AAE
DISCUSSION
PAPER

SOCIAL SUSTAINABILITY IN INSURANCE: WHAT, WHO AND HOW

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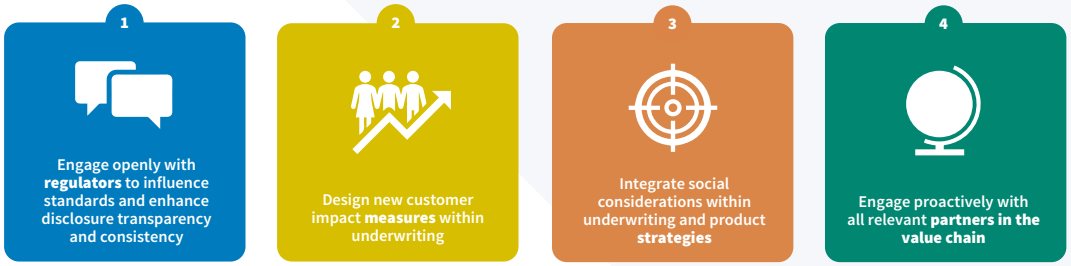
1 EXECUTIVE SUMMARY

This paper explores the role of the insurance sector towards social sustainability, focusing specifically on its impact towards customers within the 'S' dimension of ESG (Environment, Social and Governance) considerations. It discusses the historical and current social roles of insurance, the populations it serves, and how it can contribute more positively to social outcomes globally. It also provides an update on regulatory developments in a European context. The authors argue that insurance can both positively and negatively impact social outcomes, and that the insurance sector as a whole must reflect how its practices can better serve society, while continuing at the same time to take into account commercial objectives and actuarial considerations.

The paper also discusses the potential pitfalls of underserving vulnerable communities. Vulnerability to loss is higher in unprotected communities where social deprivation is already high, and climate change impacts are anticipated to exacerbate that effect. The paper highlights how supporting such populations also represents an opportunity for the insurance sector, for instance in the illustrative use cases of microinsurance (in developing economies) or mental health insurance (also in developed regions like Europe).

The authors propose four recommendations for insurers: engaging openly with regulators and financial supervisors on social issues, designing, and expanding new customer impact measures for their underwriting activities, integrating social considerations into their underwriting and product strategies (also when introducing Artificial intelligence in their processes), and engaging proactively with all relevant stakeholders and partners in the value chain, including NGOs and civil society. The paper also emphasises the potential role of actuaries in analysing social risks, opportunities and impacts, and in implementing these recommendations, given their skills, experience, and perspective in assessing and mitigating risks. In the end, the authors call for further research and multidisciplinary collaboration to explore the complex social role of insurers.



2 INTRODUCTION

Insurance is based on the principle of making risks financially manageable through pooling: insurmountable individual risks can become collectively bearable through the payment of a modest insurance premium. Insurance has deep social roots: for instance, burial societies in Ancient Rome used insurance as a form of mutual caretaking in the community. From such humble origins insurance has grown to become the backbone of modern welfare societies – either in the form of public social insurance or in cover underwritten by private insurers.

The 'S' dimension of ESG (Environment, Social and Governance) considerations is fundamental to insurance. Insurers have vested interests in limiting climate change and biodiversity loss to a tolerable level and facilitating the green transition, and thus a significant role towards the 'E' of ESG, but they also need to set their ambitions at an equally high level for the 'S' area. Insurance can contribute to social outcomes in both positive and negative ways: while insurers fulfil an important social role, they may also underserve vulnerable communities. Insurers may fall into a trap of neglecting the social component of ESG, meanwhile external forces lead to continuous social change and may reveal new social protection gaps. In addition, the climate protection gap also creates or deepens existing social protection gaps, for instance for customers who are not covered by basic insurance against weather-related disasters.

Current thinking in ESG challenges insurers to improve their practices. The basis of insurers' existence is the great idea to share risks. The diverse, complex, and heightened risks faced by today's societies, however, give insurers good reason to do more to support customers and society at large, taking a fresh look at their practices. Insurance requires the evaluation of various risks and setting premiums at a level that corresponds to those risks. Generally this works well, but it can also lead to a situation where some individuals find it difficult to obtain sufficient cover on affordable terms. In addition to the (microeconomic) financial and commercial objectives of individual insurers, the insurance sector as a whole has a collective (macro) social responsibility to improve its understanding (and management) of risks so that as many individuals as possible can be sufficiently covered. This is especially true for essential covers, meaning insurance cover without which individuals may be prevented from full societal and economic participation (either as a general result of their socioeconomic conditions, or following a life-changing event such as unemployment, sickness, divorce or loss of a relative). Insurers also need to take care to prevent any so-called excess poverty premiums, where more vulnerable groups may face systematically higher costs for financial services (for instance as an indirect result of their geographical location or background).

ESG is important for insurers in all aspects of their operations: in their underwriting of risks, in their investments, in their own corporate practices and along their whole upstream and downstream value chain. However, this paper will focus specifically on underwriting and insurance products. The report is structured first to clarify the **scope** of the issue. We then discuss ***what*** could be done, consider ***who*** is affected, and ***how*** to proceed. We also provide an update on **regulation and standards** and conclude with four recommendations for insurers to further support social sustainability. This paper from the AAE discusses insurance in general, adding specific messages to actuaries where applicable.

3 SCOPE AND PURPOSE OF THIS REPORT

In their 2022 report on 'The Role of Insurance in Promoting Social Sustainability',[1] the Geneva Association, a global think-tank and association of insurance companies, drew an informative parallel between social impacts and the Greenhouse Gas (GHG) Protocol for CO2 emissions. Like GHG emissions, the social impacts of insurance companies may be categorised into three scopes, illustrated in Table 1:

TABLE 1: THREE-SCOPE MODEL AND ANALOGY BETWEEN GHG EMISSIONS AND SOCIAL IMPACTS

	GHG EMISSIONS	SOCIAL IMPACTS
SCOPE 1	Direct emissions from owned or controlled sources (e.g. vehicles, boilers)	Own employees of the insurer
SCOPE 2	Emissions generated by the energy bought and consumed	Local communities
SCOPE 3	Upstream operations in the supply chain Downstream activities from customers, investees and end-users	Upstream value-chain partners Downstream customers and investees

For GHG emissions, downstream Scope 3 typically represents the most material category for economic sectors such as oil & gas, where most emissions are associated with end-users burning their products, and also for financial services through financed and insurance-associated emissions, under Scope 3 Category 15. Although no similar impact quantification, or even agreed-upon metric exists for social impacts, the most material social impacts from an insurance company are expected to come from downstream impacts on their customers and investees. More specifically, this report will focus on the social impacts linked to an insurer's underwriting business and the insurance products they sell.

Material social impacts are also associated with an insurer's role as a major institutional investor, but that is not unique to the insurance sector. Asset managers, banks or pension funds share this role, and the general topic of socially responsible investing is already covered in other publications.[2] This paper thus specifically focuses on the social impacts, risks and opportunities associated with insurance products which involve some level of risk transfer and mutualisation. Pure saving and investment vehicles, which are sold in some jurisdictions under the legal construct of a life insurance product, are for the most part excluded from scope. Also out of scope of this paper are the social role of state,

1 The Role of Insurance in Promoting Social Sustainability (genevaassociation.org).

2 See for instance Socially responsible investing - Wikipedia for an introduction.

occupational and individual pensions, which may take the form of life insurance products in some markets. Such pension products have a pivotal social role which goes beyond their investment aspects, such as providing adequate income for old-age retirement and ensuring solidarity between generations and socio-economic groups. This is covered in other research.[3]

Although Environmental (E) and Social (S) aspects are commonly bracketed together under the ESG (Environment, Social, Governance) label, this should not mask potential tensions between nature- (including climate-) and social-related objectives.[4] Economic development is generally considered a positive social factor (unless it is accompanied by worsening social inequality) but the development of modern societies since the Industrial Revolution has been based on affordable fossil fuel energy. This development has led to massive environmental externalities and to human-caused climate change. Beyond anthropogenic climate change, industrialisation and development has also led to air, water and soil pollution, to deforestation and land conversion, and to widespread nature loss and biodiversity collapse,[5] which disproportionately affects the poor and the most vulnerable. While ESG remains a widely accepted and useful unifying framework, its individual components are not always aligned and potential trade-offs should be carefully identified, managed and monitored over various time horizons. Alleviating social issues today may create irreversible environmental damage tomorrow, undermining not only economic prosperity but ultimately the very basis of life on Earth. A current example is several European countries re-starting coal plants during the war on Ukraine to provide affordable energy to their populations. Conversely, addressing long-term climate- and nature-related problems may constrain, impoverish, or otherwise negatively impact some population segments.[6] Therefore true systems-thinking and the creation of fair transition mechanisms with a social component is required, such as the European Just Transition Mechanism.[7]

3 See for instance Pension Fund Environmental, Social and Governance Risk Disclosures: Developing Global Practice (actuaries.org) or AAIEIIGreenPaper170820.pdf (actuaries.asn.au).

4 In EU sustainable taxonomy there exists the concept Do No Significant Harm (DNSH). This means that for an activity to be sustainable it needs to make a substantial contribution in one area and DNSH in other areas.

