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Insuring the Uninsurable: The Global Political Economy of Insurtech Platforms

Perticone Yannick

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FACULTÉ DE SCIENCES SOCIALES ET POLITIQUES

INSTITUT D'ÉTUDES POLITIQUES

Insuring the Uninsurable: The Global Political Economy of Insurtech Platforms

THÈSE DE DOCTORAT

présentée à la

Faculté des sciences sociales et politiques
de l'Université de Lausanne

pour l'obtention du grade de

Docteur en science politique

par

Yannick PERTICONE

Directeur de thèse
Professeur Jean-Christophe GRAZ

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Jury

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IMPRIMATUR

Le Décanat de la Faculté des sciences sociales et politiques de l'Université de Lausanne, au nom du Conseil et sur proposition d'un jury formé des professeurs

- M. Jean-Christophe GRAZ, Professeur, Directeur de thèse
- Mme Rahel KUNZ, Maître d'Enseignement et de Recherche de l'Université de Lausanne, co-Directrice de thèse
- M. Yohan ARIFFIN, Professeur de l'Université de Lausanne
- Mme Lena RETHEL, Professeure de l'Université de Warwick, Grande-Bretagne
- M. Nicolas PONS-VIGNON, Professeur de la Haute école spécialisée de Suisse méridionale (SUPSI)

autorise, sans se prononcer sur les opinions du candidat, l'impression de la thèse de Monsieur Yannick PERTICONE, intitulée :

"Insuring the Uninsurable : the Global Political Economy of Insurtech Platform"

Nicky LE FEUVRE
Doyenne

Lausanne, le 29 avril 2024

ABSTRACT

Insurance technologies are the solution to the shortfalls of the insurance market for low-income populations. This has been the narrative supported by international insurance development actors over the last few years. Insurtech are platform-based business models which are able to collect a large volume of data, provide more accurate risk assessment and, thereby, include more populations in the formal financial realm. Existing studies in international political economy probe for more nuanced accounts of the advance of financial technologies. Yet, only a few encompass insurance technologies with the broader organisation of capitalism based on platforms, and even less so provide a detailed and contextualised scrutiny of the process of market expansion entailed by platforms. This prompts the question to what extent, and in what ways, do Insurtech platforms transform the expansion of the inclusive insurance market? I answer this question by drawing on an eclectic and heterodox approach to international political economy. I propose an examination of Insurtech's epistemic, institutional, and organisational practices driving the expansion of the inclusive insurance market. I argue that Insurtech platforms shape the expansion by reproducing capitalistic and colonial patterns of capital accumulation, sustained by formal and informal institutional arrangements, but also transforms the process of value extraction to create value from the social life of the targeted populations. Nevertheless, the expansion remains partial as contradictory dynamics arise between insurance and platform principles. The findings contribute to international political economy literatures on platform capitalism and digital financial inclusion as they conceptualise the dynamics and power relations at stake of platform firms when they come to consolidating and expanding an inclusive financial market such as insurance.

RÉSUMÉ

Les technologies de l’assurance sont présentées comme la solution pour surmonter le déficit du marché de l'assurance pour les populations à faible revenu. C'est le récit soutenu par les acteurs internationaux du développement de l'assurance au cours des dernières années. Les Insurtech sont des modèles économiques basés sur des plateformes capables de collecter un grand volume de données, de fournir une évaluation des risques plus précise et, donc, d'inclure davantage de populations dans le monde de l’assurance. Les études existantes en économie politique internationale nuancent l’optimisme autour de l'avancée des technologies financières. Cependant, peu d'entre elles intègrent les Insurtech dans l'organisation plus vaste du capitalisme basé sur les plateformes, et encore moins fournissent un examen détaillé et contextualisé du processus d'expansion du marché entraîné par les plateformes. Cela soulève la question suivante : comment les plateformes Insurtech transforment-elles l'expansion du marché de l'assurance inclusive ? Je réponds à cette question en m'appuyant sur une approche éclectique et hétérodoxe en économie politique internationale. Je propose un examen des pratiques épistémiques, institutionnelles et organisationnelles qui sous-tendent l'effort d'expansion du marché de l'assurance inclusive. Je soutiens que les plateformes Insurtech façonnent l'expansion en reproduisant des schémas capitalistes et coloniaux d'accumulation du capital, soutenus par des arrangements institutionnels formels et informels, mais en transformant son processus d'extraction de valeur, désormais basé sur la vie sociale des populations ciblées. Néanmoins, l'expansion demeure partielle car des dynamiques contradictoires émergent entre les principes de l'assurance et de la plateforme. Les résultats contribuent aux littératures en économie politique internationale sur le capitalisme des plateformes et l'inclusion financière numérique en conceptualisant les dynamiques et les relations de pouvoir en jeu des entreprises de plateformes lorsqu'il s'agit de consolider et d'élargir un marché financier inclusif tel que l'assurance.

To my uncles Francesco and Gianni.

"Insurance, in short, is a financial service open, like the Ritz Hotel, to rich and poor alike, but whose customers in the main are (and have always been) those able to pay the costs and whose involvement in economic transactions […] gives them the means as well as the motive for doing so. The rich, it is sometimes said, are 'risk-averse'. What this means is that they, more than others, can afford to transform part of the risk into a cost."
(Strange 1996, p. 128)

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I would like to express my heartfelt gratitude to all those who have contributed to the completion of this doctoral thesis. This academic journey has been a challenging yet rewarding experience, and I am profoundly grateful for the support and encouragement I have received along the way.

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ACRONYMS

A2ii	Access to Insurance Initiative
API	Application Programming Interfaces
Cenfri	The Centre for Financial Inclusion and Regulation
CFI at Accion	The Centre for Financial Inclusion at Accion
CGAP	The Consultative Groupe to Assist the Poor
Fintech	Financial technology
FSDA	Financial Sector Deepening Africa
DGIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IAIS	International Association of Insurance Supervision
ILO	International Labour Organisation
IIF	The Institute of International Finance
Insurtech	Insurance technology
IPE	International Political Economy
IR	International Relations
I2I	Insight2impact
UKAid	The UK Department for International Development
WEF	World Economic Forum

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INTRODUCTION

On 30th September 2016, the Institute of International Finance issued an online publication entitled "Insurance Inclusion: Reaching Underserved Populations with Tech". This document marks a significant shift in the conception of insurance services for development purposes. International insurance development actors[1] began to praise digital technologies to overcome the barriers of providing insurance products to vulnerable populations worldwide:

> *Insurance technologies […] are platforms that help optimise any of the principle for success or requirements of insurance […]. Historically, it has been difficult for insurers to service low-income communities, especially in developing countries. […] This is beginning to change. Thanks to innovation— primarily new data technology and the spread of mobile phones—there is a new opportunity to make insurance more accessible to uninsured and underinsured populations. (IIF 2016, p. 2)*

This quote encapsulates the essence of the digital turn of the inclusive insurance agenda. It does so by stressing how data and mobile phones are crucial to provide insurance access to low-income but also uninsured populations. However, most importantly, it outlines the core organisation able to fulfil such objectives: insurance technologies. In a nutshell, insurance technologies (Insurtech) are firms that leverage a digital infrastructure to improve the provision of insurance services. They emerged among a set of financial technologies (Fintech) some dedicated to credit services, mobile payments, and others to digital wallets. They use diverse digital technologies such as Data Analytics, Machine Learning, Artificial Intelligence, Cloud Computing, or Internet of Things to enhance the efficiency of their services and provide cheap financial products. But most importantly, the advent of Insurtech firms is to be associated with the rise of platform capitalism, namely the reorganisation of the global economy around platform-based business models. But what makes Insurtech so distinctive that international insurance development actors are ready to rely on them to fix and expand the insurance market for vulnerable populations?

[1] By international insurance development actors, I refer to international organisations (e.g., ILO, World Bank), foundations (e.g., MunichRe Foundation), think-tanks (Cenfri), international insurance regulators (IAIS, A2ii), reinsurance and insurance companies (e.g., Munich Re, AXA, MetLife, Zurich…) that promote the inclusive insurance agenda, namely the sale of insurance to alleviate poverty around the world.

At the time of writing, Insurtech platforms[2] are commonly acknowledged among financial and international development actors as the innovative solution capable of solving problems of market expansion in the provision of insurance services for "uninsured and low-income populations" across the world (IIF 2016; IIF and CFI 2017; A2ii 2018; IIF and CFI 2018; IIF and Accion 2018; World Bank 2018; Insight2impact 2019; CGAP 2020; Microinsurance Network 2022). Insurtech emerged concomitantly with a critical shift in the populations targeted by the industry, moving from microinsurance programmes dedicated exclusively to the poorest segment, to a so-called "inclusive insurance agenda" with population prospect that embeds an uninsured emerging middle class at risk of falling into poverty with low-income groups of people (IIF and CFI 2017; IIF and Accion 2018). Hence, these firms are put forth as able to overcome issues of insurance access for uninsured and low-income people living in rural areas, reduce operational costs to provide lower premiums and reach people with low, inexperienced financial literacy (Cenfri 2017, p. 8). But the most important problem Insurtech platforms are pledged to solve is the "lack of information on uninsured and low-income populations" (Ibid., p. 7). Indeed, they claim to do so by leveraging on the specific platform tool to collect and analyse a large volume of individual's data with the promise to enhance the calculation of risk assessment and provide a personalised pricing of premiums, tailored to the needs of uninsured and low-income populations and the risk event most appropriate to cover (Cenfri 2019).

However, not everyone comes to share the optimistic discourse of financial and international development actors. Critical scholars in international political economy (IPE) and cognate fields probe for more sceptical and nuanced accounts of the advance of financial technologies to deepen financially inclusive markets and alleviate poverty worldwide (Maurer 2015; Mader 2016; Carr et al. 2016; Gabor and Brooks 2017; Jagtiani and Lemieux 2017; Langevin 2019; Bateman, Duvendack, and Loubere 2019; Guermond 2020; Torkelson 2020; Brown and Piroska 2022). Among the most prominent studies on digital financial inclusion, authors have argued that Fintechs face considerable constraints, exemplifying infinite attempts to rehabilitate a failing neoliberal initiative to reduce poverty via financial markets (Bernards 2019b; Aitken

[2] The notion "Insurtech platform" is the final formulation I chose to describe the research object. In the article "Datanalysing the uninsured: The coloniality of inclusive insurance platforms", the reader finds the notion of "inclusive insurance platform" to describe the same object. The article being written early in my PhD, the denomination of my research object evolved throughout the thesis. I decided to use the notion "Insurtech platform" to ensure a terminology closer to the one used by the insurance industry.

2022) as well as reproducing existing patterns of uneven development that can be traced back to the colonial era (Natile 2020; Langley and Leyshon 2022; Bernards 2022a).

From the literature review, I identify three main gaps. First, despite a few exceptions (Aitken 2022; Bernards 2022a), the literature tends to disregard the encompass of Insurtech with the broader organisation of capitalism based on platform firms. These firms are built on a digital and interoperable infrastructure, mediate the economic relation between two or more parties and collect and analyse data for risk assessment purposes. These characteristics epitomise the structure and the functioning of a platform. Secondly, by bringing both literature on digital financial inclusion and platform capitalism into discussion, I also stress the necessity to shed light on Insurtech as smaller and sectoral platforms deserving as much attention as Superplatforms such as Alphabet, Meta, Amazon, Microsoft, and Apple[3] and other Fintechs. These platforms employ mechanisms for market expansion which share similarities with, yet differ from, those of online credit platforms or major tech giants like Amazon and Apple. Thirdly, the existing literature offers valuable insights into the parameters of market expansion, be it through financialisation, platformisation, or within a neoliberal pattern of international development. Eventually, such contextual analysis paves the way for a detailed scrutiny on the process of market expansion as well as its limits. Acknowledging the work done by previous studies on the matter, I delve deeper into the issue of market expansion on the specific deployment of Insurtech platforms by studying the case of platform ride-hailing drivers, which is still underexplored in the literature.

This prompts the following research question that this thesis addresses. Overall, to what extent, and in what ways, do Insurtech platforms transform the expansion of the inclusive insurance market?

To answer this question, my research draws on a heterodox and eclectic approach to IPE. The approach is heterodox, that is conceiving the economics, the politics and the international as intertwined over and above the centralised authority of national states (Murphy and Tooze 1991; Graz 2000; Palan 2013). And it is eclectic, namely open to insights from many disciplines (Strange 1991). In this study I mobilise different insights. I draw on IPE studies on insurance, highlighting the power of insurance triggering new spaces for market development,

[3] Formerly known by the acronym GAFAM and now also known as AMAM: Google (Alphabet), Apple, Facebook (Meta), Amazon and Microsoft.

post/decolonial IPE grasping the historical legacy of global contemporary capitalism, institutional political economy focusing on the institutional architecture shaping market relations, and sociology of markets delving into the devices and mechanisms constituting markets. I combine these frameworks to situate Insurtech platforms within a specific social and historical context related to international development and the financial inclusion agenda. Thereby, Insurtech operates as an institutionalised market entity, and deploys peculiar organisational features – a specific variety of platform capitalism - to extract value from unmarketed populations by selling insurance services. The Insurtech platform is the core unit of analysis. I propose an examination of Insurtech's practices, intricacies, and concurrent mechanisms driving the endeavour to expand the inclusive insurance market. This involves historical contextualisation of platform valuation practices, uncovering socio-legal mechanisms supporting the institutional arrangement of Insurtech platforms, and presenting the principles and associated contradictions guiding their efforts to expand the market. This framework contributes to IPE literatures on platform capitalism and digital financial inclusion as it conceptualises the platforms' dynamics and power relations at stake when it comes to consolidating and expanding an inclusive financial market such as insurance.

Put succinctly, the overall argument of this thesis is as follows: Insurtech platforms shape the expansion of the inclusive insurance market by reproducing capitalistic and colonial patterns of capital accumulation, sustained by formal and informal institutional arrangements, but also by transforming its process of value extraction from the social life of the targeted populations. Nevertheless, the expansion remains partial as contradictory dynamics arise between insurance and platform principles.

The thesis answers three specific questions through three different articles. The first question being, how do Insurtech platforms shape such market expansion and what are the broader implications for the financial inclusion agenda? The second, how does the regulation of Insurtech platforms contribute to create the inclusive insurance market? And in whose interest? And the third, how do Insurtech platforms fulfil the promises to expand the frontiers of capitalism to the supposedly vulnerable populations of the world? The order of the questions relates to the question chosen for each article, the first research question being addressed in the first article, the second question in the second article and the third in the last one.

The first research question is answered in the first article entitled, *Datanalysing the uninsured: The coloniality of inclusive insurance platforms* which was published in 2022. In this article, I

suggest assessing the colonial dimensions underlying the market expansion process of inclusive insurance supported by platform firms. This article answers the research question by exploring the type of platforms, the interoperability and security standards platforms which platforms are centred around, the racialised assumptions underlying risk classification measurements and the appropriative practices of value extraction in the sale of insurance products. Inspired by Quijano 's concept of "coloniality of power" (Quijano 2000), the article contributes to thinking about platform capitalism beyond the Western context, laying emphasis on the historical structure and colonial legacies which platforms carry on when it comes to establish new economic relations with uninsured and precarious individuals.

The second research question is addressed in the second article with the title, *Futurity-led platform capitalism: The regulation of inclusive Insurtech platforms* which was published in 2023. I unravel the socio-legal foundation and the public/private configuration of interests at play within the specific experimentalist legal framework regulating Insurtech platforms: the regulatory sandbox. I draw on Common's concept of "futurity" (Commons 1934/1990) to argue that this later became the driving force mediating the inclusive insurance market by Insurtech platforms. The regulatory sandbox performs the legal control that *a priori* confers Insurtech platforms the right to a proprietary control of data, guarantees predictable market expectations and operates a mode of governance that benefits private interests. The article contributes to the literature by offering an analysis of the socio-legal dynamics at stake in the attempted expansion of the inclusive insurance market and underlying the foundation of platform capitalism in this specific economic sector.

The third and final article entitled, *Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance* (accepted with minor revisions) addresses the last research question. In this article, I investigate Insurtech platforms on their quest to turn uninsured and low-income individuals into new financial resources and therefore expand the inclusive insurance market. I do so by shedding light on the differences from what is highlighted in the literature in critical IPE on Fintechs for financial inclusion. I suggest examining the process of market expansion by delving into the issues of interoperability – that is the standardised ability of platforms to plug-in and exchange data, valuation – assigning a monetary value to the assessed risk, and pricing – the aggregation of risk based on personalised premium pricing. Drawing on Callon's process of "qualification" (Callon, Méadel, and Rabeharisoa 2002), I take the view that, contrary to other Fintechs, the process of Insurtech platform market expansion relies on the scalability of platforms and their capacity for pooling risk. The article argues that Insurtech's

promises fall short of expectations as a result of a contradiction between these two processes, thus constraining the effort in expanding the inclusive insurance market.

In this thesis, I use a case study methodology to address the involvement of Insurtech platforms in the inclusive insurance market. I operationalise my method by observing the epistemic, institutional, and organisational practices of Insurtech platforms on a transnational level. The corpus of data is a triangulation of in-depth interviews, direct observation, and document analysis. I conducted 42 semi-structured interviews with Insurtech platforms' managers, international and national insurance supervisors, and think-tank representatives. Some of the interviews were conducted in person – pre-Covid 19 pandemic. Other interviews have been carried out online via a video communication platform. I complete the interview data with an analysis of official regulatory documents and reports published by think tanks and international insurance supervisors. In addition, I also analysed the Terms of Service of Insurtech platforms. These documents were helpful to design the interview grids and corroborate the discourse of Insurtech representatives with the legal agreements of the company. I then gathered data through direct observation at international conferences related to the digitalisation of inclusive insurance. Similar to the interviews, I was able to observe two conferences on-site and then participated into other conferences online. I apply this method to a specific case study of vehicle insurance for platform ride-hailing drivers. The research material was coded with the Software NVivo 2.0 to organise and systematise the analysis.

The research makes three contributions. Theoretically speaking, it offers a contextualised and meso-level analysis of the process of market expansion. Contrary to accounts in political economy and several IPE studies on the structural power of capital to commodify everything, this research contributes to nuance this narrative by illustrating the limits and contradictions inherent in capitalism. By adopting an eclectic approach to IPE, I unveil the epistemic, historical, institutional, and organisational dimensions that shape the limited consolidation and expansion of the inclusive insurance market through Insurtech platforms. At an analytical level, the results contribute to existing discussions on the relevance of private insurance to achieve social goals and alleviate poverty worldwide. It highlights a matter of concern; the optimistic discourse of insurance development actors regarding the deployment of digital technologies to reconfigure a market-oriented approach to poverty alleviation. Beyond their inefficiency, I demonstrate that Insurtech platforms reproduce patterns of capital accumulation by turning uninsured and low-income populations into new financial resources, but, are based on colonial and anthropomorphic extractive mechanisms driven in the future. Empirically speaking, this

research provides a detailed investigation of Insurtech platforms which received less attention from the literature in IPE compared to studies on other Fintechs. It also portrays a contextualised manifestation of platform capitalism when penetrating markets for development purposes such as inclusive insurance.

The thesis is organised as follows. I first provide a background on my research. In this section, I consider the context in which Insurtech platforms emerged as an opportunity to reach independent ride-hailing drivers with inclusive motor insurance products. I then review the literature related to my research object on Fintech for financial inclusion and platform capitalism. Subsequently, I present my theoretical framework and the main concepts used for the analysis. The following section is dedicated to the methodology adopted as well as the research methods employed. Here, I describe the case study methodology, how I operationalised my research and what sources of data I drew my analysis from. I then turn to a brief introduction of the three articles providing the analytical section of the thesis. My conclusions provide a discussion on the process of market expansion, before elaborating on the contributions of the analysis and highlighting some of its limitations and avenues for further examination of Insurtech platforms.

THE RISE OF INSURTECH PLATFORMS

Insurtech platforms for ride-hailing drivers emerge in a context characterised by a world of work in transformation driven by the organisation of capitalism based on platform firms and an international development framework shaped by a neoliberal doctrine. It is necessary to introduce two entangled environments in order to better understand the socio-historical context framing the advance of Insurtech platforms. Hence, in this section, I introduce and contextualise the case study design of this research. I do so, by first outlining the rise of location-based platforms, the increase in on-demand jobs for informal workers in emergent and developing economies, and the subsequent incursion of neoliberal-framed and digitally driven insurance instruments to cope with the uncertainties of the independent working status.

Over the past decade, digital technological devices and platform-based business models have brought about rapid change in the world of work (World Bank 2019). One case in point has been the emergence of a new form of on-demand work intermediated by, what the ILO casts, as "location-based" labour platforms (ILO 2021, p. 75). Their activities centres on taxi and delivery services by connecting, algorithmically and via smartphones, a customer with a worker who performs his task physically in a given geographical space (Haidar and Keune 2021). Hence, in the last decade, location-based platforms clearly affected the transport sector worldwide as firms such as Uber, Gojek, Grab, Hailer, Taxify, Zebra Cabs, DiDi and Bolt, to name just a few, soared.

As estimates count tens of millions of ride-hailers registered on a location-based platform (WEF 2020; ILO 2021), this number is said to be growing rapidly also in so-called emerging and in development economies (CGAP 2023b). On-demand workers' profiles are slightly different in both contexts. Whereas ride-hailing jobs can be an auxiliary task alongside an initial job (Abdelnour and Bernard 2018), in emerging and in development economies, millions of informal workers contract with ride-hailing platforms as their main source of revenue (Verma, Ilavarasan, and Kar 2020). Labour platforms thus commodify labour previously not subsumed by the capitalist mode of production (Marčeta 2021). It can concern previously uncommodified activities as well as "the incorporation of geographical areas or groups of persons that were previously largely outside the reach of the capitalist mode of production" (Haidar and Keune 2021, p. 5).

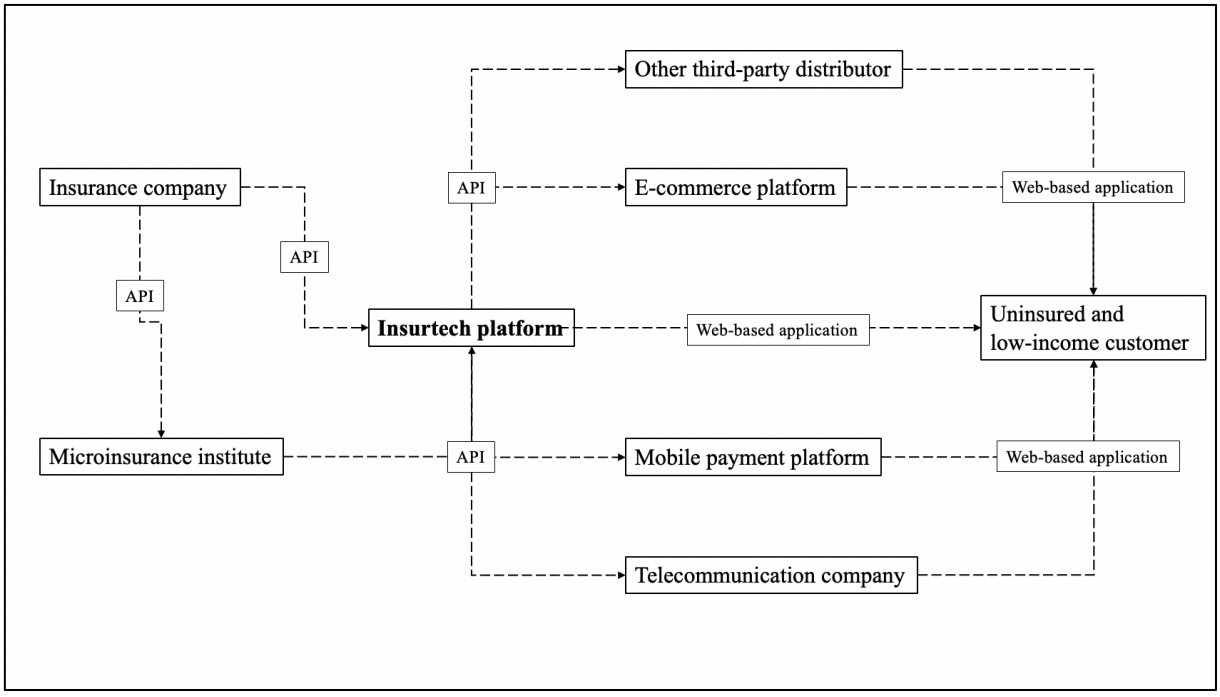
Against this background, insurance development actors became increasingly interested in how located-based labour platforms can enable inclusive insurance (Insight2impact 2019; CGAP 2023a). Even though accounts on the effects of working conditions are disputed; on the one hand with arguments in favour stressing the flexibility and low barriers of the job offering attractive income opportunities (Eisenmeier 2018), and on the other hand arguments claiming that platforms do not provide equal opportunities to all stakeholders and thus exacerbate existing structural inequalities (Verma, Ilavarasan, and Kar 2020), insurance development actors consider the rise of digital intermediated on-demand work as a "unique opportunity for the financial inclusion of informal workers" (CGAP 2023a).

I identify two main reasons for such a shift. First, by joining a platform, informal workers make their first steps into a digitised working relationship that generates a regular and large amount of data on their working and financial practices (Doorn 2017; Perrig 2021). Through their journey, workers produce geographical, transactional, and other smartphone data stamps that provide insurantial entities with a bedrock of information to draw any type of analysis. These datasets are of great value to assess the eligibility of a person to subscribe to an insurance policy. Or to put it differently, to measure a person's risk score. Secondly, on-demand work poses critical issues in terms of working status classification (ILO 2021). Platform ride-hailing drivers are "contingent workers" or "independent contractors", working for the firm but without being hired as employees (Wood et al. 2019). As a consequence, platforms set up minimum quality standards in the selection and management of the workforce and avoid the duties connected to employment laws and labour protections (De Stefano 2016). The independent status of ride-hailing workers does not lay down mandatory subscription to any form of social protection. The worker is left with no other choice to either enrol in a private insurance policy by herself/himself that provides certain coverage (e.g., vehicle accident) or she/he is excluded from any social security measure. Overall, scholars tend to acknowledge that drivers face uncertainties as these jobs lack forms of social security (Abdelnour and Bernard 2018; ILO 2021). As Anner et al. (2019) argue, weak organisation by unions, as well as public and private strategies for short-term economic growth, results in a digitally-driven world of work where inequality exacerbates, terms and conditions of employment are impacted, and forms of social protection are severely jeopardised.

It is in this specific context of work platformisation that the case study of this research, namely Insurtech platforms, is embedded. These platforms play a significant role in the intermediation of insurance policies to provide a protection against, for instance, road accidents for platform

ride-hailing drivers. In this thesis, I define an Insurtech platform as a private company providing a digital intermediation between an insurance company and an end user in the protection against a defined risk. The notion Insurtech derives from Fintech, that is, firms enmeshing digital technologies such as Artificial Intelligence, Machine Learning, Cloud Computing, or Internet of Things with financial services. Insurtech can plug in with other platforms, to collect information, organise risk distribution and measure the value of risk. Figure 1 below shows that the Insurtech platform is situated at the centre of the value chain of the inclusive insurance market. It intermediates the calculation and valuation of risk through Application Programming Interfaces (API) and other security protocols. Insurance and microinsurance companies play the risk holder as they hedge their capital against the measured uncertainty, thus guiding the platform in its risk assessment. This measurement is only possible with the variety of data sources the platform can retrieve either from other platforms, or directly from the final customer.

Figure 1: Diagram of the inclusive insurance market intermediated by Insurtech platforms.



The features and activities of Insurtech platforms reflect the manifestation of the broader neoliberal doctrine which has dominated international development since the early 1980's. Associated with the Washington Consensus and the practices of the World Bank, the International Monetary Fund and other International organisations (Weber 2002), neoliberal thoughts are rhetorically attached to an utter "commitment to free market and the presumption

of the state as a source of both inefficiency and corruption" (Fine and Saad-Filho 2014, p. 157). Contrary to the economic growth paradigm following World War II where the state plays a significant part in achieving economic development (Arndt 1987; Fine 2009), neoliberal thoughts presuppose a new design of the state, acting as a firm driven by a positive accounting balance, that intervenes on a discretionary basis to promote the expansion of globalised capitalism (Fine and Saad-Filho 2014; Brenner, Peck, and Theodore 2010). Collective problems are seen to be solved by expanding markets, creating new ones, or by experimenting with market-like measures in cases where the previous ones were impossible to implement (Frankel, Ossandón, and Pallesen 2019).

The post-Washington Consensus reiterated the rational on market-oriented approaches to social problems, yet by highlighting market and institutional imperfections in opposition to the view of the perfect free market promoted by the Washington Consensus (Fine and Saad-Filho 2014). Beyond the market imperatives imposed by the neoliberal doctrine, the shift from the Washington to the Post-Washington Consensus illustrates, first, the institutional commitment to strengthen the ties between international debt relief and poverty reduction, and secondly, the decision to move from debt initiatives by placing the terminology "poverty reduction" at the top of the agenda of international development agencies (Weber 2002). Hence, the post-Washington Consensus epitomises a transition of focus from the means to the ends of international development. This led scholars to see this shift as a new governing strategy of poverty framed in terms of social risk and vulnerability management (Weber 2004; Best 2014). As Best (2013) notes, this approach of international development centres at its core the vulnerabilities of individuals and/or communities to certain shocks and risks that may create or exacerbate conditions of poverty.

Thereby, insurance as a mean to prevent and alleviate poverty becomes a central tool in the reconfiguration of neoliberal thoughts in international development (Bernards 2018). Indeed, with the subsequent waves of budget austerity, privatisation, and market liberalisation, national states, under structural adjustment programmes or not, turned towards market-oriented insights for the provision of social welfare. Financial inclusion complexifies this relationship. As a core organising assemblage, financial inclusion allows both state-led programmes and the business models of private firms to be organised around furthering specific market-oriented goals, such as access to credit and financial literacy education (C. Clarke 2015). Yet, a case in point of neoliberalism is the transformation of the socialisation of risk, through collective public provision, "towards a privatisation, individualisation and hierarchisation of risk assessment

[…]" (Gill 1995, p. 407). The emergence of insurance products (and the overall financial inclusion agenda) marks a significant shift in who is the last bearer of the risk to fall into poverty. It portrays an agenda of international development where citizens and informal workers are the one responsible for their welfare and development (Kunz 2011).

In summary, Insurtech platforms seem to overlap both the means and ends of development policy by promoting market-based solutions with the sale of personalised insurance products and investing in digital technological firms to reengineer and solve market problems as well as, discharge the responsibilities to cope with the uncertainties of precarious working and living conditions on the individual, henceforth, the main actor, to ensure economic growth. The specific case of Insurtech platforms for ride-hailing driver is thus required to be associates with the deployment of platform capitalism in markets with development purposes such as inclusive insurance. The classification of the employment status of platform ride-hailing drivers as independent contractors happens to be a market opportunity for insurance companies and Insurtech platforms by intervening to fulfil the lack of regulatory environment and social protection that is traditionally offered in an employment relationship. We now move to discuss the state-of-the-art literature regarding financial and insurantial technologies literature which is related to the broader organisation of capitalism based on platform business models.

LITERATURE REVIEW

A large array of studies in IPE and related fields have investigated the penetration of digital technologies in the provision of financial services, namely Fintechs, Insurtech, digital payment and mobile money. Highlighted explicitly, or mentioned implicitly, the literature places the platform firm, its practices, and its ecosystem, at the core of the controversies surrounding the digital financial inclusion agenda and how data-driven technologies shape the expansion of financial markets dedicated to vulnerable populations. Hence, I now turn towards the first strand of this literature review by discussing the studies conducted in IPE on Fintech and Insurtech for financial inclusion. I classified the studies according to the digital device analysed. Following this, I present the literature on platform capitalism. I later divided this according to scholars' position on whether capitalism is being reproduced or transformed by platform firms.

Fintech and Insurtech for financial inclusion

Some studies focus on mobile money and how new types of electronic payment systems provide data trails used for market expansion and in attempting to alleviate poverty. For instance, Maurer (2012, 2015) shows how socio-techniques and narratives enable the formation of a consumer market for mobile money via an array of expert players dedicated to creating such services. More broadly, these new development actors banking on mobile money push for an end of cash to extract profits from everyday transactional costs, to harness data for sale and analysis purposes, and ultimately gain greater control over people's money (Mader 2016). Another case in point is Natile's (2019; 2020) study of M-PESA mobile money platform in Kenya. She points out that while digital financial inclusion techniques respond to the exclusion of women in the financial circuit due to economico-legal structures inherited from the colonial era, they also provide a new source of profits which tends to exacerbate existing socio-economic inequalities.

Other accounts demonstrate how cash transfer programmes and remittances, are increasingly being digitalised, linked to financial inclusion principles and services, as located attempts to increasing the scope of global financial markets within processes of financialisation (Kunz 2018; Datta 2017; Zapata 2018). Guermond (2020) for instance shows how digital behavioural engineering, that applies nudges inviting to adopt particular behaviours, among others, is an element in the marketisation of the remittance markets. In the same vein, Rodima-Taylor and Grimes (2018, p. 109) examine the growing employment of crypto-currencies for remittance transfers. Digital currencies are instrumental in the novel modes of platformisation of global

payment rails that increasingly frame financial services of low-income communities. Developing the concept of "networked global governance", they argue that governance is shaped by a growing disaggregation of actors and processes. Torkelson (2020) illustrates a case study in South Africa where social grants enmeshed with technology firm of mobile payment and risk management models for credit provision can lead to further indebtedness and exclusion.

