governing entities namely start-ups just like they were for smaller insurers[248]. The principle of proportionality could be of much use here, to adequate the provisions and apply them to self-governing entities in the future, as for now we don´t believe they could meet the requirements to fall under Solvency II´s scope.

All the exclusions from Solvency II, according to EIOPA, have practical reasons underlying and several assumptions namely the smaller entities having "typically less complex risk profiles"[249] and we underline the "typically". Looking at these new entities, the main problem is exactly the opposite - complexity of their business, the total absence of the traditional elements and mostly the difficulties that the regulators have understanding how they actually operate, requiring capable individuals from several different areas to fully understand the extend of the business that goes way beyond insurance itself. A possibility would be to include the services they provide when revisiting Article 2 (2), accommodating future technological developments.

To conclude, we won't find in any of these directives a specific disposition regarding P2P insurance nor a consensual definition is to be found. The use of P2P insurance can be confusing at times, including here entities that are not real P2P insurance. The absence of certain legally binding definitions however can be of much help for the purposes of regulating the self-governing entities or anything that includes technology for that matter, and best practice reports and papers as well as initiatives that promote cooperation between regulators, MS and *InsurTechs* are the much needed guidance. However, a legally binding solution must be found.

[247] EIOPA Report on P2P - page 14
[248] STARITA, MARIA GRAZIA, MALAFRONTE, IRMA "Capital Requirements, Disclosure, and Supervision in the European Insurance Industry New Challenges towards Solvency II"- page 3
[249] EIOPA Report on P2P - page 13

Given the large use of highly disruptive new technology data driven and the additional concerns it rises a third question concerned the applications of AI in the self-governing model, its potential to lead to discriminatory practices and hidden bias and how to avoid them under the current European framework, namely the GDPR?

We found that under the GDPR it is easier to grant effective protection to the data subjects no matter the entity due to its cross-sectoral application. Furthermore, AI is covered both under IDD and Solvency II as well as the GDPR. The impacts of P2P haven't been felt, as the NCA´s point on EIOPA´s report on P2P. AI is extremely popular amongst *InsurTechs*, as expected, and betting on data analysis through AI has several advantages for a business that is driven by data like insurance. As such, regulation and cooperation between regulators from different areas is essential.

By enhancing customer protection and contributing to transparency and real time solutions, AI applications and services provided by *InsurTech* can contribute to a higher level of trust amongst customers and transparency. The key to ensure that trust lies in data protection, namely through the mechanisms in the GDPR, as the only legally binding instrument capable of actually guaranteeing the safeguard of fundamental rights and freedoms constantly at stake when AI is the main issue. To preform more formal and administrative tasks, AI doesn't leave much doubts on whether its a good or a bad thing. But when it comes to actually making complex decisions in insurance AI can be tricky and costly, as complying with the existing legislation in the data protection department is hard to do. The costs needed to comply can represent a bigger burden for small self-governing entities arising from the startup scene, many of them startups financed with venture capital.

The non-discrimination principle prohibits discrimination based on any ground such as *"sex, race, color, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation",* Article 21 of the Charter of Fundamental Rights of the European Union. Discriminatory results are , of course, not exclusive to AI´s use in P2P insurance nor new. They can, however, be amplified when AI is used in P2P insurance, leaving for instances the peers to vote without any supervision based on the data they have.

Given the inadequacy of the existing legislation and lack of harmonization, the GDPR remains the most important legally binding instrument that must taken into

consideration, specially when using AI techniques in P2P insurance. The regulators in insurance need to improve and provide interpretation of the existent legislation and keep counting on the interdisciplinary approach to safeguard as many aspects as possible and avoid slowing down technological advances that can bring several benefits for insurance companies and their customers. Most of the legal problems become secondary when there's no proper understanding of the rationale behind the technology used, so we need to dig a little deeper.