5 See for instance WWF Living Planet Report 2022.

6 A discussion of how environmental risks can exacerbate social risks and how environmental objectives can support social objectives can also be found in EIOPA's Consultation Paper on the Prudential Treatment of Sustainability Risks (December 2023), see Table 27.

7 See The Just Transition Mechanism (europa.eu).

In this context, the insurance sector provides a positive social purpose, since traditional risk-transfer and mutualisation mechanisms are core insurance principles, providing individuals and businesses with a level of financial security that allows them to continue daily life and commercial activities without the constant threat of falling into poverty. Other lesser-known aspects deserve to be mentioned as well. For instance, property insurance can be conceptually approached as a sharing-economy solution, thanks to the assurance that damages will be promptly covered and repaired, the insured party does not need the safety of having to duplicate physical equipment, thereby reducing over-consumption. There is also a balance between consumption and savings, whereby life & health insurance helps to defer consumption: for a household, earnings invested in insurance premiums will not be available for the immediate purchase of other goods and services. However, it is also true that the financial safety provided by insurance might indirectly help maintain unsustainable material consumption levels by supporting purchasing power and spending habits that are incompatible with long-term planetary boundaries.

Further dilemmas are also found within the social purpose(s) of insurance, not just in conjunction with environmental considerations. Although basic insurance products such as health, household, and motor insurance are often supplied by private companies, either for-profit or as mutual insurance, these products are also in part public goods. This means that they are *de facto* necessary to ensure the full participation of individuals in modern society. Therefore, the availability, accessibility and affordability of basic insurance is a major societal need, at the centre of which lies an implicit or explicit arrangement between public authorities and private insurers: who provides which insurance coverage to whom? At a minimum, policymakers should create the conditions in which the provision of insurance by private markets is economically viable, so that it is offered to the populations who needs it most at reasonable prices. Such conditions notably include proper supervision, an adequate regulatory and fiscal framework, transparent disclosures, sound risk management, as well as public backstops and guarantees for unprofitable or catastrophic risks that private insurers and capital markets cannot or will not assume (such as, increasingly, climate change).

In the next sections of this report, our aim is to provide an overview of the many aspects that make insurance business more socially sustainable or otherwise, and to show that insurers' complex social role does not lend itself to simplifying statements. While insurance is in general a force for social progress, it can also occasionally conflict with longer-term environmental objectives, foster inequality and social divisions (for example if some vulnerable segments of the population cannot access basic insurance coverage) or deprive public authorities of the financial means to pursue their ESG objectives (for example in the case of some insurance products whose *primary* purpose is tax-optimisation rather than actual risk transfer).

The external impacts of insurance on society and the environment ('inside-out') need to be further embedded in double materiality considerations[8] i.e. they should be analysed together with the risks and opportunities that insurers have to consider to stay financially healthy ('outside in'). These two aspects (inside-out and outside-in) can sometimes align and sometimes diverge. For instance, more precise risk assessments through remote sensing and artificial intelligence (AI) may just as well lead to expanding insurance coverage by reducing uncertainty and enabling better risk-based pricing, or it may lead to restrictions by identifying and excluding bad risks. A recent example is the exit of large US insurers from California due to increasing wildfire frequency and severity[9] – a stern reminder that insurers' external social impacts can conflict with their immediate financial performance.

As opposed to the fundamentally global problem of climate change mitigation, which can be measured by a single agreed-upon reference metric (tons of CO2-equivalent emissions), social issues do not always easily lend themselves to generalisation and quantification with a single metric. While some social issues are easier to measure than others (such as gender equity, level of education, or the proportion of people living in poverty), what counts as positive social impact may also depend on many different factors, on complex cause-and-effect chains, on time horizon, and on local cultural attitudes. For instance, there is cultural difference in how much inequality a given society considers tolerable or even desirable, as can be seen in the wild variation of health insurance schemes (or lack thereof) across the world. This report does not pretend to provide a single set of answers to such complex questions; rather it aims to provide a nuanced overall picture and a structured framework to analyse the important role(s) of insurance in protecting and improving the fabric of human societies.

8 As is required by European Corporate sustainability reporting (europa.eu) (CSRD).

9 See for instance Insurance giant halts sale of new home policies in California due to wildfires | California | The Guardian.

FOCUS: REGULATIONS AND STANDARDS

Social issues are often mentioned alongside general sustainability considerations in ESG regulation and international standards, but they have not always received a detailed focus. Historically, it is environmental topics, especially climate change, which attracted most attention. This can be illustrated by looking at the various international taskforces asking companies to disclose sustainability-related information:

- The Taskforce on Climate-related Financial Disclosures (TCFD) was founded in 2015, issued its first standard in 2017, and is now increasingly embedded in regulations around the world;[10]
- The Taskforce on Nature-related Financial Disclosures (TNFD) was launched in June 2021 and issued its first standard in September 2023;[11]
- The Taskforce on Inequality-related Financial Disclosures (TIFD) was inspired by the successful uptake of TCFD. It began in mid-2020 and conceived to develop a risk management framework that improves transparency on corporate and investor contributions to inequality, illuminating how inequality can present risks to companies and investors;
- A proposal to create the Taskforce on Social-related Financial Disclosures (TSFD) was initiated in November 2021, to develop an equivalent to TCFD and TNFD for social issues;
- In April 2023 the TIFD and organisations behind the TSFD announced a consolidation of efforts into a single initiative, provisionally called the Taskforce on Inequality and Social-related Financial Disclosures (TISFD), and striving to launch in 2024, after which the Taskforce will commence developing the disclosure framework.[12,13]

The starting point of EU sustainability activities can be tied to the 2017 High Level Expert Group on Sustainable Finance[14], set up by the European Commission. It based its work on that of the TCFD and created the roadmap for EU sustainability agenda. Going forward, the EU Corporate Sustainability Reporting Directive (CSRD), which entered into force in January 2023,[15] will gradually ask companies to disclose information on what they see as the material risks and opportunities arising from social and environmental issues, and on the impact of their activities on people and the environment. These disclosures will follow the European Sustainability Reporting Standards (ESRS), which were developed by the European Financial Reporting Advisory Group (EFRAG) and adopted by the EU Commission in July 2023.[16] There are 12 ESRS, four of which directly address social issues (Figure 1).

10 See also CRTF_Paper5_Final_October2022.pdf (actuaries.org).

11 The Taskforce on Nature-related Financial Disclosures (tnfd.global).

12 Joint Statement on Convergence Between TIFD and TSFD — Task Force on Inequality-related Financial Disclosures (TIFD) (thetifd.org).

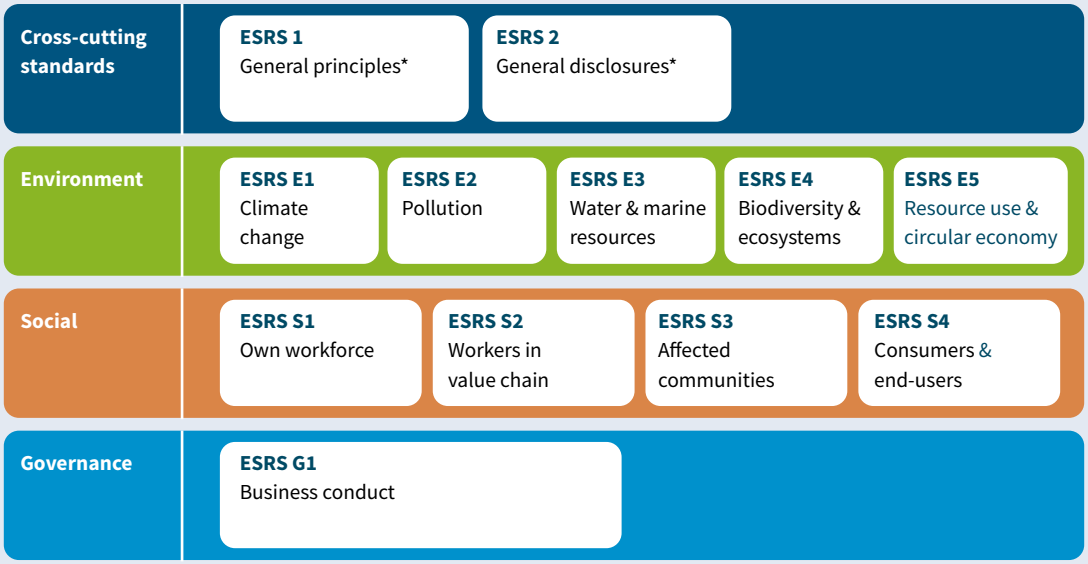
13 TISFD draft purpose statement.

14 See: High-Level Expert Group on sustainable finance (HLEG) (europa.eu).

15 And whose original roots can be traced back to the 2017 High-Level Expert Group on Sustainable Finance set up by the EU Commission.

16 The Commission adopts the European Sustainability Reporting Standards (europa.eu).

FIGURE 1: OVERVIEW OF ESRS



While the ESRS are not specific to the insurance sector and reporting on the social standards is subject to materiality assessment, we expect several to be relevant to insurers. The four social standards can be mapped onto the scopes proposed by the Geneva Association (see Table 1 in section 2):

- Scope 1: ESRS S1 (own workforce)
- Scope 2: ESRS S3 (affected communities)
- Scope 3 upstream: ESRS S2 (workers in the value chain)
- Scope 3 downstream: ESRS S4 (consumers and end-users) – the main focus of this report

The EU Social Taxonomy is another proposed EU regulation that would aim to set out a list of socially sustainable activities, similar to the EU Taxonomy on Sustainable Finance which covers climate and environmental objectives.[17] However, following preparatory work by the EU Platform on Sustainable Finance,[18] work on the EU Social Taxonomy appears to be suspended at the time of writing.