In this line, several studies have examined the entanglement of inclusive financial services with digital technologies using big data analysis for scoring risk. Some look specifically at the digitalisation of credit instruments. For Kear (2017), Fintech credit scores act as legal technology of arbitration marked by contradictions triggering new struggles in the way credit consumers interact with the calculative device. Similarly, the literature on financialisation in the context of development has provided a number of insights into how a new network of international actors draws on digitalised data collection as a key governance tool to monitor and discipline low-income individuals, as well as to profile them as new financial assets (Gabor and Brooks 2017). In the same vein, big data predictive models for inclusive credit can exacerbate indebtedness instead of emancipating individuals (Langevin 2019). Loubere (2017) focuses on Chinese peer-to-peer loan platforms to show that they are part of a broader government surveillance project, while reproducing patterns of inequality and exploitation. Studying the same case, Gruin and Knaack (2020) conclude that the promotion of peer-to-peer lending represents the latest efforts from the Chinese Communist Party to build up an efficient and sustainable market economy while conserving political supremacy and control over macro-social development.

On this subject, C. Clarke (2019) points out the illusive dimension of online lending platforms pretending to disrupt the established banking industry by democratising it. On the contrary, the author argues that these platforms reproduce problems related to conventional finance such as fuelling credit bubbles, generate socially harmful risk assessment score as well as broadening the dependence on debt for national growth. Aitken (2017) argues that the practice of alternative credit scoring to include unbanked people in the financial realm aims at encompassing financially excluded individuals in visible categories of knowledge and intervention from which financial value is extracted and bodies are made governable. Bernards (2019) points out that the alternative data used for psychometrics in credit scores are intended to provide financial values likely to be exchanged and subject to speculation, but this form of valuation also faces broader limits restraining the process of market expansion.

Platforms in the literature are also matter of research in order to grasp their potential to generate growth and achieve development objectives on an international level (Bonina et al. 2021). Hence, a growing body of research is beginning to place the development of Fintech for the purpose of financial inclusion within the broader context of platform capitalism. These studies have primarily centred on how platform-based business models are used to provide credit services. Similarly, Langley and Leyshon (2020; 2022) highlight three fundamental processes that support the expansion of financial services through platform companies. Firstly, instead of disintermediating financial relationships, platforms are reintroducing them, profiting from fees and data analysis. This approach consolidates the market by establishing monopolies in new retail banking structures rather than fostering competitiveness. Over time, platforms gain significant capitalisation as investors place their trust in platform promises, particularly in the application of cutting-edge data analysis technology, leading to higher revenues compared to traditionally regulated banks. Roitman's (2023) work provides an interesting perspective for understanding platform firms by examining them through the lens of the "market device," illustrating the unique aspects of how platforms create value. She introduces the concept of the "float," which represents a type of financial value acting as a liquidity pool generated by mobile companies, mobile money issuers, and commercial banks. This "float" reveals patterns of value subjugation and autonomisation that add complexity to existing approaches to understanding platforms in the context of financial inclusion and the ongoing process of financialisation.

This leads us to raise the need for a discussion regarding how the existing literature addresses the specific challenge of digitising risk scoring by platforms in microinsurance. It is important to distinguish the microinsurance market, and to some extent the broader financial inclusion initiative, from traditional insurance markets. Over the past two decades, the microinsurance market has consistently faced low adoption rates, as documented by various scholars (Cai et al. 2009; Ito and Kono 2010). These scholars have highlighted the inherent contradictions within microinsurance (Platteau, De Bock, and Gelade 2017), such as the uneven distribution of risk among different population groups (Taylor 2016) and increased uncertainties when insurance contracts fail to provide coverage (Johnson 2020).

In this context, Bernards (2018) characterises the microinsurance market as a "truncated commercialization" resulting from a failed, limited, and contradictory attempt at neoliberal development governance. The integration of digital technologies into microinsurance is seen by some as amplifying the existing shortcomings in the organisation of the microinsurance market. He also points out that the implementation of calculative methods, infrastructures, and

data generation in this context reflects a form of market restructuring that mirrors broader patterns of uneven development (Bernards 2022a). Likewise, Aitken (2022) interprets recent efforts to manage risk through remote sensing platforms, particularly in climate-related coverage, as the latest strategy to rehabilitate microinsurance in light of its past shortcomings.

This first strand provides significant accounts of the disciplining and exploitative patterns involved in the digitalisation of microfinancial services. It also informs us of the complexities and constraints that surge from Fintech's operations to configure market relations, spread financial services, and acquire customers previously untagged. We now delve deeper into the relationship of financial and insurantial technologies with the rise of business models based on platforms.

Platform capitalism

In the last decade, the platform, understood as a new type of firm, sparked important debates and propositions in critical IPE and cognate fields. In this section, we review the studies that address how a platform conceived as a new business entity prompts a debate regarding its ability to reproduce or transform (i) the existing architecture of global governance and (ii) the regime of capital accumulation on a global scale. From our standpoint, these are two critical issues addressed from an IPE related insight. In the first strand, the level of analysis is put on the platform as a new resourceful actor in the international scene. In the second, the focus is rather on the influence of platforms in the organisation of capitalism and its system of value creation.

Several contributions stress the rising role of platforms in shaping the architecture of global governance. In this regard, Bratton (2015) has arguably provided the most far-reaching account of such a new dominant architecture. In his view, we are witnessing a shift towards a planetary scale computation in which overlapping layers of a standards-based technical-economic system gives rise to no less than a new platform sovereignty. Further studies investigated the issue of global governance in relation to the national state. On the one hand, by closely examining formal and informal economic institutions, Lehdondvirta (2022) claims that platform tech giants are becoming new central authorities setting the rules of our social and economic interactions. For the author, technology is not changing the fundamental social and economic forces that shape how societies are organised, but platform tech giants are powerful actors because they emulate the national state. On the other hand, accounts stress the instrumentalisation of domestic platforms by national states. Jin (2015) contends that platform giants are the new actors that epitomise the continuation of the long-term underlying logic of

US imperialism triggering an asymmetrical and interdependent relation between the West and so-called emerging and developing countries. For Rolf and Schindler (2023), the activities of platform giants are better understood under the banner of state capitalism. They argue that platforms are animated by states' imperatives seeking to shape how the platform is governed for national political and economic purposes. By the same token, Gray (2021) contends that platform economic importance and infrastructural characteristics are playing a central role in the US-China rivalry. As van Dijck and Lin (2022) argue in the same line, platforms are becoming part of geopolitical contests illustrating the interdependence between states and firms to maintain control of the digital infrastructure.

Beyond geopolitical rivalries, other studies have highlighted how power is wielded in a more diffused form by platforms. Thus scholars have extensively pointed towards platforms' ability to oversee, control, discipline and shape populations and individual's bodies through the extended ecosystem of data analysis and nudging strategies that leads towards a new age of surveillance capitalism (Benavent 2016; Zuboff 2019). This line of argument claiming that platforms' power yield is diffused and present in our everyday life prompted scholars to define platforms' omnipresence a process of "platformization". Helmond (2015) uses the concept in the narrow domain of how the web was transformed with the systematic development of application programming interfaces allowing websites to collect data more systematically across the web. Poell et al. (2019) have forged a much broader understanding related to how platforms intervene in a wide range of societal arrangements. Platforms are then viewed as propagating their data-driven infrastructure via multi-sided market coordination processes, as well as governance frameworks in basically any and every industry and aspect of daily life.

As a first strand, the literature shows the diverse power dynamics though which global governance is shaped by digital platforms, by highlighting how the platform rise as a new powerful actor in the international scene. Meanwhile, a growing number of studies tied the investigation of the platform firm with the broader evolution of capitalism. Hence, the most prominent controversy present in the literature in IPE discusses the conditions triggering the advancement of platform firms in the global economy by either transforming or reproducing the existing regime of capital accumulation on a global scale. Hence, we distinguish a strand of the literature claiming an exogenous transformation of capitalism from another pointing towards endogenous change.

Tenants of the transformative nature of the platform firm stress the impact it has in disrupting capitalism by reconfiguring the global organisation of value extraction and accumulation. Srnicek (2016) situates this major transformation in broader long-term tendencies towards a lean and outsourced organisation of production. For the author, the platform is the new business model from which value is not extracted from labour relations anymore, but produced and extracted out of the collection, analysis, and sale of data. In a similar vein, for Kenney and Zysman (2016) online platform firms have triggered an economic reorganisation in which platform owners yield a more critical form of power than the factory owners in the early industrial revolution. The authors show the growing reach and power of platforms in the US economy by claiming that 70% of service industries, namely 5.2 million establishments, are altered by one or several platforms (Kenney, Bearson, and Zysman 2021). This power is geographically concentrated in the San Francisco Bay Area and Seattle, namely the headquarter of platform giants where most of the economic value is created and extracted (Kenney and Zysman 2020).

The concentration of value and the omnipresence of the platform firm led scholars to analyse intercapitalist competition and monopolisation processes. Here, Srnicek (2016) argues that the platform firm has a natural tendency towards market monopolisation. The platform reaches the critical mass and concentrates the market in the hand a few firms via the network effect – the entity becoming more valuable as the number of users rise and use it - cross-subsidisation – increasing the price on one side of the platform to reduce costs on the other - but also patterns of path dependency – groups on a platform become tied to it and participate in its continued existence - and data moats – namely strategies to protect data from competitive firms (Srnicek 2018).

The monopolistic aspect of the platform has also prompted a debate on the extent to which this genuinely reinvigorates capital accumulation relying on rent. In this regard, Sadowski (2020) probes that a digital platform emerged as a rent-seeking type of firm that endeavours to insinuate itself into spaces, things and interactions mainly not subject to rentier relationships, to govern access and capture value.

Processes of value creation through rent have also been investigated with analysis that includes but exceeds platform firms as emphasis is placed on the ecosystem assembling technical devices, users, developers, platforms as well as legal contracts and standards (Birch, Chiappetta, and Artyushina 2020; Birch and Muniesa 2020). This strand has specifically targeted what have

been labelled as Big Techs, namely Alphabet, Amazon, Apple, Meta, and Microsoft. The Special Forum entitled "Big Tech" published in *Science as Culture* also provides detailed accounts of the relation between rent and platform monopoly patterns (Birch and Bronson 2022). Among others, Birch and Cochrane (2022) identify four rent mechanisms, namely enclave rents generated through the control of ecosystems; expected monopoly rents triggered by the performative fulfilment of future narratives; engagement rents configured by rankings and metrics differentiating users by their engagement with the products and services and reflexivity rents created by exploiting ecosystem rules and norms.

Similarly, scholars have labelled the rent-seeking regime of Big Techs as a form of technoscientific capitalism. For Durand (2020), the disruptive nature of technoscientific capitalism is characterised by five paradoxes, namely the return of monopolies, surveillance as the new spirit of capitalism, a geographical polarisation, a system of innovation without growth and the resilience of the entrepreneurial state. Indeed, technoscientific capitalism is marked by an intensification of the use of intangible assets in global value chains, creating new sources of market power able to gather information rents (Durand and Milberg 2020). Cecilia Rikap's work on the matter is quite illustrative too. The author points out that these platforms continuously combine the collection of innovation rents with rents from the exclusive access to data, therefore fostering a position she calls of "data-driven intellectual monopolies" (Rikap and Lundvall 2022, p. 390). For instance, the hegemony of the platform Amazon led the author to argue that it relies upon the extraction of rent from its intellectual monopoly, and by setting up predatory relations with companies and research institutions participating in the production and innovation network (Rikap 2020).

In opposition to the disruptive claims, an extensive set of contributions situates the innovative dimension of platform firms as a renewal of the existing structure of capitalism. In a nutshell, scholars do not negate the novelty of platforms, but they place emphasis on the fact that platform firms are the expression of what capitalism has always performed.

Grabher and König (2020), trace the roots of the platform economy to specific historic, social and technological conditions, that are technical affordances, performative effect of science and institutional endeavours to regulate and govern the economy. The authors argue that technology, science, and the state are the same drivers triggering the precipitation of industrial capitalism as well as fuelling the current platform-based capitalism. On a similar note, Peck and Phillips (2020) draw on Fernand Braudel's long term historical structures to demystify the

revolutionary turn of the platform moment. They argue that platform capitalism is situated in the "antimarket zone", namely a morally questionable but dominating layer, located above competition, performing as a new machine with an old objective of governing markets from above and thus concentrate political-economic power.

Boyer (2022) follows the same line of argument. He warns that current accounts on the platform economy provide a rather technologically deterministic assessment of the contemporary transformation of firms and capitalisms. Although the platform may have destabilised previous organisational forms of enterprise, they have not necessarily irrupted into a new socio-economic regime of accumulation mainly because patterns of profitability and social acceptation are still inconsistent and new business models are not compatible with the macroeconomic juncture and macro regime requisites such as credit access, taxation, industrial relations, and public infrastructures. Montalban et al. (2019) describe the emergence of platforms as both a heterogenous process of contemporary capitalism and endogenous to its financialisation. The platform is said to be grasped as a broader process of platformisation of the economy understood as "the exchange of resources set up by centralised digital tools" (*Ibid.*, p. 805). Piletić (2023) in this regard provides a more nuanced account. The author states that the economy is undergoing a process of hybridisation of the existing neoliberal finance-led regime of accumulation entailing forms of adjustments within institutional forms rather than through an utter historical disruption of the market institution. These latter claims join Acquier's (2017) argument that the rise of the platform illustrates broader processes of financialisation and commodification of the firm. The platform, characterised as a knot of contracts, displays a hybrid form of market-firm organisation similar to companies' structure of the preindustrial era where workers are the ones providing the capital.

Be it as it may, the platform is perceived within the complex evolution of capitalism that is leading towards a "planetary carambolage", namely the collision of exploitative processes of technology, nature and, last but not least, work on a global scale (Gruszka, Scholz-Wäckerle, and Aigner 2020). Indeed, beyond the innovative dimension, authors argue that the platform firm is highly reliant on the obfuscated human labour which underlies platforms' activities (Gruszka and Böhm 2020). In this regard, Casilli (2019) provides a critical argument. The platform results from a crisis of value representation within traditional corporations as they lack efficiency in extracting data and are not able to effectively allocate resources thus giving rise to crisis. As such, the platform operates by extracting value out of users' work of qualification

of the goods and services traded by the platform (Casilli 2017a; 2018). Hence, forms of implicit and veiled labour, and not data, stand at the core of the platform pattern of value extraction.

The literature on platform capitalism informs us of the transformative and/or reproductive patterns entailed by platforms either in terms of global governance or regime of accumulation. Yet, as the platform becomes ubiquitous throughout the global economy, its adoption appears to be of particular importance in the provision of inclusive financial services.

Literature gaps

Against this background, this thesis frames its contribution by fulfilling three main gaps found in the literature.

First, it is of critical importance to conceive Insurtech as part of the broader organisation of capitalism based on platform firms. Already evidenced for Fintechs by Langley and Leyshon (2020; 2022), Roitman (2023) and Clarke (2019), I probe that Insurtech depend on the organisational form of the platform firm. Scholars used different terminologies to label Fintechs varying from "financial" (Bernards and Campbell-Verduyn 2019) to "calculative" (Aitken 2017) infrastructures. Yet, I posit that Insurtech are platforms as they rely on an interoperable infrastructure, have the capacity to collect, analyse and select individual's data and are driven by the principle of scaling up the market.

Secondly, by bringing into discussion both literatures on platform capitalism and Fintech for financial inclusion, we shed light on specific sectoral platforms, which are Insurtech platforms. We follow the call made by Schüssler et al. (2021) to address platforms as multi-forms entities producing different outcomes according to the context in which they operate. Hence, Insurtech platforms deserve as much attention as the giant Superplatforms, or Big Techs. Insurtech platforms rely on similar, but also differing, mechanisms of market expansion compared to online credit platforms or other Big Tech platform giants such as Amazon and Apple.

Thirdly, the literature provides significant insights on the extent and/or limits to conceive market expansion, being analysed in terms of financialisation, platformisation or acting within a neoliberal pattern of international development. In this regard, very few studies examined the conditions under which platforms take over a market, or fail to do so (Azzellini, Greer, and Umney 2022a; 2022b). We believe the literature still lacks a detailed analysis on how Insurtech platforms operate to expand the financial market and the limits encountered. As Aitken's work

(2022) focuses on remote sensing platforms for climate insurance coverage, attention must be paid to the increasing deployment of Insurtech platforms in providing insurance coverage to independent contractors operating as a platform ride-hailing driver. Hence, this empirical context illustrates the peculiar mechanisms at stake which underpin and/or limit the expansion of the financial market through Insurtech platforms which are different from other sectoral Fintech platforms.

Building on the contributions and gaps of the literature, this thesis suggests further examining Insurtech's practices, intricacies and concomitant mechanisms driving the attempted expansion of the inclusive insurance market. We therefore delve into this process to (i) historically contextualise platform practices of valuation, (ii) unveil the socio-legal mechanism and configuration of interests underpinning the institutional arrangement promoting Insurtech platforms, (iii) present the principles, and related contradictions, steering Insurtech platforms in their effort to expand the market.

THEORETICAL FRAMEWORK

In this chapter, I discuss the theoretical framework mobilised in this thesis to conceptualise the expansion of the inclusive insurance market through Insurtech platforms. Firstly, I introduce how I insert my analysis in the discipline of IPE and its heterodox and eclectic approach. Subsequently, I proceed with the presentation of my theoretical and conceptual tools. Namely I demonstrate how I combined IPE studies on insurance, institutional political economy, sociology of markets and post/decolonial IPE with a focus on the concept of risk pooling, futurity, market qualification and coloniality, respectively.

The overall thesis is inscribed in the field of heterodox IPE and adopts an eclectic analytical framework. Subject to debates throughout the years, a common agreement among scholars seems to refer to IPE as a field of studies that embraces the inseparability of economics from politics, and which is active on an international level over and above sovereign national states (Murphy and Tooze 1991; Palan 2013; Graz 2023). Heterodox IPE emerged as an ontological and epistemological response to the mainstream IPE American school, avoiding the prioritisation of any unit of analysis and centralisation of authority (e.g. national states) and providing a multidisciplinary and post-positivist conception of knowledge, open to other insights and acknowledging the non-objectivity of scientific production (Amin et al. 1994; Cohen 2019; Bair et al. 2023). As Graz (2000, p. 561) probes, heterodox IPE is interested in the modalities that link the economic, the political, the international, and the national, the historical contingencies that define them, and the constraining structures both material and normative that channel the possibilities of social change at the international level. The critical perspective commits to highlighting the socialising and politicising dimension of intellectual production.

I draw the eclectic approach from the seminal work of its founder Susan Strange. For the author, an eclectic approach is characterised by an "openness to insights from many disciplines" to develop "open conceptual synthesis" (Strange 1991, p. 33). IPE is inscribed in interdisciplinarity as the field of study which emerged from the critics of the "mutual neglect" between international relations and international economics (Strange 1970). Thus, IPE has contributed to provide with perspectives that "synthetise the study of the political system of states with the economic system of markets" (Strange 1996, p. 37). Or, put differently by Gilpin (1987, pp. 7-8) " the parallel existence and mutual interaction of state and market in the modern

world create political economy. […] I use this term simply to indicate a set of questions to be examined by means of an eclectic mixture of analytical methods and theoretical perspectives".

My effort to approach the analysis of Insurtech platforms from an eclectic standpoint is also situated in the context of recent attempts to bring into dialogue issues of political economy with social international politics, or in disciplinary terms, bridging IPE with IPS (Graz, Kessler, and Kunz 2019; Elias, Rethel, and Tilley 2019). As such, this thesis assesses the organisation of the inclusive insurance market, how value is produced and how new sources of profit are included. It does so by investigating the practices of specific firms, Insurtech platforms. Against this background, I situate my approach as a meso-level analysis of market expansion. As Lamarche (2023) contends, a meso-analysis accounts for the regularities of social spaces endowed with relative autonomy, while at the same time being structured by their relationship with other meso spaces and regimes of accumulation. Framed by the productive structure and an institutional order, meso spaces embed plural logics depending on territorialities and economic sectors (Allaire 2007). Therefore, the focus is on the organisational aspect of the market required to embed social and historical analytical features. Insurtech platforms are thus addressed as firms acting and situated within a designed institutional framework as well as a historical and social context where colonial patterns of capital accumulation are reframed.

Thereby, I adopt an approach that is inscribed in the multi/interdisciplinarity that characterises IPE as a field of study (Cohen 2022). I see this interdisciplinarity as a strength, avoiding any prevailing order in analytical terms and allowing diversity to assemble disparate schools of thought (Seabrooke and Young 2017). In this thesis, I combine perspectives drawn from IPE studies on insurance, institutional political economy, sociology of markets, and post/decolonial IPE. I justify the assemblage of these approaches for two reasons. First, each approach is linked with a post-positivist understanding of knowledge production. Whether emphasising insurance logics, variables constituting markets (calculation, racial representations, or institutional arrangements) all portray the same epistemological reflexivity on how knowledge is produced. Secondly, each conceptual tool is mobilised and tailored according to the more specific unit of observation. In the methodological chapter of the thesis, I shall discuss in detail how in each article I use theoretical frameworks that place emphasis either on institutional, valuation, and historical issues to grasp Insurtech practices. Therefore, the interdisciplinary approach aids navigation among a diversity of concepts yet keeping a coherent background driven by the investigation of how markets expand. In the following sections, I shall outline each approach and conceptual tool separately.

IPE studies on insurance

First, the backbone of my theoretical framework relies on insights developed in IPE, studying insurance services and the insurance industry as an important business of the world market economy. Early studies in the late 1990's placed emphasis on the increasing authority exercised by insurance and reinsurance businesses on a global level, making its own contribution to the international economic order independently of national states (Strange 1996; Haufler 1997). But, insurance, beyond its characterisation as an institution of informal governance, is first and foremost a technology of risk management able to trigger infinite spaces for market expansion (Graz 2019, pp. 114-172; Lobo-Guerrero 2012; 2017; 2019). It is this aspect that is of interest for our conceptualisation. To transform the unknown into something marketable, insurance works as a technology of risk transformation (Ewald 1991) to make uncertainty "fungible" (Lobo-Guerrero 2017, p. 5), that is, transforming such uncertainty into "something amenable to trade and exchange" (Ibid.). This transformation relies on a large volume of data, statistical tables, probabilities calculus (McFall 2015), and most importantly, the principle underpinning its risk-sharing mechanism.

Risk pooling is commonly acknowledged as the core principle of insurance (Ewald 1991; McFall and Moor 2018; Cevolini and Esposito 2020). It is around this process that I conceive the conception of risk distribution applied by Insurtech platforms. Risk pooling revolves around aggregating diverse risks, blending high and low-risk profiles, and utilizing carefully gathered statistical data to conduct a probabilistic assessment (Corlosquet-Habart and Janssen 2018). This process enables the determination of a premium cost that reflects the coverage provided. However, its empirical implementation through actuarial risk rating raises an important contradiction. Thus, we draw on Gowri (1997), Doyle and Ericson (2010), "first irony of insurance" to label this contradictory mechanism. When viewed as a method of sharing risks, insurance implies a sense of social solidarity. However, when perceived as a risk transfer process, the application of actuarial risk management in insurance markets hinders pooling mechanisms. This is achieved by dividing groups of potential policyholders into progressively smaller fractions, with the objective of personalising risk or even excluding individuals from any schemes. Modern insurance practices often prioritize individualising risk over pooling, and the segmentation and de-pooling of risk compromise "the risk-socializing potential of insurance." (Doyle and Ericson 2010, p. 232). Thereby, I mobilise this conception of insurance to address Insurtech platforms and their principle of risk assessment.

Institutional political economy

Secondly, IPE's conception of insurance leads the discussion towards the second tradition of the thesis, which is institutional IPE. I draw on insights from the "old" tradition of American institutionalism, more precisely the work of John Commons and his concept of futurity (Commons 1934/1990; 1925/1995), scholarship in IPE on transnational corporations (Cutler 2001; 2003; Graz 2015; Nölke and May 2018; Cutler and Lark 2022) and socio-legal studies of finance (Chambost, Lenglet, and Tadjeddine 2019; Pistor 2019; Angeletti and Lemoine 2021). Mobilising these perspectives enables discussion of the legal foundation that structures the economic activities of Insurtech platforms by stressing its driving force, futurity, and who benefits from market regulations.

Futurity stands at the centre of this analytical pattern. Commons defines it as "the human ability of forecasting, having its influence on present behaviour and value" (Commons 1925/1995a, p. 2 cited in Atkinson and Whalen 2011, pp. 53-54). Futurity impacts the interpretation of both notions of value and property. It shifts the understanding of value measurement on assessing present value based on future expected earnings (Palan 2015; 2017; Nesvetailova 2015). For instance, as Palan (2012, p. 72) explains, if we take the nominal value of an asset, arguably the only value in which owners are interested, this value is based on "projected future earnings, which represent, by and large, optimism or pessimism about the future". And since it assumes that each transaction is the result of future expectations acted out in the present, property is identified as the transfer of the right to own future revenues from a particular source (Commons 1934/1990). The transfer of right is regulated by the law which intervenes *a priori* to any economic transactions. In this sense, for Commons, juridical institutions play a pivotal role in the constitution of value and market. Therefore, I claim that futurity characterises the activities of Insurtech platforms framed and structured by a specific regulatory instrument: the regulatory sandbox.

I complement the concept of futurity by scrutinising the fundamental role of legal instruments in empowering transnational firms. To this end, I draw on IPE scholarship that significantly contributed to the analysis of the power leveraged by public and private actors in regulatory procedures constituting local and global economies (Santos 1985; Cutler 2001; Cutler and Lark 2022; Cutler 2003; Graz 2015; 2019). As the regulatory sandbox encompasses both public and private modes of governance, it illustrates the continuous liberal regulatory trend in financial inclusion which favours non-binding soft law over hard legislation (Soederberg 2014).

Nonetheless, this structure orients patterns of regulation towards more supportive engagement with free market values (McCahery and Picciotto 1995; Cutler 2003) thus meeting the demands of Insurtech platforms at the expense of policyholders. Therefore, my conceptual framework relies on both strands as they work concomitantly to grasp the futurity dimension of platform activities framed by a specific configuration of private and public interests.

Sociology of markets

Thirdly, throughout the thesis I draw on an approach of sociology of markets to map how the inclusive insurance market is organised and arranged (Callon 2017). In this thesis, I place the emphasis on the conflictual processes of qualification, requalification, and valuation of the insurance service with a specific glance at their underpinning calculative devices for risk assessment. Hence, as Callon et al. (2002) point out, products and services to be exchanged require a metrological operation that defines and objectifies their qualities. They go on to state that this process of qualification establishes a "constellation of characteristics [or qualities], stabilized at least for a while, which are attached to the product and transform it temporarily into a tradable good in the market" (Callon, Méadel, and Rabeharisoa 2002, p. 199). This fixes the activity of valuation, that is the set of narratives, mechanisms, diapositives and tools constituting value, and simultaneously, its measurement, that assigns a monetary value to each qualities (Vatin 2009; Muniesa 2011).

The qualification, requalification and valuation processes are dynamic and conflictual where several perspectives of how a service is qualified can co-exist and/or collide (Vatin 2009; Stark 2009). Markets rely on calculative devices and measurement instruments that are fraught, partial, open to debate and, most importantly, prone to failures (Çalışkan and Callon 2010). Therefore, to catch the dynamic mechanism of the qualification and valuation process, I draw on Stark's concept of "dissonance" (Stark 2009). As he puts it, "dissonance occurs when diverse, even antagonistic, performance principles overlap. […]. The result of this rivalry is a noisy clash, as proponents of different conceptions of value contend with each other […] or can generate new combinations of the firms' resources [to be productive]" (Ibid., p. 27). This reveals the plural or contending ways in which new or unknown phenomena can be given a value (Antal, Hutter, and Stark 2015). Thereby, I contend that Insurtech platforms face such dilemmas when it comes to assess and price the risk propensity of the populations targeted with inclusive insurance products.

Post/decolonial IPE studies

Finally, the last insight of the theoretical framework derives from post/decolonial IPE studies. This strand of work has extensively contributed to the IPE literature by unveiling the legacy of colonialism in the structuration of the contemporary global economy (Chakravartty and Silva 2013; Tilley 2016; Bhattacharyya 2018; Bhambra 2020; Couldry and Mejias 2021). This insight aims to identify the deemed intangible but persistent pattern of racism, empire, and colonialism connected to contemporary processes of financialisation and the organisation of capitalism (Tilley 2021; Guerisoli and Mandirola 2022). The perspective is of significant help in situating Insurtech platforms within an historical pattern of actions related to colonisation. To this end, the concept of coloniality, developed by Quijano (2000; 2007), is instrumental in discerning the reformulated continuity of colonial power relations in contemporary platform capitalism. In the same line of analysis, scholars have stressed that techniques of government and modes of knowledge used during colonialism, such as censuses, maps, museums or statistics, happen to continue in today's digital economy and "data empire" (Appadurai 1993; Christopher 2008; Isin and Ruppert 2019; Touchelay 2019). These studies have placed emphasis on the reformulated practices of private and public institutions that mobilise data - and its analysis, namely knowledge - to classify, count, order, and rule populations.

Against this background, a small number of post/decolonial IPE scholars designed analytical tools to scrutinise the advance and deepening of platform capitalism by highlighting how colonial legacies shape forms of differentiation for new forms of value extraction (Casilli 2017b; Ricaurte 2019). This leads to the introduction of the core concept this theoretical approach draws upon, that is the concept of "data colonialism" (Thatcher, O'Sullivan, and Mahmoudi 2016; Couldry and Mejias 2018). This shows the asymmetries of power underpinning the capture of individual's data. It epitomises a form of capital accumulation by dispossession, commodifying previously unmarketable aspects of life (Thatcher, O'Sullivan, and Mahmoudi 2016, p. 2). The assertion is that the everyday relation of populations using connected digital technologies and smartphones on a daily basis is becoming colonial in nature. Hence, and inspired by the Marxist tradition on cognitive capitalism (Terranova 2000; Fumagalli et al. 2019; Vercellone 2019), scholars argue that platforms transform social life into an "open resource for extraction" (Couldry and Mejias 2018, p. 2). Whereas colonialism was historically the fuel to the development of industrial capitalism, data colonialism is seemingly paving the way to a new capitalistic phase based on the exploitation of data. In the case of inclusive insurance, the process of data appropriation draws on racial social classification,

produced by implicitly algorithmic biases (Boyd and Crawford 2012; Couldry and Powell 2014; Tufekci 2015; Treré 2016), that turn beneficiaries of development into object of knowledge (Maldonado-Torres 2007; Gruszka and Böhm 2020) from which value could be extracted (Roy 2010; Melamed 2011; Chakravartty and Silva 2013; Kish and Leroy 2015; Bhattacharyya 2018). Thereby, I mobilise this insight to claim that market expansion through Insurtech platforms epitomise a form of coloniality as it reshapes colonial power relations in contemporary platform capitalism by means of appropriation, racial hierarchisation and classification practices to extract value from previously untapped populations.

To conclude, I adopt this eclectic approach in IPE to highlight the complex and variegated power relations yield by Insurtech platforms in the attempted expansion of the inclusive insurance market. I therefore conceptualise this expansion by placing emphasis on the institutional, historical, and organisational features that frames the practices of Insurtech platforms. The arrangement of the inclusive insurance market by Insurtech platforms is prone to insurantial logics in conceiving risk and uncertainty, qualification and valuation processes performed through calculative devices, and a pattern of value extraction that can be traced back to the colonial era. Yet, the analytical outcome shows that this arrangement faces important contradictions and challenges that limit the expansion of the market, thus, summoning up the non-linear and fraught operations of platforms firms within the inclusive insurance market. In the following chapter, I present the methodological framework as well as the research methods used in this thesis.

METHODOLOGY AND RESEARCH METHODS

This chapter sheds light on the overall research strategy of the project. I first present the overall methodology of the project. This is followed by the data analysis method and the data collection method. I purposefully separated the methodology with the research methods section. The former provides a reflection on the link between the research question, the epistemological positioning and the research methods used (Barkin and Sjoberg 2017). The latter offers an in-depth introduction to the techniques of empirical investigation as well as a depiction of the contextual circumstances and issues encountered during the empirical fieldwork (Montgomerie 2017).

The case study in international relations

The case study as a research strategy is pertinent to my approach. A case, as defined by Bennett (2004, p. 21), is as "an instance of a class of events of interest to the investigator […] a well-defined aspect of a historical happening, rather than a historical happening itself". The methodological approach proposes to study the actors empirically through specific incidents and then relate them as constitutive of the processes studied by recording as much of the social context as possible (Tavory and Timmermans 2009). As Montgomerie (2017, p. 108) states, a case study enables us to grasp "the dynamics present within a single setting with a strong focus on real-life context […]". The researcher draws on several sources of data to show how the studied entities both experience and shape their environments (Samuels 2009). The potential discrepancies that arise from what is observed in the field nourish and rebuild the theoretical framework mobilised (Wadham and Warren 2014).

The case study can provide a robust epistemological and methodological background that suits the agenda of international relations studies scholars in their task to examine complex realities through a non-positivist knowledge production approach (Lai and Roccu 2019). As opposed to positivist epistemological case study approaches, a post-positivist case study is characterised by the iterative process of scholars "constructing rather than selecting a case" (Ibid., p. 3). This post-positivist methodological position is coherent with my disciplinary framework as this research speaks to a literature in IPE that investigates the everyday practices of financial relationships to understand the social sources of insurance and its crucial role played in the constitution of the global political economy (Hobson and Seabrooke 2007). Instead of setting up law-like regularities, this methodology grounds knowledge from the co-constitution of international dynamics, structures, and local realities. It therefore offers a significant

methodological positioning to understand the critical political economy of platform-based capitalism, how it is made and remade through social processes (Montgomerie 2017) and within specific institutional and social contexts.

