

EIGHT

Stewarding a Resilient Future

Why Insurance Matters

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Insurance is a cornerstone of the global financial system. It plays a multifaceted role in mitigating risks, strengthening household and business resilience, facilitating the flow of capital, and promoting economic stability. The annual premium volume of nearly \$7 trillion generated by insurers worldwide reflects their scale of impact, translating into annual contributions of between \$5 and \$5.5 trillion toward global financial resilience through insurance claims and benefits payouts.¹ Only governments make larger payouts to individual, business, and community resilience.² The global

Much of this chapter draws on, adapts from, and synthesizes material from existing sources, as indicated throughout the text. In the process of drafting, ChatGPT was used as an editorial assistant to help paraphrase some passages and insights. Prior to publication of this chapter, the author and editors reviewed and substantially revised all such text outputs for factual accuracy, clarity, and consistency of voice with the rest of the chapter.

1. Aizpun, Xing, and Lechner (2022); Schanz (2022).
2. Schanz (2022).

insurance industry also manages more than \$35 trillion of assets, nearly a third of all global assets under management.³

Insurers assign a value to risk to capture both the expected occurrence and financial consequences of specific potential outcomes. Doing so can encourage behaviors that mitigate risk and help safeguard lives, livelihoods, and assets.⁴

Despite the functions and potency of insurance as a tool for sustainable development, its full potential contributions to the UN's 17 Sustainable Development Goals (SDGs) have not been fully realized. The SDGs outline an integrated approach to promoting peace and prosperity for people and the planet, but the formal framework has an uneven emphasis on insurance-focused issues. As examples, *insurance* itself is mentioned in only one of the 169 SDG targets, *risk* is mentioned in only three SDG targets and in seven of the 231 latest "unique indicators," and *resilience* (or "resilient") is mentioned in two of the seventeen overarching goals and eight targets, but in none of the indicators.

Too often, insurance is perceived either as a luxury reserved for affluent households or as burdened by challenges such as limited scalability, owing to insufficient awareness.⁵ When government engagement is limited to setting targets or employing rudimentary tools such as premium subsidies and compulsory product offerings, insurance gets overlooked in the development policy landscape.⁶ As a result, broader risk management techniques and principles have not featured as a central pillar in the work of development institutions despite the growing consensus that developing insurance markets and risk management capacities could lead to dramatically better development outcomes.⁷

History is rife with numerous examples of the insurance sector's core capabilities driving monumental social and economic transformations. These instances range from marine insurance enabling European colonial ventures into the wider world in the fifteenth century to more recent social, economic, and industrial disruptions during which economic and policy leaders leveraged insurance-related solutions to address deep structural challenges.⁸

3. Statista (2024b); PricewaterhouseCoopers (2023).

4. UN Climate Change High-Level Champions, the UN Race to Resilience, the Adrienne Arsht-Rockefeller Foundation Resilience Center, and Marsh McLennan (2022).

5. Lin Chiew (2021).

6. Ibid.

7. Holliday, Remizova, and Stewart (2021).

8. Draper (n.d.); Douglas (2021).

In the 1890s, the insurance industry established the Underwriters Laboratory to test the fire safety of electrical appliances.⁹ In the early 1900s, the insurance sector advocated for fire hydrants and local fire stations.¹⁰

Governments have played major roles, too. In the nineteenth century, Germany's first chancellor, Otto von Bismarck, prioritized insurance systems as a pivotal component of his reconstruction plans and policy reforms, as did Prime Ministers David Lloyd George and Winston Churchill in early twentieth-century Britain, President Franklin Delano Roosevelt in the post-Great Depression United States, and Prime Minister Ichirō Hatoyama in postwar Japan.¹¹ Many of these efforts have become entrenched as centerpieces of long-term national governance systems.