The European Insurance and Occupational Pensions Authority (EIOPA) also commented in their Consultation Paper on the Prudential Treatment of Sustainability Risks in December 2023 that '*based on the Solvency II Delegated Regulation, all sustainability risks, be it social or environmental risks, should therefore be treated in a similar manner. As a result, (re)insurers shall ensure that social risks in their underwriting and investment activities are properly assessed and managed as part of their governance and risk management, including as part of their ORSA. Consistent with the principle of double materiality, (re)insurers shall include the assessment of risks as well as impacts and take into account the potential long-term impact of their investment strategy and decisions on sustainability factors as part of prudent risk management.*'[19]

Outside of Europe, a limited number of jurisdictions have explicitly mentioned social issues in the specific context of the insurance industry. Notably Brazil with Circular No. 666 of June 2022 from the insurance supervisor SUSEP (Superintendência de Seguros Privados) defines social risks as the '*possibility of losses caused by events associated with the violation of fundamental rights and guarantees or acts harmful to the common interest*'.[20]

17 finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en.

18 finance.ec.europa.eu/system/files/2022-08/220228-sustainable-finance-platform-finance-report-social-taxonomy_en.pdf.

19 Consultation on the Prudential Treatment of Sustainability Risks - European Union (europa.eu), see Table 25 & paragraph 354.

20 SUSEP CIRCULAR No. 666, OF JUNE 27, 2022 - SUSEP CIRCULAR No. 666, OF JUNE 27, 2022 - DOU - National Press (in.gov.br).

4 WHAT SOCIAL ROLE DOES INSURANCE SERVE?

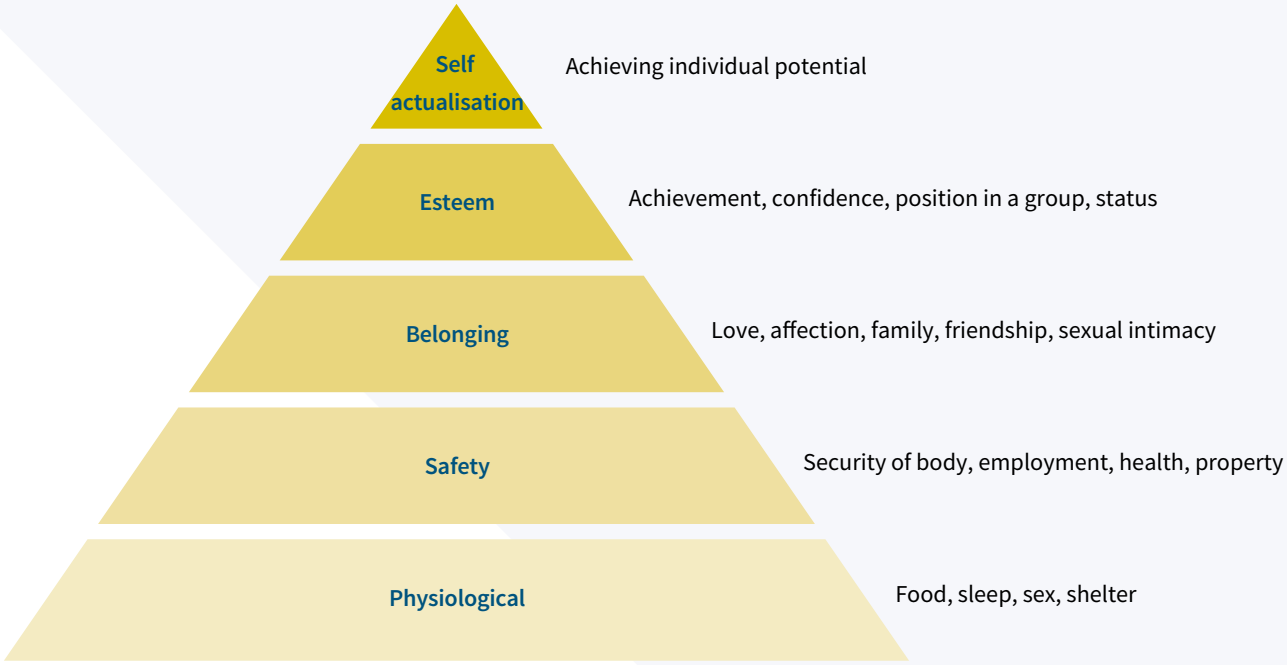
Although quantifying social issues and defining positive social impacts is rather complex and difficult, there are familiar frameworks that can be used to evaluate the social impact of insurance. After exploring two helpful frameworks, the section will provide two illustrative use cases.

4.1 CONCEPTUAL FRAMEWORKS

4.1.1 Maslow´s Hierarchy of Needs

Maslow's Hierarchy of Needs[21] is a typology of human needs and motivation in a five-level pyramid created by American psychologist Abraham Maslow in 1943. Basic physiological needs are shown at the bottom and higher psychological needs at the top. It illustrates the pattern in which human needs and motivation generally move, serving lower-level basic needs first before satisfying each next level.

FIGURE 2: MASLOW'S HIERARCHY OF NEEDS



21 We use the Maslow hierarchy as a useful framework to address issues in the specific context of this paper. Engaging in an in-depth discussion around the broader scientific validity of the Maslow hierarchy goes beyond the scope of this report.

Physiological and Safety needs at the bottom of the pyramid are indirectly met through insurance, whereby insurance provides financial stability in the case of unforeseen events. Health insurance secures one's and one's family's physical wellbeing and can improve the overall physical health by giving access to medical treatments and covering their cost. Additionally, homeowner and property insurance against financial loss of damages and destruction from theft, fire, natural catastrophe and other risks satisfies customer needs around shelter, safety and security. Life insurance products can also serve some basic physiological needs in providing financial security for bereaved family members, such as funeral costs, mortgage payments and other ongoing living expenses.[22]

Further it can be argued that the need for Belonging may be indirectly served by insurance. By indemnifying financial loss and removing financial burdens, such as worrying about medical bills, reparation, reconstruction or replacement costs, or by making otherwise unaffordable healthcare treatments possible, individuals can focus on recovery to continue with healthy relationships and participation in normal social activities. Liability insurance offers financial compensation to affected parties, reducing or avoiding conflicts or legal disputes, and thereby helping to maintain good relationships and a sense of social fairness. More directly, we also note that mutual insurance can foster group membership feelings in case of coverage forms involving explicit group solidarity features.

Maslow's Hierarchy corresponds closely with the frequently used metaphor of insurance as a safety net, providing individuals with protection and security around their basic needs, increasing their ability to pursue higher-level Esteem and Self-actualisation needs. At one extreme, insurance protection for new and larger natural catastrophes attributable to climate change arguably serves the most basic needs around resilience of individuals, families, businesses, communities, the economy and ultimately all of society. Alarmingly though, in 2022, 75.7% of the world's estimated natural catastrophe risk is not yet insured, and a decade earlier in 2012, it was barely different, at 76.5%.[23] At the other extreme however, it should be noted that not all types of insurance satisfy basic needs or even mid-level needs. Consider for example that luxury goods, or the private assets of the world's wealthy are also underwritten by insurers.

22 'Maslow's Hierarchy of Need' – Dieter Bögenhold.

23 Swiss Re Institute, Restoring Resilience sigma report, June 2023.

The Maslow pyramid of needs and similar hierarchy frameworks can be useful conceptual tools for insurers and actuaries to analyse the social utility of different insurance products, with the general outlook that the bottom of the hierarchy must be protected in order to enable the top. Such hierarchies can be used to assess for instance whether the greater social purpose of certain insurance offerings might justify some level of cross-subsidisation within the company's overall underwriting portfolio. We note here that cross-subsidisation between various insurance products, and thus commercial deviations from theoretical actuarial premiums, is a routine business practice which far predates the current ESG considerations (in past decades, for example, in-force life and health insurance products with high guaranteed interest rates have often been subsidised by new business with lower or no guaranteed interest rate). However, and by definition, such cross-subsidies cannot find their justification in pure actuarial considerations. They must be motivated by the insurer's commercial strategy and objectives, by societal consensus, by regulatory prescriptions, or by some combination thereof.