As platform firms are proliferating in many economic sectors, I decided to assess their penetration by studying initiatives attempting to sell insurance products to uninsured contractual ride-hailing platform drivers. In doing so, I focus on a specific single-case study to address the question of what platform firms are, what they are doing in this context, and how they contribute to shape the inclusive insurance market. As a result, this thesis contributes to reconstruct analytical patterns mobilised by IPE studies assessing platform capitalism for financial inclusion. This leads us to the following subsection where we appraise what has been of interest and investigated during the data collection phase.

Within-case method of analysis: Observing Insurtech platform practices

In this subsection, I introduce the method used to investigate the activities of Insurtech platforms. To this end, this thesis mobilises methodological tools developed in the Social Studies of Finance (SSF) applied within an IPE framework. Inspired by this research trend, this thesis defines the practices of Insurtech platform firms as the core unit of analysis.

Since the early 2000s, a broad range of scholars in international relations started to think about how practices, namely what actors do and say, can be a useful concept to better understand the power relations at the international scene (Bueger and Gadinger 2018). Also known as the practice turn in IR, most of these studies have been concerned with issues of diplomacy and international security (Neumann 2002; Pouliot 2008). This thesis relies on the terminology of practice but from a Social Studies of Finance methodological standpoint.

Emerging in the 1980's as a scientific and intellectual tradition to the sociological study of finance (Godechot 2013), SSF scholarship has throughout the years developed critical methodological entry points to study the social formation and functioning of financial markets. A prominent characteristic of this approach entangles the analysis of micro-technical devices and controversies in the macroscopic structure of contemporary capitalism (Angeletti and Lemoine 2021). By importing research findings and methods from various traditions in Social sciences – Economy Sociology, Cultural Anthropology or Science Studies (MacKenzie 2005) – and Economics – such as Institutional Economics, The Regulation School or the Economics of Conventions ("Social Studies of Finance Association" 2000) -, this tradition oriented its

inquiries specifically towards the scrutiny of forms of knowledge and material practices observable in the constitution of international financial markets (Kalthoff 2005).

In order to investigate the attempts of Insurtech platforms to consolidate and expand the inclusive insurance market, I put the platform firm, its organisation and its practices at the centre of my analysis (Boyer et al. 2023). I mobilise Insurtech platform's practices as a unit of analysis that is observed at three different levels. These levels have been developed *a posteriori* to the publication of the three articles. Thereby, they represent an overall framework of observation. Even though there is no explicit mention of them in the analytical part of the thesis, we find each level of observation either individually or entangled in each article.

First, the research delves into the *epistemic practices* of Insurtech platforms as devices of economic calculation. This level of observation is mainly applied in article 1 *Datanalysing the uninsured: The coloniality of inclusive insurance platform* and article 3 *Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance*. Framed and mobilised differently by several scholars (Knorr Cetina, Schatzki, and Savigny 2000; Best 2014; 2022), I use the notion of epistemic practices from Kalthoff's work on banking practices of risk management (Kalthoff 2005, p. 70). This dimension focuses on how the performance of risk management is framed by technical devices and embeds knowledge objects by portraying them, enabling them to emerge but simultaneously also form their limits. The observation of Insurtech platform's epistemic practices reveals how locally situated practices embedded in forms of knowledge – namely practices of risk assessment through the collection and analysis of traditional and alternative data -, are performed to transform uncertain events, that objectify uninsured populations into measurable and priceable risk. The second level of observation investigates the *institutional practices* that frame the operations of Insurtech platforms. Inspired by the increasing number of studies in SSF assessing the entanglement of law and finance in the (re)production of social and political order (Angeletti and Lemoine 2021; Pistor 2019), this dimension examines the conventional and non-conventional modes of market regulation. Concretely, the observation of the institutional practices related to Insurtech platforms refer to the standardisation of data exchange through specific technical protocol as well as the implementation of regulatory sandboxes intended to help and control the emergence of these platforms in the inclusive insurance market. Finally, this research investigates the *organisational practices* of Insurtech platforms. This third level of observation helps us to unveil the (contradictory) strategies of Insurtech firms to extract and accumulate value. It also

focuses on how such strategies are anchored in the evolution of capitalistic and renewed colonial patterns of domination and appropriation.

Research methods

In this section, I present the techniques mobilised for the data collection during my empirical fieldwork. Alongside this, I outline the several difficulties encountered and the strategies adopted to overcome them.

The advantage of adopting a case study strategy is that it presents us with the possibility of collecting data through a variety of different techniques, including interviews, archival and survey data as well as ethnographies and observations (Eisenhardt and Graebner 2007).The corpus of this research consists of in-depth interviews, official documents, and fieldnotes taken during direct observation in inclusive insurance industry conferences. Throughout the thesis, I followed a process of data triangulation. As claimed by Warshawsky (2014, p. 161), data triangulation "increases the reflexivity about the disjuncture present in different methods". By combining interviews with document analysis and observations, I was able to compare and corroborate the information retrieved, as well as find out the underlying points of tensions (Pottie-Sherman and Graham 2021). I decided to triangulate these three data sources for two main reasons.

First, the choice to variegate the data sources is inspired by previous ethnographic accounts on platform gig workers (Doorn 2017; Doorn and Badger 2020; Perrig 2021; Richardson 2020; 2019). As stated by Doorn and Badger (2020, p. 1476), the multitude of data sources enables the gathering of significant information beyond the observation of what platforms do to place emphasis on "the institutional, economic and technological conditions" that frame the activities of platform firms. Hence, the heterogeneity of the corpus has been significant to the research as it helped to draw a more comprehensive picture of Insurtech platform practices pursuing the consolidation and expansion of the market across different national settings.

Secondly, the triangulation process has been beneficial in gathering information from different angles as some field entry points happened to be difficult to access. As the thesis scrutinises how Insurtech platforms collect data on individuals, namely the most valuable asset of the company but also the most sensitive since it raises issues of privacy, informants representing the firm have not always been keen on divulging some information. Past research on the finance industry already raised difficulties in finding and gaining access to the field as the industry is

deemed to be governed by a "code of silence" (Luyendijk 2016, p. 13). This also happens to be the case with Fintech companies as informants are reluctant to disclose information on the nature of the technology that represents a competitive advantage (Robinson 2021). Thereby, I triangulate these different sources of data to also address issues of access and confidentiality.

The planification and conducting of the interviews as well as the participation in conferences were disrupted by the Covid-19 pandemic. From the beginning of 2019 to February 2020, I managed to attend conferences in person. But from March 2020 until October 2022 measures of social distancing made physical meetings impossible. And it goes without saying that I was unable to run any empirical fieldwork abroad due to travel restrictions. Thereby, online interviews and online conferences were the most appropriate alternatives to maximise the data collection in terms of time, space, and fieldwork access.

The research material was coded with the Software NVivo 2.0 to systematise and organise the body of research. Hence, the coding process enabled me to triangulate interviews, observation fieldnotes and official documents. Using this software helped to compare statements and demonstrate the analytical patterns across documents (Richards 2015). Once systematised, the documents were coded to depict a first framework of categories that displays the process of market expansion underpinning Insurtech platforms (Suedfeld, Tetlock, and Streufert 1992). For the coding process, I followed the suggestions made by Babbie (2021) to have a coding process that is continued to find out patterns among data that point towards a conceptual understanding of social life. Therefore, I proceeded with two main steps. I began by identifying the practices of platforms at large also inspired by the existing literature on platform capitalism (Srnicek 2016), namely the exchange, collection and analysis of customers' data, the premium pricing mechanism and the regulatory environment shaping firms' actions. Hence, these presented the first patterns of coding that were retrieved from the reading of my corpus. In a second step, I decided to examine each code in more depth and developed subcodes that relate Insurtech practices to broader analytical categories. For instance, I realised that the practice of data collection was characterised by biases that can be related to the historical legacy of certain regions in the way the population has been geographically segregated (see article 1). Another example is the code on pricing mechanism. As I decided to delve deeper into this issue, I discerned throughout the interviews that this pricing mechanism provides information on the broader conception of risk distribution, that is a growing atomisation and unpooling of risk, that drives Insurtech's attempt to expand the market (see article 3). A last example of code is data property. Contrary to other codes, data property did not appear literally in the documents nor in

the interviews. The actual term used by the informants was data control, which after analysis referred to issues of data property.

Interviews

For this research I conducted 42 semi-structured interviews from November 2019 to November 2022 (see Appendix 2). I interviewed chief executive officers and chief technology officers of Insurtech platform firms, representatives of foundations, think-tanks, national and international insurance supervisors, and international development agencies promoting the digitalisation of the inclusive insurance market. Insurtech platform representatives were key in understanding the practices of platform firms. Other professionals, such as international organisation financial sector specialists, external independent consultants and think tank researchers, have been instrumental in providing information on the institutional and regulatory instruments shaping platforms' operations as well as depicting the ideational framework supporting and legitimating the penetration of Insurtech platforms in the inclusive insurance market. Thereby, I contacted potential interviewees via the professional social networking platform LinkedIn. As Robinson (2021) proposes, such platforms are useful for qualitative research involving informants who are difficult to find or to reach in person. I also managed to establish contact with informants not subscribed to the platform, whom I met at physical or online conference meetings or through snowballing.

Image 1: Online interview with Insurtech expert at Access to Inclusive Insurance.

A large majority of the interviews were conducted online via video communication software. As stated throughout a growing literature on the matter, online interviews have both pros and cons methodologically speaking (Fielding, Lee, and Blank 2017; L. Gray et al. 2020; Oliffe et al. 2021). Besides dropped calls, bad internet connection and inaudible segments, online interviews can render the reading of nonverbal forms of communication difficult and sometimes may also deteriorate the intimacy of the traditional in-person interview (Kimber 2023; Seitz 2016). Technical problems also arose during the interviews, yet, in terms of interviewer-interviewee relationship, video communication did not harm the interaction. On the contrary, using a software that entrepreneurs, regulators and international experts also use on a daily-basis for their own activities, helped to establish a trustworthy relationship without sharing the

same physical space (Sedgwick and Spiers 2009). Moreover, the intermediation of a computer screen settled a sense of anonymity that made it easier for the informant to express herself/himself in an uninhibited way (Kimber 2023; Janghorban, Roudsari, and Taghipour 2014). Eventually, online interviews enabled access to more informants in a very short space of time and without physical constraints (Glassmeyer and Dibbs 2012; Archibald et al. 2019). At the time of my fieldwork, the number of Insurtech platforms dedicated to the inclusive insurance market was relatively low as the phenomenon was nascent. Hence, besides the international conferences – which not all Insurtech platforms' representatives attend - the few firms were spread across the globe rendering long-term fieldwork difficult in terms of resources. Therefore, online interviews were practical as I could schedule several meetings on the same day with informants situated in various geographical areas.

Interviewing Insurtech platform representatives emerged as the most efficient technique to gather information on the firms' practices. This was particularly the case for firms with a high profile that were able to disclose anecdotes, experiences of trial and error as well as detailed client journeys providing significant information on how a platform operates, what data are collected, and what type of algorithm is used to price premiums, etc.

Direct observation

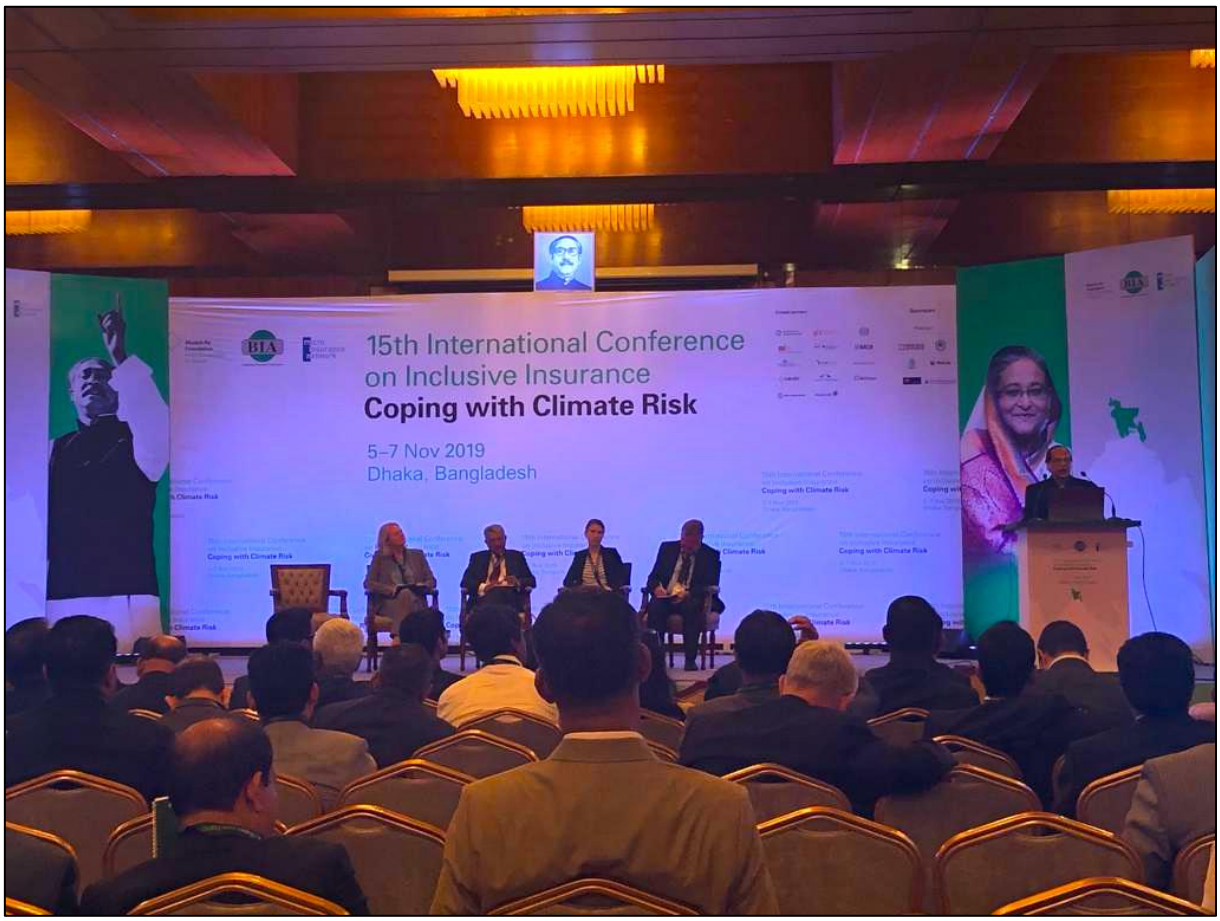
To observe the practices of Insurtech platforms, I carried out direct observation of international conferences on financial inclusion and inclusive insurance. Observation as a technique of data collection in international relations provides a unique insight for the researcher on the global politics in the making (Maertens and Kimber 2023). Over the last decade, an increasing literature has emerged applying direct/participant observation and ethnographic method to grasp the constitution and negotiation of industries and professions during international conferences (Leivestad and Nyqvist 2017). As Rethel (2018) contends in her work on Islamic finance, international conferences have proven to be key empirical sites of observation to understand the creation and contestation of global markets. Cast as "orchestrated spectacles", international conferences are events through which "new market forms are instantiated and legitimised" (Rethel 2019, p. 351). Thereby, I use the technique of direct observation to understand the sites of global politics and global market in the making. More specifically, participating in international conferences of the financial inclusion industry has been highly valuable for this research in order to meet and map the actors involved in the promotion of Insurtech platforms and the overall digitalisation of the industry, as well as to examine the broader evolution of the inclusive insurance sector.

I physically attended the 2019 International Conference on Inclusive Insurance and the 2022 Insurtech Insights conference. All other events were followed online, such as the International Conference on Inclusive Insurance 2020 and 2021 and the Financial Inclusion Week 2020 and 2021 organised by the Centre for Financial Inclusion at Accion. These international conferences facilitate the networking element of the research as they gather many actors in same the place who contribute to the consolidation and expansion of the inclusive insurance market. Among the participants, we could find representatives of private insurance companies (AXA, Mapfre, Zurich, Prudential), reinsurance companies (Munich Re, Swiss Re, Barents Re), reinsurance and insurance foundations (Munich Re foundation), national and international insurance supervisors (IAIS, A2ii), microfinance non-governmental organisations (BRAC Bangladesh) and companies (BIMA), Fintech and Insurtech platform firms, think-tanks (Centre for Financial Inclusion, the Microinsurance Network, the Centre for Financial Regulation and Inclusion, Microinsurance Centre at Milliman), international development agencies (World Bank, Deutsche Gesellschaft für Internationale Zusammenarbeit (DGIZ)), The UK Department for International Development ((UKAid), International Labour Organisation Impact Insurance Facility) as well as independent actuary consultants. As such, Insurtech platform firms are regularly invited to these conferences to talk about the latest technological innovation deemed to solve the existing problems of the market. Therefore, international conferences proved to be valuable events where I was given the opportunity to monitor and establish communication with Insurtech platform firms.

Box 1: The International Conference on Inclusive Insurance

The International Conference on Inclusive Insurance, previously known as the International Microinsurance Conference, is the flagship event on microinsurance sponsored by the Munich Re Foundation and the Microinsurance Network – a multistakeholder think-tank of institutional and private members (ILO 2012). The first conference was held in 2005 at Hohenkammer, Germany organised by the Munich Re Foundation with the help of the Consultative Group to Assist the Poor Working Group. The initial purpose of the conference was to gather selected experts from international organisations, non-government organisations, development-aid organisations and the insurance industry to "discuss and exchange experiences and challenges of insuring people with low-income" (Munich Re Foundation 2005, p. 1). The event has seen a steady increase in interest throughout the years with the number of attendance rising from 89 in 2005 to 430 in 2023 (Munich Re Foundation 2023). This renders the conference the main international meeting aimed at facilitating the development and exchange of knowledge on the microinsurance market. Throughout the years, the conference has regularly organised sessions on the potential of new digital technologies to solve existing market gaps.

Image 2: Photo taken during direct observation of the 2019 International Conference on Inclusive Insurance in Dhaka, Bangladesh.



Methodologically speaking, the circumstances due to Covid-19 required an adaptation of the direct observation tool shifting it into a form of digital observation (Albaret 2023). The main advantage of digital observation is the possibility to keep track of the issue of interest even when travel restrictions are implemented (Vadrot et al. 2021). As such, it ensures the research remains engaged with the fieldwork, allows the researcher to become familiar with the participants and presents the opportunity to chat instantly with an informant of interest in order to arrange a future interview. Thereby, the digital observation carried out during this research helped to map and meet potential informants. Yet, attending international conferences is a way of taking the social dimension of the industry investigated seriously. As Leivestad and Nyqvist (2017, p. 3) accurately observe, "given that these events are in nodes of complex entanglements of social relations […] the fieldwork entails both the necessity of being there, taking part in face-to-face interaction […]".

Image 3: Screenshot taken during direct observation of the 2020 International Conference on Inclusive Insurance organised online.

Contrary to interviews, online conferences heavily undermine social interactions. As image 3 illustrates, emphasis is placed on the session's discussants and their presentations leaving the audience with very little space to interact. This was especially the case when the software chosen for the conference allowed the audience to ask questions only through the chat tool, without displaying the image of the person intervening, and depending on the number of participants and questions asked on the chat, the moderator might even miss some questions. Informal discussions, which are key dimension of in-person conferences to gather information and build up a network of informants, were almost impossible. The first online conferences tried to set up virtual rooms where participants could attend in between two sessions with the purpose of providing an intimate space for informal talk and networking. Despite the well-thought-out initiative from the organisers, the virtual rooms were not successful as most of the time the rooms were almost empty with very few people attending and willing to discuss. Hence, digital observation of online conferences has brought to the fore advantages in terms of fieldwork access. The analysis was contained to the discourse on inclusive insurance and the inquiry on Insurtech platform practices in data collection and risk management during specific sessions. Further analysis might have been welcomed to examine how the restructuration of the conference online shaped the spectacle, how and which actors were placed in the front row while others were invisibilised, how new circles of formal and informal discussion and negotiation were organised, and how it all framed the creation of the global market.

Document analysis

For the third dimension of my data collection, I carried out document analysis of official documents and research reports (see Appendix 3) published by the main international development actors involved in the digitalisation of inclusive insurance – national and international insurance supervisors, international financial institution, and think-tanks. Text analysis was crucial in order to grasp the institutional instruments deployed to regulate Insurtech platforms, e.g., the regulatory sandbox, and to understand the discourse promoting these platforms as a solution to the low uptake of inclusive insurance products. I analysed legal documents such as Insurtech platform's Terms of Service, the Insurance Core Principles (ICP) implemented by the IAIS, the Application Paper on the Use of Digital Technology in Inclusive Insurance published by IAIS and related reports such as Regulating for Responsible Data Innovation by A2ii on the regulation of digital platforms in inclusive insurance. Secondly, I analysed key research reports on the emergence of platform firms in inclusive insurance or more broadly on the arrival of digital technologies in the market. Among these reports (see Appendix 3), I examined documents published by the World Bank, the Consultative Group to Assist the Poor Working Group, the Institute of International Finance, the Centre for Financial Inclusion at Accion, the Centre for Financial Inclusion and Regulation, the Microinsurance Network and the Munich Re Foundation. My motivation to analyse these documents rests on the fact that they are produced by the main international actors promoting inclusive insurance worldwide. Thus, these reports provide detailed information on the reasons as well as on the challenges that digital technologies and platform business models face when penetrating the inclusive insurance market.

To sustain and guide the interviews, I analysed the Terms of Service of Insurtech platforms, which are legal statements that declare a platform's legal policy with respect to the collection and release of information about a user (Brandtzaeg, Pultier, and Moen 2019). As these statements set out the rights and responsibilities of each part, the idea was to assess if these legal agreements disclosed detailed information on what specifically a platform does, or at least claims to do. Studies have extensively scrutinised platform's practices by analysing the content of their discourse on their webpage (Van Dijck and Poell 2016). However, as Çalişkan (2020) has shown by studying cryptocurrencies exchange platforms, the analysis of Terms of Service demonstrates how platform control overflows and governs the transfer of data. Indeed, several studies have highlighted the importance of analysing the content of the Terms of Service of platforms and comparing it with qualitative data in order to discover if there are congruences

or discrepancies with the mandatory legal agreement users agree upon (Brandtzaeg, Pultier, and Moen 2019; Gao and Brink 2019; Ginosar and Ariel 2017). Despite the opacity of the notions used and the standardised form of the legal agreement, Terms of Service proved to be a useful medium from which questions can be drawn and then later posed to the Insurtech platform owner directly. For instance, a recurrent word in the agreements related to the transfer of data was the verb "share". As such, the verb might be interpreted as a free-of-charge exchange of data sources. Yet, when I asked Insurtech representatives to provide more details on what this notion entails, the informants explained that in the majority of the cases, the exchange includes a form of compensation (e.g., access to a new pool of customers). Moreover, as a young researcher, interviewing entrepreneurs is never an easy task as interacting with dominant profiles might involve power asymmetries, as Dairon states (2023, p. 92), "can lead to an unbalanced relationship […] where the interviewee wants to control the frames of interaction". Therefore, exploring the Terms of Service and mobilising it during the interview proved to be an adequate strategy to cope with the dominant figures of the Insurtech platform representatives.

The case study: Insurtech for platforms' ride-hailing drivers

Within this research, I decided to focus on Insurtech platforms delivering vehicle insurance to independent platform ride-hailing drivers. It is, however, important to mention that, while their success is increasingly discussed (Financial Times 2023), over the past five years, more than $40 billion dollars have nevertheless been invested in start-up Insurtech globally (Gallagher Re 2022). Initiatives popped up to reintermediate the delivery of insurance services in diverse economic sectors, ranging from healthcare, agriculture, livestock to small- and medium-sized enterprises. This is equally true for Insurtech firms dedicated to delivering inclusive insurance products to uninsured and low-income populations (Cenfri 2017; 2019; Microinsurance Network 2022).

My choice of platforms rests on a purposefully critical case sampling based on the following four criteria: (i) having a digital infrastructure mediating the economic relationship between an insurance company and a final customer; (ii) collecting traditional and alternative data on customers; (iii) applying data analytics for risk assessment (iv) and aiming to achieve financial inclusion through insurance services. As such, these platforms can, either plug-in and work in partnership with ride-hailing platforms such as when the insurance service is directly integrated

in the service or develop their own application to connect with ride-hailing drivers independently.

As outlined in the second section of this chapter, the main motivation to study on this specific case is that these firms are of interest for insurance development actors as they include former informal workers in mainstream finance by selling vehicle insurance to protect them against the risk of an accident (Insight2impact 2019; CGAP 2023a). This innovative approach to offering motor insurance policies holds significance due to its advanced capabilities within the insurance sector. It stands out as a highly sophisticated insurance category that can analyse digital data, forecast risk scores, and seamlessly integrate with other platform services. At the time of writing, there is no exact amount of Insurtech for such purposes. Within this research, I worked with seven platforms using a model that is essentially dedicated to ride-hailing drivers.

Given the early stage of inclusive insurance initiatives, the initial step involved mapping and categorising relevant companies. To achieve this, I utilised Cenfri's Insurtech Tracker4 database,[4] which provides insights into the Insurtech landscape in developing and emerging economies. Additionally, I closely tracked the proceedings of the 2019 and 2020 International Conference on Inclusive Insurance and monitored events that recognised initiatives such as the 2019 and 2020 Inclusive Fintech 50, powered by the Centre for Financial Inclusion at Accion.[5]

The selected platforms are geographically dispersed across continents. Thus, I contacted platforms located in South America to South-East Asia and Sub-Saharan Africa. Many of these platforms operate on a regional level providing their services in different countries. Hence these platforms are transnational firms operating in different parts of the world. The scope of the selection also aimed to avoid a regionalised focus of these initiatives that would thus undermine their transnational scope. In addition, this proceeding was also helpful to discover firms outside of the over-studied Sub-Saharan context when it comes to Fintech for financial inclusion. Now that I have introduced the case study of this research, I move on with the presentation of my analysis.

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[4] Cenfri Insurtech tracker official website, [URL: https://cenfri.org/databases/Insurtech-tracker/.]. Accessed 8 December 2021.

[5] Inclusive Fintech 50 official website, [URL: https://www.inclusivefintech50.com/.]. Accessed the 8 December 2021.

ANALYSING MARKET EXPANSION

In this chapter I present the results of my research through the use of three articles. The order of the three articles follows the chronological advancement of this research. In the introduction, I highlighted the necessity to further examine Insurtech platforms in order to grasp the contextualised development of platform capitalism in the inclusive insurance agenda. The overall argument of this thesis is that Insurtech platforms shape the expansion of the inclusive insurance market by reproducing capitalistic and colonial patterns of capital accumulation, sustained by formal and informal institutional arrangements, but transforming its process of value extraction now based on the social life of the targeted populations. Nevertheless, the expansion remains partial as contradictory dynamics arise between insurance and platform principles. Articles 1 and 3 analyse the case study of vehicle insurance for ride-hailing platform drivers, whereas article 2 places more emphasis on distinctive power relationships among public and private actors during the experimental regulatory process of the sandbox.

The first article *Datanalysing the uninsured: The coloniality of inclusive insurance platforms* focuses mainly on the epistemic and organisational practices on Insurtech platform. Attention is drawn towards the methods of knowledge production, its legacy, and its related system of value extraction. Here, I ask how Insurtech platforms shape the expansion of the inclusive insurance market and what are the broader implications for the financial inclusion agenda? I come to argue that the process relies on an interoperable digital structure, a racialised form of data collection and analysis and an appropriative practice of value extraction based on the life of the targeted populations The second article, *Futurity-led platform capitalism: The regulation of inclusive Insurtech platforms* scrutinises the institutional practices. The article questions the institutional support set up by the regulatory sandbox in the conception of the inclusive insurance market through Insurtech platforms. To answer this question, I mobilise the concept of futurity. I argue that, as Insurtech platforms are driven by futurity, the regulatory sandbox configures public and private interests at the advantage of the private ones. Eventually, the last article *Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance* traces the organisational practices of the firm. The results show that Insurtech platforms face important challenges as they encounter dysfunctional interoperability, dissonance in valuation and a process of risk aggregation is the exclusion of an important segment of the population. I conclude that platform firms, despite their claim of further insurance inclusion, are limited in scope and scale when it comes to taking over the inclusive insurance market.

I now turn towards the three articles and then return to discuss the process of market expansion as a common thread identifiable throughout the analysis.

Article 1: Datanalysing the Uninsured: The Coloniality of Inclusive Insurance Platforms

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Datanalysing the uninsured: The coloniality of inclusive insurance platforms

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Abstract
This article explores the rise of digital platforms for insurance coverage related to the financial inclusion agenda in developing and emerging economies. The current literature focuses mostly on the emergence and implications of Superplatforms based in core capitalist economies. Combining insights from studies on platform capitalism with post/decolonial scholarship in international political economy, we argue that the rise of inclusive insurance supported by platforms relies on three dimensions of what we term datanalysing: (a) an interoperable and safe digital infrastructure legitimized by international standards; (b) the collection of racially hierarchized data; and (c) the appropriation of data by objectifying the targeted individuals. As datanalysing turns populations from the Global South into profitable resources from which extracting financial value, it sustains colonial practices censing and classifying subjugated populations. We illustrate our argument with the case of motor insurance coverage. Our analysis offers a wider empirical understanding of the global expansion of platform capitalism to previously unmarketable populations. We suggest that research should place greater emphasis on socio-historical dimensions to highlight the inconsistent and exploitative character of the inclusive insurance agenda.

Keywords
inclusive insurance, platform capitalism, coloniality, developing countries, international political economy

Introduction[1]

The rise of platforms in contemporary capitalism calls to mind U.S.-based giants such as Google, Apple, Facebook, Amazon and Microsoft, as well as app-based services such as in ride-hailing (Uber, Lyft, Ola, etc.). Less well known, however, is the use of platforms for insurance coverage related to the financial inclusion agenda in developing and emerging economies. This agenda has

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exploded in the last few years. According to reports of the Centre for Financial Regulation and Inclusion, the number of initiatives on platform-based technology for inclusive insurance products specifically aimed at 'excluded, underserved and low-income' (IAIS, 2018: 5) populations across Asia, Latin America and Africa rose from 55 in 2017 to 298 in 2019 (Cenfri, 2017, 2019). International development actors and insurance companies work together to promote digitalization as a 'game changer' and an opportunity to partner with microinsurance institutions to 'reach new customers […] and help make the insurance market more inclusive' (A2ii, 2018: 4). Unsurprisingly, the rise of inclusive insurance has gained momentum with the global COVID-19 pandemic, as social distancing and lockdowns foster digital financial transactions and the use of digital platforms to buy insurance products.[2]

Financial and international development actors commonly acknowledge that digital inclusive insurance markets depend on the use of 'alternative data', such as geographic information systems (GIS), reporting on social media activity, transactional payment history and mobile phone metadata (IIF and CFI, 2018: 7). These data feed their risk assessment to insure uninsured individuals and provide financial products at a lower cost (Costa et al., 2015). Collecting alternative data to predict customers' behaviour, design insurance products accordingly and put a price tag on them has thus become a key element of the new 'lifeblood of insurance' (World Bank, 2018: 17; CGAP, 2020). Yet, it comes to capitalizing on individuals presumed to provide insufficient information (Insight2impact, 2017; Cenfri, 2018). Actors selling inclusive insurance products view digital platforms as the most promising business model to overcome what they refer to as a 'lack of information on customers' (Insight2impact, 2018: 3). This prompts the question of how do inclusive insurance platforms shape such market expansion and what are the broader implications for the financial inclusion agenda?

We address this question drawing on insights from post/decolonial scholarship in international political economy (IPE) and studies on platform capitalism. A rising number of studies in IPE scrutinize the changing nature of contemporary capitalism linked to the platform business model. Meanwhile, this transformation is also analysed in development studies to assess the related impact on individuals targeted by the digital financial inclusion agenda. These two strands of literature tend, however, to ignore each other, in such a way as to overlook how such market expansion of inclusive insurance in the Global South[3] employs discriminatory patterns different from those affecting core capitalist economies. Thereby, we argue that the inclusive insurance market expansion supported by platforms relies on three dimensions of what we term 'datanalysing': (a) an interoperable and safe digital infrastructure legitimized by international standards; (b) the collection of racially hierarchized data; and (c) the appropriation of data by objectifying the targeted populations. Datanalysing in this context is a reformulated continuity of colonial practices towards targeted populations, currently adopted by financial companies. We suggest that by using their intermediation practices lives of so-called 'customers' are turned into profitable 'resources' to extract financial value. This process hinges on standards providing a safe and reliable infrastructure on which data can be exchanged, while shaping new conditions of financial inclusion and exclusion. Our analysis shows the simultaneous process of racialized knowledge production – making sense of the subjugated recipients – and classification – turning the individual or groups of individuals into a reliable or unreliable risk.