Growing Protection Gaps

Insufficient progress on the SDGs underscores the growing urgency to consider how insurance can help societies respond to the challenges the world is facing.¹² In 2022 the UN's Human Development Index for the first time in its thirty-two-year history registered a global decline two years in a row. Under the title *Uncertain Times, Unsettled Lives: Shaping Our Future in a Transforming World*, the operative report argued that “layers of uncertainty are stacking up and interacting to unsettle [people’s] lives in unprecedented ways.”¹³ The same report championed insurance (inclusive of social protection) and innovation to equip societies for the changing conditions of a precarious global environment. Expanded social insurance schemes can help bolster food security, encourage risk-taking and investment, and promote other forms of policy progress, helping households and communities prepare for uncertainty and minimize vulnerability.¹⁴

9. UN Climate Change High-Level Champions et al. (2022).

10. Ibid.

11. On Bismarck's use of insurance systems in reforms, see Bauernschuster, Driva, and Hornung (2017). In Britain, the Beveridge Report, published in 1942, established the basis for postwar social policy, including the passing of the National Health Service (NHS) Act in 1946 and the subsequent NHS formation in 1948. On President Roosevelt's use of insurance schemes in rebuilding the U.S. economy after the Great Depression, see Little (2023). On Prime Minister Hatoyama's similar efforts in postwar Japan, see Ikegami (2014) and the Japan Health Policy NOW website (<https://japanhpn.org/en/section-1-2/>).

12. United Nations (2023).

13. United Nations Development Programme (2022), iii.

14. Bowen et al. (2020).

As the world contends with increasingly frequent and more lethal disasters and shocks, the cost of these events has generally been shared across governments, businesses, and individuals, as well as by insurers, in varying proportions, depending on the country and its level of development. In general, higher-income countries have a larger proportion of disaster costs covered by insurance and the public sector, with less risk retained by individuals.¹⁵ The opposite is true in lower-income countries, where vulnerable populations shoulder more of the cost of these shocks and draw on their savings or credit to cope.¹⁶ The implication is significant underinvestment in development and a consistent drag on gains across the SDGs, with many populations caught in persistent poverty traps or escalating humanitarian appeals.

Consider the case of Nigeria, where a 2018 study found that fewer than 2 percent of adults are insured, barely 10 percent of salaried employees have insurance coverage, and the National Health Insurance Scheme serves only 1 percent of the population.¹⁷ Many individuals rely on familial or social networks to manage risks.¹⁸ Absent insurance, individuals may forgo consumption or tap savings, which undermines resilience over time.¹⁹ Meanwhile, limited-scale premium pools and short-term liability structures constrain insurers' capacity to play a part in capital market development.²⁰

At the other end of the spectrum, the cost of UK public insurance—broadly defined to include pensions, public welfare systems, and health care insurance—was more than £520 billion in 2022, or nearly half of public spending.²¹ This is separate from government insurance-related facilities to support domestic or commercial risks, manage government contingent liabilities, and pay for related expenditures by local government. Private life and nonlife insurance industry premiums were estimated to add up to more than £290 billion in 2022.²² Collectively, these public and private expenditures represented more than a third of the UK's GDP.²³

Despite these differences in local context, the COVID-19 crisis and heightened awareness of climate change have revealed both the vulnerability

15. Linnerooth-Bayer et al. (2009).

16. Ibid.

17. Hougaard et al. (2018).

18. Ibid.

19. Ibid.

20. Ibid.

21. Chantrill (2024).

22. Statista (2024a).

23. Statista (2024b).

of our global society to systemic risks and the pressing need for improved protection systems.²⁴ The urgency only grows because the overall value of unprotected risk exposure continues to rise steadily. A recent report from Swiss Re Institute researchers estimated that in 2022, the global protection gap—defined as the difference between insured and uninsured losses—set a record high of \$1.8 trillion, up from \$1.5 trillion in 2018.²⁵ Protection gaps are a pervasive issue across all countries, spanning emerging, developing, and developed economies. Again, however, in emerging and developing nations, the repercussions of uninsured risks, when realized, can be even more severe and enduring because of limited personal or state resources to mitigate losses.

The Swiss Re research report also estimated protection gaps across several dimensions of risk highly relevant to the SDGs.²⁶ It found that, in 2022, 60 percent of global insurable crop production remained unprotected against natural disasters and accidents. This crop protection gap of \$113 billion poses a considerable threat to global food security and to farm income fluctuations. Meanwhile, only 24 percent of natural catastrophe exposures are currently covered by insurance globally, leaving a protection gap of \$368 billion in premium equivalent in 2022.²⁷ The global mortality protection gap, meaning the insurance required to cover families' financial needs when an income earner dies, was estimated at \$406 billion.²⁸ A related estimate by the Geneva Association put the global pension gap at around \$41 trillion.²⁹