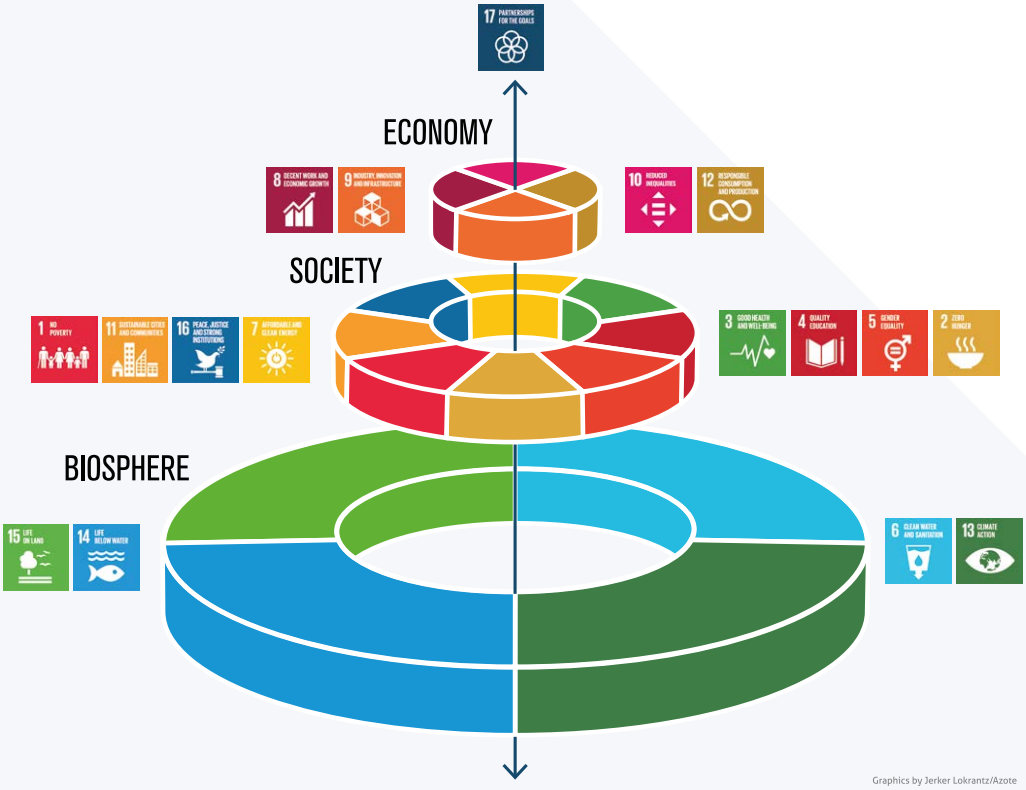
4.1.2 United Nations Sustainable Development Goals

The second familiar framework to evaluate the social role of insurance is by mapping the social mission of insurance onto the United Nations Sustainable Development Goals (SDGs).[24] The global goals were adopted by the United Nations in 2015 to protect the planet and to achieve peace and prosperity for all people by 2030. There are 17 SDGs whose social ambitions range across poverty eradication, ending hunger and empowering women by improving access to health and education, reducing inequality and spurring economic growth.

Mapping the social mission of insurance to the SDGs highlights how insurance plays a role in achieving sustainable development, especially by considering how insurance supports social goals, i.e. in particular those represented by the middle layer of the Stockholm Resilience Centre's SDG 'wedding cake' model (Figure 3). This model emphasises the interdependence of the goals and suggests that achieving those in the social layer is dependent on protecting the environment, as well as a dependency for being able to deliver economic prosperity.

24 The UN (or UNEP FI) also promotes the Principles of Sustainable insurance, see: Principles for Sustainable Insurance (PSI) - UNEP FI - Infrastructure Tool Navigator (sustainable-infrastructure-tools.org)

FIGURE 3: THE SDG WEDDING CAKE[25]



There are several social challenges across the 17 SDGs that are addressed by insurers in underwriting risk, such as for instance (please note that the illustrative list below is not exhaustive):

- **SDG 1 No Poverty:** Insurance can prevent people from falling into poverty by providing financial compensation in the case of unexpected events which would otherwise cause financial destitution. For example, insurers who offer products with a quick settlement and payout can help overcome sudden financial duress following natural disasters or similar shocks.[26]

- **SDG 2 Zero Hunger:** Insurance can support food security by indemnifying crop failure, thereby ensuring the ongoing viability of agricultural enterprise on a large scale, and the livelihood of individual farmers and food producers on a small scale.

- **SDG 3 Good Health and Well-being:** Securing good health and well-being is a focus for most health insurers and many life insurers too. Insurance can promote preventative healthcare, the early detection of disease, and ensures that there is more widespread and more rapid access to healthcare by facilitating cross-subsidisation of treatment costs between the healthy and the sick.

25 The SDGs wedding cake, Stockholm Resilience Center.

26 See also Consultation Paper on the Prudential Treatment of Sustainability Risks, EIOPA (2023).

- **SDG 5 Gender Equality:** Insurance can help to achieve gender equality by offering insurance solutions specific to the needs of women, such as maternal healthcare, parental leave, day care for children, as well as providing women who own and run small businesses with protection solutions that allow them to access credit to help their businesses to grow.

- **SDG 8 Decent Work and Economic Growth:** By providing financial safety nets for business owners, insurers can promote entrepreneurship and investments, stimulating economic growth.

- **SDG 11 Sustainable Cities and Communities:** Homeowner, household and other buildings insurance policies can include incentives for sustainable buildings or facilities, or be supported via insurers' claim settlement practices with 'build back better' principles.

- **SDG 13 Climate Action:** Insurance plays an important role in climate change mitigation and adaptation. Products can further incentivise risk mitigation or environmentally friendly behaviours to encourage climate action. Insurer data and risk knowledge can be used to help the wider public and policymakers understand and prepare for climate-related risk. By investing responsibly, insurers have an additional lever to contribute towards climate action, such investing to support the expansion of renewable energy and green infrastructure development.

Furthermore, and looking beyond underwriting, insurers as a collective are one of the largest asset owners and investors, capable of boosting the sustainable development 2030 agenda via their asset management policies.[27]

27 A2ii Policy Note: Insurance and the SDGs.

4.2 ILLUSTRATIVE USE CASES

To explain the social role of insurance more deeply, we will analyse two use cases of insurance products for creating social value: one which is primarily relevant for poorer regions and communities (microinsurance) and one which is also highly relevant for developed countries (mental health insurance).

4.2.1 Microinsurance in Africa

In targeting specific types of products, services, or other underwriting activities to vulnerable parts of society or specific sectors, insurers can bring additional benefits to the end-users. This can be done for examples through microinsurance.[28] A simple description of microinsurance is that: *'Individuals with microinsurance pay small amounts on a regular basis to the insurance company with the agreement that the insurance company will pay out some of this money when the individual experiences a shock that leads to financial loss (i.e., losing a harvest, losing specific assets, or medical costs as a result of being ill or injured or in the case of death, among many other examples)'.*[29] Microinsurance can act as a safety net for vulnerable communities who are typically excluded from mainstream insurance markets and can therefore directly support the SDGs.[30]

Microinsurance products can foster entrepreneurship and small business growth in developing countries and help low-income households and families to recover from natural disasters,[31] as well as personal health crises. The overarching objective of microinsurance is to decrease poverty – still a major issue in developing countries – and support living standards for communities or people living near the poverty line.[32] While the following use case focuses on developing countries in Africa, we note that this topic is also potentially relevant for less developed regions within Europe.

Although the microinsurance penetration rate was less than 5% in 2014 according to the Landscape report, it is increasing in some African countries (Figure 4) – though not in some of the poorest states of the continent. In 2015 the G7 Initiative on Climate Risk and the Global Shield Initiatives were aiming to increase the amount of people with access to direct or indirect insurance coverage against climate risk.[33]
The shield launched in November 2022 at COP27 to improve the financial protection of countries that are particularly affected by climate change.[34]

28 Consultation Paper on the Prudential Treatment of Sustainability Risks, EIOPA (2023).

29 Microinsurance Assessment and Landscape Study in Nigeria: Supply-side Perspectives– (Efina).

30 The Landscape of Microinsurance – Africa 2015 (Microinsurance Center).

31 See also IAIS-Report-A-call-to-action-the-role-of-insurance-supervisors-in-addressing-natural-catastrophe-protection-gaps.pdf (iaisweb.org) (November 2023) for a discussion on disaster microinsurance (section 3.1.4.).