We illustrate our argument with the case of motor insurance coverage. Our analysis draws on 30 in-depth expert interviews with chief executive officers and chief technology officers of inclusive insurance platforms, and representatives of think-tanks, foundations and international development agencies promoting the digitalization of inclusive insurance. We combine insights from the interviews with analysis of the institutional, technological and historical conditions of platforms

perpetuating colonial patterns of domination and appropriation. The corpus is composed of official texts and research reports of development organizations engaged in the digital financial inclusion agenda, as well as privacy policy documents and official statements from inclusive insurance companies. Inspired by previous studies conducted on platform-mediated labor (Doorn and Badger, 2020), the corpus combination helped us methodologically to develop a comprehensive picture of inclusive insurance platforms' practices in pursuit of market expansion.

The article is structured as follows. We start by providing a short description of inclusive insurance platforms. Next, we discuss the literature on platform capitalism and digital financial inclusion. This is then followed up with a research methods section. The fourth section presents our analytical framework on the coloniality of market expansion in platform capitalism. In section five, we analyse the three dimensions of datanalysing through which the coloniality of the inclusive insurance market expansion plays out, namely, data exchange standardization, collection and appropriation. This analysis is based on the case of motor insurance coverage. The conclusion wraps up the argument and draws implications for policymakers and for further research.

What are inclusive insurance platforms?

An insurance is a protection against risk, paid at a defined price at what is called a premium. It provides the contractual right to claim that protection should the insured-against event occurs, and commits the insurance provider to pay if and when such a time comes. Such promises to pay policyholders entail considerable liabilities. Probability calculus is used to model the weight given to the distribution of potential losses, their frequency and their scale. Unsurprisingly, the larger, the longer and the more granular the information gathered regarding the risk, the more accurate the probability calculated and, therefore, the greater the profits for the insurance company (Graz, 2019: 118).

An inclusive insurance platform is a private company providing a digital intermediation between an insurance company and an end user in the protection against a defined risk. It can be included in what the financial industry calls 'Fintech' or 'Insurtech', that is, firms enmeshing digital technologies such as Artificial Intelligence, Machine Learning, Cloud Computing or Internet of Things within financial services. The specific ability of an inclusive insurance platform is to collect information, organize risk distribution and eventually calculate the value of risk. As such, the firm model is close to what Srnicek (2016: 60–64) calls 'cloud platforms', enabling companies to outsource most of their information technology department for data analyses, storage and maintenance. Yet, in our case, an inclusive insurance platform establishes a direct relationship with the customer, thus, basing its revenue on the commissions from insurance sales and not from the rent of their services. Such platforms emerged as a new entity to support the sale of 'personalized' insurance products including alternative data in risk premium calculations to effectively meet 'consumers' needs' (The Digital Insurer, 2020). The rising use of smartphones and growing expenditures on digital infrastructures in developing and emerging economies has led to inclusive insurance market initiatives to elicit interest in harnessing alternative data in the same way as microcredit markets.

This article takes the case of motor insurance coverage to discuss the broader implications of the rise of inclusive insurance platforms in the Global South. This new way of providing motor insurance policies is important because it has become one of the most highly developed insurance lines able to analyse digital traces, predict risk scores and interoperate easily with other platform services. It is also closely related to core app-based services of platform capitalism, as it specifically targets ride-hailing platform workers. Lean platforms of ride-hailing services in the Global South

have mushroomed in the last couple of years (Eisenmeier, 2018). The inclusive insurance sector is increasingly interested in leveraging interoperable devices to provide uninsured, low and middle income drivers with car or motor bike protection (Catalyst Fund, 2020). Such a transformation of the value chain, in which insurance services use digital platforms to expand their market in developing and emerging economies, prompts us to discuss in more detail recent studies on the diffusion of platforms in contemporary capitalism and the emergence of digital technologies in the provision of financial products for development purposes.

Platform capitalism and digital financial inclusion: A review

A growing number of studies in IPE and cognate fields examine the structural shift likely to result from the rise of platform capitalism. For their part, development studies span several disciplinary fields to analyse the impact that such a transformation has on individuals targeted by the inclusive development agenda. Few, however, focus on the emergence of inclusive insurance platforms for risk assessment in this context. This section reviews and brings into dialogue these two close, yet mostly unconnected, literatures on platform capitalism and digital financial inclusion.

While many scholars see platforms as market organizers that facilitate the exchange of goods and services between users (Schmalensee and Evans, 2007), others understand platforms as embedded in the current transformations of capitalism (Srnicek, 2016; Langley and Leyshon, 2017; Montalban et al., 2019; Rahman and Thelen, 2019). From this perspective, platforms impact the global organization of value extraction and accumulation. Montalban et al. (2019) thus describe the emergence of platforms as both a heterogenous process of contemporary capitalism and endogenous to its financialization. In a similar vein, yet with more emphasis on the endogenous contradictions of capitalism, Srnicek (2016, 2018) sees platforms as not only engineering a new form of value extraction, based on data rather than labor, but also as contributing to the acceleration of capitalism and its contradictions in the wake of lean production systems and monopolization. Unsurprisingly, as the largest platform firms are based in the United States, a number of scholars view them as a logical continuation of the long-term underlying logic of U.S. imperialism (Jin, 2015). The monopolistic aspect of platforms has also prompted a debate on the extent to which this genuinely transforms capital accumulation, in particular regarding the type of rent upon which it relies (Acquier, 2017; Durand, 2020; Gruszka et al., 2020; Morozov, 2019).

Be that as it may, such an evolution of capitalist development has led to a collision of exploitative processes on a planetary scale – a so-called carambolage – not just of technology, but regarding the future of nature and work as well (Gruszka et al., 2020). As a result, platform capitalism needs distinct governing infrastructures. Bratton (2015) has arguably provided the most far-reaching account of such a new dominant architecture. In his view, we are witnessing a shift towards a planetary scale computation in which overlapping layers of a 'standards-based technical-economic system' gives rise to no less than a new 'platform sovereignty'. Therefore, many studies have looked at how platforms oversee, discipline and shape groups of population and individual bodies through massive data analysis and extraction (Gillespie, 2010; Benavent, 2016; Bucher, 2018; Casilli and Méda, 2019; Gidaris, 2019; Zuboff, 2019). Users' lives can, thus, be viewed as part of an enclosed, commercialized and manageable platform realm (Hands, 2013). Such studies provide valuable insights into the symbiosis of market coordination guiding individuals' interactions for market purposes.

Finally, most studies highlight how platforms are inclined to expand their market scope and wield their influence. In this sense, they entail what some scholars call 'platformization'. Helmond (2015) uses the concept in the narrow domain of how the web was transformed with the systematic

development of application programming interfaces allowing websites to more systematically collect data across the web. Poell et al. (2019) have forged a much broader understanding related to how platforms intervene in a wide range of societal arrangements. Platforms are then viewed as propagating their data-driven infrastructure via multi-sided market coordination processes, as well as governance frameworks in basically any and every industry and aspect of daily life. While the expansion of markets for digital inclusive insurance is related to the global transformations referred to in the literature as platform capitalism, it also depends on distinct digital technologies. Such issues are part of a burgeoning body of literature in critical IPE on digital financial inclusion used as an international development project (Maurer, 2015; Mader, 2016; Natile, 2020).

A considerable range of studies have examined the entanglement of microcredit services with digital technologies using big data analysis for credit scores. For instance, Loubere (2017) has focused on peer-to-peer loan platforms to show how they are part of a broader government surveillance project, while reproducing patterns of inequality and exploitation. Similarly, the literature on financialization in the context of development has provided a number of insights into how a new network of international actors draws on digitalized data collection as a key governing tool to monitor and discipline low-income individuals, as well as to profile them as new financial assets (Gabor and Brooks, 2017). In the same vein, big data predictive models for inclusive credit can exacerbate indebtment instead of emancipating individuals (Langevin, 2019). According to Aitken (2017), the practice of alternative credit scoring to include unbanked people in the financial realm aims at encompassing financially excluded individuals in visible categories of knowledge and intervention from which financial value is extracted and bodies are made governable. By the same token, Bernards (2019) points out that the alternative data used for psychometrics in credit scores are aimed at providing calculable values likely to be exchanged and subject to speculation, but also facing broader limits to market expansion.

The aforementioned studies provide rich accounts of the governing dimensions upon which the extraction and valorization of individual data for digital inclusive financial products rest. They also emphasize platforms' disciplinary and exploitative character. However, they tend to ignore each other and to overlook the distinct racialized biases borne by the market expansion of inclusive insurance in the Global South. Regarding the first shortcoming, digital financial instruments have been conceptualized, for instance, as 'financial infrastructures' (Bernards and Campbell-Verduyn, 2019) or 'calculative infrastructure' (Aitken, 2017). Yet, the ability to exchange, collect and analyse individuals' data depends largely on the organizational form of service entities known as 'digital platforms'. With a few exceptions (Nuccio and Guerzoni, 2019; Rikap, 2020; Rikap and Lundvall, 2020) the key role of digital platforms in the coordination and analysis of large volumes of recorded data that shapes contemporary global capitalism is rarely acknowledged. Yet we suggest that digital financial inclusion and platform capitalism are two sides of the same coin.

Secondly, studies on platform firms operating in the Global South extensively scrutinized Super Platforms such as the GAFAM (Couldry and Mejias, 2018; Kwet, 2019; Rikap and Lundvall, 2020). Less attention has been given to the ways in which market expansion processes based on small digital platforms specifically target populations from the Global South. Further research is also needed to specify what platforms' intertwinement of anthropomorphic and social reproduction (Fumagalli and Morini, 2020) really means for inclusive insurance markets' targeted populations and individuals. Such market expansion is likely to reproduce discriminatory and exclusionary patterns contradicting official claims regarding financial and insurantial inclusion. However, apart from Jin's conceptualization of 'platform imperialism', the literature presumes a natural trend of platforms growing steadily and evenly, or as Van Dijck states 'an innate interest of platforms in global market and worldwide reach of customers' (Dijck et al., 2018: 30). We thus suggest to further

draw from post/decolonial IPE scholarship to conceptualize the coloniality of market expansion through digital platforms. Inclusive insurance shapes financial access in targeting 'subprime populations' for development purposes (Roy, 2010; Kish and Leroy, 2015).

Research methods

Our analysis of the process of datanalysing draws on a case study methodology (Yin, 2018). We assess inclusive motor insurance as 'an aspect of historical happening' (Bennett, 2004: 29) selected for the analysis of platform capitalism within the inclusive insurance sector. This method offers a post-positivist methodological position, coherent with our research object and theoretical framework, as it grounds knowledge in the co-constitution of international dynamics, structures and local realities (Lai and Roccu, 2019).

The choice made for studying the case of inclusive motor insurance is based on the following methodology. As inclusive insurance initiatives are nascent, it first required that we map and categorize the companies. For this purpose, we used CENFRI's database called Insurtech Tracker[4] to map the Insurtech landscape in developing and emerging economies. In addition, we closely followed the 2019 and 2020 International Conference on Inclusive Insurance and monitored events awarding initiatives such as the 2019 and 2020 Inclusive Fintech 50 powered by the Center for Financial Inclusion at Accion.[5] We selected platform firms in the field of inclusive insurance based on three specific criteria: (i) having a digital infrastructure mediating the economic relationship between an insurance company and a final customer; (ii) collecting traditional and alternative data on customers (iii) applying predictive data analytics for risk assessment (iv) and aiming at achieving financial inclusion through insurance services. Thus, the inclusive insurance platforms studied operate in Latin America, Africa and South East Asia having thus a specific focus on the Global South.[6]

Our corpus is constituted of in-depth interviews and official documents – for example, such as industry reports. Inspired by previous studies conducted on platform-mediated labor (Doorn and Badger, 2020), this combination of sources helped us methodologically to develop a comprehensive picture of inclusive insurance platforms' practices in pursuit of market expansion. Gaining access to platform practices in collecting alternative data happened to be quite challenging due to the confidentiality of certain information and the travel restrictions during the pandemic moment. International events and conferences, whether taking place online or physically, happened to be strategic places to meet inclusive insurance platforms chief executive officers and getting access to the field. Potential interviewees were contacted via LinkedIn, a professional social networking platform, which is very useful to qualitative research involving individuals difficult to find or to reach in person (Robinson, 2021). We established contact with the interested interviewees either after conference meetings or through snowballing. To further address access and privacy issue (Davies, 2001; Kezar, 2008), we triangulated two sources to corroborate, compare as well as discover points of tensions in our results (Warshawsky, 2014; Pottie-Sherman and Graham, 2021). Our analysis draws on 30 in-depth expert interviews with chief executive officers and chief technology officers of inclusive insurance platforms, and representatives of think-tanks, foundations and international development agencies promoting the digitalization of inclusive insurance. Interviews were conducted from November 2019 to November 2020. Due to the pandemic, most interviews were conducted via video communication which helped to establish trustworthy relations without sharing the same physical space and gain access to more interviewees in a short laps of time (Sedgwick and Spiers, 2009; Archibald et al., 2019). All interviews were anonymized for confidentiality. Interview data was combined with official documents and research reports of

development organizations engaged in the digital financial inclusion agenda (IIF, 2016; Insight2impact, 2016, 2017, 2018, 2019; Cenfri, 2017, 2018, 2019; CFI and IIF, 2017; IIF and CFI, 2018), as well as privacy policy documents and official statements from inclusive insurance companies in order to corroborate evidence. All documents were available online and published in a timeframe between 2016 – 2021.

The research material was coded with the Software Nvivo 12.0 to systematize the body of research, compare statements and eventually understand analytical patterns across documents (Richards, 2015). The coding step helped to depict a framework of categories (Suedfeld et al., 1992) in line with the market expansion process underpinning platforms. The unit of the analysis of the interview guidelines aimed at grasping the type of protocols used to exchange data, the type of data collected and the method of risk assessment based on data analytics. The coding process enabled us to triangulate interviews and texts as it summoned up the three practices of data exchange standardization, data collection and data appropriation.

Datanalysing: The coloniality of market expansion in platform capitalism

To address the shortcomings identified above, we suggest combining insights from the literature on platform capitalism with post/decolonial IPE approaches to study inclusive insurance platforms. This allows us to analyse the various colonial legacies on which platform capitalism relies, and which it reproduces, in the field of inclusive insurance.

Studies on platform capitalism offer an interesting account of the conditions of data production through platforms. Together with novel exploitative processes of labour, platforms use their ability to extract data to gain a monopolistic position and feed their appetite to collect more and more data (Srnicek, 2016; Isin and Ruppert, 2019; Sadowski, 2020). However, the principal feature supporting the expansion of markets is data analysis. The analysis leads to the interpretation of data, consequently revealing some sort of 'relationships and truths about the world' (Kitchin, 2014: 38; Thatcher, O'Sullivan and Mahmoudi, 2016). In the literature, data analysis has mainly been conceptualized as a process of datafication in the way platforms transform aspects of everyday life into tangible and quantifiable data (Amoore and Piotukh, 2015; Dijck et al., 2018). Hence, we draw on these studies to comprehend platforms' abilities to expand markets by extracting and analysing data, to transform targeted populations into new financial revenues.

We combine these insights with those from post/decolonial IPE that shed light on the legacy of colonialism in structuring the global economy and expanding markets (Chakravartty and Silva, 2013; Tilley, 2016; Bhattacharyya, 2018; Bhambra, 2020). Scholars emphasize that, as a result of colonialism, 'data politics', that is, the collection and use of digital data, plays out differently in the Global South and in the north (Isin and Ruppert, 2019: 207). They reveal the continuity between techniques of government and modes of knowledge used during colonialism – such as the census, maps, museums and statistics – and today's 'data empire' (Appadurai, 1993; Christopher, 2008; Isin and Ruppert, 2019; Touchelay, 2019). They highlight the continuous, yet transformed, practices of public and private institutions that use knowledge and data to count, categorize, order and rule populations.

Post/decolonial IPE scholars have developed tools to study the emergence and deepening of platform capitalism, highlighting how colonial legacies shape forms of differentiation of new patterns of value extraction (Casilli, 2017; Ricaurte, 2019). The concept of 'data colonialism' sheds light on the asymmetries of power undermining the capture of large volumes of individual data understood as a capital accumulation process by dispossession, commodifying previously

unmarketable aspects of life (Thatcher, O'Sullivan and Mahmoudi, 2016: 2). Hence, as the main economic model of data collection, platforms transform social life across the human globe into 'an open resource for extraction' (Couldry and Mejias, 2018: 2). Data colonialism involves a complex assemblage of experts, methods, technologies, data, practices and institutions that govern post-colonial people (Isin and Ruppert, 2019: 219).

The concept of data colonialism renders us attentive to the fact that data as 'resources' must be appropriated. These processes of appropriation are deeply colonial, drawing on 'racial social classification' (Quijano, 2007: 171). Race – defined as a mode of 'classifying, ordering, creating and destroying people, labor power, land, environment and capital' (Tilley and Shilliam, 2018: 537) – plays out as a catalyst for financial services to hierarchize populations and transform them into financial assets (Roy, 2010; Melamed, 2011; Chakravartty and Silva, 2012, 2013; Kish and Leroy, 2015; Bhattacharyya, 2018; Natile, 2020). We draw on this literature to focus on the coloniality of platforms: the attempt of platforms to expand the inclusive insurance market through drawing on and reproducing racialized differences based on hierarchical assumptions regarding the populations situated in the Global South.

A second important dimension of data colonialism is the way in which it reproduces and institutionalizes colonial forms of governing through 'ruling subjects for profit' (Couldry and Mejias, 2018: 1). Building on this insight, we add a conceptual dimension by focusing on a key mechanism of coloniality that is part of value extraction processes: subjects are turned into 'objects of knowledge' (Quijano, 2007: 174). Platforms' big data analysis is set as the mainstream way of knowing the world through data (Milan and Treré, 2019). Western-invented algorithmic decision-making is deployed as a technological measurement tool aimed at representing, knowing and treating insurance applicants from the Global South as its object. In substance, it creates an asymmetric relation by which non-Western people are objectified and, therefore, subjugated, as individuals lacking proper agency and requiring external help (Sabaratnam, 2011). It is crucial to analyse this process of objectification to grasp the way insurance customers are made 'visible or invisible' (Maldonado-Torres, 2007; Gruszka and Böhm, 2020) and rendered an entity of study from which knowledge is produced to optimize the extraction of financial returns.

In line with post/decolonial IPE, studies on algorithmic biases highlight the distorted promises and discriminatory outcomes of big data analysis (Boyd and Crawford, 2012; Couldry and Powell, 2014; Crawford and Schultz, 2014; Treré, 2016; Leurs and Shepherd, 2017). Scholars alert us to the hidden colonial assumptions upon which platforms, and their seemingly neutral and technical practices, are based (Noble and Tynes, 2016; Noble, 2018; Milan and Treré, 2019). Hence, the collection of certain data might conceal correlated pre-existing discriminatory practices (Tufekci, 2015). Thereby, racial biases in platforms' big data analysis are mainly implicit, unconscious and often rooted in the social thoughts, institutions and practices prior to, or embedded in, the creation of the system (Friedman and Nissenbaum, 1996; Turner Lee, 2018; Simon et al., 2020).

Integrating insights from studies on platform capitalism and post/decolonial IPE, we conceptualize the role and significance of data in the coloniality of market expansion through digital platforms as a process of 'datanalysing', which unfolds in three dimensions. First, platforms' technical infrastructure is legitimized by international standardization institutions. This institutional framework regulates and sustains the platform-based expansion of the inclusive insurance market. Secondly, platforms' data collection racially hierarchizes the targeted populations. Eventually, data is appropriated as a mean to transform lives of previously unmarketable individuals into a resource from which to extract value. The appropriation process involves the objectification of individuals, producing charts of int-eligibility and unint-eligibility as a simultaneous process of knowledge production and financial inclusion/exclusion. The coloniality of market expansion through

platforms epitomizes the reformulated colonial power relations in contemporary platform capitalism by means of appropriation, racial hierarchization and classification practices, not only to govern the targeted populations but also to extract value from previously untapped resources. We now analyse each dimension of 'datanalysing' in turn.

Data exchange standardization

Inclusive insurance companies are cloud-based platforms appropriating and analysing individuals' data. One major feature of a digital platform is its necessity to safely[7] connect and interact with other platforms, which is crucial for market expansion (Nuccio and Guerzoni, 2019). This section elucidates the ways in which data exchange standardization processes form the foundation of the inclusive insurance market, enabling it to expand via platforms, focusing on two dimensions: interoperability and security. These two dimensions refer to issues in the role standards play in market expansion (Graz, 2019).

Studies on digital platforms analyse the conditions and characteristics of interoperability, which guarantees a secure and open space on the web (Bodle, 2011). Hence, the rise of the Web 2.0 enabled web-based applications to be developed hinging on an interoperable technical architecture providing 'connectivity, programmability and data exchange' (Plantin and Punathambekar, 2019: 4). As for any insurance services, the expansion of markets for inclusive insurance relies on standardized formats of data exchange (Graz, 2019). One such aspect draws on devices and data interoperability. This practice depends on the implementation of *web-service-based application programming interfaces*, or APIs, which consist of a set of codes that define standardized formats of data exchange, including software and hardware (Dijck, 2013; Dijck et al., 2018). Basically, platforms' access to each other's data is governed by APIs. The API protocol is the one allowing, for instance, digital insurance platforms to pick up datasets of individuals' transactional history from partnered e-wallet platforms. The companies interviewed claimed to rely on APIs in financial services, called ISO/TS 23029:2020, developed by an expert working group and edited by the technical committee ISO/TC 68/SC 9 to establish a norm on information exchange in financial services. In short, the standard defines a framework, the functions and protocols for systems to be able to have safe and synchronized interactions.[8] Contrary to some social platforms using open APIs guaranteeing free access to the platform database, inclusive insurance platforms need to set up protected and private channels of communication. In order to be in a position to extract value from a large-scale standardized exchange of data, inclusive insurance companies respond to the risk of hacking and data breaches with security and encryption protocols. Among them, is another International Standard – ISO/IEC 20648:2016, which details the requirements for use of the Transport Layer Security (TLS) protocol in conjunction with data storage technologies.

Interoperability and security issues in the standardization of data exchanged by inclusive insurance companies unfold as follows. Many platforms establish partnerships with what are called 'third-party companies'. E-commerce platforms, digital payment platforms, insurance and microinsurance companies or even basic merchants' shops can be plugged into the platform ecosystem embedding the entire value chain. For example, a platform operating in West Africa offers insurance products to ride-hailing contractors. The company manages to gather financial historical data from the credit bureau authority that directly feeds their customer risk profile index. This means that each time a customer logs in and subscribes to an insurance policy, the company receives details of the individual's current status of indebtedness and comes to know the frequency with which an individual honors their debt. This example shows the importance of APIs connecting platforms among different companies. Encrypted protocols allow only authorized entities to have access to personal

or even, in some cases, sensitive, data. This is yet more crucial when it comes to partnerships with digital payment platforms. When data are exchanged, a company can collect data on individual expenses, the type of spending, the frequency and the amount. Other instances illustrate how platforms set up an interoperable and safe system of data exchange inside their own framework. For example, if a company developed its own mobile application to which recipients can subscribe and on which they can enrol for a motor insurance policy, once the information is gathered, the data are immediately shared through an API with the company cloud system.

The collection, storage and transfer of data not only call for platforms to use standards of data security and exchange to create their market and support its expansion; this also shows how platforms need an interoperable multi-layered architecture to function (Bratton, 2015: 46). Since most platforms do not have direct access to customers, reliable channels of data circulation are crucial to trace and profile customer activities (Dijck et al., 2018). As Yates and Murphy (2019: 292) have pointed out, API protocols are essential parts of the infrastructure of the global economy, creating a reliable and familiar playground available for all actors involved in market relations on the web. Therefore, institutional agreements standardizing platforms' relations in the inclusive insurance industry act as a precondition to design the security attributes to ensure economic transactions (Loconto and Busch, 2010; Graz, 2019). In sum, the intervention of international standards in regulating platforms sheds light on how practices are reformulated by public/private standards setting bodies guaranteeing an interoperable and safe international technical infrastructure. This functions as the foundation on which platforms can collect individuals' data, to which we now turn.

Data collection

A core feature of digital platforms is their ability to harvest large amounts of data from a network of other platforms (Gerlitz and Helmond, 2013; Langlois and Elmer, 2013; Helmond, 2015; Kenney and Zysman, 2016). In this section we take the case of motor insurance policies to show how such data collection relies on 'datanalysing' practices characterized by a class- and race-based hierarchization of the target populations. We first analyse the colonial legacies which are embedded in traditional data collection. Secondly, we present how the use of alternative data strengthens these colonial practices. Directing the focus on the coloniality of platforms pushes us to contextualize and historicize the seemingly neutral variables and their broader implications in terms of market expansion and the creation of conditions of int-eligibility and unint-eligibility.

Inclusive insurance platforms collect four categories of alternative data to feed risk assessment methods for motor premium pricing: smartphones' metadata; GIS and data from other platform sources, such as transactional data or social network data. These datasets are added to so-called traditional information collected for the sale of motor insurance policies, usually combining demographic information with vehicle attributes. We find that collecting racialized data preceded the compilation of alternative data. For instance, inclusive insurance platforms draw correlations with the variable 'personal address'. The correlation logic implies that higher or lower premiums are charged according to ascribed (careless or attentive) behaviours of individuals living in the same geographical location. Yet the precise dimensions of the area are not specified. Correlations can be drawn on different scales, from a neighbourhood to an entire region. In Colombia, for instance, the residency variable is assessed on a regional scale. Thus, living in some regions might disadvantage some customers as historical data gathered by insurance companies show either highly fraudulent behaviour or a significant propensity to be involved in car accidents:

> *This is not written anywhere. But, certain areas of our country are not good for banking or insurance companies, because they are too risky. In some small towns there's a lot of fraud. And there is a bias against selling products in those areas. Some [insurance] companies don't like to sell products along the coast of the country. So, good people, good customers there cannot access the same products. Not even our products because we are not allowed to sell them*. (Interview with a Colombian-based digital insurance platform chief technology officer, September 2020)

In this circumstance, the seemingly neutral variable 'personal address' hides and reproduces mechanisms of racial hierarchization. In Colombia, racialized differentiations were institutionalized during the Hispanic dominion in 1550 with the establishment of the Real Audienca de Santafé, the royal appeals court of the Spanish Empire based in Bogotá (Olinto Rueda, 2012). The institution produced the first population census with the purpose of recording the number of 'Indian' residents on the Chibcha plateau (Olinto Rueda, 2013: 25). This categorization evolved throughout the decades, distinguishing populations according to their 'origin', meaning their skin color, along with their geographical location (Orrego, 2016). From the above statement, we perceive a colonial continuity in the way racial hierarchization is associated with regional identifications. In Colombia, the social construction of racial categories is historically anchored in geographical spaces (Leal, 2010; Agudelo, 2013). Colombia has a strong concentration and division of so-called ethnic groups into specific geographical parts largely reflecting the colonial configuration of the ethnic space (Blutstein and Edwards, 1983). Cities and towns along the coast are mainly inhabited by people characterized as 'black and mulattos' (Hudson, 2010). Descendants of slaves, exploited by the Spanish empire to mine gold on the Pacific coast in the 16th century, were later forced to remain there in precarious conditions as the possibilities of integrating into the post-colonial society were very restricted (Wade, 1985; Acemoglu et al., 2012).

Independent of the potential of 'personalizing' an insurance policy through alternative data, discriminatory patterns are inherited from previous discriminatory sets of data. Therefore, the appropriation of geospatial information by inclusive insurance platforms racially hierarchizes and excludes an entire population group *a priori*. This racial differentiation is based on a hierarchical assumption that residents living in specific regions, which are mostly inhabited by Afro-Colombians, are unreliable, fraudulent and unsuitable for insurance coverage. Integrating the variable 'personal address' in the risk assessment model de facto reproduces a racialized segregation of space and colonial stereotypes regarding unguarded and dishonest behaviours of targeted populations.

If we now turn to the collection of alternative data, the main unconventional data gathered for motor insurance are GIS data.[9] GIS data consist of the geographical location and the description of the geographical location (Insight2impact, 2018: 4). These provide instantaneous information on driver attitudes, respectively acceleration and brake frequency, distance covered, time and part of the day spent driving, as well as roads taken. These data are collected either through a specific application or through smartphone sensors. Thus, high frequency patterns of acceleration, high numbers of kilometers driven, as well as frequent driving on unmaintained roads, are assumed to increase the propensity of risk and, therefore, raise the premium price. Yet, GIS might also reproduce racialized hierarchization patterns inherited from the colonial era. In Kenya and, more precisely, in Nairobi, inclusive insurance platforms are highly engaged in insuring motor taxi drivers or independent contractors working with ride-hailing platforms. Using instant GIS data produces patterns of int-eligibility and unint-eligibility, either because the policy price appears to be too expensive or simply because the platform risk assessment model rejects the customer as being uncoverable. Hence, ride-hailers face contradictory scores, from which their risk propensity might

increase, instead of decrease. For instance, knowing the daily distance covered by a car might not accommodate these workers. Street access to buildings in poor neighbourhoods is not guaranteed, hence requiring long drives to reach a precise destination.[10] In addition, poor neighbourhoods, with bad road conditions and street access, might constitute discriminatory variables:

> *[…] Some roads in Nairobi are riskier than others. Places such as Kibera or Eastlands are not as developed as other areas like Kilimanio or Kililecia. And you'll find that in a particular area, there's probably more people on the roads. So, the data scientists and the technical team came up with some kind of risk scoring, such that areas that are more congested would have a higher risk score compared to other well-developed areas that don't even have mini motorcycles driving on that route*. (Interview with a Kenyan-based digital insurance platform chief executive officer, October 2020)

Following this logic, individuals who live in poor neighbourhoods driving every day on cratered roads are construed as riskier customers. This is not only a class-based mechanism of differentiation. It also reproduces the racialized residential segregation of Nairobi, established during colonization. During the British dominion in the early 20th century, the colonial government implemented a human stratification process along racial lines and income status (K'Akumu and Olima, 2007). Colonial imperatives to control the population included the development and implementation of public health standards among the various ethnic groups. This policy was based on the prejudice claiming that locals were carriers of infectious diseases due to insalubrious living conditions; therefore, ethnic segregation would ease and prevent any spread (Stren, 1978; Greenwood and Topiwala, 2020). It resulted in a tri-partition of Nairobi as the colonizing Europeans settled on the northern and western part of the city, people labelled as 'Asians' were placed in the northern east side and the population labelled 'African' was condemned to live in the highly densified southern part. This contributed to the emergence of informal settlements such as the Kibera slum (Salau, 1988). Today, Kibera hosts approximately 1 million individuals and is considered one of the largest and poorest neighbourhoods on the African continent (Mukeku, 2018).

To sum up, inclusive insurance platforms collect data in such a way that they include a class- and race-based hierarchization of the targeted populations. The merging of traditional with alternative data collection entails exclusionary patterns that stand in clear contradiction with development agencies' discourse on the benefits of alternative data assessment to increase financial inclusion. The practice depicts colonial continuity in its quest to categorize individuals in the Global South, which here regards inclusive insurance' market expansion imperative in transforming populations into profitable resources.

Data appropriation

Platforms cannot be dissociated from their analytical tools (Kenney and Zysman, 2016; Srnicek, 2016). Indeed, the inherent ability of platforms to analyse data is central to their modalities to push the market beyond its presumed capacity. In this section we emphasize the appropriation process by which targeted populations are objectified in numerical and categorical terms to be tapped as financial resources. The knowledge produced in 'personalizing' the premium price determines the conditions of int-eligibility or unint-eligibility individuals face.

Predictive analytics consist of the extension of probability statistics to offer forecasting capabilities with extensive amounts of data (Bramer, 2020; Olson and Wu, 2020). In insurance, the trained algorithm aims at identifying good and bad risk, as well as the likelihood of insured perils (McGurk, 2019). The main difference with probabilistic statistics is the analysis of current, as well

as historical, facts (Nuccio and Guerzoni, 2019). This model can be used in many fields, from fraud detection to marketing (Wilson, 2017). Inclusive insurance platforms use predictive analytical models for risk assessment as a way to 'personalize' premium pricing. We identify two types of predictive models used to determine a customer's risk propensity: the classification model works through categorizing information, such as defining and distinguishing a 'good' from a 'bad' driver; and the forecast model generates a numerical outcome on a specific risk. For instance, a Colombian inclusive insurance platform provides predictive analysis to offer discounts on a motor insurance premium. The platform claims to reward customers for good driving skills, whereas, in fact, the model is set up to predict the likelihood of a person having a car accident:

> *[…] in total, it's about 20 or 30 variables that we collect, and we cross-reference them with data on car accidents. And we apply a cluster that basically separates or splits people into categories, like people who are likely to crash and people who are not likely to crash. Each driver that receives a quote for insurance on our website is assigned a score to belong to one of those sets of clusters. […]* (Interview with a Colombian-based digital insurance platform chief technology officer, September 2020)

Hence, the process of objectification is epitomized here as a numerical classification. The classification chart that analyses the chosen database, rather than 'personalizing' the premium price of the policy holder as claimed by the platform, generates a score between 0 and 1 where 0.6 is the threshold to be identified as a 'good driver'. In short, below the 0.6 arbitrary threshold, the driver will have to pay the full fee, whereas if the score is above the index, the premium fee will be reduced. It splits policy holders into two categories, namely, 'good' and 'bad' drivers, rather than customizing the insurance premium.

Apart from the disciplinary aspect incentivizing, complying and adapting their driving behaviour accordingly, this procedure reproduces a broader colonial practice of classifying targeted populations (Cohn, 1984; Dirks, 1987). This process generates knowledge through platforms, enabling the objectification, comparison and classification of the targeted populations, a practice strongly related to the colonial bureaucratic power of censing and mapping colonized populations (Appadurai, 1993). The mechanism of classification, in fact, produces a numerical outcome by which individuals can easily be compared and understood. The knowledge generated is of crucial importance to determine the eligibility or ineligibility of a recipient as a future resource for financial value extraction.