As for consumers, so far we believe them to be effectively protected under the GDPR and its principle based-approach. But given the uncertainty and the future developments - and because some realities are not that far when it comes to insurance companies having access to non-traditional data, data subject's consent and the information requirements is essential as well as increasing transparency, which still lacks in P2P insurance.

Discrimination and bias gain a new dimension with P2P insurance. Just like when analyzing the licensing requirements, here we must take into consideration the autonomy of the self-governing entity. If we consider relatively small entities without a strong structure with the competent professionals, they will most likely fail to remove bias from the data used for instances to group the peers according to their needs, simply because the costs are higher and their structure won't allow it. In certain cases and with restrictions, it is allowed to use certain criteria which is the case of "age, disability, religion and sexual orientation"[250]. Proportionality must be carefully considered and additional protection must be granted. It is within the duties of the insurance intermediary to adopt the proper measures and contribute, ideally in a preventive way, to the prevention of such results, namely in the phase of product design. A human rights by-design approach should be adopted and biases must be avoided at all costs. Should we be able to make P2P insurance fall under IDD´s scope and we would most certainly have framework to prevent such risks amongst the peers. But as mentioned before we find it hard, at this point, to apply IDD to P2P insurance. AI, however, falls under IDD´s scope.

[250] AI Governance Report, figure 9 - page 29

In usage-based insurance products[251] we could face the possibility of exclusion for higher risk profiles[252] hence the use of certain data is already being excluded from insurance in some countries namely in health insurance[253]. We fully support the limitations on the data used as a mechanism to avoid discriminatory practices.

Once again, we find such obstacles more difficult to overcome in the claim´s management phase when a self-governing entity is involved when they have very little interference in that process. Differently, when the self-governing entity uses AI to manage claims, the same problems with traditional insurance using AI arise here.

A large part of policyholders from vulnerable groups with different consumer habits will most likely stay away from P2P either for trust motives or simply because they do not have an online presence. If so, for these last consumers, there's a risk of becoming uninsurable[254].

The final conclusion will point towards a positive answer to the main question. The self-governing model represents a mischaracterization of the traditional insurance contract, forever changing the insurance scene. We came to this conclusion only to find out that the focus shouldn't be on the existence of an insurance contract itself but instead on the technical aspects related to licensing and data protection, considering the technology involved and the need of a broad answer. The fact that the entities using the self-governing model fall easily outside of the scope of the existing regulation for licensing purposes - IDD and Solvency II, doesn't mean they are not fulfilling the need of insurance and that they should be de-regulated, quite the opposite.

The solution, in our opinion, cannot be to apply a different framework to self-governing entities such as the Payments Service Directive when we consider their scope of activity to be, in fact, insurance. The level of interference each self-governing entity provides must be taken into consideration. When the peers consider using such models there's an underlying expectation of insurance coverage and such expectation must be taken into consideration.

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[251] AI Governance Report
[252] AI governance principles report - page 11
[253] AI governance principles report - page 27 names a few jurisdictions where certain data is already excluded from insurance pointing for instances Denmark, which forbids DNA related data in life and health insurance and the jurisdictions that are now restricting health related data when applying for credit insurance.
[254] Term used in "OECD (2017), Technology and innovation in the insurance sector", page 7

The fact that further solutions haven't been given or efforts towards actually changing certain provisions from both IDD and Solvency II may have to do with the fact that most NCA´s still haven't truly experienced P2P insurance complications, as per stated in EIOPA´s report on P2P and the principle of proportionality. *InsurTech* itself doesn't represent an issue, it is the specifics on certain aspects such as the self-governing model as a real P2P model that do so. That being said, it is understandable how no mandatory solution has been reached so far.

The fact that these new solutions work with technology that continuously collects data from the peers may even point the solution towards another regulator, namely in the data protection area, and ultimately we can have some borderline cases where the regulators struggle to understand which is responsible. Ideally, an approach promoting communication and cross-sectorial regulation could be adopted.

7. BIBLIOGRAPHY

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