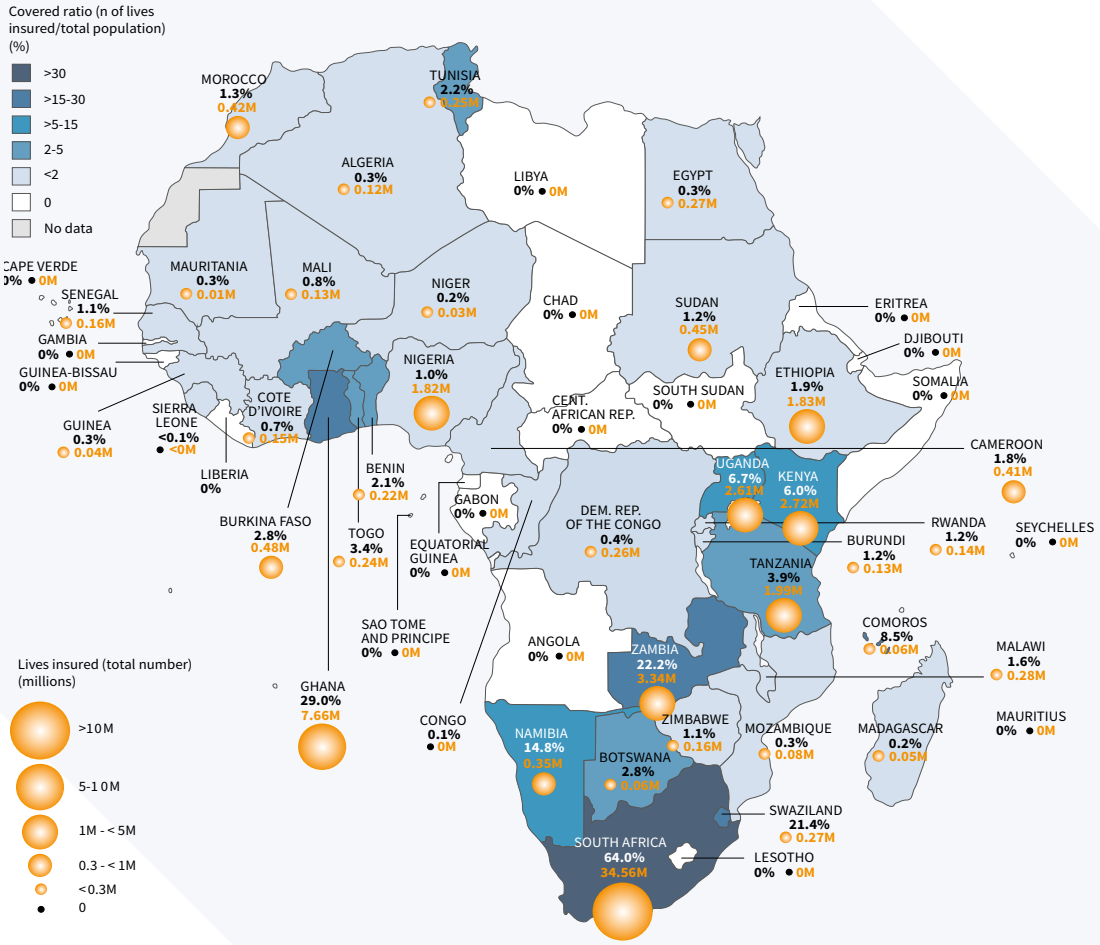
32 The Role of Micro Insurance on Poverty Reduction (eajournals.org).

33 Global shield against climate risks (bmz.de).

34 https://www.bmz.de/en/issues/climate-change-and-development/global-shield-against-climate-risks.

In the last couple of years, the African microinsurance market gained significant growth due to increased awareness about insurance protection and the efforts of both governmental and non-governmental organisations. Nevertheless, the COVID-19 pandemic had a substantial impact on the market. It posed new challenges due to immense demand for healthcare coverage and economic disruptions.[35]

FIGURE 4: MICROINSURANCE COVERAGE RATIOS ACROSS AFRICA (2014)



Source: The Microinsurance Network is kindly supported by the Luxembourgish Government.

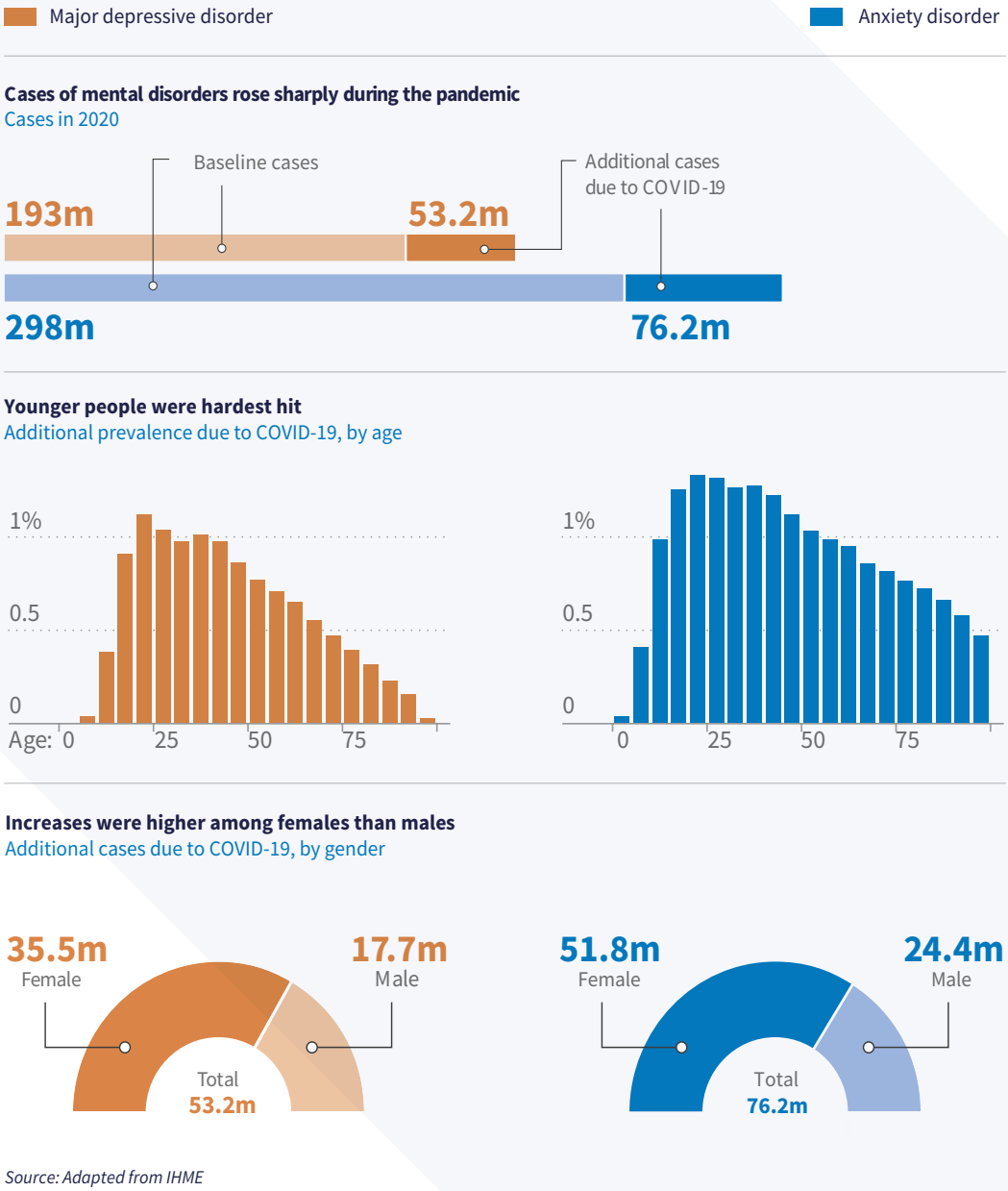
4.2.2 Mental health insurance

While microinsurance is primarily relevant for emerging economies, insurance for mental health issues is also a challenge in Europe and in the developed world. Public consciousness and sensitivity towards mental health diagnoses such as depression, anxiety and other disorders has grown in recent years, even though mental ill-health as a relatively common chronic health challenge is in itself not a new phenomenon. The COVID-19 pandemic has contributed to this shift in multiple ways. During the pandemic,

35 Africa Microinsurance Market Analysis (Markwide research).

a study done by the Institute for Health Metrics and Evaluation (IHME) estimated 128 million additional cases of depression and anxiety, where mainly young and female persons are affected (Figure 5).[36]

FIGURE 5: IMPACT OF THE COVID-19 PANDEMIC ON MENTAL HEALTH



Source: Adapted from IHME

For employee health, information overload, pressure to perform, permanent accessibility and the constant pressure to optimise oneself contribute significantly to the rapid increase in sick leave due to mental illness, also creating an additional need and burden of care on the healthcare system and/or private insurers.

36 Promoting Peace of Mind: Mental health and insurance (Geneva Association).

It is therefore understandable, that prevention and treatment for mental health gained in importance and have since become a key topic for many insurers. The pandemic stimulated insurers to offer more treatment possibilities to customers, such as mental health coaching, to embrace tools like telemedicine, self-help guides or new forms of therapies and community interventions for mental wellbeing, and to develop more specific insurance solutions for covering family counselling costs or post-partum depression support for mothers.[37]

37 Promoting Peace of mind –mental health and insurance (The Geneva Association).

5 WHO DOES INSURANCE SERVE?

Insurance provides inherent social value, directly to the people and businesses with protection in place, and indirectly through its stabilising effect on the ecosystem and community dependent on the insured person or asset.[38] Customer and community reach, or 'who' the industry is structurally and systemically incentivised to serve, is a key question to understand how well the industry can deliver on that promise of social value.

Indeed, in their Consultation Paper on the Prudential Treatment of Sustainability Risks of December 2023, EIOPA point to examples within the underwriting strategy of an insurer to have greater social impact, by ensuring that '*their product offerings and distribution practices consider the demands and needs of a diverse range of clients*'. Furthermore, '*insurers can target specific types of products to vulnerable parts of society*', while '*leveraging technological innovation can create more efficient and effective operating and distribution models for insurance, reducing social risks by extending financial inclusion*'.[39]

5.1 COMPULSION VERSUS PROPENSITY TO BUY

At one end of the spectrum, some lines of private insurance are mandated by law and therefore compulsory. Some examples of compulsory private insurance (selected among other potential illustrations) include:

1. Motor third party in many (but not all) jurisdictions is compulsory. India and South Africa are two notable exceptions.

2. Health insurance. Unlike many developed countries with social and universal healthcare funded exclusively through public taxes, the Swiss system requires every citizen or resident to obtain his/her own private and standardised health insurance, for which they must pay their own premiums, from a private insurer of their choosing. Health insurers cannot exclude customers or restrict their cover. Employers are required to provide and fund the accident-related risk cover. Additional private covers are available and health insurer may make limited profit on both the standardised and private coverage.