Similarly, the forecast model draws on colonial governance instruments. This model is adopted by an inclusive insurance platform based in Kenya to predict the comprehensive coverage of motor insurance in case of an accident. The platform claims to provide a more accurate risk assessment method than insurance companies. Yet, instead, it objectifies their driving behaviour in numerical terms, thus transforming social activities of the targeted populations into tangible objects (Appadurai, 1993). Through a downloadable application, the inclusive insurance platform is able to include in its forecast model, among others, demographic data, as well as GIS data with supposed driving characteristics. The platform aims at providing a personalized price based on the customer's driving ability:

> *We thought that it's not fair to charge everyone the same 5% because some people are better drivers than others. So now our regression model comes up with this percentage*. (Interview with a Kenyan-based digital insurance platform chief executive officer, October 2020)

The chief executive officer explains that insurance companies used to charge the parties a fee of 5% of the vehicle's residual value in case of an accident. The amount to be paid was then multiplied by the coverage benefit. Hence, the platform suggested applying a variable fee percentage according to a set of criteria distinguishing good from bad drivers. Hence, the numerical predictive model processes all those data in order to produce a score based on a variable, or a 'personalized' fee percentage, according to a driver's behaviour.

This process illustrates the technique of objectification as all the data gathered from an individual's life are reinterpreted on a numerical scale. Predictive analytics has the capacity to transform a supposedly unreliable customer into a tangible and priceable financial resource (McFall and Moor, 2018). The individual is profiled, and attributed a certain easily understandable numerical score, priced in monetary terms (Kear, 2017). Thus, the individual is transformed into a financial asset ready to be traded (Callon, 2017; Fourcade and Healy, 2017). The final output of predictive analytics is the conception of a monetary quantifiable price related to a driver's propensity to crash.

Hence, the scrutiny of data appropriation sheds light on platforms' conditions of data production. Risk assessment tools are key for inclusive insurance platforms as they represent their main source of profit to increase sales and commissions. However, this process illustrates a current phase of accumulation identified with the exploitation of life itself (Fumagalli et al., 2019). The recipient is largely unaware of the creation of alternative data which produces information on the individual's social relations, interactions and practices on a real-time basis (Terranova, 2000). Hence, social life as a whole appears to be the main resource on which capital can monetize future revenues (Morini and Fumagalli, 2010), in this case financial revenues. Hence, the life of targeted populations is transformed into data that serve as resources that can be discovered, collected and appropriated by inclusive insurance platforms. Thus, current forms of capitalism are adapting to platform design and practice, yet still maintaining essential features of colonial days (Couldry and Mejias, 2018, 2019). In the context of inclusive insurance platforms, this works in racially hierarchized ways, reproducing relations of coloniality.

In summary, inclusive insurance platforms shape the conditions of inclusion/exclusion in the economic and financial systems, appropriate the value of life as a new resource from the data obtained from the individuals in the Global South, and extract future revenues from the sale of financial products. Thus, these platforms facilitate accumulation processes based on the colonial and racial imperative of objectifying subjugated populations in an attempt to appropriate their lives as a resource to generate future revenues. Our analysis reveals the contradictions of the global inclusive insurance agenda and its discriminatory and exploitative character.

Conclusion

This article has drawn on debates regarding the rise of platform capitalism and the financial inclusion agenda to shed light on the use of digital platforms in the Global South. We have used the case of motor inclusive insurance to show how the market expansion sought by platforms relies on three dimensions of what we term datanalysing: data exchange standardization; collection; and appropriation. Our findings describe the standardized devices for interoperable and secure economic transactions; the appropriable tools to objectify, classify and racially hierarchize recipients; as well as the calculable tools of knowledge production turning individuals and populations into objects of knowledge from which future financial value can be extracted.

Our analysis also situates the incorporation of the current expansion of platform capitalism into the continuity of colonial practices of classification and knowledge production, as well as racialized hierarchization regarding the targeted populations. We reveal that these platforms create conditions

of int-eligibility and unint-ineligibility as a simultaneous process of exploring and studying individuals in the Global South in order to include them in, or exclude them from, the financial system and shape the conditions of inclusion. Platform-based market expansion in this context is embedded in inherited patterns of material appropriation and stereotypes guiding colonial logics in the contemporary global economy (Quijano 2000; Mantz 2019; Grosfoguel 2007; Tucker 2018). Ultimately, our case study informs the research agenda on platform capitalism with the contextual circumstances and implications of small platform business models when deployed beyond core capitalist economies and implemented as solutions advertised as alleviating financial distress and promoting development. Further research would be critical to assess the ways in which targeted populations experience, deal with, and potentially resist platforms practices to focus on the agency and room of manoeuvre individuals have when dealing with inclusive insurance platforms.

Eventually, our findings also suggest that policymakers pay attention to the historical roots and the structural consequences of the adoption of inclusive insurance platforms in providing financial services for development purposes. In the context of the current pandemic, proponents of platforms for the inclusive insurance market are pushing for further adaptation in the sector. Yet, Covid-19 also had a strong impact on our social habits. Further research might focus on how the pandemic is affecting the appropriation process of real-time data at a time when social interactions and practices have been reduced and transformed by measures of social distancing and lockdowns. This might reveal further inconsistencies related to the limitations of platforms as a model promising financial emancipation and empowerment.

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2. Insight2Impact, 'Digital platforms' role in African digitization and gig work on the back of COVID-19'. Published on the 21st of April 2020. [URL: https://cenfri.org/articles/digital-platforms-role-in-african-digitisation-and-gig-work-on-the-back-of-covid-19/].
3. We are using this terminology but are aware of its colonial connotation.
4. CENFRI Insurtech tracker official website, [URL: https://cenfri.org/databases/insurtech-tracker/.]. Accessed 8 December 2021. The terminology 'Fin/Insurtech' is used by the industry to refer to the enmeshment of digital technologies with the provision of financial/insurance services. We clarify this distinction below at p. 9.
5. Inclusive Fintech 50 official website, [URL: https://www.inclusivefintech50.com/.]. Accessed the 8 December 2021.

6. Due to anonymity requirements, we cannot provide further detail regarding the location of platforms.
7. Here, 'safe' designates a robust and crypted software system able to resist hacking attacks aimed at stealing data sources.
8. ISO/TS 23029:2020 (2020) Web-service-based application programming interface (WAPI) in financial services.
9. Insight2Impact, Project website published the 13th of June 2018. [URL: http://access.i2ifacility.org/Alternative_data_sources/]. Accessed the 28th of April 2021.
10. Here, we take the example of Nairobi and the lack of street access for cars in the slum of Kibera. [URL: https://millionneighborhoods.org/#16.5/-1.284919/36.825969/-8.9/39]. Accessed on the 28th of April 2021.

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Article 2: Futurity-led Platform Capitalism: The Regulation of Inclusive Insurtech Platforms

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RESEARCH ARTICLE

Futurity-led platform capitalism: the regulation of inclusive insurtech platforms

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This article investigates international and national regulation of the recent foray by inclusive insurance firms into platform capitalism. It contributes to current debates on the governance of Fintech/insurtech in digital financial inclusion and platform capitalism. Drawing on Global Political Economy scholarship and John Commons' concept of futurity, I argue that futurity drives the inclusive insurance market mediated by insurtech platforms. This process is performed within the regulatory sandbox, a dedicated legal framework allowing private firms to test innovative products and business models in a small-scale and controlled environment. The article draws on the analysis of legal documents, semi-structured interviews with key international and national insurance supervisors as well as participant observation in online conferences. The analysis offers empirical insights into the complexities of regulatory institutions to deepen our understanding of the global expansion of platform capitalism in inclusive insurance.

Key words inclusive insurance • platform capitalism • regulatory sandbox • futurity • global political economy

Key messages

- The regulatory sandbox needs to be analysed in relation to the expansion of platform capitalism in delivering inclusive insurance services.
- An investigation of the socio-legal mechanisms of the regulatory sandbox is necessary to understand the evolution of the inclusive insurance market mediated by insurtech platforms.
- This process is guided by futurity and characterised by a configuration of interests favouring those of platform firms at the expense of policyholders.
- The regulation of insurtech platforms via the regulatory sandbox requires further clarification and discussion from policymakers regarding issues of data property and inclusion of policyholders' representatives.

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Introduction

Platform business models are progressively spreading into so-called developing and emerging economies (Graham et al, 2017; Graham, 2019; Athique and Parthasarathi, 2020). Beyond the ubiquitous Superplatforms based in the Global North and China, several platform firms have emerged in recent years throughout the world, from Argentina to Brazil, Indonesia to Kenya, which are claimed to be of value for social and economic development purposes (World Bank, 2016; 2018b; Bonina et al, 2021). Platforms are deemed to improve socio-economic conditions by 'enabling the access to services and products that might otherwise be out of reach for marginalised groups of societies' (Nicholson et al, 2021: 865).

As a result, platform firms, whether Big Tech or the smaller type of data-driven platform, are becoming increasingly involved in the provision of financial services to excluded populations across the globe (Aitken, 2017; Bernards, 2019a; Langevin, 2019; Schuster, 2021). Also called financial and insurance technologies – known by the terms Fintech and insurtech – these platform initiatives are encouraged to provide mobile payment technology, credit and insurance services (Natile, 2020; Aitken, 2022; Langley and Leyshon, 2022) and to recruit excluded populations into the financial realm (Gabor and Brooks, 2017; Kar, 2018; Guermond, 2020).

The emergence of Fintech/insurtech platforms in financial inclusion is tightly intertwined with the implementation by international and national financial regulatory institutions of a specific instrument: the regulatory sandbox. This legal framework allows firms to test innovative products or business models in a small-scale and controlled environment. The regulatory sandbox is used particularly in the case of inclusive insurtech platforms,[1] whereby a private company provides digital intermediation between an insurance company and an end user in order to protect against a defined risk. With the International Association of Insurance Supervision (IAIS) and its operating arm for development purposes, Access to Insurance Initiatives (A2ii), closely scrutinising the advent of insurtech platforms, the regulatory sandbox has been proposed as part of the solution, described as 'encouraging innovations making insurance more inclusive' (A2ii, 2021). This article asks: how does the regulation of insurtech platforms contribute to create the inclusive insurance market? And in whose interest?

Recent studies in Global Political Economy (GPE) provide significant accounts of the politico-economic implications of the regulatory sandbox for Fintech platforms (Faria, 2019). The regulatory sandbox works as a new form of financial governance marked by decentralised rule-making mechanisms (Campbell-Verduyn, 2018). Some scholars characterise it as less restrictive than centralised forms of governance, pointing out that it acts more as a Fintech facilitator, failing to prevent riskwashing mechanisms (Brown and Piroska, 2022), and undermining financial democratisation and consumer empowerment (Clarke, 2019). In contrast, other studies read the regulatory sandbox as an extension of earlier forms of institutional incentives, promoting an enabling regulatory environment to cope with the failures of the financial inclusion agenda (Bernards, 2019b). Much of the literature centres on assessing the continuity or change of legal practices related to financial governance. This article shifts the focus towards the internal socio-legal mechanisms of the regulatory sandbox that promote platform capitalism to deliver insurance services for development purposes.

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The aim of this article is therefore to unravel the legal foundation and the public/private configuration of interests at play within the regulatory sandbox. These structure the attempted expansion of the inclusive insurance market intermediated by a platform-based form of capitalism. The article contributes to the ongoing debate in GPE on the governance of Fintech/insurtech as it moulds digital financial inclusion (Natile, 2019; 2020; Brown and Piroska, 2022) and the global platform economy (Clarke, 2019; Rahman and Thelen, 2019; Rikap and Lundvall, 2021). To engage in this debate, I draw on insights from socio-legal studies of finance, analysing the foundational role of legal instruments in materialising capitalist activities (Pistor, 2019; Angeletti and Lemoine, 2021), and on the 'old' tradition of American institutionalism, more specifically the work of John Commons. My approach is predicated on Commons' concept of futurity, which stands as a guiding principle of contemporary economic relations that builds on the capacity to anticipate the uncertain future by acting in the present (Commons, 1934[1990]). Understanding the institutional measures that structure economic activities is crucial because futurity is rooted in legal regulation, since no economic relations can be pursued without first obtaining legal control (Commons, 1934 [1990]). This article contends that we need to combine the analysis of the legal dimensions of platform capitalism with an analysis of the configuration of public and private actors who benefit from the regulatory measure. To do so, I combine Commons' approach with GPE scholarship emphasising the way that legal instruments empower transnational corporations (Cutler, 2003; Graz, 2019; Cutler and Lark, 2022).

In exploring these questions, I argue that futurity drives the inclusive insurance market mediated by insurtech platforms. This process is performed within a particular experimentalist framework, the regulatory sandbox. The article analyses three aspects of the platform–sandbox relationship by claiming that the sandbox: (1) confers on platforms the right to a proprietary control of data; (2) guarantees predictable market expectations and (3) operates a mode of governance that favours private interests at the expense of policyholders' representation. To that end, the article assesses three core issues that have provoked debate among regulators when dealing with platform activities within a regulatory sandbox: data misuse, valuation and property.

Methodologically, the article uses tools from the socio-legal study of finance to open the 'technological black box of the law' regulating platform capitalism (Angeletti and Lemoine, 2021: 189). This approach helps unveil the making of inclusive insurance markets through platforms by starting from a micro-sociological angle (Angeletti and Lemoine, 2021: 189) in the study of a specific legal instrument such as the regulatory sandbox. The article draws on analysis of legal documents such as the Insurance Core Principles (ICP) implemented by the IAIS, the Application Paper on the Use of Digital Technology in Inclusive Insurance published by IAIS and related reports such as Regulating for Responsible Data Innovation by A2ii on the regulation of digital platforms in inclusive insurance. To complement the document analysis, I generated qualitative data by conducting semi-structured interviews with key international and national supervisors,[2] and by participating in online conferences such as the Financial Inclusion Week 2021. Online conferences have proven to be key empirical sites in understanding how markets are instantiated and legitimated (Rethel, 2018; 2019).

The article is structured as follows. The first section sketches the theoretical framework combining GPE insights with the 'old' tradition of institutional political economy. I then examine the regulation of platforms through the sandbox by

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assessing three main issues which came to the fore during my research, namely data misuse, valuation and property. In the final section I provide concluding remarks and reflections for further research.

Futurity-led platform capitalism

The extensive literature on platform capitalism provided crucial accounts on the structural conditions under which platform firms emerged and developed in various sectors after the 2008 financial crisis (Kenney and Zysman, 2016; Srnicek, 2016; Langley and Leyshon, 2017). Yet, understanding the rise of platforms as a firm requires an institutional dimension to the analysis (Rahman and Thelen, 2019; Atal, 2021). I therefore draw my theoretical framework from GPE approaches that draw on insights from the 'old' tradition of American institutionalism, particularly the work of John Commons. This allows us to reveal the legal foundation of platform capitalism within the inclusive insurance market and to unravel the configuration of interests exercised in the sandbox. The article thus offers an interpretation of Commons' approach that locates the role of the sandbox in the development of platform capitalism within the inclusive insurance market and goes beyond the futurity dimension by unpicking the political tensions that underpin it.

Assessing the regulation of platforms via sandboxes requires an appreciation of the evolution of the firm along the temporal dimension. For this, I draw inspiration from John Commons' work to insert the analysis of platform regulation via sandboxes within a specific temporality of contemporary capitalism called 'futurity' (Commons, 1934 [1990]: 390), which works at the intersection of economics and law. Commons' concept of futurity is mainly sketched out in his 1934 magnum opus *Institutional Economics: Its Place in Political Economy*. For Commons, futurity denotes the extent to which economic relations are oriented not towards the past, nor the present, but towards the future (Commons, 1934 [1990]: 390). It entails an ontological rupture with classical and hedonistic economics by conceiving the unit of an economic activity – the transaction – as shaped by the capacity to anticipate, or forecast, the uncertain future by acting in the present (Commons, 1934 [1990]: 57). Put differently, it is the 'human ability of forecasting having its influence on present behaviour and values' (Commons, 1925: 2, cited in Atkinson and Whalen, 2011: 53–4).

According to Commons, legal regulation is rooted in futurity as no economic relation can be pursued without first obtaining legal control (Commons, 1934 [1990]). This conceptualisation impacts the interpretation of both notions of value and property. Regarding value, Commons emphasises the importance of contemporary legal interpretations based on the exchange value of an asset rather than its use value (Commons, 1934 [1990]). This fundamentally shifts the meaning of value. It is viewed as a valuation process projected into the future, rather than a historical or present attribute. Regarding property, assuming that each transaction is the result of future expectations acted out in the present, the concept of property is dissociated from its physical meaning. It describes the transfer of the right to own future revenues from a particular source or opportunity (Commons, 1934 [1990]). And this transfer of right, argues Commons, is determined by laws which regulate the transfer of property rights: 'by means of the injunction the court can, in advance, enter into the most minute detail of behaviour needed to recognize new rights and protect new definitions of persons and property' (Commons, 1925[1995b]: 234).

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GPE scholars have mostly applied the concept of futurity to queries around financial crises, for example by assessing pro-cyclical tendencies of contemporary capitalism (Palan, 2015), the economy of organised crime (Palan, 2017) or the avenue of shadow banking (Nesvetailova, 2015). Futurity is acknowledged to be crucial in understanding changes in value measurement, so that assessing present value based on future expected earnings is prevalent in contemporary capitalism (Palan, 2015). As such, futurity is not a unique feature of the regulatory sandbox, but it characterises the activities of platform capitalism framed by the sandbox. This article therefore examines the way futurity unfolds within a regulatory sandbox dealing with the interpretation of data misuse, valuation and ownership, three core features of platforms' activities I claim that in the case of inclusive insurtech platforms, the interpretation of these issues within the regulatory sandbox epitomises the futurity dimension that enables platform activities to develop.

The focus on platform regulation by the regulatory sandbox also calls for scrutiny of the configuration of actors involved and benefitting from it. In this regard, Commons' idea of 'collective democracy' provides an analytical link between futurity and the social classes that shall be taken into consideration in market governance (Commons, 1935). As capital accumulation is based on the anticipation of future incomes and not on past physical capital created by labour, for the author 'all the conflicting organised classes shall have a voice in the economic and political adjustment' (Commons, 1935: 222). From this insight, I complete Commons' concept of futurity by examining the fundamental role of legal instruments – in this case the regulatory sandbox – in materialising capitalist activities (Pistor, 2019; Angeletti and Lemoine, 2021) and empowering transnational corporations (Cutler and Lark, 2022) such as inclusive insurtech platform. For this purpose, I draw on GPE scholars who have contributed substantially to the analysis of the regulatory power of public and private law in constituting local and global political economies (Cutler, 1999; 2001; Graz, 2019). Hence, capitalist societies are seen as specific legal formations where power relations are highly institutionalised and juridified (Santos, 1985). The peculiar functioning of sandboxes encompasses both public and private modes of governance, with a slight preference for the latter. The light regulatory framework offered by sandboxes to platforms epitomises the continuous liberal regulatory trend in financial inclusion which favours non-binding soft law over hard legislation (Soederberg, 2014). Soft laws act as guidelines for conduct; they are not strictly binding laws, but neither are they irrelevant political maxims (Malanczuk and Akehurst, 1997). Yet, the structure of soft laws tends to orient their pattern of regulation towards more supportive engagement with free-market values (McCahery and Picciotto, 1995; Cutler, 2003: 26). This is achieved by the implementation of private modes of governance, such as the self-assessment of risk of data misuse in the sandbox case, that are tailored to meet the demands of private actors (Graz, 2019) and remove any sensitive political matters from public oversight (Cutler, 2003) – in our case, that of policyholders. My analytical approach based on Commons' notion of futurity is therefore complemented by this more recent scholarship which emphasises the configuration of interests framed within the regulatory sandbox, privileging the platforms' interests over those of policyholders. I claim that these two strands work concomitantly in the development of platforms.

The regulatory sandbox for inclusive insurtech platforms

The regulatory sandbox is the prevalent legal tool governing financial technologies within financial inclusion (Hagemann et al, 2018; Magnuson, 2018). In a nutshell,

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a regulatory sandbox is a legal framework designed as an experiment by financial regulators to allow private firms to test innovative products or business models in a small-scale and controlled environment under the regulator's supervision (Consultative Group to Assist the Poor [CGAP], 2017). The tool is applied to an array of financial sectors ranging from credit, digital payment to insurance. As the principle is similar across sectors, the regulatory sandbox complies with the specific international and national norms and standards of the industry. Regulatory sandboxes dealing with financial technologies were enforced in 2016 in the United Kingdom by the Financial Conduct Authority. Their purpose was to provide an appropriate protection for consumers while promoting competition through technology-based innovations (Financial Conduct Authority, 2016). The regulatory tool was then replicated and applied in various jurisdictions, including so-called developing and emerging economies, to supervise and control the emergence of digital technologies in their own markets. As such, the tool implemented is similar across countries with marginal differences in terms of duration. By 2020, more than 60 jurisdictions among purported developed and developing countries had announced regulatory sandboxes to supervise and promote digital-based technology in the financial sector (CGAP, 2020).

In the inclusive insurance sector, the IAIS and A2ii have played a significant role since the early 2000s in setting up regulatory projects to foster the commercialisation of microinsurance on a global scale (Bernards, 2018). Prior to the deployment of the regulatory sandbox, insurance regulatory institutions had already enforced special licensing procedures at the national level in an attempt to advance microinsurance in the insurance market (for example the Assistance Business Licence in South Africa) (ILO [International Labour Office], 2006). The difference with the regulatory sandbox is precisely its experimental form. It tests and creates appropriate legal conditions for future market activities. In inclusive insurance, more than 30 countries worldwide have operational sandboxes (A2ii, 2020b). Pakistan, India and the Philippines were among the first countries in 2019 to announce the adoption of a regulatory sandbox framework for insurance technologies (A2ii, 2020a). Indeed, sandboxes emerged alongside inclusive insurtech platforms as a new business entity supporting the sale of 'personalized' insurance products by including alternative data in risk premium calculations to effectively meet 'consumers' needs' (The Digital Insurer, 2020). The increasing adoption of smartphones and growing expenditures on digital infrastructures in developing and emerging economies (World Bank, 2016; 2018b) have led inclusive insurance market initiatives to express an interest in harnessing alternative data in the same way as microcredit markets. The regulatory sandbox was launched around the world as the principal regulatory tool in response to the economic reorganisation entailed by the rise of platform firms. This response has taken on a particular experimentalist form.

Sandboxes are designed as limited regulatory environments that can be applied in specific circumstances (Buckley et al, 2019). Regulatory sandboxes are seen as a way of 'testing innovations in a safe and controlled environment with clear boundaries and safeguards' (IAIS, 2018a: 19). Therefore, entry to the sandbox is governed by predetermined criteria that firms are required to meet (Knight and Mitchell, 2020). Although the eligibility criteria vary across jurisdictions, they share a similar pattern (IRA [Insurance Regulatory Authority], 2018; NIC [National Insurance Commission], 2021). First, a firm must be offering financial innovation which benefits excluded and underserved individuals. Second, it must elaborate internal tools to

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assess customers' protection during the process, to be reported later to the regulators (CGAP, 2017). Upon approval of the application, the inclusive insurtech platform is issued by the national regulatory agency with a formal authorisation (IAIS, 2018a), which in some cases takes the form of a licence, such as Ghana's 'insurance innovation licence' (NIC, 2021). This licence allows platforms to calibrate their service to comply with international and national insurance principles, standards and guidelines within a specific time frame – 12 to 24 months depending on the jurisdiction (Cenfri, 2021). The procedure makes it possible for data-driven platforms to conduct their operations with a small number of customers, mostly circumscribed within a specific geographical location and under the supervision of regulators (A2ii, 2018a). Thus, it provides inclusive insurtech platforms with a light and privileged regulatory framework with the promise of financial innovation for improving insurance inclusiveness (A2ii, 2018a). Sandboxes came to the fore as a result of the conflicting mandates of supervisors and regulators. Innovation is considered central to ensure market development, but it is not without risks, as its implications on society are unknown. Hence, sandboxes are said to be an attempt to deal with these conflicting requirements to 'encourage innovation and competition for market development while curtailing consumer protection risk' (Cenfri, 2018: 11).

This analysis shows how futurity guides the deployment of platform capitalism within the inclusive insurance market by becoming embedded in the legal instrument of the regulatory sandbox. Against this background, I stress the legal dimension and configuration of interests involved in governing platform capitalism vis-à-vis the quest to expand the inclusive insurance market. We now turn to three core issues that have provoked debate among regulators when dealing with platform activities within a regulatory sandbox: data misuse, valuation and property.

The proprietary control of data

The matter of data ownership raises important questions: how and to whom should property rights on data be allocated (Stepanov, 2020)? As the issue is of vital concern for the global digital economy, it also arose in inclusive insurance with the increase in platform-mediated activities (World Bank, 2016; 2018a). The IAIS position aligns with the European General Data Protection Regulation which allocates specific rights to data providers in terms of data protection (European Commission, 2017). The IAIS response falls under Standards 19.11 and 19.12 of the ICP by demanding that insurance providers and platforms ensure the protection and security of customers' data (IAIS, 2018b). Policyholders are accorded the right to 'have access, to retrieve and/or correct the data collected' (IAIS, 2018b: 274), but without stipulating a clear allocation of property rights either for the policyholder or the platform (World Bank, 2021). As such, the IAIS enforces existing ICP standards that provide the policyholder with specific rights in terms of data protection but leaves the issue of data property in what can be described as a 'legal loophole' (Hogan and Shepherd, 2015).

I was confronted with this legal loophole while observing and participating in the online conference of the Financial Inclusion Week 2021 organised by the Center for Financial Inclusion. The plenary session was a discussion of the impact of data-driven technologies on financial inclusion. The panel comprised insurance regulators and think-tank representatives who had conducted research on data policy and regulation issues. The question I raised to the insurance regulators attending the

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panel (via the chat function) was the following: who, between platform firms and customers, legally owns the data points used to measure risk and therefore deliver the financial service?[3] The answers from the three panellists revealed the complexity and subtlety around the issue of property. The panellists acknowledged that, legally speaking, platforms do not own data points in proprietary terms.[4] Rather, data are controlled by platforms with customers' consent.[5] This means that at any time a customer can demand to regain access to their data without any due counterpart, as stipulated by the IAIS.

The same terminology is used in the following statement made by a Senior Manager of Risks Regulation of a non-for-profit market facilitator agency: 'Data are being held [by platforms] on behalf of the client. At the time they want to process the data, and/or use for other circumstances than processing, they need to ask for customer's consent. … Thereby, platforms control data, but do not own the data points.' (Interview, 11 November 2021). The fiction of 'holding data on behalf of the client' neatly conceals the absence of a proper legal definition of property rights; this obfuscation allows insurance regulators to interpret data property in terms of 'control'. Hence, through this legal loophole, the interpretation provides legal grounds for platforms to appropriate data and use those data to generate revenue. While juridically there is no mention of property or property rights, I argue that the interpretation of property in terms of 'control' epitomises the legal reading that allocates to the platforms an effective property right over data.

This interpretation resonates with Commons' conception of property and how its meaning changed in the early 20th century (Commons, 1924 [1995a]). Commons exposed the difference between property and property rights. In his account, the meaning of property evolved from the legal definition enforced by the US Supreme Court to value firms' assets according to their exchange value or 'the present value of future sales' (Commons, 1934 [1990]: 452). This distinguishes an interpretation of property based on the use value of an object, from an interpretation based on an object being held by an owner who then has the exclusive use or right to disposal of the object (Parsons and Commons, 1942). Property is considered intangible, defined as 'the rights to the future monetary income to be derived by selling of materials' (Parsons and Commons, 1942: 419). It is the expected uses of the property, and the rights allocated to such uses, that defines property (Commons, 1924 [1995a]). The usage arises from the producing and consuming power of the person in control, thus the 'legal term [of property] carries this futuristic dimension of an action' (Commons, 1924 [1995a]: 19) done in the present but thought for future purposes.

As a result, and beyond the question of whether or not platforms are allowed to sell data to third parties, the interpretation of data based on its value reveals the temporal dimension guiding the proprietary control of data. Indeed, data points serve the 'insurantial logic' rendering uncertainty 'fungible' (Lobo-Guerrero, 2017: 5), meaning the transformation of uncertainty into measurable risk and 'something amenable to trade and exchange' (Lobo-Guerrero, 2017: 5). The granularity of data inserted in predictive risk assessment is the asset that nourishes the calculative machinery of inclusive insurtech platforms, converting policyholders into investible risk.

In this way, data are gathered and valued as an asset according to their exchange value, meaning the expected financial profits from their future use. Recent studies show how data have to be recognised as a form of intangible asset class (Sadowski, 2019; 2020; Prainsack, 2020; Rikap and Lundvall, 2021). Data 'create value'

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(Sadowski, 2020: 34), but most importantly data are treated as assets, as they are managed and transformed to produce future revenue streams (Birch et al, 2021). The valuation of data by the regulator is a projection into the future rather than being determined by historical and current characteristics.

Within the sandbox framework, the notion of control determines data to be an intangible asset. The interpretation provided by the regulators illustrates the futurity of platform data valuation. By granting licences to platforms, the regulatory sandbox implicitly transfers and confers to platforms the right to own the future profits generated by the processing of data. It confers the right for platforms to benefit from the expected power of that right (Atkinson and Whalen, 2011). The conferred right to control data and own its future financial outcomes epitomises the dissociation of ownership of capital, in our case data, from its management (Minsky, 1993) by the platform. Thus, it is the interpretation of data ownership implemented within a regulatory sandbox that enables platforms to manage data and extract future financial streams from their processing.

The regime of proprietary control undoubtedly serves the purpose of platforms' patterns of accumulation. By following every digital trail of a policyholder, this process reveals a current phase of accumulation identified with the exploitation of life itself (Fumagalli et al, 2019). Social life as a whole appears to be the main resource through which capital can monetise future revenues (Morini and Fumagalli, 2010), in this case financial revenues. Hence, the lives of targeted populations are transformed into data that serve as resources that can be discovered, collected and appropriated by inclusive insurtech platforms. This raises an issue in terms of profit redistribution. Inclusive insurtech platforms do not comply with any redistributive mechanism that would allow policyholders to retrieve the financial gains produced by the processing of (their) data.[6]

It is worth noting here that revenues for inclusive insurtech platforms are not generated under the distributional model used by Superplatforms (the tech giants referred to collectively as GAMAM). By privatising knowledge, Superplatforms are able to capture value as a rent (Durand, 2020; Rikap and Lundvall, 2021), whereas inclusive insurtech platforms appropriate data to stream future financial revenues for insurance companies and earn a commission from the sale of insurance policies. The former model is said to lead to monopolistic tendencies due to rent mechanisms and concentration of knowledge in the hands of the platform. The latter, by contrast, illustrates outsourcing mechanisms within the global insurance industry aimed at expanding its services in the Global South.

To sum up, futurity drives inclusive insurtech platforms in their process of capital accumulation. The interpretation of data property in terms of control occurring within the regulatory sandbox encapsulates the implicit transfer of rights to the platforms in their quest to own the future revenues extracted from data processing. As a legal instrument granting authorisation for platforms to process data, the regulatory sandbox is influential in controlling, transferring and distributing risks within the insurance sector in its attempt to expand the inclusive insurance market to a larger part of the global population.

Guaranteeing predictable market expectations

This section shows how a futurity-led dimension guides the regulatory sandbox to guarantee market expectations by devising an institutional compromise that ensures

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inclusive insurance transactions via platform firms. This is illustrated by the supervisors' response in dealing with issue of platform risk of data misuse.

I first came across the issue of data misuse in platform activities when digging into the report entitled *Regulating for Responsible Data Innovation* released by A2ii (A2ii, 2018a). This document advises regulators on the hazards related to data processing that might jeopardise consumer protection. In this context, data misuse appears to be a serious concern in the pursuit of policyholder protection when inclusive insurtech platforms intermediate the transaction (IAIS, 2018a: 29). The report summarises the problem as follows: 'The major dilemma insurance regulators face when confronted with how to regulate consumer data is that they must tread the balance to achieve positive consumer outcomes, by both enabling data-driven innovation but still protecting consumers from the risks that arise' (A2ii, 2018a: 4).

The debate features two opposing political economies on data processing, that is, an extensive and a cautious model. The extensive political economy model stems from a platform's core attributes in the collection and analysis of an infinite amount of data (Fourcade and Healy, 2017). Infinite is used here in the sense of underpinning the claim by a Chief Technology Officer of an inclusive insurance company that 'for insurance, no data is useless information. It is just a matter of how to use it' (Interview with Chief Technology Officer of a Southeast Asian inclusive insurance company, 23 September 2020). In other words, every single data point is deemed to be useful (Cenfri, 2017). This claim is based on the following rationale: non-traditional data create new ways to assess a customer's propensity for risk and, consequently, allow insurers to offer more convenient and affordable premiums (Costa et al, 2015). Inclusive insurtech platforms are thus said to provide insurance firms with more granular data on policyholders, facilitating more accurate risk categorisation and policy underwriting (A2ii, 2017). Embracing new and large datasets is said to potentially increase insurance inclusion (CGAP, 2015; Cenfri, 2017; IIF and Accion, 2018): collecting and analysing granular data would eventually achieve the supervisors' mandate to foster market development through innovation.