38 The Role of Insurance in Mitigating Social Inequality (genevaassociation.org).

39 Consultation on the Prudential Treatment of Sustainability Risks - European Union (europa.eu).

3. Unemployment insurance. Effective from 2023, the United Arab Emirates has introduced a new law to protect its majority foreign workforce from the consequences of involuntary loss of employment by mandating unemployment insurance coverage for all employees in the private and public sectors.[40]

Some products may be effectively necessary, not through mandatory legislation, but owing to the design of financial systems. Insurance can be a prerequisite for access to different kinds of credit, and so there is soft compulsion to buy rather than hard compulsion. Life insurance and buildings insurance is frequently a prerequisite imposed by banks and other lenders for access to mortgage financing. Similarly, motor vehicle financing usually requires comprehensive motor insurance. Travel medical insurance is often a prerequisite for eligibility for visas to travel to some jurisdictions. By design, these products serve all who are exposed to the risks they protect against. It is however worth noting that such products may still achieve insufficient coverage in cases where there is inadequate risk awareness, limited access, or affordability issues in the more vulnerable segments of the population.

At the opposite end of the spectrum, where the propensity to buy insurance is left to the ability of the industry to attract profitable high-value business, insurance products may be targeted predominantly towards customers with the greatest access to income and wealth, and a strong incentive to preserve that status in the long-term. For example, in some jurisdictions, managing the inheritance tax liability on intergenerational wealth transfer can be a primary reason for the purchase of life insurance for a high-net-worth customer, in contrast to a low-income customer for whom a life insurance claim may prevent dependent family members from falling into poverty. Without inclusive development of the insurance industry, there is danger that insurance might entrench inequality rather than reduce it, and bring its social contribution into question.

Please note that the two situations described above are of course only extreme positions on a continuous spectrum. For instance, access to credit insurance can hardly be described as a basic social need if the insured mortgage is used to finance the acquisition of a second home. Both the type of insurance and the type of asset insured must factor in the analysis, which should ultimately rely on wider considerations such as the prevalent socio-cultural attitudes and the applicable regulation in force.

40 Federal Decree-Law No. (13) of 2022 Concerning Unemployment Insurance Scheme.pdf (iloe.ae).

Bringing together the various examples described above, a possible structured categorization could look for instance like the following:

- General mandatory insurance (e.g. health insurance, unemployment insurance)
  - Administered by the state or public insurers
  - Or administered by private insurers
- Mandatory insurance coverage for certain assets or activities (e.g. motor liability in certain countries)
- Necessary ('effectively mandatory') insurance coverage for certain assets or activities
- Optional insurance
  - Which can protect against poverty and social destitution
  - Or which mainly aims to preserve additional wealth and status

This categorization can be compared to Maslow's Hierarchy of Needs (see section 4.1.1) and to which stage of the hierarchy a given insurance product is addressing.

5.2 HIGHER VULNERABILITY AS A CASE FOR INCLUSION

A further motivation for inclusive insurance development is acknowledging that vulnerability to loss is higher in unprotected communities where social deprivation is already high, and climate change impacts are anticipated to exacerbate that effect.[41] It is estimated that the excess annual mortality impact on the global population will rise to 0.75% by the end of the century, even in the best case scenario under the targets set by the 2015 Paris Agreement, corresponding to the Representative Concentration Pathway (RCP) 2.5. On the other hand, with little climate action under the more extreme RCP8.5, excess climate-related mortality may reach 1.5% by mid-century and over 5% by end-century. On the other hand, insured populations will experience much less material impacts owing to their better access to healthcare and other personal mitigations from the worst effects of heat and air pollution.[42]

At a macroeconomic level, the distribution of insurance premiums across global markets, on a per capita basis,[43] gives a sense of how the insurance sector provides more protection in societies across higher income regions, especially in the global North, although it also shows improving trends in some low- and middle-income countries in the global South (Figure 6).[44]

41 Climate Change, Insurance and Vulnerable Populations (actuaries.org).

42 Risk of a lifetime: mapping the impact of climate change on life and health risks (swissre.com).

43 This could also be analysed within the Maslow hierarchy. Anyway, the situation is probably natural, since in less-developed there is also less material wealth that could need insurance cover.

44 Sigma explorer - catastrophe and insurance market data | Swiss Re Institute (sigma-explorer.com).

FIGURE 6: PREMIUM PER CAPITA ACROSS THE WORLD IN 2022 (SWISS RE INSTITUTE SIGMA EXPLORER)

Source: Swiss Re Institute

The United Nations Human Development Index (HDI) is a summary measure, tracked over time, of the average achievement in key dimensions of human development, distinct from measuring economic growth alone. In the 2021/22 update and following the setbacks of the COVID-19 pandemic, the HDI showed a two-year decline that erased the gains of the preceding five years. Insurance is proposed as one of three I's – along with Investment and Innovation – as a necessary policy intervention, highlighting that creating opportunities for broad participation is key, and calling for movement away from risk segmentation and towards broader sharing of risk.[45]

5.3 CULTURAL AND LEGAL BASIS

For the purposes of discussion in this paper, the authors would consider 'discrimination' to refer to that which is unlawful and prohibited or culturally unacceptable, whereas 'differentiation' is a form of discrimination that is lawful, justifiable and consistent with prevailing cultural attitudes. Of course, neither laws nor cultural views are static and at different points in time, practices may be in place that are currently within the law, that may or may not be justifiable by risk experience data, but that society may increasingly consider as morally unjustifiable (and might even later ban). It is arguably within the public duty of the actuarial profession to monitor any instances of this and support positive change towards more socially just outcomes.

45 Human Development Report 2021/2022 (undp.org).

To illustrate with an example, in many modern developed societies, most would support guaranteed access to community-rated social healthcare, even if cold data analysis may strongly support risk selection and pricing differentiation. Health and a standard of living that includes medical care and social services are enshrined in Article 25 of the UN Universal Declaration of Human Rights.[46]
Healthcare is also a social good, meaning that it has positive economic externalities at the macro level beyond simply ensuring the ongoing health and wellbeing of individuals. For those reasons, there is widespread acceptance of cross-subsidy and solidarity in public health insurance systems, funded through fiscal and/or mandatory social contributions.

In recent years, Diversity, Equity & Inclusion (DEI) in talent recruitment and development across the financial services workforce has become well established. In addition to supporting DEI talent, financial inclusion necessitates developing sales strategies that promote access for underserved customer segments and underserved markets.[47]
In a US context and especially since the murder of George Floyd in 2020 and the Black Lives Matter movement, attention towards discrimination has risen tremendously across American society and indeed also for US insurers. Research from the US Society of Actuaries has analysed the relationship between home insurance, life insurance and retirement product ownership with wealth inequality. It concludes that wealth inequality explains most of the disparities in product ownership across the US by race or ethnicity, calling for the industry to focus on marginalised communities who have lower income and wealth.[48]

Matters of social fairness and inclusion are at the core of insurance underwriting and the prevention of excessive anti-selection. In European life insurance markets, patient groups are driving for policy and regulation change that establishes the 'right to be forgotten' for survivors of cancer. In February 2022, the European Commission published 'Europe's Beating Cancer Plan', stating an intention to closely examine financial services practices for fairness towards cancer survivors in long-term remission, notably financial products providing credit and credit-linked insurance.[49] At the same time, the European Parliament adopted the report on strengthening Europe in the fight against cancer, which requests that by latest 2025, all Member States should guarantee the right to be forgotten to all European patients 10 years after the end of their treatment, and up to five years after the end of treatment for patients whose diagnosis was made before the age of 18.[50]

46 Universal Declaration of Human Rights | United Nations.
47 Purpose through inclusive finance | Deloitte Insights.
48 Correlation of Insurance and Retirement Product Penetration with Wealth Inequality in the U.S. (soa.org).
49 European Commission: Europe's Beating Cancer Plan.
50 Report on strengthening Europe in the fight against cancer (europa.eu).

In September 2023, members of the European Parliament adopted rules as part of a new directive on consumer credits (CCD) to call for the introduction of the right to be forgotten for persons with a prior diagnosis of certain communicable and non-communicable diseases, including cancer, on an EU-wide basis. At time of writing, right-to-forget (RTF[51]) laws or self-regulatory actions have already been adopted in jurisdictions including Belgium, France, the Netherlands, Portugal, Italy, Romania and Luxembourg.

On the one hand, RTF laws establish better access to and more affordable insurance for cancer survivors, however assessing the social impact is more nuanced. Difficult questions need to be asked by insurers, and investigated by actuaries:

1. What impact do such laws have on the affordability of insurance for all customers, since any anticipated claim rate increases will need to be priced across the whole risk pool?

2. What should the scope of applicability of such laws be to different products types, for example life insurance linked only to home mortgage, or all credit, or term/whole life insurance, or other product types such as disability, private health and critical illness insurance, where the risk pooling implications are significantly more challenging and would seriously threaten the willingness of insurers to ensure the continued availability of those products to any customers?

3. if non-discrimination is the primary motivation, why should cancer survivors in particular be given such protections and not some other patient groups? (so long as insurability conditions can still be met)?

The development of RTF laws across Europe is reminiscent of the adoption of gender-neutral insurance pricing with the EU Gender Directive of 2012, a highly controversial topic at the time of introduction but now an unchallenged practice and requirement (thus illustrating potentially fast changes in public sentiment and so-called ‘social tipping points’).

51 Concepts RTBF (Right to be forgotten) and RTF can be used interchangeably, while in EU regulation the concept of RTBF is more commonplace.

Another case study in which confronting questions of inclusion arise is where influential insurers decide, perhaps not collectively but simultaneously, to withdraw risk-carrying capacity from a customer group experiencing rising vulnerability to loss. This has been the recent experience for home, motor and other property owners in the US states of California and Florida, as a consequence of climate change-related wildfire and hurricane risk trends, respectively.[52,53] Unchecked forces of supply and demand will, for homeowners in these two states, lead to one of two outcomes: pay more or face the risk unprotected. The issue is further nuanced by criticism towards the insurance sector for being one of the parties contributing towards the climate crisis, by continuing to underwrite and profit from the expansion of fossil fuel extraction activity, as analysed for instance by the Insure Our Future campaign.[54]

5.4 INCLUSION AS A COMMERCIAL OPPORTUNITY

Acknowledging diversity and inequality need not only be a source of risk, but also a source of opportunity for insurers. Insurers may develop product, innovation and growth strategies with specific vulnerable, underserved and often but not always lower-income customer groups in focus. Groups that represent largely untapped potential for life and health insurers include for example: new young generations, or the growing population of seniors at and beyond retirement, citizens or residents with an immigrant background and unique needs, the emerging gig economy with transient working patterns and volatile incomes, or people living with chronic but manageable health conditions such as HIV, diabetes, or a mental health condition.

In many jurisdictions there have been problems when individuals with earlier periods of mental ill-health and therapy have had difficulties in getting life insurance cover. This has often resulted from a lack of insurer's understanding about the current science of mental health. Total denial of cover or strong exclusions should be motivated only in exceptional cases, as today's therapies are more effective and often result in individuals presenting less rather than more risk versus those who haven't undergone any mental health therapies. Not only with respect to mental health, but also more generally insurers and actuaries should apply an up-to-date understanding of medical and health research in order to avoid excessively restrictive and unfair practices towards individuals who have had earlier health problems. For instance, HIV infection has evolved over the last decades from a fatal illness with an extremely high death toll to a manageable (and thus insurable) chronic disease,[55] with some insurers going further and offering the same pricing to HIV-positive patients.[56]

52 Insurance giant halts sale of new home policies in California due to wildfires | California | The Guardian.

53 'Cascading impacts' warning as Farmers becomes latest insurer to quit Florida | Florida | The Guardian.

54 See 2023 Scorecard on Insurance, Fossil Fuels and the Climate Emergency, Insure Our Future, November 2023, IOF-2023-Scorecard.pdf (insure-our-future.com).

55 HIV - from fatal to chronic disease | Munich Re.

56 VidaCaixa will offer its life insurance to people with HIV at no extra cost (eleconomista.es).

Life insurance markets could avoid stagnation and declining relevance against falling global mortality resilience by focusing on the driving forces of inclusion across three dimensions, namely availability, accessibility, and affordability for more vulnerable, underserved groups. In a Swiss Re study of 16 markets across the world, it was found that none are fully inclusive. The study calls for insurers to develop more inclusive paths by investing in research focused on underserved customers, forging partnerships that expand customer reach and scale, innovation responding to the need to simplify products and the processes of buying insurance, and for regulation to balance consumer protection with the need to improve inclusion and access.[57]

57 2023-03-sri-insurance-inclusion-radar.pdf (swissre.com).

6 HOW CAN INSURANCE ACHIEVE A POSITIVE SOCIAL CONTRIBUTION?

New scientific methods developed to assess and manage risk should evaluate how evolving techniques can lead to different, and perhaps unintended or unwanted social impacts. Insurance underwriting and actuarial assessments rely heavily on predictions about the insured risk. The more uncertainty there is, the higher the premium – or the higher the possibility that the risk remains uninsured.

There are two hypothetical extremes in how insurance works in the future:

1. Better and economically sensible prediction will make it possible to increase the scope of insurance. Insurance will generally be cheaper and risks hitherto uninsurable will become insurable. Yet with better predictions premiums for some risks will be higher and insurers will impose exclusions in the cover – but in theory it might also be possible to communicate to the customers the reasons behind prices and exclusions, giving in this way price signals for customers on how to change their way of life or other behaviours to be able to get better cover.

2. Better predictions will make it possible for insurers to underwrite only those risks where the market allows premiums to be set on a level that exceeds the true risk. Models, especially statistical models without explicit causality chains such as neural networks, will be increasingly non-transparent black boxes making it impossible for stakeholders to evaluate their decision-making process and social consequences. The scope of insurance leaves substantial gaps in the cover especially among the less well-off individuals.[58]

Both of these hypothetical developments are not mutually exclusive and can of course co-exist simultaneously. Needless to say, insurers acting according to this second approach may seriously damage their reputation and that of the industry – and attract more regulation to the sector which might in turn limit the risk-sharing capabilities of insurers to some extent.

58 See also 'Weapons of Math Destruction', Cathy O'Neil, 2016 (winner of the 2019 Euler Book Prize) for a detailed discussion.

6.1 DIFFERENTIATION OF RISKS IN ACTUARIAL PREMIUMS

Insurance premiums are initially calculated by actuaries, with a distinction between the theoretical actuarial premium and the actual market premium commercially offered. The actuarial premium reflects, to the extent possible, mathematical and statistical understanding of risks, so that each policyholder is charged a premium that corresponds to his/her individual risk (including expected losses, risk loadings and costs). The market premium reflects the understanding of risks by the general population, the competitive situation, and in some case the applicable regulatory constraints. Such understanding of risks is seldom entirely scientific. More often, it depends on recent experience of risks materialising and other social, cultural, and psychological factors. The competitive situation depends on many factors in the market, such as the risk-bearing capacity of active insurers. The market premium of course depends on the actuarial premium, but it can be higher or lower than that depending on the market conditions.

In premium setting, or developing an underwriting rate table, the consideration of 'fairness', discrimination and differentiation is complex and important. Decisions to allow or remove cross-subsidies between risk groups require professional judgement, and actuaries are well-placed to do so, given their understanding of risk pooling, risk factors, and selection, and the potential trade-offs between these elements. It needs to be acknowledged that insurance practices can and do develop in undesirable ways when rating factors are used for reasons of convenience, data availability, and increased competition, rather than because there is evidence that supports fair differentiation. For instance:

- Actuaries and underwriters need to consider correlation versus causation in risk segmentation data used for pricing (e.g., postcode for low-income customers which can result in unwanted poverty premiums to the less well-off).

- Insurers should consider whether a factor is outside of the control or reasonable control of the insured customer (e.g., sex, ethnic background, genetics, living within a flood-prone area) versus factors that can be more easily controlled or heavily influenced by customer behaviour (e.g. driving behaviour, smoking habits, maintaining a healthy body mass index, measures to minimise water damage to property). Among the factors mentioned, sex and ethnic background are so-called protected attributes, the use of which is generally prohibited in several countries. Also sexual orientation and religion are naturally among such attributes.

- Some rating factors already in use and entrenched as market practice should also be questioned, where new research and understanding reveals that they have inherent and unfair bias (e.g. US credit-scoring systems commonly used in car, health and life insurance risk pricing are known to contain racial bias[59]).

59 Criticism of credit scoring systems in the United States - Wikipedia.

- In addition to direct discrimination there can also exist indirect discrimination. Indirect or proxy discrimination occurs when differentiation takes place using attributes that (unintentionally) serve as proxies for protected groups, e.g. car colour as a proxy for gender or given name as proxy for ethnic background.

6.2 HOW TO AVOID DISCRIMINATION WHILE MAINTAINING DIFFERENTIATION

According to a report by Geneva Association,[60] to avoid indirect discrimination, rating factors can be subjected to a three-pronged test. This checks whether the factors used are necessary, appropriate, and legitimate in relation to the risk they are assessing. Classical actuarial methods allow rating factors to undergo this test, but models with numerous rating factors and their many combinations can become difficult to analyse – not to mention deep learning, neural networks and other highly layered AI models.

The increasing use of big data and new and innovative data sources plays an evolving role in insurance discrimination issues. Traditionally data has been scarce and expensive, data storage has been slow and inadequate and computing power has been limited. Therefore actuaries have often used simple proxies like gender to evaluate risks.

More recently, AI seems to be living up to some long-time expectations. While there is much inappropriate hype connected to AI and related topics, there are already some aspects of AI that will fundamentally change how insurers and other businesses can develop their activities.

At the centre of current developments, we have abundant cheap (cloud) computing power, abundant cheap (cloud) storage and mushrooming amounts of data, including from sensors, wearables and the Internet of Things. With the help of these and with statistical techniques, it is possible to create applications that are technically impressive – more specifically so-called generative AI and Large Language Models. With the possibilities of new technology, big data and the related unique personal information an insurer can obtain, risk modelling can be more accurate than ever before. However, privacy issues and the missing transparency of complex algorithms need to be addressed,[61] for instance through the development of new fields such as Explainable AI[62] to which actuaries can also contribute.