On the other hand, international and national supervisory bodies advocate for a more cautious standpoint towards the collection of large volumes of data. Regulators also acknowledge that alternative data analytics can be misused by insurance companies to 'price out' individuals representing too high a risk (A2ii, 2018b: 14). A2ii stresses that some types of alternative data, such as a customer's long-term pattern of financial transactions, might generate higher premium prices for some customer segments since the insurance provider can identify major life changes and therefore additional risks (A2ii, 2018b). Eventually, if datasets introduced into machine-learning systems are biased, the outcome would be equally biased risk calculations, thus excluding and/or discriminating some populations (A2ii, 2018b: 14).

These two political economies are contradictory as the volume of data gathered affects both inclusive and exclusive outcomes. International and national regulators responded to this contradiction by applying the principle of proportionality that takes shape within the regulatory sandbox. This principle reflects a common trend in international financial regulation since the global financial crisis (Jones and Knaack, 2019; Binder, 2020). The rationale of voluntary guidelines drawn up by the G20 is based on proportionality to manage the risks of digital financial innovation while supporting financial inclusion (Magnuson, 2018; Alexander, 2021). Supervisors thus require insurance providers and insurtech platforms to 'recognise the need to

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actively balance the promise of digital innovation [for market development] with the new risks that rapidly evolving technology introduces' (GPFI [Global Partnership for Financial Inclusion], 2016: 3). The main hurdle for policymakers is to guarantee the development of financial technologies that maximise economic opportunities while minimising potential risks to the target populations (Bank of England, 2017). For instance, in 2019, the Kenyan Insurance Regulatory Authority (IRA) set up a policy agenda claiming to facilitate the testing of data-driven platform firms in the inclusive insurance sector through regulatory sandboxes. The purpose was defined as an intention to 'drive innovation in the insurance sector in developing new products or services with a clear potential to advance the objectives of inclusive insurance' (IRA, 2018). The sandbox must be 'agile enough to ensure that balance' (Interview with a Senior Manager of Risks Regulation from a non-for-profit market facilitator agency responsible for developing a regulatory sandbox, 11 November 2021).

The issue that international and national insurance regulators face in coping with data processing by platforms brings the underlying conflict to the fore. As Bernards (2018) notes, since market development became part of supervisors' mandates from the early 2000s, regulators have struggled to balance concerns around social protection imperatives and the deepening of the financial market. However, supervisors' responses to data misuse show how futurity and legal instruments unfold in the creation of platform capitalism within inclusive insurance.

As such, the regulatory sandbox plays out as a legal instrument anticipating future market distortions resulting from data misuse. The laboratory environment creates the experience needed for transacting insurance services with the intermediation of inclusive insurtech platforms. This compromise works to guarantee 'securities of expectations' for participants, namely that an economic activity can be repeated in the future under the conditions that future economic outcomes are more or less controlled (Commons, 1934 [1990]: 57–8). Therefore, the proportionality principle is deemed to accommodate both an extensive and a cautious model of data processing. It reconciles opposing political economies (Graz, 2019) dealing with the misuse of data and devises an institutional compromise arising from conflicting political perspectives (Bartley, 2007) on how data need to be processed. Against this background, the regulatory sandbox provides a normative framework enabling insurance practitioners from different jurisdictions to transact in a relatively 'stable, predictable and secure environment' (Cutler, 1999: 60), thereby legitimising the current infrastructure of the inclusive insurance market which is increasingly organised around platform firms.

The prevalence of private interests

Commons' concept of futurity has been very helpful in addressing the temporality of platform capitalism in inclusive insurance as well as understanding its role in the regulatory sandbox as an important mediator of value. In this section, I suggest moving beyond the temporality dimension to assess the politics inside the regulatory sandbox when it comes to the issue of data misuse. A look at measures based on the IAIS and A2ii principles, standards and guidelines applied within the sandbox, shows the configuration of interests at play between platform firms, regulatory institutions and policyholders.

The guidelines regarding data misuse are related to the conduct of business requirements in Insurance Core Principle 19 and the associated Standard 19.12 on

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the protection of customer data (IAIS, 2018a). ICP 19 stipulates that 'supervisors require insurers and intermediaries to treat customers fairly before and through the obligation of the contract' (IAIS, 2018b: 253). The related standards require insurers and intermediaries to have 'policies and procedures for the protection and use of information on customers' (IAIS, 2018b: 272), and its related Guideline 19.12.5/6/7 affirms that 'internal control mechanisms' are required to protect against 'data misuse' (IAIS, 2018b: 274). Thus, international and national insurance regulators shaped their response to the issue by demanding that platform firms proceed with a self-assessment of any data misuse.

For instance, the IRA in Kenya implemented a strategy for data-related risks around the interpretation of existing market conduct guidelines, together with a Treating Customers Fairly (TCF) model which basically requires insurers and intermediaries to develop their own self-assessment tool to ensure fair customer treatment (A2ii, 2018b). TCF is designed in broad terms to 'demonstrate evidence of fair treatment … at all stages of the relationship' (IRA, 2015: 5). The respect of market conduct guidelines and the requirement of a self-assessment tool based on a TCF model are the instruments employed to avoid any type of exclusion and unfair prices. However, they are rather opaque regarding the specific criteria used for assessment in terms of data misuse.

The IRA in Uganda proceeded in a similar way, although an external consultant was contracted to help create a data-related risk assessment tool that is shared with private players (Cenfri, 2020). The tool measures the type of risk a new insurance product might generate (climate-related products are inherently more difficult to implement than, for example, a hospital cashback service) as well as assessing the internal resources and governance strategies and procedures of the company to determine whether the management team is skilled enough to enter the field (Interview with external consultant, 4 November 2021). Again, internal control mechanisms that are put in place remain relatively unspecific on the criteria for evaluating the risks of exclusion related to the misuse of data by platforms. The pattern of risk calculation is unclear on which risk feature to prioritise; moreover, the pattern is not harmonised across countries.

The two-part structure of the regulatory sandbox embodies a relatively widespread pattern of financial regulation involving both private and public actors. This results in a specific configuration of interests that is supposed to balance the interests of both national regulatory institutions and inclusive insurtech platforms. However, the way data misuse is dealt with brings to the fore the dominance of private interests over general interests.

Internal control mechanisms applied within the regulatory sandbox favour platforms since no specific criteria are demanded from the regulatory authority to assess data misuse. Platforms are free to frame the risk assessment model with the only counter expertise of the regulators. This provides platforms with leeway to choose whether to include or exclude in the model key information on data misuse. Hence, internal control mechanisms are seen as tools of governance whose outcome can easily be turned to the private actor's advantage (Graz, 2015; 2019). The internal control mechanism on data misuse reveals patterns of 'governance tailored to meet the demands of businesses under condition of late capitalism' (Cutler, 2003: 2), in our case platform capitalism. In this sense, the sandbox shares similarities with what Soederberg (2014) refers to as soft laws that create a supporting structure for free-market values through their discretionary application, which removes many politically sensitive matters from public oversight and accountability.

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In summary, the regulation of platforms through regulatory sandboxes shapes the configuration of power in favour of platform interests. Internal control mechanisms and the opacity on the variables used to assess future potential data misuse that might harm customers pave the way for inclusive insurtech platforms to deploy their pattern of capital accumulation. Thereby, and in line with Brown and Piroska's (2022) argument, the results leave plenty of scope for a deeper investigation into the democratic implications of this form of regulation.

Conclusion

To conclude, I have argued in this article that futurity is the driving principle guiding the inclusive insurance market mediated by insurtech platforms. My research demonstrates that this process is performed in an experimental form via the regulatory sandbox, which: (1) confers on platforms the right to control data and own future revenues from the appropriation of those data; (2) accommodates opposing insights of data processing and potentially (3) encourages private modes of governance which silence the policyholder's voice. This analysis has important implications for studies on the governance of Fintech/insurtech for financial inclusion. It contributes to current debates in GPE assessing the continuity and/or change in patterns in the global governance of finance. Drawing on Commons' concept of futurity and GPE scholarship, the article offers an analysis of the socio-legal dynamics at work in the attempted expansion of the inclusive insurance market via platform capitalism.

The findings also suggest that policymakers need to pay attention to, first, the inclusion of policyholders' representatives throughout the regulatory sandbox, to balance the configuration of interests dominated by private actors, and second, the need for clarity over data property, which generates challenging issues in terms of profit redistribution. One area for further research, which could not be tackled in this article, is whether the regulatory sandbox facilitates non-profit insurtech platform initiatives. Given the platforms' characteristics of being malleable and exercising diverse political and economic commitments (Clarke, 2019), further avenues for investigation might include scrutinising the implications of international and national insurance supervisors promoting and sustaining social platform initiatives which repurpose insurance as a tool to alleviate poverty through risk-sharing mechanisms.

Notes

[1] In this article, I mobilise the terminology 'inclusive' to use the same qualifier used by insurtech companies. The 'inclusive' adjective does not refer to the inclusive character of these platforms.

[2] More precisely I refer here to members of the supervisory bodies, A2ii, FSD Africa, CGAP, IRA Kenya and IRA Uganda.

[3] For more on the session, see: *Regulatory adaptation: the changing role of financial sector regulators*. Financial Inclusion Week 2021 Online Conference, 2 November 2021, https://cenfri.org/videos/regulatory-adaptation/.

[4] *Regulatory adaptation: the changing role of financial sector regulators*. Financial Inclusion Week 2021 Online Conference, 2 November 2021, https://cenfri.org/videos/regulatory-adaptation/.

[5] From the session: *Risks, harms and opportunities in data-driven technology for financial inclusion*. Financial Inclusion Week 2021 Online Conference, 3 November 2021, https://cenfri.org/videos/risks-harms-and-opportunities/.

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[6] With the possible exception of Rwanda, which is attempting to enforce a measure demanding that platforms redistribute the profits generated from the processing of data as a type of dividend.

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Conflict of interest
The author declares that there is no conflict of interest.

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Article 3: Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance

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ABSTRACT

This article investigates the promise of Insurtech to expand the frontier of the insurance market to include vulnerable populations around the world. It contributes to current debates in international political economy on the proliferation of new technologies for financial inclusion as embedded in contemporary forms of platform-based capitalism. We argue that Insurtech's promises fall short of expectations because of the contradiction between the principles of platform scalability and insurance risk pooling. Such contradictions lead Insurtech platforms to unpool risk rather than providing innovative technologies to pool it. This ultimately limits the expansion of markets for inclusive insurance as Insurtech platforms struggle to scale up the market through their supposedly disruptive technology. Our analysis draws on document analysis of regulatory reports, complemented with in-depth interviews of Insurtech executive officers. It offers insights into the contradictory principles driving the current digital inclusive insurance market and the limits of the global expansion of platform capitalism.

Keywords*: inclusive insurance market; Insurtech; platform capitalism*

Introduction

According to promoters of the financial inclusion agenda, the global market for its services is estimated at close to 4 billion people worldwide; yet only a fraction of this number – estimated at 179 million – have dedicated insurance coverage (IIF and Accion 2018; Microinsurance Network 2021). This gap in coverage epitomizes the difficulties encountered in promoting insurance products as a privileged risk management tool supporting the broader development agenda. Insurance technology firms, also known as "Insurtech", have recently taken over from more conventional market actors the mission to expand the market (Cenfri 2017; 2019; Microinsurance Network 2022). The aim of Insurtech is to support an emerging middle class which is digitally connected, but in danger of falling into poverty. It also pledges to overcome the lack of information on uninsured customers by developing alternative datasets. Ultimately, it promises to improve the calculation of risk assessments by providing a highly personalised pricing of premiums. Yet questions remain regarding the extent to which Insurtech is likely to fulfil its promises towards the supposedly vulnerable populations of the world.

Several studies have investigated the advance of Fintechs for financial inclusion in critical international political economy (Aitken 2017; Al Dahdah 2022; Bateman, Duvendack, and Loubere 2019; Bernards 2019b; 2019a; Carr et al. 2016; Guermond 2020; Langevin 2019; Langley and Leyshon 2020; Loubere 2017; Mader 2016; Maurer 2012; 2015; Natile 2020; Torkelson 2020). Of particular interest for this article are Bernards' analysis of the neoliberal framework underpinning the technological turn in insurance (Bernards 2019b) and Aitken's investigation of how such Insurtech use well-known insurance techniques without necessarily being able to extract value from them (Aitken 2022). Both authors stress the limited impact of insurance technologies on the consolidation and expansion of the insurance market for poor populations.

Other studies situate Fintechs' advances in financial inclusion within the recent shift of global capitalism towards platforms (Langley and Leyshon 2020; 2022; Clarke 2019; Roitman 2023). Building on Langley and Leyshon's (2022) account of platforms used to expand financial services through Fintechs in Africa, we look at the particular processes supporting this expansion. While Langley and Leyshon view Fintech as shaped by the three processes of reintermediation of monetary and financial relations, consolidation through partnerships and capitalisation from venture capital, we regard market expansion in the field of inclusive insurance as being based on other processes. Contrary to other Fintechs, the creation and

expansion of inclusive insurance markets primarily depends on the scalability of platforms and their capacity for pooling risks – the principle at the core of insurance. Our analysis brings to the fore three dimensions in which this process unfolds: (i) the interoperability of Insurtech platforms into an ecosystem used to scale up the pool of their market; (ii) the valuation moment assigning a monetary value from the qualification of the risk covered by the insurance policy; (iii) the aggregation of risk based on personalised premium prices. Our results nuance the outcome of these dimensions by putting emphasis on key contradictions. We stress that the interoperability infrastructure is dysfunctional, that the valuation moment is characterised by dissonance, and that the aggregation of risk results in the exclusion of important segments of the customer base in contrast to the claims of the inclusive insurance industry. Such contradictions lead Insurtech platforms to unpool risk rather than pooling it with innovative technologies. As a result, Insurtech platforms struggle to scale up their market. As we briefly discuss in our conclusions, such limits in the expansion of platform capitalism in the domain of inclusive insurances has further implications regarding the relevance of private insurance for poverty alleviation and, more broadly, inclusive development policies.

Our analysis builds on studies of the sociology of markets, the international political economy of insurances, and platform capitalism. We draw on Michel Callon's concept of "l'économie des qualités" or "the economy of qualities" (Callon, Méadel, and Rabeharisoa 2002; also Çalışkan and Callon 2010) to analyse processes through which Insurtech platforms qualify and requalify the targeted populations as a priceable risk. We combine this approach with studies on the sociology and international political economy of insurance that help us to drill deeper into its principles and contradictions (Doyle and Ericson 2010; Ewald 1991; Gowri 1997; Graz 2019; Lobo-Guerrero 2017). Finally, studies on platform capitalism help us to appraise some of the structuring effects and contradictory dimensions regarding scalability of market expansion (Narayan 2022; Pfotenhauer et al. 2022; Srnicek 2016; 2018). Combining these three strands of scholarship allows us to analyse Insurtech's interoperability, valuation, and aggregation dimensions that characterise the qualification and expansion of the inclusive insurance market.

Sources used for the article combine documents and in-depth semi-structured interviews. The documentary analysis includes official documents produced by the International Association of Insurance Supervision (IAIS) (IAIS 2012; IAIS and CGAP 2007), and related expert reports published by the Centre for Financial Regulation and Inclusion (Cenfri) (Cenfri 2017; 2019), Insight to Impact (Insight2impact 2019) and the Microinsurance Network (Microinsurance

Network 2021; 2022). All documents were available online and published in a timeframe between 2016-2021. Documents were selected according to their ability to provide detailed information on the rationale motivating the inclusive insurance industry to promote Insurtech platforms and expand their market. To complement the documentary analysis, we also conducted in-depth semi-structured interviews with chief executive officers and managers of 15 Insurtech platforms and digital wallet platforms. Our choice of platforms rests on a purposeful critical case sampling based on the following four criteria: (i) having a digital infrastructure mediating the economic relationship between an insurance company and a final customer; (ii) collecting traditional and alternative data on customers; (iii) applying data analytics for risk assessment (iv) and aiming at achieving financial inclusion through insurance services. Interviews were conducted from November 2019 to November 2021. Due to the pandemic, most interviews were conducted via video communication which helped to establish trustworthy relations without sharing the same physical space and gain access to more interviewees in a short lap of time (Archibald et al. 2019). These were important to grasp the risk assessment method set up by insurtech platforms. They helped substantiate or contradict the findings from the documentary analysis (Eisner 2017). Inspired by previous studies conducted on platform-mediated labour (Doorn and Badger 2020), we draw on this combination of sources to develop a comprehensive picture of processes used by insurance development actors and insurtech platforms.

The article is structured as follow. We first provide a background on leading insurance actors supporting the digital inclusive insurance agenda. We then review the relevant scholarship on the recent advances of Fintechs in financial inclusion before presenting our theoretical framework and core argument. We then substantiate our analysis, shedding light on risk pooling and repooling processes. We conclude by outlining our contribution and discussing further implications of our work specifically regarding the distinction between private and social insurance.

From micro-insurance to digital inclusive insurance markets

The provision of insurance services has a long history, going hand in hand with the expansion of capitalism through colonialism and free trade imperialism. Maritime underwriting and coverage for large investments in manufacturing such as sugar mills were key to the construction of an early global safety net (Borscheid and Haueter 2012). Yet, the history of the evolution of insurance specifically dedicated to poverty alleviation around the world, quite

interestingly, begins with the International Labour Organization (ILO). This particular type of insurance for the global development agenda can be traced to the early 1990s, when the ILO, together with donors and NGOs involved in mutual health organisations, coined the concept of microinsurance as a community-based form of social protection for informal workers (Dror and Preker 2002). The programmes that evolved from such initiatives were closely related to the Millennium Development Agenda adopted in the wake of the social crisis resulting from the structural adjustment programmes of the 1980s and 1990s.

The first major challenge for microinsurance was its positioning vis-à-vis market principles. The ILO adopted the market-oriented approach promoted by the World Bank and large insurance and reinsurance companies, while a more community-based approach, already there, pursued its path with the Delhi-based Micro Insurance Academy (MIA) created by David Dror, who pioneered the initiative at the ILO before parting company from his former employer to develop this alternative project. For-profit microinsurance gained momentum with the creation of the Microinsurance Network, formerly known as the CGAP (Consultative Group to Assist the Poor) Working Group on Microinsurance of the World Bank, which framed poverty alleviation in terms of vulnerability and risk management (ILO 2006; 2012; see also Bernards 2022; Best 2013). Paving the way for micro-risk management was not only perceived as a tool to mitigate the occurrence and impact of harmful events, but was also deemed by certain development actors as an opening for excluded populations to capitalise on opportunities (Taylor 2016). Microinsurance providers worked together with the active involvement of large and globalised insurance companies.

In the 2010s, the limited growth in the sector (Bernards 2020) led to a shift in the microinsurance agenda which mirrored the shift in the development agenda from microfinance to financial inclusion. As Mader (2018) points out, the financial inclusion agenda stands as a response to the failures of microfinance programmes by including "new practices, new guiding ideas, new theories of change and a new invitation to live by finance" (Mader 2018: 3). Mader's argument stresses two points that are relevant to understanding the implications for the rise of digitally driven microinsurance provision. First, technology firms are claimed to be part of a new set of players dealing with poor populations. Second, the broader financial inclusion agenda is deemed not to distinguish any longer between the use of finance for production or for consumption – the latter having previously been labelled as "bad finance". Rather, the focus is now on offering financial services to all, to fulfil specific needs for everyone.

With the promotion of mobiles phones (Prashad et al. 2014), and many other digital options based on platforms (World Bank 2018), the microinsurance agenda which had traditionally targeted "low-income households" (ILO 2006: 12) broadened its target group to include "unserved" populations (IIF and Accion 2018). This digital turn to inclusive insurance juxtaposes the territoriality framework of microfinance (Roy 2010) with the categorisation of targeted populations according to indexes of global income distribution (Verbeek and Rodarte 2015). This new categorisation represents an attempt by insurance development professionals to frame the targeted market beyond the Global North and Global South divide, by putting the emphasis on a group that can pay a premium regularly. As Garance Wattez-Richard, AXA's head of emerging customers, explains, "the team targets those too rich to be poor and too poor to be rich whose income is below 20$ per day, but high enough to purchase a premium" (IIF and Accion 2018: 12). The industry's objective is to cover an "endangered emerging middle class" that uses digital devices daily – thus allowing the insurance providers to harness their activities and data to improve risk assessments (IIF 2016) – but which is considered at risk of falling (back) into the poverty trap because it is still excluded from the mainstream financial sector (IIF and Accion 2018).

With low-income population seen as a promising market, the targeted group is reframed and extended to a broader precarious population. Insurance professionals share the view that digital technologies are key levers for such market segments (IIF 2016). Prospective analysis of the industry regards platform business models, Machine Learning and alternative data sources from precarious populations that use smartphones daily – especially for work – as part and parcel of the set of innovative solutions needed to improve risk assessment calculations, reduce operational costs, provide more convenient on-demand services and, eventually, to scale up coverage (IIF and CFI 2018). The industry bets on platform data analytics to transform the very nature of risk as it enables new ways to "create, capture and analyse valuable information that can help insurers better calculate and manage risk associated with new types of customers" (IIF and Accion 2018: 8).

The expansion of digital technologies and the enlargement of market prospects are thus the two main drivers of moving community-based microinsurance programmes towards a for-profit, digital, and platform-oriented inclusive insurance agenda. In the following section, we review existing studies regarding this rise of digital technologies for the provision of financial and insurance services. We draw on this scholarship as we explore how Insurtech seeks to fulfil its promise towards the supposedly most vulnerable populations of the world.

Fintech and Insurtech for financial inclusion

Over the last few years there has been a flurry of studies in International political economy on digital financial inclusion and the use of financial technologies for development purposes (Bernards 2019a; Gabor and Brooks 2017; Langevin 2019; Natile 2020; Mader 2016; Torkelson 2020). Two strands of scholarship are of particular relevance for appraising the prospects of Insurtech towards vulnerable population of the world: the one examining the digitalization of insurance and microinsurance, on the one hand, and studies on the relations between Fintech and platform capitalism, on the other.

An increasing number of studies is emerging in critical international political economy on the digitalisation of insurance in recent years, specifically in the US and the European contexts. Prominent analyses of the inroads of such technology point towards new forms of governance through a so-called dataveillance above older patterns of exploitation (Gidaris 2019; Zuboff 2019). Some studies, however, shed light on the restricted scale on which digitalisation takes place, constrained by regulatory and infrastructural obstacles limiting the application of behaviour-based insurance personalisation (McFall and Moor 2018; Meyers and Hoyweghen 2020).

Such potential limits to digitalisation processes prompt us to delve onto how the industry uses digitalisation to score risk in the provision of microinsurance services. In contrast to traditional insurance markets, it is important to note that the microinsurance market, and to some extent the entire financial inclusion agenda, has been characterised throughout the last two decades by low take-up (Cai et al. 2009; Ito and Kono 2010; Platteau, De Bock, and Gelade 2017). Scholars emphasise contradictions in microinsurance, which does not just provide risk coverage for the poor, but also produces and displaces risk unevenly among groups of population (Taylor 2016), with increased uncertainty when insurance contracts fail to pay out (Johnson 2020). Bernards (2022) describes the microinsurance market as a "truncated commercialisation" of a failed, limited and contradictory attempt at neoliberal development governance. He views the advent of digital technologies in microinsurance as reinforcing existing failures in the organisation of the microinsurance market. Similarly, Aitken (2022) reads recent attempts to manage risk via remote sensing platforms in the domain of climate-related coverage as the latest strategy to rehabilitate microinsurance in the face of its failings. This strand of literature highlights the limits of digital technologies to boost the microinsurance market.

Somehow, Insurtech is a by-product of the use of IT innovation in financial products for development purpose. This brings us to the second strand of literature we can draw lessons from. A small but growing range of studies situate the advance of Fintech for financial inclusion within the broader organisation of platform capitalism. These have extensively focused on the provision of credit through platform business models. Clarke (2019) illustrates how, in spite of their alternative, inclusive and disintermediated discourse, platform lending is built on the quality of credit providers reproducing problems linked with mainstream finance. These include fuelling credit bubbles, designing harmful risk assessment rendering individuals objects of intervention and the deepening dependency on debt in national growth models. In a similar vein, Langley and Leyshon (2020; 2022) point to processes underpinning the expansion of financial services through platform firms. As seen in the introduction, platforms do not disintermediate but reintermediate financial relations by extracting rent from fees and data analysis. This reflects a consolidation of the market by monopolising new market structures of retail banking rather than increasing competitiveness. Platforms thus benefit from important capitalisation as investors rely on platform promises in applying cutting-edge data analysis technology and in generating higher revenues than re-regulated established banks. The work of Roitman (2023) offers an interesting insight to apprehend platform firms through the lens of the market device illustrating the specificities of platforms' value creation. Indeed, what she calls the "float", namely a form of financial value working as a liquidity pool generated by mobile companies, mobile money issuers and commercial banks, provide patterns of value subjugation and autonomisation that nuance existing accounts approaching platforms for financial inclusion in light of the process of financialisation.

However, the literature tends to amalgamate financial with insurance technologies. Insurance technologies operate on separate principles from those used in Fintech, in particular regarding the pooling of risk devised for expanding markets for the poor. Building on Roitman as well as Langley and Leyshon studies, we find it of crucial importance to examine the specific qualification-requalification process performed by insurtech platforms to measure and price risk as it reframes patterns of financial inclusion and exclusion. This calls to investigate in detail the process of how platform firms qualify the targeted population as a priceable risk. This article aims to contribute to this burgeoning literature with a specific focus on the relationship between the core insurance principle of risk pooling and the potential contradictions and limits in scope and scale when it comes to organising platform capitalism for the inclusive insurance market.

Insurtech platform as market qualifyer

To address the potential difficulties that platform firms face in scaling up the inclusive insurance market, we combine insights from studies on platform capitalism, the sociology of markets with international political economy, and sociological studies on insurance. . We stress three main analytical categories, namely interoperability, valuation, and aggregation, that we deem central to insurtech platform activities. These are embedded within a broader process of qualification–requalification at work in establishing similarities and differences among risks to be exchanged. When it comes to the world of insurance, we describe this as a continuing process of pooling and repooling risk, as we will see, can be at odds with the platform principle of scalability.

The interoperability of platform firms is arguably the main function that guarantees the firm to express all its features to create new market encounters and expand the market. This is our first analytical category. Studies on platform capitalism have stressed how network and winner-takes-all effects are core aspects in the potential of platforms to raise capital, absorb competitors and pave the way towards market monopolisation (Kenney and Zysman 2016; Srnicek 2016; 2018; Langley and Leyshon 2017). The ability of a firm's business model and cloud-based infrastructure to scale up a market is thus a central feature of the shift towards platform firms (Choudary 2015; Pfotenhauer et al. 2022). As Narayan (2022: 912) points out, firms rely on "external providers of hyper-scalable information technology (IT) resources". Platforms use their network effect to scale up a market as the greater reliance on the platform itself attracts new users (Constantinides, Henfridsson, and Parker 2018; Parker, Van Alstyne, and Choudary 2016). They take advantage of their system of data collection and analysis to gain the upper hand against rival firms. In other words, the large volume of granular data available from the growing number of participants enables platforms to hone their products and services, providing them with a competitive advantage (van Dijck, Poell, and de Waal 2018; Poell, Nieborg, and van Dijck 2019; Srnicek 2016).

As investments in platform firms from venture capital encourage the capture of market share, prioritising the quest for monopoly over short-term profits, platforms take advantage of speculative finance in their attempt to quickly scale up their market (Rahman and Thelen 2019). In terms of the underlying cloud infrastructure, platforms also rely on the interrelation of techno-organisational processes, including virtualisation (a range of software that can be supported by the same physical server), on-demand computing (platform services delivered on

a pay-per-use basis) and web-based modularity (software being connected by standardised application programming interfaces rather than being designed by developers from scratch) (Narayan 2022). Eventually, firms reach new customers via reintermediation processes that monopolise economic structures in retail, money and finance (Langley and Leyshon 2022).

Each mechanism mentioned above has its own importance in driving platform firms towards market expansion and monopolisation. But the interoperable feature of platform stands as the core function to explain all the patterns of scalability of Insurtech platforms. However, there is little mention in existing studies about the difficulties involved in this race towards scalability. More specifically, processes of market expansion are rarely smooth and linear. Forms of inconsistencies and contradictions shape the organisation of markets thus putting forward its conflictual nature. We should thus take due account of such potential snags when examining platforms' capacity to reach scale in the inclusive insurance market.

In addition to interoperability issues, platform firms hinge on processes of valuation to assess and price new entities or populations. This is our second analytical category. The sociology of markets literature has extensively illustrated how the organisation of markets rely on the continuous process of qualification and requalification of goods and services (Vatin 2009). Prior to any market transaction, as Callon et al. (2002) suggest, products to be exchanged go through a specific metrological operation that defines and objectifies their qualities. The process of qualification thus aims at establishing a "constellation of characteristics [or qualities], stabilized at least for a while, which are attached to the product and transform it temporarily into a tradable good in the market" (Callon et al 2002: 199). The qualification and requalification process fixes the activity of valuation, that is the set of narratives, mechanisms, diapositives and tools constituting value, and simultaneously, its measurement (Vatin 2009). Valuation works as an activity qualifying goods and services "assigning to each qualities constituted a monetary value" (Vatin 2009: 252) as "it turns things and people into object or subject of valuation" (Muniesa 2011: 27).

The qualification process entails interaction because it involves the product itself and an array of actors located in different organisations and institutions (Millo 2007). This makes the process dynamic and potentially conflictual, as several perspectives of how a product is defined and qualified can co-exist and/or collide (Vatin 2009; 2009). As Çalışkan and Callon (2010) underline, markets depend on calculative devices that remain fraught, partial, open to debate and prone to failures. To describe such dynamics, we draw on the musical metaphor of

"dissonance" used by Antal, Hutter, and Stark (2015: 6). In the field of music, a dissonance is a moment in which the harmonic setting of sound runs against the arrangement anticipated as a result of aesthetic expectations of the genre. It can either be resolved back into the expected ordering of notes, persist, or adjust to a new resolution. When applied to moments of valuation, this reveals the plural or contending ways in which new or unknown phenomena can be given a value. As Stark (2009: 27) puts it "dissonance occurs when diverse, even antagonistic, performance principles overlap. […] The result of this rivalry is a noisy clash, as proponents of different conceptions of value contend with each other […] or can generate new combinations of the firms' resources [to be productive]". We contend that Insurtech platforms as supposedly disruptive technologies for new insurance markets face such dissonance.

Issues on valuation lead us to consider the insurance principle on which insurtech platforms rely, namely aggregation. This is our third analytical category. It epitomises the sequence out of which groups of populations, with different risk exposure, are aggregated. Put it in other words, aggregation reflects the assemblage of different pools of risk.

International political economy studies on insurance have highlighted the global reach and power of insurance as an institution of informal governance triggering new spaces for market development (Graz 2019: 114–72; Lobo-Guerrero 2012; 2017; 2019; Strange 1996: 122–34). As a result, major concerns include the (un)insurability of new risks (Bougen 2003) and the quantification of uncertainty by actuarial risk rating (Beck 1992) or non-actuarial knowledge (Ericson and Doyle 2004). As such, insurance works as a technology of risk transformation (Ewald 1991) to make uncertainty "fungible" (Lobo-Guerrero, 2017: 5), that is, transforming such uncertainty into "something amenable to trade and exchange" (Ibid.). To this end, the creation of an insurance market depends on risk management making extensive use of mathematical calculus (McFall 2011). As well understood by Frank H. Knight in his celebrated book Risk, Uncertainty and Profit, "[t]he application of the insurance principle, converting a larger contingent loss into a smaller fixed charge, depends upon the measurement of probability on the basis of a fairly accurate grouping into classes" (Knight 1971: 246). Insurance relies on statistical tables establishing the regularity of certain events to calculate such probabilities, which, as stated by Ewald (1991: 202) "wields an evaluation of the chances of an event to occur".

This only works with a large volume of data widely recognized as valid. To guarantee the promised financial protection, the insurer's task is to spread risks across the largest and most

diversified set of policyholders, to reduce the company's exposure to a certain type of claim, or even a single claim too big to pay. The insurance principle rests precisely on such aggregation, or pooling of disseminated risks. It combines high and low risks and makes a probabilistic calculation based on a large collection of data, to put a price tag on the premium paid for coverage. Risk pooling mixes different customers' risk exposures, allowing insurers to rely on the law of large numbers to design their probabilistic models and to spread the cost of covering the insured-against event among all policyholders (Corlosquet-Habart and Janssen 2018). Pooling is thus supposed to distribute potential losses according to variance in type, geographical location, frequency, and size – or in other words according to what, where, how often, and how severe the event may be. As Graz (2019: 118) points out, "[a]ll in all, the larger, the longer, and the more granular the information gathered, the better the probability calculated – and, most likely, the higher the company's profits".

While risk pooling – the core principle that makes insurance profitable – is based on mechanisms of collectivity and solidarity, its empirical implementation raises crucial issues. Building on the work of Aditi Gowri (1997), Doyle and Ericson (2010) suggest that this might be the first irony of insurances. There are indeed two fundamental conceptions of insurance which are constantly in tension: it could be understood as "a transfer of risk between two people or as a relationship of risk-sharing among a pool" (Doyle and Ericson 2010: 227). If understood as a risk-sharing mechanism, insurance supposes social solidarity. This reflects a high form of aggregation with a large array of diversified risk. Conversely, if understood as a transfer of risk, the use of actuarial risk management in insurance markets thwarts pooling mechanisms by splitting groups of prospects into ever smaller fractions with the purpose of individualizing risk or even excluding prospects from any schemes. This mechanism illustrates a form of low-risk aggregation. Contemporary insurance practices tend to privilege the individualizing rather than the pooling of risk, and such segmentation and unpooling of risk undermine "the risk-socializing potential of insurance" (Doyle and Ericson 2010: 232).