60 Regulation of artificial intelligence in insurance: Balancing consumer protection and innovation, Geneva Association, September 2023.

61 The AAE published a paper with the title 'What should an actuary know of AI', which has specific sections on explainable AI (XAI).

62 Explainable AI (also known as Interpretable AI or Explainable Machine Learning) refers to AI systems over which it is possible for humans to retain intellectual oversight (i.e. the decisions or predictions made by the AI can be made understandable and transparent). Explainable AI aims to address and mitigate the 'black box' tendency of machine learning systems.

The real benefit from current developments in AI is that all kinds of predictions become possible and cheap. Thinking of the balance between supply and demand, we know that when the price of something goes down, utilisation of this good/service increases. With current advances in AI we are seeing huge increases in the use of predictions and the possibility to have predictions in areas where they were not previously utilised. This is not only because of the price, but also because more efficient computing power can create predictions in areas where previously timely predictions were pure impossibility.

Faster and more accurate predictions are crucial for insurers. The AAE has already previously published a paper addressing the impact of AI on insurability, making the general conclusion that AI will not necessarily make insurance obsolete. Responsibly-used AI may rather improve the possibilities of using insurance.[63]

Discrimination and biased decision-making can occur in processes performed by humans due to their inherent biases, conscious or unconscious, which can be difficult to detect. Use of technology, including AI, can help to identify such phenomena. However, new technology can also introduce new sources of concern with complex models and black boxes where indirect discrimination might be harder to detect. For instance, AI models that are developed from large data sets containing biased data (e.g. due to being restricted to observations from a limited demographic segment of the overall population) will themselves automatically learn and reproduce bias. Actuaries and insurers need to take extra care with new AI-based models in order to avoid inappropriate consequences. One special danger will be over-reliance on complex and untransparent models.

Sound general principles of governance for such complexity notably include processes allowing users and customers to challenge algorithmic decisions, continuous monitoring of models (not just in terms of primary algorithmic performance but also regarding second-order social outcomes), and retaining a high degree of human control and accountability (including not allowing the machines to make high-stake decisions without explicit human validation).

For socially sustainable outcomes, special concern should also be devoted to avoiding the following situations:

- Models can introduce excess poverty premiums or ethnicity premiums. These mean that lower-income people or persons from certain ethnic backgrounds systematically pay higher premiums and other fees for their financial services, in excess of what the actual costs of the financial product for the insurer actually are (especially in cases where these customers may otherwise be insured in wider pool of risks that is commercially viable, actuarially correct and socially acceptable). Such excess premiums can result from using zip code as a factor in tariffs, for instance.

63 https://actuary.eu/memos/aae-discussion-paper-ai-and-the-opportunities-and-challenges-it-presents-to-insurability/.

- Loyalty premiums arise under the practices of introducing an increase in premiums for customers having a longer relationship to the insurer. Such increases may be sharp, or 'silent', or gradual, or relative (when sum at risk falls over time but premium does not). Socially responsible insurers and actuaries cannot motivate practices where otherwise similar clients pay substantially different premiums based on differences in the time they have remained with the insurer.

6.3 FURTHER CONSIDERATIONS RELATED TO PRODUCT DESIGN

Simple insurance products (such as basic property, motor or health insurance) are more naturally sought and purchased by customers than complex ones. Such simple products are often standardized enough so that the offerings from different providers can be easily compared through online tools and websites,[64] and their buying and contracting process generally requires no more than a few clicks and a signature. Conversely, more complex and tailored products (such as life insurance with different personalised options) may require lengthier interactions with the insurance company, involving in-person interviews, detailed risk screening, and in general a much higher level of financial literacy and risk awareness from the prospective policyholder. Such barriers may discourage poorer and less financially-educated customers, and in practice they can lead to excluding vulnerable populations. As a general good practice, it is thus important that the level of complexity of insurance products remains inversely commensurate with their perceived social outcome (see also section 4.14.1.1), i.e. that insurance products serving basic social purposes retain a simple design, allowing them to be easily understood by all and easily 'bought, rather than sold'. Of course, this should not come at the expense of including a 'poverty premium' in such products, as a general loading for not having performed a more detailed underwriting process.

Another important consideration related to social issues is the bundling together of different covers in the same product. For instance, an insurance company may theoretically improve the accessibility, availability, and affordability of property insurance by covering several climate-related perils (such as different types of floods) within the same insurance policy. Doing so might at the same time increase actuarial diversification between perils (thus supporting insurability and affordability), avoid misunderstandings from policyholders regarding which damage events are excluded, and reduce the burden on customers to seek, understand and purchase separate insurance policies. However, this needs of course to be balanced with the conduct risk for insurers of over- or mis-selling unwanted insurance covers through unnecessary bundling. Here again, attention needs to be paid to the external social impacts of such practices, and whether such bundling may be justified through positive social outcomes, rather than by mere financial motivations from the insurer (see also the discussion on double materiality in section 3).

64 See for instance 'Compare and save – comparis.ch' for an example of such widely used comparator in Switzerland.

7 CONCLUSIONS AND RECOMMENDATIONS

The insurance sector's role in promoting social sustainability is multifaceted and indispensable to society and for socio-economic stability. By fully understanding and embracing how insurance products serve basic human needs, and through interrogating the 'what, who and how' of customer needs, insurers can maintain and grow their social value to customers who would otherwise continue to face risks and vulnerabilities alone, and customers of the future. In the present and even more so in the future, new methods allow insurers and actuaries greater possibilities for assessing and managing social risks, opportunities and impacts. These new methods need to be approached with care, ensuring that these are not used in inadvertently detrimental ways, and are used instead to improve the ways risks are shared across society.

For an insurance sector committed to social sustainability in the way it serves customers, this report proposes four main recommendations (Figure 7). Actuaries working in varied roles across the insurance sector have highly relevant skills, experience and perspective to contribute towards the implementation of all four:

1. Insurers and actuaries should openly engage with regulators and financial supervisors to:

   - Influence how new regulation and standards shape what insurers must do to promote socially sustainable insurance outcomes for customers, and notably to help create a level-playing field fostering positive social outcomes where market forces alone are not sufficient to do so, and

   - Support efforts to enhance the transparency and consistency of disclosure around the social risks, opportunities and impacts of insurance activities.

2. Without waiting until new disclosure requirements prescribe action, insurers should design and expand new metrics within their underwriting activities which quantify the 'what, who and how' for meeting customers' needs through downstream impact. As inspiration and not intended to be prescriptive or exhaustive, metrics for socially sustainable insurance may include:

   - The proportion of underwriting capacity deployed, or premium written, in richer versus poorer regions (or, where relevant, global North versus global South).

- The proportion of underwriting capacity deployed, or premium written, or people protected, for products classified to have a strong social contribution, such as microinsurance for instance.

- Sales growth in customer segments meeting a suitable definition of being historically underserved (typically lower income or higher risk), as is appropriate for, relevant and sensitive to the local cultural context.

- Customer portfolio mix compared to country population, by factors typically used in employee DEI (Diversity Equity & Inclusion) plans, such as gender, social background, or age (within the limits of what applicable data regulation, such as the EU GDPR, allows insurers to collect and use).

- Customer service satisfaction levels at all points in the value chain.

3. Insurers should explicitly integrate social considerations around customers into their underwriting, product strategies, and customer services (e.g. claims management), formalising these through specific governance, risk management, goal setting, and metrics with management accountability. This approach is in line with the TCFD's four-pillar approach. In the implementation of this recommendation, it is inevitable that potential conflicts between 'E', 'S' & 'G' objectives will arise, as well as conflicts within different social objectives. These should be anticipated proactively so that a nuanced understanding can be used to inform how trade-off decisions are made.

4. For insurers to better understand social problems and risks, and find better solutions for them, they should engage more proactively with all relevant partners in their value chain and stakeholders, including non-governmental organisations (NGOs) and civil society in general.

FIGURE 7: FOUR RECOMMENDATIONS TO INSURERS

Deeper research and multidisciplinary collaboration to explore the complex social role of insurers will be needed, and how this role could be preserved and expanded in the context of financial and actuarial constraints. To that end, further use cases and engagement with stakeholders (including surveys and interviews) can be used to gain more insights about and ideas for amplifying insurers' social impact. As insurers fully embrace more inclusive social considerations into their core business, by regarding social factors not only as a source of risk but of tremendous opportunity and purpose, the ultimate potential of insurance to be powerful force for good could be realised even more materially.

THE ACTUARIAL ASSOCIATION OF EUROPE

The Actuarial Association of Europe (AAE), founded in 1978 under the name of Groupe Consultatif Actuariel Européen, is the Brussels-based umbrella organisation, which brings together the 38 professional associations of actuaries in 37 countries of the EU, together with the countries of the European Economic Area and Switzerland and some EU candidate countries.

The AAE has established and keeps up-to-date a core syllabus of education requirements, a code of conduct and discipline scheme requirements, for all its full member associations. It is also developing model actuarial standards of practice for its members to use and it oversees a mutual recognition agreement, which facilitates actuaries being able to exercise their profession in any of the countries concerned.

The AAE also serves the public interest by providing advice and opinions, independent of industry interests, to the various institutions of the European Union - the Commission, The Council of Ministers, the European Parliament, ECB, EIOPA and their various committees - on actuarial issues in European legislation and regulation.

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