To sum up, our theoretical framework introduces three key categories of the activities of insurtech platforms in their attempt to expand the market. These are interoperability, valuation, and aggregation. Meanwhile, the following result section will highlight the potential inconsistencies raising from these activities leading towards the contradictions of the inclusive insurance market that result from the opposing principles of insurance pooling and platform scalability. It is from this perspective that we appraise the limits within the organisation and attempted expansion of platform-based inclusive insurance markets.

Pooling and repooling risk

This section substantiates our analysis by showing how the qualification process of inclusive insurance services unfolds in a succession of pooling and repooling exercises. We first demonstrate how the interoperable ecosystem is constrained by forms of dysfunctionality, specifically when it comes to data circulation. We then sketch how valuation is characterised by dissonance as two assessment frameworks operate in contradiction to each other. Finally, we point out how mechanisms of risk aggregation by premium personalisation results in further exclusion. Our analysis thus demonstrates that the process of pooling–repooling of risk by platforms tends to be contradictory, and to further segment and unpool risk.

Interoperability

This section highlights the importance of a standardised interoperable ecosystem for Insurtech platforms to connect with other platform firms to scale up the market. Our results illustrate the limits to such interoperability, specifically when it comes to data circulation.

Platforms are praised by insurance development professionals as an appropriate way to reach scale by intermediating market encounters with a broader emerging middle class. As sectoral platforms, Insurtech companies can easily plug-in and provide their services as part of other platforms such as mobile wallet, ride-hailing, or social media. They can build upon their network effect to reach a larger number of people, and seek market encounters beyond unserved populations with pools of poor populations (Insight2impact 2019). The interoperable apparatus of platforms configuring new market encounters is thus guided by the principle of risk pooling as it targets and embeds in insurance schemes new types of uncertainties which are deemed less risky.

However, our findings show that the implementation of such platform ecosystems is falling short of expectations. As such, previous studies already demonstrate that technologies such as Big Data applied to finance is much less integrated than expected and more generally its application is rather messy, full of gaps and inconsistences (Campbell-Verduyn, Goguen, and Porter 2017; Kitchin 2014). What our results show is that even though the interoperable infrastructure is set up to exchange datasets without frictions, in practice, the circulation of data is limited.

First, there is reluctance among platform partners to enforce data-sharing agreements (Insight2impact 2018). Data is claimed to be an asset bringing the platform a significant competitive advantage. And if shared, data is sent in sets that show broad tendencies of a group of customers rather than individual attributes. For instance, an Insurtech platform based in Indonesia provides accident insurance policies to drivers of a ride-hailing platform. The platform manager disclosed to us that this ride-hailing platform only shares the basic data needed to create the policy, to avoid competitive pressure:

Big platforms are very careful when it comes to send data to third party entities. Data is their biggest asset, isn't it? Therefore, the data we receive is very limited. For instance, to design an accident policy for ride-hailing drivers, we only manage to retrieve from the platform the number of trips a driver does per day. (Interview with an Indonesian Insurtech platform manager of strategic partnership, August 2020).

Second, several of our informants brought up limitations in building up partnerships and therefore accessing customers' data (interview with an Indonesian insurance platform manager of strategic partnership, August 2020). For example, an Insurtech platform with operational bases spread across Southeast Asia and Sub-Sahara Africa collaborates with telecommunication companies to distribute insurance policies. As such, the Insurtech platform is not integrated within the payment infrastructure of the mobile operator. Thereby, data regarding customers' transactional history is exchanged on an aggregate level, but no individual data is transferred through the platforms:

We do not use data that are not ours. Like [name of the telecommunication company] does not send their data about their customers, saying "look, they are doing these things that are not related to insurance, here is the data". Instead, mobile operators tell us directly "look, 20% of your subscribers pays to buy lottery tickets, what can we do with that connection?". (Interview with an Insurtech platform chief executive officer, July 2020).

Eventually, such reluctance also stems from the uncertainty around the regulations and the repercussions of these regulations in terms of data sharing (Insight2impact 2018). As many national regulations comply with the European General Data Protection Regulatory (GDPR) framework, Insurtech platforms are limited in accessing personal data as platforms are not allowed to share personal identification information with third party partners located in another country (European Commission 2016). This claim corroborates the account of the chief

commercial officer of a digital wallet company operating in Indonesia that partnered with a foreign insurance company to sell non-life insurance products. The digital wallet firm shares with the insurance company only aggregated datasets showing tendencies, behaviours, and customer attributes: "no individual data leaves the platform" (interview with an Indonesian-based digital wallet chief commercial officer, September 2020). This makes it difficult for Insurtech platforms to draw up personalised premium pricing, a feature promoted by insurance development actors and discussed below.

In sum, challenges in leveraging the interoperable ecosystem to repool risk with a broader population of unserved people have an impact on the ability of platforms to configure and scale up market encounters. Platforms' inherent tendency towards market monopolisation by enclosing data and the lack of accessibility on individual data related to regulations on data sharing, compromise the functionality of the platform ecosystem. These dysfunctional patterns show the extent to which the repooling of risk – which is supposed to support the requalification of the market – is at odds with the expected scope of platforms' scalability and the potential incorporation of the emerging middle class within inclusive insurance schemes.

Valuation

This section puts emphasis on the process of valuation performed by Insurtech platforms. We claim that this later is characterised by contradictory value systems of risk assessments, we define as dissonance.

In May 2022, the Microinsurance Network – an international multi-stakeholder and non-profit association for insurance development – released a report examining how digital platforms might support the distribution of insurance policies to micro, small and medium enterprises. The document points out that the challenges constraining insurance adoption for this category of prospect include their high levels of heterogeneity, an information gap, a lack of knowledge on the enterprises' risk management needs and trust deficits (Microinsurance Network 2022: 3). Similarly, in its 2019 report entitled "Insurtech for Development", the Centre for Financial Regulation and Inclusion, a global think-tank and non-profit entity subsidised by FSD Africa and UK Aid, sketches five main challenges facing the inclusive insurance market; of these, the "lack of information on consumers" stands as the first problem (Cenfri 2019: 21). The report stresses that the limited engagement of uninsured populations with the formal sector (e.g., minimal ownership of official documentation coupled with low levels of formal employment)

impacts the quality of the data that insurance companies require on their customers. The report explains:

[…] reliable information on asset ownership, health and claims behaviour for insurance purposes is vital for risk profiling, product design, sales, servicing, payments collection and claims assessment. (Cenfri 2019: 21)

As discussed above, insurance works by applying actuarial calculations to forecast future events, thereby transforming uncertainty into priceable risk (Lobo-Guerrero 2017). Such calculative practice for risk assessment relies heavily on the collection of detailed and reliable information (Graz 2019). In light of the low uptake in inclusive insurance related to the information gap on uninsured customers, insurance development actors identified digital platforms as the most promising technologies for the collection and refinement of large volumes of fine-grained data. In addition, the rising use of smartphones and growing expenditures on digital infrastructures in developing and emerging economies have supported inclusive insurance market initiatives to harness alternative data. Alternative data come from a range of sources, from geographic information systems (GIS), reporting on social media activity, transactional payment history and mobile phone metadata, to satellite data in the case of index-weather insurance. The specificity of these multi-sourced datasets compared to traditional insurance data gives platforms the ability to track customers' behaviour on a daily basis. Thus, Insurtech platforms carry out a process of valuation by transforming future uncertain events – such as the probability of a driver having a car accident – into monetary terms based on granular, real-time, and non-traditional information.

This last point is important for grasping how platforms are mobilised in the repooling process. It demonstrates that targeted populations are entirely part of the process of requalification, as they are the protagonist of the valuation moment. By contributing daily to the production and updating of the dataset, customers actively participate in shaping and classifying their own risk propensity and financial valuation. Hence Insurtech platforms structure the transformation of uncertain events into risk – the activity of risk qualification – by leveraging on the daily life of customers. And it is precisely this activity that is being valued by the platform. As Casilli (2019: 60) points out, beside the platform's capacity to collect and analyse data, "it is the work of qualification that platform's users accomplish that enables platforms to create value". Thus, the arrangement of the inclusive insurance market goes through platform firms as the main device requalifying the risk propensity of uninsured customers for a particular event.

Yet, our findings show that the merging of traditional and non-traditional data faces forms of inconsistencies as both datasets do not necessarily share the same assumptions and representations of the populations targeted. Indeed, populations can be charged higher premiums for insurance coverage independently from the collection and analysis of alternative data. For instance, in Colombia, since 1988, all registered vehicles must carry a liability insurance coverage called Seguro Obligatorio de Accidentes de Transito, commonly known as SOAT (Ley 33; see Ministerio de Transporte 1986). The policy pays for physical harm or death due to vehicular accident. The policy is underwritten by major insurance companies such as AXA and Mapfre, and the distribution is outsourced to intermediaries. Since 2021, a revised statute has allowed intermediaries to provide a premium discount for policyholders with a low propensity for vehicle accidents (Ley 2126; see Ministerio de Transporte 2021). Against this background, Insurtech platforms have entered the market as intermediaries claiming to provide more accurate risk assessment, and purporting to serve more people by incentivizing driving behaviours which lead to a low likelihood of crashing. The inclusion of non-traditional data is key to their risk model:

In total, we analyse 35 variables among car, personal and transactional information that we cross with data on vehicle accidents. The calculation generates a risk score from which we decide whether the policyholder will be charged with the full or discounted premium price. (Interview with a Colombian-based Insurtech platform chief technology officer, September 2020)

In this case, the moment of valuation is considered to price risk according to objectified, personal information which rewards prudent driving behaviours. Nevertheless, the valuation moment is to be understood in the context of the complex platform ecosystem in which insurance companies, the risk underwriters, have a say in who is covered. According to our informant, Insurtech platforms in Colombia are pressured by their partner insurance companies not to provide accident insurance to populations living in specific regions of the country:

In some regions of our country, insurance companies do not sell their products. As many cases of fraud have been reported in the past, the population living in these regions are deemed too risky. (Interview with a Colombian-based Insurtech platform chief technology officer, September 2020)

Compelled to consider some populations as de facto unreliable and fraudulent, platform firms face strident dissonance in the antagonistic performance principles upon which pricing the risk of potential new customers. They assemble two contradictory value systems for measuring worth. On one hand, Insurtech platforms value the risk propensity of an individual by processing large amount of alternative data in addition to more conventional risk assessment. They claim that such engrained techniques lend them be more inclusive. The prospect of having more people covered by insurance would thus be a result of the higher accuracy of Insurtech risk calculus. On the other hand, the quotation above reveals how risk is also assessed by normative preconditions and, in this case, built on stereotypes. Colombia being a country where the social construction of racial categories is historically anchored in geographical spaces (Leal 2010), the region valued too risky concentrates populations descendent of slaves characterised as "black and mulattos" (Hudson 2010). The valuation moment thus reflects dissonances between value frameworks in the pricing of risk propensity of uninsured populations. The quote shows that alternative data-based risk measurement comes into conflict with sites of valuation rooted in the legacy of class- and race-based systems of knowledge that rank and frame patterns of inclusion/exclusion a priori to any probabilistic risk measurement (Perticone, Graz, and Kunz 2022). These normative preconditions impede the participation on the platform of segments of the targeted population, preventing the possibility of turning people into subjects of valuation, and thus thwarting the process of requalification aimed at pooling risk.

In sum, the collection of both traditional and alternative data carries the seeds of dissonance, as contradictory sites of valuation collide. This impedes access to insurance coverage because, faced with the problem of repooling risk, Insurtech platforms struggle to requalify and ultimately scale up their market.

Aggregation

In this section, we stress the valuation outcome of Insurtech platforms activities, that is risk aggregation. Our findings show that practice of risk aggregation by premium personalisation, namely the price mechanism applied to price premiums, does not lead towards more inclusion, but it rather generates further exclusion from any insurance scheme.

The inclusive (and micro) insurance market faces the dilemma of how to insure high-risk populations with low premium prices. In response, insurance development actors have, over the years, designed innovative risk transformation and risk transfer mechanisms, such as

parametric insurance and household derivatives, respectively, to make insurance affordable to unserved and poor populations (Aitken 2015; Johnson 2020). Insurtech platforms leverage on their alternative and real-time datasets to promote a new price-calculation method called price personalisation (A2ii 2018a). They see this as a game changer for purposes of financial inclusion as it rewards compliant behaviours with low coverage fees (A2ii 2018b). The industry emphasises the capacity of platforms to engineer such methods of risk calculation thanks to tailor-made offers based on the working capital needed for unserved people (CGAP 2020; World Bank 2018). As the Centre for Financial Inclusion and Regulation states in its 2019 report:

In countries with very low insurance penetration, any access to more types of data, coupled with the newest tools to analyse this data cost-effectively, can enable more tailored insurance products to consumers, identify new consumer groups and drive scale in uptake. (Cenfri 2019: 14)

The underlying inclusive logic aimed at tailoring premium prices rests on the assumption that offering lower premium prices for compliant behaviour will reduce the risk undertaken from the insurance company, make the service more affordable and reach lower income segments. In short, the price mechanism is expected to result in greater inclusion on the principle of risk pooling and platform scalability by identifying new consumer groups to reach market scale.

Yet, our empirical enquiry speaks against such expectations regarding the mechanism of price personalisation used by Insurtech platforms. For example, in Kenya, several Insurtech platform initiatives aim to provide accident insurance to ride-hailing independent contractors. These platforms work as applications that can be downloaded on any smartphone and claim to provide an easier, cheaper, and faster accident insurance by adopting a customer-centric approach (interview with a Kenyan-based Insurtech platform chief executive officer, November 2020). Built as a cloud platform able to integrate diverse partners on its infrastructure with its APIs, the platform leverages on real-time data collected through the application and social networks to assess the accident-risk propensity of a driver. As the informant explains:

We partnered with a data scientist that helped us scrap data from a social media platform as well as retrieve geographical information on the driver's journey. [...] We came up with a risk score that indicates if the driver uses or not congested roads that might increase the probability

of having an accident. In that case the premium price would be higher. (Interview with a Kenyan-based Insurtech platform chief executive officer, November 2020)

Basically, socio-demographic data for risk assessment are complemented with driving behavioural data collected through the smartphone metadata and GIS. This enables the platform to track a driver's acceleration and brake patterns concomitantly with the vehicle's mileage and the geographical journey of the driver. Insurtech firms then input the metrics into an algorithm that predicts the likelihood of a customer having an accident (interview with a Kenyan-based Insurtech platform chief executive officer, October 2020). They can thus assign to each driver a numerical risk score, from which good drivers are distinguished from bad drivers. Good drivers benefit from a reduction on their premiums whereas bad drivers will be charged full price or even be excluded from the service altogether. The scale of price valuation is personalised, and premiums are defined as a unique individual value, where the burdens of a future event are not shared equally among customers.

Such practices bring us back to the "irony of insurance" and tensions between sharing and transferring risk. In risk-sharing schemes, insurance pricing tables use actuarial techniques to convert objectified risks into probabilities statements (Barry, Doyle, and Ericson 2003). By ordering the likelihood of future events into defined groups of risk, the calculation assigns individuals to a specific group with a premium being paid according to the level of risk shared within that insured pool (Meyers and Hoyweghen 2020). Each person of the same risk group pays the same amount.

As the example above shows, however, the mechanism of price personalisation used by Insurtech platforms tends to privilege the principle of risk transfer over risk-sharing procedures. It leans towards "atomising" risk into ever-smaller groupings of insured pools (Portas 2021). As such, it does not entirely align with an individualised transfer of risk, but the emergence of data-driven risk assessment embedded in strategies of premium personalisation is acknowledged as a way to monitor risk that drastically reduces risk pools (Cevolini and Esposito 2020; Doyle and Ericson 2010). Thus, price personalisation brings together practices of risk atomisation that have important consequences in terms of discrimination (Fourcade 2016; Krippner and Hirschman 2022; Moor and Lury 2018). Without any form of risk-sharing mechanisms, insurance companies exacerbate existing discriminative patterns of pricing based on actuarial calculation, charging higher premium prices for high risk but easily excluding bad risk from their portfolio.

In sum, the expectation of insurance development actors concerning the ability of platforms to scale up a market by aggregation and providing price personalisation collides with the insurantial principle of risk pooling. This practice of requalification by atomising risk tends instead to unpool risk and undermines the risk-sharing mechanism of insurance.

Conclusion

This article focuses on Insurtech platforms as firms which are expected to expand the insurance market to uninsured and low-income people across the world. Contrary to the distinctive processes of platformization underpinning the expansion of the credit market mediated by Fintechs (Langley and Leyshon 2022), Insurtech platforms attempt to requalify and expand the insurance market by relying on principles of platform scalability and insurance risk pooling that we sketch through three categories, namely interoperability, valuation, and aggregation. However, the theoretical frame and empirical evidence presented in this article suggest that the pooling/repooling process faces important contradictions. Eventually, insurtech is falling short of its promise to drive the insurance market towards more inclusion.

Our argument and findings join an array of studies that emphasise the limited scope of private insurance schemes for development purposes, given their tendency to exclude bad risk or proliferate uncertainties when insurance contracts fail to pay out (Aitken 2022; Bernards 2019b; 2022; Johnson 2020). We contribute to this literature by highlighting three innovative dimensions which highlight the contradictions of private insurance. We suggest that the collision between the principles of platform scalability and insurance risk pooling is expressed by: (i) a dysfunctional ecosystem that constrains platforms' interoperability; (ii) a valuation moment characterised by dissonance; and (iii) the exclusion of targeted customers resulting from the premium-pricing mechanism used by Insurtech. Rather than reinvigorating and scaling up the market by pooling risk, Insurtech platforms tend to unpool it, generating new patterns of financial exclusion and limiting the expansive feature of platform capitalism when deployed in specific markets.

The inconsistencies unveiled bring us back to the debate between private and social insurance. In other words, how a contemporary liberal risk regime, where State social insurance and welfare are considerably downscaled in favour of private sector alternatives (Barry, Doyle, and Ericson 2003), is in accordance with policies aiming to pool risk and reduce poverty worldwide. Indeed, Insurtech platforms bring this rational at its peak. Microinsurance was originally

conceived as an alternative form of social insurance. Defined as locally and community based, microinsurance was expected to involve autonomous units whose members decided collectively which risk to cover, via a non-profit mechanism of risk sharing (Dror and Jacquier 1999). This original conception now seems far away. The market-driven agenda of microinsurance and the push of Insurtech platform firms to reach unserved and low-income populations bring micro- and inclusive insurance closer to capital accumulation than socio-economic improvement. As such, it is increasingly jeopardizing the solidarity principle on which microinsurance was initially conceived to alleviate poverty around the world.

Hence, it would be constructive to have a thorough reflection on the main objectives of the platform-based inclusive insurance agenda its significance for international development. Instead of investing and relying on new business models, yet inconsistent in principles, to scouting uninsured populations worldwide, further discussion could consider new avenues on how to de-scale and de-commercialise the agenda and relocate the State as the main risk holder in providing universal social measures without discrimination. This would probably mean a reorientation of the ontological framework of insurance, based on discriminatory probabilistic calculus. Therefore, there is necessity, on an academic and political level, to discuss and provide some thoughts on whether digital technologies are appropriate tools that can be used not for discriminating purposes deciding whose uncertainties can be secured and priced. But how could platform-related technologies be applied for the purpose to provide community-based and non-for-profit insurance schemes that would be of benefit for all. This is even more pertinent as Artificial Intelligence is increasingly penetrating the insurance industry, processing more datasets for personalising covers, but relying on the same principle to unpool risk and, therefore, excluding people at the margins.

Endnotes

[11] Due to anonymity requirements, we cannot provide further detail regarding the location and the names of platforms or of their representatives.

[1] Formerly known by the acronym GAFAM and now also known as AMAM: Google (Alphabet), Apple, Facebook (Meta), Amazon and Microsoft.

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DISCUSSION

The major thread running through the thesis is multiple evidence of the process of market expansion. To make sense of this process and draw links between papers' results, I illustrate it as a spiral hole.

Figure 2: The spiral hole of market expansion in inclusive insurance through Insurtech platforms.

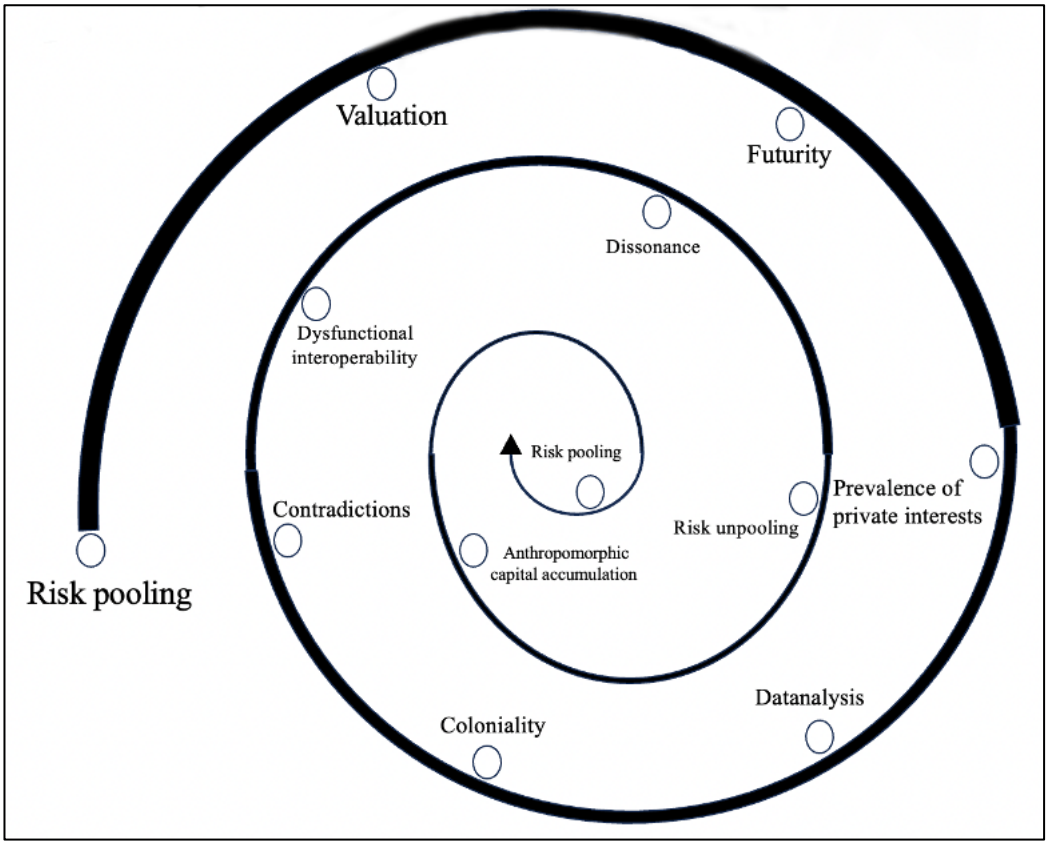
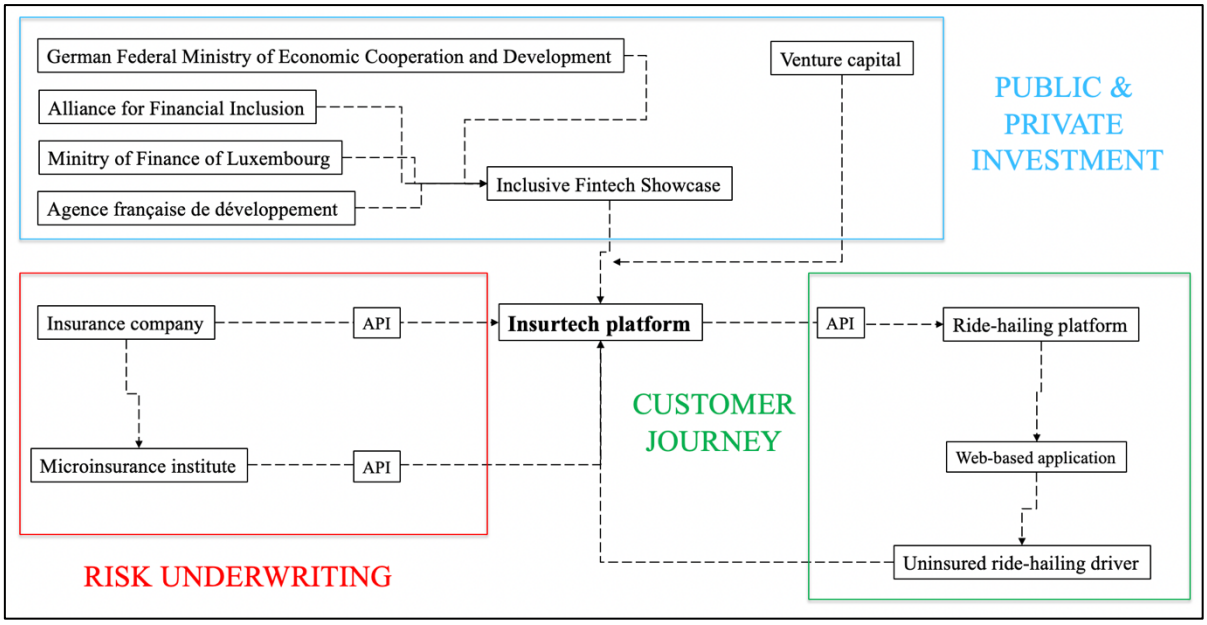


Figure 2 shows to what extent market expansion in inclusive insurance is the result of a sequency of stages that contribute or restrain the process of achievement. The centrifugal torsions of the spiral serve to illustrate the link between the stages occurring at different sites. It notably helps to conceive the embedded relation of the global scene of international development with local sites of action. The idea of risk pooling is propagated at the global level to reach the local site of insurance mutualisation targeting uninsured populations. Thereby, the spiral is also a significant figure to help conceive the embeddedness of global with local realities in the process of market expansion. In addition, the spiral hole enables us to conceive the process as fluid, always in motion. It is the movement that connects the stages. It proceeds from an idea and perpetually spiralling inward to reach a certain purpose, or outward to instantiate retroactive loops.

Overall, the figure is deemed to illustrate the reproductive, evolutive dimension of capital accumulation driven by the quest for infinity, or put differently, driven by the insatiable thirst to transform future uncertainty into a quantified and tradable risk. Yet this thirst has its own limits since practices of turning anything into risk, likely to be accounted in market terms, is a confined process (MacKenzie 2006; Maechler and Graz 2022; 2024). This is what explains the possible retroactive loops that reverse the spiral motion. Although it is difficult to avoid the probable non-linearity of the process, the spiral is a good illustration as it can block, face contradictions and dysfunctionalities that might generate feed-back loop phases and highlight the limits of market expansions. The symbolism of the spiral is thus opposed to the circle as it depicts a dialectical relation between the new and the old, as stated by the French essayist and philosopher Roland Barthes in his work *L'obvie et l'obtus: Essais critiques III* (Barthes 1982). The spiral does not perform a teleological reasoning, but embraces the infinity of processes, where there is a return with a different outcome not an identical repetition. Or as the author puts it, "nothing is first, yet everything is new" (Ibid*.,* p. 211).

The catalyst of the spiral in our case is the insurance principle of risk pooling. This stands at the centre of insurance development actors' discourse. To cope with the failures and low uptake of insurance products dedicated only to low-income populations, the strategy is reframed to distribute and share risk among low-and emerging middle classes. Hence, the platform firm is promoted as the main techno-economic solution able to quickly reach scale, enlarging the risk pool, and providing more accurate risk assessment through the collection and analysis of a large volume of data.

Figure 3: Diagram of the Insurtech platform ecosystem.



Against this background, I situate insurance development actors intervening at the beginning of the spiral, framing the idea of risk pooling as well as incentivising Insurtech initiatives through public and private investment. As illustrated in Figure 3, insurance development actors are the ones mobilising public subsidies and incentivising private investment. Their impulse though, is not confined to the role of the incentive. Insurance development actors gravitate around the spiral, framing Insurtech actions institutionally (e.g., through regulatory sandboxes), setting up international conferences, but also by monitoring and advising firms on the global outcome of their activities through reports. The focus of this research being specifically on Insurtech practices of market expansion, I acknowledge that the attention paid to the actors involved is rather marginal. That does not mean they play a minor role in the process, as has already been mentioned by other scholars (Aitken 2015; Bernards 2018). A detailed account on the connections, interactions and hierarchies of insurance development actors could have brought a deeper understanding on the actors' ecosystem gravitating around the spiral hole.

Consequently, there are several stages of valuation. First, the experimental legal framework of the regulatory sandbox situates Insurtech platforms within a broader temporality of contemporary capitalism marked by futurity. Under a configuration of power relations that see private interest prevail in the regulatory sandbox, futurity legally legitimises property and security issues on data processing and conceives Insurtech platforms' pattern of accumulation turned towards the future as data are framed as intangible assets. The institutional approval

leads the process to the datanalysis stage. The phase of datanalysis reflects the technical infrastructures and practices necessary for Insurtech platforms to perform their activities. Technical protocols enable the standardisation of channels for data exchange. This leads towards the collection of racially hierarchised data and the appropriation of data by objectification of the targeted populations. Hence, Insurtech platform activities, and their practices of risk assessment, are a continuation of colonial practices, performed by financial companies. The latter reframe the pattern of financial inclusion and exclusion and attempt to turn deemed customers into future financial revenues.

The final stages of the market expansion spiral place emphasis on the forms of inconsistencies and contradictions that shape the process. Indeed, the platform ecosystem shows forms of dysfunctionalities in terms of interoperability among platforms where the exchange of data is not taken for granted. The valuation process is marked by dissonance as contradictory sites of risk valuation collide. Furthermore, practices of premium price personalisation tend to unpool risk as they encounter the core idea of risk pooling which is at the root of the market expansion spiral. The final stage of the process refers to the form that capital accumulation takes.

As I suggest, capital accumulation takes an anthropomorphic form as it is social life as a whole that appears to be the main resource being capitalised. However, the contradictions highlighted show the non-linearity and rather fraught process of market expansion. On this point, I join Bernards' (2022b) claim that the insurance market for the poor has failed to materialise on the scale which its promoters expected. However, this does not mean that Insurtech platforms are not reaching populations at all. I argue that the scrutiny of Insurtech platforms represents a form of relative failure, rather than a total market failure as claimed by Bernards. The anthropomorphic capital accumulation is not a distant mirage. It rather manifests a form of accumulation realised, for the moment, on a smaller scale than promised but out of which we should not undermine the exploitative forms it takes for the approximately 200 million customers around the world that are covered by such financial products (Microinsurance Network 2021). This observation now leads towards a broader discussion on the process of market expansion in IPE.

Market expansion in international political economy

The following question now arises; how can I relate the spiral of market expansion of Insurtech platforms with structural accounts of IPE on neoliberalism and financialisation? The process of market expansion has arguably been a core issue of investigation in the discipline (see

Christophers 2016; Hall 2022) as well as in the studies conducted on financial inclusion. The following subsection discusses the similarities and differences of our results starting from conceptions of market expansions grounded in the historical materialist tradition, its adaptation with the rise of neoliberalism and financialisation and its link with financial inclusion.

Seminal accounts on the power of capital and its consequent expansion in non-capitalist spaces are to be found within the Marxist tradition and, later on, in theories of imperialism. In the first and second volume of *The Capital*, Marx provides an extensive explanation of the phase of primitive accumulation and social reproduction of capital. For him, primitive accumulation marks the beginning of capitalist processes of accumulation. This phase is characterised by the violent expropriation of workers from its means of production (e.g., land) by the bourgeoisie class, forcing workers to sell their labour force as a commodity to survive (Marx 1867/1976). By the same token, the capital contains a "self-expansive" or "self-valorisation" feature as it possesses the ability to generate a higher value out of its own (Marx 1885/2006). Capital not only preserves itself but also realises itself as capital is value in perpetually seeking additional value. That is, its accumulation, after extraction of the surplus-value, triggers "the constant expansion of this later [deemed] absolutely necessary for the survival of the capitalist mode of production" (Marx 1867/1976, p. 944). Hence, because of the pressure of competition among capitalists, the production process is marked by an increasing volume of technology and machines, a rising rate of fixed capital, a growing organic composition of capital – namely the physical amount of constant capital used per unit of labour. Thereby it also necessitates mass production of commodities on an increasing scale, commodities demanded to be sold on a constantly growing market.

> *[…] Capital, rather than adapting itself to a given structure of demand or socially acknowledged needs, by revolutionising production it revolutionises demands and needs themselves, expanding markets, provoking new needs, creating new products and new spheres into which production of exchange values for more value, production for profit, makes its appearance. (Marx 1867/1976, p. 945).*

Thus, Marx provides a deep analysis on the special character of capital in the commodity market constantly seeking to self-expand itself to produce surplus value out of capital-labour exploitative relations. As Chattopadhyay probes by reading Marx, the latter attributes to the capitalist production process an inherent spatial dimension where the more it accumulates, the more capital is compelled to scale production beyond the actual demand that depends on the

"continuous enlargement of the world market" (Marx 1861-3/1989, p. 101 as cited in Chattopadhyay 2016, p. 98).

With the rising internationalisation of capital at the beginning of the 20th century, affiliated scholars add to Marx's theory of capital accumulation a second specificity going beyond the sole national productive process. Luxemburg (1913/2003) analyses the dual character of capital accumulation in her 1913 magnum opus *The Accumulation of Capital*. Extending Marx's argument in the context of market internationalisation, she draws attention to the accumulation of capital surging from the relations between capitalist and non-capitalist modes of production. Luxemburg chases explanations on the conditions of reproduction of aggregate capital accumulation opposed to Marx's scheme of simple reproduction. Thus, the recurrent crisis of capitalism is conceptualised as a matter of underconsumption. That is a general lack of demand among workers and capitalists able to absorb the outcome produced as no other social classes are embedded within Marx's simple conception of capital accumulation. Thereby, Luxemburg states that surplus value can only be realised "if it is sold to such social organisations or strata whose own mode of production is not capitalist" (Ibid., p. 332). Once the new economies are penetrated, and turned into consumer centres, the export-oriented industries demand ever-growing capacities, thus maintaining investment within national borders and eventually reproducing capital accumulation. So, the process of market expansion is conceived as intrinsic to the production process to cope with competition for Marx, or, in relation to non-capitalist societies for Luxemburg to overcome the lack of local demand.

Inspired by both seminal work on capitalism and its universal reach, contemporary scholars in political economy and IPE adapt and mobilise the theory of capital accumulation to the current socio-historical structures of capitalism (Cox 1987). More specifically, academic interest in the issue of market expansion resurged in light of the implementation of neo-liberalism (Birch 2015; Carroll 2022) as a political economic doctrine in the early 1980's and the subsequent phenomenon of financialisation (Lapavitsas 2013; van der Zwan 2014; Christophers 2015). Even though capital is thought to possess a self-expansive feature, the following studies also place emphasis on the ideological framework and institutional apparatus – mainly national state – that support such expansion.

The geographer Harvey (2003) paved the way for many critical political economist scholars for an interpretation of capitalist accumulation under a neoliberal framework dominating world politics from the early 1980's. Hence, the main discrepancy with Marx's theory lies in the form

of accumulation, he casts as "accumulation by dispossession" (Ibid., p. 137). Whether for Marx the extended reproduction of industrial capitalism proceeds under non-violent conditions, scholars claim that the fraud, predatory and violent phase of primitive accumulation is perpetuating and reinforced in the contemporary economy (Arendt 1968; Perelman 2000). Harvey contends that, contrary to what Luxemburg suggested, the 1980's are marked by a crisis of capital overaccumulation, that is the lack of opportunities for surplus capital to be invested profitably. Hence, for this surplus to be potentially absorbed, capital is guided by what the author calls a "spatio-temporal fix" (Ibid., p. 109), namely (i) the temporal displacement through investment in long-term projects that reintegrates capital values in the economic circuit in the near future and (ii) spatial displacements through opening new markets, new resources and new production capacities elsewhere. It is precisely this latter concept, the spatio-temporal fix of capital, developed by Harvey that is of interest for our discussion as it deals with how capitalism can transform resources into profitable entities and thereby expand its logic to yet non-marketed entities.

Microfinance programmes have been extensively analysed in the IPE literature as complying with the neoliberal restructuring of the global economy (Rankin 2001; Weber 2002; 2004) As Soederberg (2013a) states, what came to define first microcredit as a neoliberal-led development project is the idea that neoliberalism promotes free market, in combination with the rational and competitive actions, as a solution to protect and emancipate populations while driving economic growth. The further development of microfinance towards the adoption of the financial inclusion agenda leads scholars to conceptually reconceive the scale of the phenomenon by highlighting how capitalist dynamics are increasingly mediated by new relationships with financial markets (Montgomerie 2008). The financial inclusion agenda is thereby deemed as an illustration of a broader process of financialisation of the global economy (Soederberg 2013b). Economic growth is regarded in relation to the inclusion in the mainstream financial infrastructure of excluded populations by the provision of affordable financial products and services (Natile 2020). Understood as an ongoing "financialisation of development" (Roy 2010, p. 47) the neoliberal market-led policy of financial inclusion is, particularly after the 2008 financial crisis, intertwined with broader macroeconomic processes of finance-led capital accumulation where development policies for poverty alleviation epitomise the explicit project to create and expand the financial market to non-marketed populations as a mean of generating new surplus value (Aitken 2013). In this manner, Rankin (2013), inspired by Harvey's work, deploys the idea of "socio-spatial fix" to conceptualise how,

what she calls “poverty finance”, triggers new avenues for the circulation of over-accumulated capital by drawing new spatial configurations and, most importantly, configuring marginalised populations, framed in racialised and gendered terms, to be amenable for financial accumulation.

Therefore, is there anything different in the manifestation of market expansion when it comes to Insurtech for the provision of insurance services?

Indeed, the literature so far teaches us that whether outlined in neoliberal or financialised terms, the provision of financial services for poverty alleviation rests, conceptually speaking, on three dynamics: (i) the idea that capital has this inherent requirement and ability to always look after new entities to generate profits; (ii) this expansion is supported by a favourable regulatory framework (iii) and it relies on a specific discourse on development that legitimises international intervention. The results that surged from the three articles reflect a contextualised and nuanced account of the tri-dimensional pattern of market expansion that is relatively dominant among the studies on financial inclusion in IPE. Thus, by delving into these three dimensions, I steer clear of any historical materialist account of the progressive loss of profit rate depending on labour theory of value; I appraise a much wider sample of institutions than the state and I conceive discourses beyond conventional views of bourgeois ideology.

First, the main task performed by Insurtech platforms is to classify, value and price the probability of an event to occur in a given population. Therefore, the process of valuation is key to the construction and expansion of the insurance market. As previously mentioned, Insurtech platforms value uncertainty and risk by algorithmic calculation performed through actuarial and/or predictive analysis and *a priori* class and race-based preconceptions. This process of risk valuation eventually designs the premium price and determines the inclusion and/or exclusion of the recipient. The process of market expansion hinges on mechanisms of knowledge production - guaranteed by platforms’ ability to collect and analyse data - that censes, measures, and numerically objectifies unknown populations. Beyond the macroeconomic dynamics of capital overaccumulation, in the specific case of Insurtech platforms, I propose that the process of market expansion is expressed as a reformulated continuity of colonial practices produced by Insurtech companies using data to racially classify, hierarchise and transform targeted groups of individuals into reliable or unreliable risk. Whereas the spatio-temporal fix is a good indicator of the macroeconomic dynamics triggering capital to always look for new sources of profits, we observe that the practices performed by

Insurtech firms reflect the broader colonial legacy of the global economy and the provision of financial services for development purposes.

Secondly, the institutional dimension is of significance matter in the expansion of the inclusive insurance market through Insurtech platforms. In the same vein as Harvey's conception of temporality, the market expansion of inclusive insurance through Insurtech platforms is driven by futurity, namely a specific temporality of value creation that works at the intersection between economics and law. It is via the regulatory sandbox, the experimentalist legal framework allowing innovative firms to test their products and services under control of the national financial supervisor, that Insurtech platforms manifest a valuation process that is turned towards the future. Hence, the regulatory sandbox confers Insurtech platforms the right of proprietary control on data being the main asset processed but with the assessment of present value based on future expected earnings. These firms do not benefit from a blind and unconditional support of public authority, but their rise is framed through an institutional journey where issues of data valuation, misuse, and property – namely core features for platforms to operate – are governed in line with the interest of Insurtech platforms undermining the harmful effect it might provoke on policyholders. It is thereby of critical importance to delve into the socio-legal mechanisms of dedicated regulatory instruments so that we understand the power relations at stake which shape how Insurtech platforms are supported or constrained in their attempted expansion of the inclusive insurance market.

Thirdly, as mentioned above, the concept of "spatio-temporal fix" developed by Harvey and adapted by many scholars to conceive what financial inclusion is, proposes the geographical location of territories and populations as a main variable for capital seeking new surplus opportunities. This is a pertinent point as the financial inclusion agenda has since the 1980's been discussed as a development strategy aiming at populations in the so-called Global South. Nevertheless, the digital financial inclusion agenda and the deployment of Insurtech firms add a new dimension to capital expansion that reaches beyond the geographical fix. As argued in *Datanalysing the uninsured: The coloniality of inclusive insurance platforms*, Insurtech platforms bring to the fore the anthropomorphic dimension to capital expansion. Indeed, as stated by Fumagalli et al. (2019), digital technologies, and in our case Insurtech platforms, exemplify a contemporary stage of accumulation associated with the utilisation of life itself. The insurance recipient remains largely unaware of the generation of alternative data, which continuously compiles information about an individual's social interactions, relationships, and behaviours. As a result, not only data or labour are the new source of exploitation, but it is the

lives of targeted populations, transformed into data, serving as valuable assets that can be identified, gathered, and appropriated by Insurtech platforms from which value can be extracted. This process is a matter of appropriation as data changes form of property from common to private. Data working as an intangible asset provides the right to exclude and deprives the labour force of knowledge as a means of production.

Finally, the process of market expansion does not follow a linear and smooth path but faces critical limits and contradictions. Azzellini et al. (2022) express that there is a necessity to understand the inherent problems of platforms as a capitalist business model to shed light on their limits. As previously mentioned, our focus on Insurtech platforms reveals an additional paradox constraining the market to expand, namely the contradictory mechanisms at play between the principle of platform scale-up and insurance risk pooling. Insurtech platforms tend to unpool risk rather than bringing innovative solutions to pool it. In doing so, it reframes patterns of financial inclusion and exclusion but does not necessarily reach the expected number of new customers. In relation to the inclusive insurance market, Bernards (2022a) and Aitken (2022) have provided very significant accounts on the redundant failures of the insurance market for the poor to materialise without incentives and public subsidies. Both argue that this specific market is constantly "re-engineered" by international development actors as it works through and reinforces existing patterns of uneven development that can be traced back to the setup of financial infrastructures during the colonial era. The limits of the inclusive insurance market are also to be considered within the longer history of failed for-profit microfinance programmes. The infamous example of Banco Compartamos, that saw the revenues of high managers skyrocket after its IPO in 2007 (Aitken 2013), was followed by several studies highlighting the international development narrative – sustained by empirical studies (Pitt and Khandker 1998) - positioning microfinance as an important poverty reduction, local labour market and local economic and social development policy (Bateman and Chang 2009). As first exposed by the scrutiny of Duvendack and Palmer-Jones (2012) and later also acknowledged by proponents of microcredit such as Banerjee et al., (2015) there is no clear evidence that can demonstrate that microcredit reduces poverty or substantially improves living standards. Therefore, the limits and contradictions highlighted in the operations of Insurtech should also be understood in the continuity of the failures of commercialised microfinance programmes.

CONCLUSION

This thesis aimed to investigate the deployment of Insurtech platforms to expand the inclusive insurance market. I propose an examination of Insurtech's epistemic, institutional, and organisational practices driving the expansion of the inclusive insurance market. The overall argument of this thesis is that Insurtech platforms shape the expansion by reproducing capitalistic and colonial patterns of capital accumulation, sustained by formal and informal institutional arrangements, but also by transforming its process of value extraction based on the social life of the targeted populations. Nevertheless, the expansion remains partial as contradictory dynamics arise between insurance and platform principles. In the following paragraphs, I first discuss the three main contributions of my research. I then outline the two limits of the thesis and conclude with two remarks on how to further examine Insurtech platforms.

The first contribution has brought a comprehensive empirical work on Insurtech and platform capitalism to the forefront. I situate this contribution in debates that were raised in the IPE literature on Fintechs and platform capitalism. I do consider this point as one contribution since I suggest throughout the research that Insurtech are platform-based firms. But I distinguish two points of the empirical contribution.

This in-depth case study helps to grasp the peculiar features of Insurtech firms compared to other Fintechs. I claim that Insurtech firms have been underexplored in the existing literature on Fintech in IPE and cognate fields. Even more so when it comes to discuss the provision of insurance services for platform ride-hailing drivers. As I emphasise throughout the three articles, but mostly in *Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance*, Insurtech firms rely on different principles than other Fintechs in their attempt to expand markets. I acknowledge that similarities can be drawn between credit Fintech and Insurtech in the personalisation of risk score assessments. Both measure risk profiles with differentiated pricing but the application of this price mechanism comes to contradict core insurance principles. Instead of implementing patterns of risk socialisation that aggregates diverse risks in the same pool by distributing it, Insurtech platforms hinge on a conception of risk disaggregation, where pools are smaller, less diversified, and therefore operate by transferring risk rather than distributing it. As Fintech and Insurtech platforms might share a similar processing of risk calculation, they operate in markets that conceive risk in a different

manner, and in the case of Insurtech, are inconsistent with core principles of risk pooling and socialisation to further include uninsured and low-income populations.

In addition, this thesis provides empirical data on the deployment of platform capitalism in a specific sector aiming at alleviating poverty around the world such as the inclusive insurance market. The empirical work enabled emphasis to be placed on debates around (i) the historical legacy, the valuation process, and the mode of value extraction at the heart of Insurtech platform activities. Conceptually speaking, I characterise these processes as "datanalysis" where the frontiers of data collection and data analysis are blurred as no data collected is *a priori* neutral but is always the result of a form of knowledge produced, in the case of Insurtech platforms, to serve the interest to accumulate capital by expanding the inclusive insurance market. I subsequently provide empirical evidence on debates around (ii) the institutional arrangement governing and shaping Insurtech platforms by investigating the main regulatory instrument implemented so far, namely the regulatory sandbox. I draw on the concept of futurity to emphasise the temporality and juridical aspect of platform capitalism, but also, the configuration of actors involved in the regulation. Eventually, the analysis of the empirical data contributes to debates on (iii) interoperable infrastructure of platforms, the valuation process, and the inconsistencies of platform-based modes of capital accumulation when penetrating the inclusive insurance market. In this case, the concept of pooling-repooling risk epitomises the inconsistent effort to reframe the agenda from micro to inclusive insurance through platforms. Here, I show the contradictions at stake between principles of platform scalability and risk pooling.

Analytically, my thesis contributes to extensive debates in political economy and IPE on the power of capital and its greed for extracting value out of non-capitalist spaces. As the discussion section highlights, this research reflects on a contextualised and meso-level analysis of market expansion processes. The results aim to ground this process in the local realities and peculiarities of specific economic sectors. Therefore, in the scrutiny of the inclusive insurance market expansion through Insurtech platforms, I outline how risk calculation, regulations, the anthropomorphic and futurity-based form of capital accumulation characterise this process in this context. As such, it shows how the debate on the transformation of capital accumulation brought by platform firms is context dependent. Arguments sustaining the spread of capital accumulation through rent-seeking mechanisms are arguably correct when it comes to discussion with Big Tech platforms. They not only own a critical layer of the digital infrastructure on which other platforms can be built on, but also their mechanism of private

appropriation of knowledge results in intangible assets that trigger what has been dubbed intellectual or scientific rents (Durand 2020; Rikap 2021; Birch and Cochrane 2022). Yet, the renting logic is not applicable to Insurtech platforms as value is extracted out of the social life of individuals and profit generated through commissions paid by insurance companies for each newly enrolled customer. Thereby, the productive logic of capital accumulation (Morini and Fumagalli 2010; Casilli 2019; Couldry and Mejias 2019) is a more accurate process to describe the extractive patterns of Insurtech platforms. By the same token, the results show the limited scale and scope of market expansion marked by contradictions.

Another contribution that emerged in hindsight is the conceptual coherence in the temporality and realisation of capital accumulation. In the article *Datanalysing the uninsured: The coloniality of inclusive insurance platforms*, I claim with my co-authors that the system of accumulation is based on the present life of individuals. I highlight the anthropomorphic dimension of capital accumulation specific to Insurtech platforms. Nonetheless, in the article entitled *Futurity-led platform capitalism: The regulation of inclusive Insurtech platforms*, I describe the system of capital accumulation based on the future, as data work as intangible assets, and the whole activities of platforms as requiring the *a priori* instrument of the regulatory sandbox to function. Therefore, I distinguish two temporalities in the accumulation process, one based on the present life and the other on future assets. At first, these two moments seem incoherent. Yet, I suggest that these temporalities are not incoherent but refer to two distinguished mechanisms happening within the accumulation process. The first mechanism illustrates how value is extracted and, on whose behalf. The focus is precisely placed on the labour force of the driver producing data from the daily activities of the driver that goes beyond his/her working hours. But once the data is extracted, these resources do not directly generate profits for the Insurtech platform. This is where the second mechanism intervenes. There is a need to understand the data sources as intangible assets that will yield earnings for a firm in the future, once data is processed for risk assessment and, above all, once it obtains the regulatory status of ownership of the data. Therefore, the difference in temporality explains two different mechanisms at stake in realising the accumulation of capital by Insurtech platforms. As such, this contribution adds to recent debates on the temporal turn in IR and IPE highlighting the contrasting conceptions of timescales embedded in the international scene (Maertens et al. 2021; Maechler and Graz 2022).

The following two limits refer to dimensions that could not be included in the research on the scrutiny of Insurtech platforms but inspire further research to do so.

The first limit of this research is the lack of exploration of the gendered dimension. As an extensive literature in IPE highlights, gender is instrumentalised in the creation and expansion of financially inclusive markets triggering new forms of exploitation, financial exclusion and disciplinary power (Rankin 2001; Kunz 2011; 2018; Maclean 2013; Rethel 2016; Natile 2019). Throughout the years, women have been the main target of financial inclusion – mostly when it comes to microcredit (Bergeron 2003; Valencia-Fourcans and Hawkins 2016; Wichterich 2017). However, very few inquiries have given explicit attention to the gendered dimension of micro/inclusive insurance (D. Clarke and Kumar 2016; Huyer 2016). And even less so regarding the digitalisation of the insurance services. As our case study focuses on ride-hailing drivers, the job, and therefore the potential insurance recipients, are predominantly male. Yet, this might vary across different countries, as outlined by the ILO, whereas in Kenya only 5% of ride-hailing drivers are women, in Indonesia this number rises to 13% (ILO 2021). This is mainly due to specific in-country measures where female-only transports are preferred by female clients.

Thus, a detailed investigation on the gendered discourse of insurance development actors with a specific focus on questions related to the role of women as recipients of digitally driven insurance services, and/or a case study of a more female-dominated field, might be food for thought for further inquiry on the matter. How are women represented as subjects of insurance services? Are they specifically targeted by Insurtech platforms in relation to some specific risk? And if so, how do they perceive and react to these services? A second angle of scrutiny might be to examine the practices of Insurtech platforms to determine if they have embedded direct or indirect variables discriminating gender in their risk assessment. What do these forms of discrimination entail in terms of financial inclusion and the broader involvement of women drivers in the expansion of the inclusive insurance market? These are non-exhaustive lines of inquiry on the gender dimension of Insurtech platforms for inclusive insurance that are unfortunately lacking within this research, but that future studies could address.

The second and final limit of this thesis is the lack of ethnographic fieldwork. As previously mentioned, the unit of analysis of this research is the Insurtech platform. Beside on-site and online professional conferences, the entire fieldwork is based on in-depth interviews with managers and company owners. The data was completed with information collected on the firms' websites and Terms of Services agreements. Yet, the corpus could have embedded at least two more datasets. First, ethnographic observations within Insurtech platforms might have been relevant to reach other informants besides chief managers and owners, as well as observing

the insides and the physical technological infrastructure needed. Indeed, during the fieldwork I only managed to interview two data scientists, yet this is a key profession when it comes to data analysis within an Insurtech platform. This does not mean that managers and CEOs are not informed on the process of data collection and analysis. On the contrary, they are the ones deciding which data to collect and how to analyse it.

However, a detailed explanation of the process by data scientists might have been welcomed to corroborate the data. As provided by Science and Technology Studies' approach to digitalisation (Vertesi and Ribes 2019; Stiefel and Vinck 2023), insights of the insides might have helped to map in detail the material infrastructure supporting and performing the activities of Insurtech platforms, but also, identify the potential issues raised from costly and high energy consumer technologies. Secondly, this research does not consider the practices and perspectives of insurance recipients. Yet, these are arguably important components in the process of market configuration and expansion. Recipients are the final actors of the value chain that judge and participate in the qualification of the insurance service. This raises questions on the leverage that recipients have while using the application that intermediates the relation with the Insurtech platform. Do they know the type and the amount of data collected? And if so, does it have an impact on their riding journey and overall working activity? Do they develop any sort of resistance strategies to circumvent platform's control mechanisms and be eligible? These are all dimensions that might have been relevant in the inquiry of the inclusive insurance market expansion through Insurtech platforms. Unfortunately, I was not able to add these data sources to my research because data scientists were not easily reachable via social media platforms, and the difficulties to travel during the pandemic made any options for ethnographic fieldwork and interviews with beneficiaries very challenging.

The lack of ethnographic work raised questions regarding the methodological implication of adopting a post/decolonial approach. Indeed, several calls from scholars having engaged with the history of sociology and anthropology in relation to the European colonial project have stressed the necessity to decolonise research methods in Social Science (Alter 2000; Cusicanqui 2012). I distinguish two insights on the matter. A first approach stresses the immersion of global academic institutions within the continuity of the colonial political economy of knowledge production. As noted by Smith (1999), the simple fact of carrying out research on some specific populations can be perceived as an act of colonisation. The extraction of raw commodities from former colonised countries is said to be reproduced in academics extracting raw data from populations, refined in intellectual property and published at prices that do not include the

informants (Tilley 2017). In this thesis, we mobilise such insight to analyse the knowledge production system of Insurtech platforms. Therefore, my reflexive work on the methodology mobilised, and the lack of ethnographic data, also raises ethical commitments regarding what Thambinathan and Kinsella (2021) call "reciprocity and respect for self-determination". This point puts forth that to conduct collaborative research grounded in decolonial values the research is engaged in listening affectively and giving a voice to the informant (Barreiros and Moreira 2019). This can both perform an act of healing the wounds of colonialising and serve as a demonstration of resistance. Yet, by focusing mainly on Insurtech platforms, this research undermines the voices and systems of knowledge developed by the participants by interacting with the platform.

Finally, in terms of international development policy, this research shows to what extent the insurance market as a societal problem-solving device for international development and poverty alleviation is limited in scope and in scale. This thesis raises critical issues and concerns regarding the relevance of the inclusive insurance agenda. As emphasised in the conclusion of the article *Pooling and repooling risk: The limits of Insurtech platforms in inclusive insurance*, the inconsistencies unveiled require a thorough discussion at the political level on the commitment of private insurance to ensure a social safety net to everyone. Or, referring to a process I acknowledge has not been developed in this thesis, the results put forth issues of poverty securisation,[6] or how private insurance is the appropriate instrument that secures poor and precarious individuals against the risk of falling into worse living conditions. This joins a fundamental debate in international development that opposes ideas sustaining either public or private actors as catalysers of improvement in living conditions. As we have seen in Chapter 2, microfinance emerged and expanded as a developmental concept under a neoliberal framework portraying individual entrepreneurial initiatives and market logics as the best practice for poverty reduction. But as Bateman and Chang (2009) noted, the attractive feature of microfinance was its non-governmental operation without financial support from national states. For the authors, microfinance fits the discourse of international financial institutions emerging in the 1980's where public provision for social services needed to be privatised to achieve austerity measures. Thus, microfinance not only supports privatisation and the private

[6] I acknowledge I should have paid more attention to the process of securisation throughout the thesis. Yet, I intentionally left it aside to place the emphasis on the process of market expansion which is the main process analysed in this work.

sector, but mostly "undermines basic state service provision" (Ibid., p. 26). It is the illustration of neoliberal insights to welfare, decreasing collective and state-coordinated social security provision and decent employment opportunities (Bateman and Maclean 2017). The deployment of digital technologies in microfinance is not changing the essence of neoliberal policies for development (Bateman, Duvendack, and Loubere 2019). Fintech and Insurtech ensure the policy evolve by reproducing the same conception of the market as a societal problem-solving device, driven by capitalist thirst for profit by taxing individuals for basic social provision.

Before concluding, I would like to raise the core normative implications of the analysis completed above. Measures to alleviate poverty should promote alternative and community-based instruments pooling risk without forms of discrimination and at the expense of the community and not the sole precarious individual. This does not necessarily require excluding any digital technologies out from the spectrum. An interesting approach is conveyed by Michel Bauwens and its "compeerism" movement (Bauwens and Pantazis 2018; Bauwens, Kostakis, and Pazaitis 2019). Computer scientist and theorist in the emerging field of peer-to-peer collaboration, Bauwens comes to discuss the promise of a post-capitalist collaborative commons calling for acknowledgement and engagement of the higher order nexus of state apparatuses and capitalist flows (Gerhardt 2020). Compeersim refers to a third space, distinctive from markets and governments, characterised by openness, cooperation, and shared ownership/governance of the digital that, ironic as it may sound, is for the author a more rational choice than pursuing efforts into competition, artificial scarcity, and profit-oriented logics. In this third space, resources are upheld, created, and overseen collectively by and for the community. It follows a proposal that centres on harnessing the potential of emerging digital technologies to significantly broaden these communal resources, aiming to establish a more equitable, sustainable, and prosperous post-capitalist system for everyone (Gerhardt 2023). Bauwens holds on to the idea that a technologically enhanced common sphere could be leveraged to counter and eventually overcome capital's dominance in the political economy (Bauwens, Kostakis, and Pazaitis 2019).

As tenants of platform cooperativism have already shown, it is possible to create public alternatives to the centralised social web and to thrive online by establishing cooperative platforms where workers are also owners of the entity (Scholz 2012; Scholz and Schneider 2017; Frenken and Schor 2017; Frenken and Fuenfschilling 2020). For instance, despite the self-entrepreneur paradigm promoted by platforms, digital workers are increasingly committed to act collectively through adapted union organisations that are able to deal with the algorithmic

management of ride-hailing platforms (Arias, Menéndez, and Haidar 2021). Hence, platform cooperativism is an attempt to reshape platform capitalism by combining it with firms based on peer collaboration. As Sandoval (2019) notes, platform cooperativism provides an opportunity to create an alternative model that not only benefits the few but out of which solidarity and multistakeholder management can be promoted and new conceptions of efficiency and innovations can occur that can benefit everyone. Examples of platform collaborative models can either take a for-profit or a non-for-profit form. For-profit model aims at sharing equally the value and earnings created among the platform owners. On the other hand, non-for-profit models rely on solidarity, non-monetised and reciprocal-based practices. Platform cooperativism has since garnered interest among scholars particularly in relation to initiatives dedicated to move poor people upward from the so-called base of the pyramid (Qureshi, Bhatt, and Shukla 2021). A successful case in point has been highlighted by Galdini and De Nardis (2021) that studied Nonna Roma, a non-profit organisation that emerged during the Covid-19 pandemic that uses a collaborative model designed to meet the poor populations' need. The project was designed mainly for food distribution based on user participation. The organisation uses a platform infrastructure mainly to organise the location of resources, construct local networks and reach people in difficulty. The authors conclude that the platform-based organisation and the management implicating user participation is a well-suited model to "enhance collective well-being" (Ibid., p. 44).

Such a non-for-profit framework is probably an alternative worth paying attention to, also from a policy point of view when it comes to Insurtech platforms in the inclusive insurance sector. To be fair, cooperatives in microfinance are not absent from financial inclusion (e.g., Saving and Credit Cooperative Society). But to solve poverty issues, initiatives and organisations can embrace platform technologies but ought to adopt non-for-profit strategies that achieve the sole purpose to improve the social conditions of individuals. Yet, to date, no such initiatives pull together both the platform-based infrastructure of the Insurtech with a non-for-profit, cooperative and sustainable organisational model. The question of the political will to design and sustain institutionally and financially such propositions thus remains. Are international development and insurance industry actors ready to support Insurtech platforms based on non-for-profit and community-based practices? As for now, private finance did not bring about development. It is rather reproducing the historical conditions increasing socio-economic inequalities. Confronting poverty should be a collective commitment that creates the conditions for people worldwide to live in dignity and not a new terrain for financial exploitation. It is

beyond the scope of this thesis to come up with ideas on how social basic needs need to be financed and risks faced by uninsured populations mutualised. Hopefully thought, the analysis brought about helps highlighting the inconsistencies that require changes.

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APPENDIX

Appendix 1: List of events ordered chronologically

Event	Location & Date	Main organiser
4th Geneva Summit on Sustainable Finance	Geneva, Switzerland, 7th December 2018	Geneva Finance Research Institute; Sustainable Finance Geneva; Swiss Finance Institute; Centre International de Conférence Genève
International Conference on Inclusive Insurance:	Dhaka, Bangladesh, 5-9th November 2019	Munich Re Foundation
Insurtech Connect + Digital Insurance Agenda World Tour - Thailand	Online, 8th September 2020	Asia Insurtech Podcast
The Financial inclusion week	Online, October 13th-17th 2020	The Centre for Financial Inclusion at Accion
Making Finance Work for Women 2020	Online, 20th-21st October 2020	Women's World Banking
International Conference on Inclusive Insurance – Digital Edition	Online, 2nd-6th November 2020	Munich Re Foundation
International Conference on Inclusive Insurance – Digital Edition	Online, 25th-29th October 2021	Munich Re Foundation
The Financial Inclusion Week: Promoting Prosperity in an Era of Uncertainty	Online, 1st-4th November 2021	The Centre for Financial Inclusion at Accion
Insurtech Insight Europe	London, England, 15th-16th March 2022	Insurtech Insights
The Financial Inclusion Week: Inclusive Growth in a Digital Era	Online, 17th-20th October 2022	The Centre for Financial Inclusion at Accion

The Financial Inclusion Wee: Cultivating a Collaborative Vision for Impact	Online, 16th-19th October 2023	The Centre for Financial Inclusion at Accion

Appendix 2: List of informants interviewed

Interview	Information	Location & Date
I#1	Fintech, CEO, Kenya	Geneva, 7th December 2018
I#2	Head of Secretariat, A2ii	Dhaka, 4th November 2019
I#3	Assistant Director, Risk and Resilience Finance, Financial Sector Deepening Africa	Dhaka, 4th November 2019
I#4	CEO, Insurtech, Luxembourg	Dhaka, 4th November 2019
I#5	Manager, Insurance company, Philippines	Dhaka, 4th November 2019
I#6	Insurtech Product, Actuarial and Analytics Executive, South Africa	Dhaka, 5th November 2019
I#7	CEO, Insurtech, England	Dhaka, 5th November 2019
I#8	CEO, Insurtech, Switzerland	Dhaka, 6th November 2019
I#9	Vice Chair, Munich Re Foundation	Dhaka, 6th November 2019
I#10	Manager, Insurtech, Switzerland, Kenya, Uganda, Zambia	Dhaka, 6th November 2019
I#11	Senior Engagement Management at Cenfri	Dhaka, 7th November 2019
I#12	Chief ILO Social Finance Programme	Dhaka, 7th November 2019
I#13	CEO, Insurtech, United Arab Emirates	Online, 16th December 2019

I#14	CEO, Insurtech, Switzerland/Malaysia/Nepal	Zürich, 3rd March 2020
I#15	Senior Management, Mobile wallet platform, USA/Mexico	Online, 18th March 2020
I#16	CEO, Mobile wallet platform, USA/Mexico	Online, 19th March 2020
I#17	Country Manager, Insurtech, Sweden/Bangladesh	Online, 25th May 2020
I#18	Chief Commercial Officer, Mobile wallet platform, Cambodia	Online, 1st June 2020
I#19	Country Manager, Insurtech, Sweden/Cambodia	Online, 11th June 2020
I#20	CEO, Insurtech, Sweden	Online, 6th July 2020
I#21	CEO, Insurtech, England	Online, 17th July 2020
I#22	VP Strategic Partnership, Insurtech, Indonesia	Online, 7th August 2020
I#23	Country Head, Insurtech, Thailand	Online, 17th September 2020
I#24	CEO, Insurtech, Kenya	Online, 17th September 2020
I#25	Chief Commercial Officer, Payments & Consumer Lending, Mobile wallet platform, Indonesia	Online, 18th September 2020
I#26	CEO, Mobile wallet platform, Indonesia	Online, 22nd September 2020
I#27	Chief Actuary, Insurtech, Thailand	Online, 23rd September 2020
I#28	Chief Commercial Officer, Insurtech, Vietnam	Online, 24th September 2020

I#29	Head of Strategic Partnerships, Insurtech, Philippines	Online, 25th September 2020
I#30	Chief Technical Officer, Insurtech, Colombia	Online, 29th September 2020
I#31	Head of Product, Insurtech, India	Online, 29th September 2020
I#32	CEO, Insurtech, India	Online, 30th September 2020
I#33	CEO, Insurtech, Kenya	Online, 20th October 2020
I#34	Regional Manager for Latin America and the Caribbean, Microinsurance Network	Online, 22nd October 2020
I#35	CEO, Insurtech, Latin America	Online, 29th October 2020
I#36	CEO, Insurtech, Kenya	Online, 4th November 2020
I#37	CEO, Insurtech, India	Online, 4th November 2020
I#38	Advisor on Insurtech and digital insurance, A2ii	Online, 19th May 2021
I#39	Actuary and inclusive insurance consultant	Online, 4th November 2021
I#40	Coordinator Insurance Development Forum Inclusive Insurance Working Group	Online, 9th November 2021
I#41	Senior Financial Sector Specialist, CGAP	Online, 18th November 2021
I#42	Senior Manager Risk Regulations, Financial Sector Deepening Africa	Online, 23rd November 2021

Appendix 3: Corpus of documents

Documents listed in alphabetic order
Cenfri. "Client Data in Inclusive Insurance." Presented at the International Microinsurance Conference, Zambia, 2018.
Cenfri. "InsurTech for Development: A Review of Insurance Technologies and Applications in Africa, Asia and Latin America." South Africa: Cenfri, 2017.
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