Several different factors drive the respective protection gaps, but collectively they draw attention to the need for the insurance industry to address consumer needs and develop new risk-financing and risk-mitigation products and services.³⁰ Governmental intervention is also important.³¹ Even if it is not viable or appropriate to fully insure all economic losses resulting from

24. Centeno et al. (2014); Noordhoek, Marcoux, and Schanz (2022).

25. Aggarwal et al. (2023).

26. *Ibid.*

27. *Ibid.*

28. *Ibid.*

29. The Geneva Association's projections stem from calculations made using a 60 percent wage replacement ratio, Richard Marin's (2013) work on pension deficits, and an OECD evaluation of pay-as-you-go pension financing. The \$41 trillion figure is from Schanz (2018). This pension gap represents the difference between the present value of the annual lifetime income required to maintain a reasonable standard of living and the actual retirement savings and the present value of pay-as-you-go contributions over a forty-year time frame.

30. As previously argued in Ariss and Iyahan (2022).

31. *Ibid.*

disasters, there is a threshold beyond which individuals, households, and businesses purchase inadequate insurance, prompting a need for policy-makers to do their part.³²

Strengthening Risk Management Capabilities: Understanding and Managing Risks

In light of the heightened risks and uncertainties in the context of the vast environmental, social, and economic policy shifts occurring in the world, it is important to understand the mechanisms behind risk absorption, the impact of insurance, and strategies for enhancing resilience and driving stable gains toward sustainable development.³³ Doing so requires attention to how risk is understood and managed.

In 2020, colleagues at the Insurance Development Forum (IDF), which I lead as secretary general, published a framework logic titled *The Development Impact of Risk Analytics*.³⁴ In this framework, *risk insight* forms the cornerstone of risk prevention and resilience. The essential ingredients for promoting this form of insight are largely available: scientific knowledge, advanced computing capabilities, satellite and ground data, indigenous wisdom, and interdisciplinary methodologies.³⁵ Transitioning from managing disasters to managing risks is an imperative for sustainable development.³⁶ But the world remains trapped in a recurring cycle of disaster–response–reconstruction because of systemic barriers that limit the availability of risk insight to vulnerable communities.³⁷

Decision-making about risk presents problems that require judgment and compromise, especially as comprehension of the nature of risk continues to evolve.³⁸ The 2019 UN *Global Assessment Report on Disaster Risk Reduction* cautions of the impending threat from “cascading and systemic risks, largely driven by climate change.”³⁹ As Moody and coauthors at the

32. Schanz (2018).

33. Aggarwal et al. (2023).

34. Moody et al. (2020).

35. Ibid.

36. Ibid.

37. Ibid.

38. Ibid.

39. UNDRR (2019), iii.

IDF point out, such systemic risks create an imperative for ambitious collective action spanning domains, scales, and sectors to deepen our understanding of risk, fortify resilience, and foster sustainable, regenerative development.⁴⁰

Positive public-private collaborations led by the insurance industry point to opportunities to drive progress in deepening global risk understanding and analytics capabilities. Examples include the Global Risk Modelling Alliance (GRMA, see box 8.1), Resilient Planet Data Hub, and the Global Resilience Index Initiative (GRII), among others.

Investing in Loss Prevention

Loss prevention forms another crucial element of resilience strategies for sustainable development. Researchers at Swiss Re have estimated the net benefit-to-cost ratios from preemptive measures to mitigate natural catastrophe losses to range from 2:1 to 10:1, and sometimes higher.⁴¹ However,

Box 8.1. Global Risk Modelling Alliance: Helping Vulnerable Countries Access Risk-Related Insights

The Global Risk Modelling Alliance (GRMA) was launched in June 2022 by the Insurance Development Forum (IDF) and the Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum, with backing from the government of Germany. The alliance serves as a global public resource, drawing on private sector capabilities to enhance access to climate risk data and analytics among countries most vulnerable to climate change. It thereby aims to facilitate investment in resilience measures and risk transfer mechanisms to safeguard vulnerable populations and foster economic development.

Under the program, participating countries receive access to open-source technology and data standards, tailored for public sector stakeholders, in addition to grant financing to help governments address any model and data gaps. A technical assistance team with public and private sector expertise also works with countries to support implementation efforts.

Sources: Global Risk Modelling Alliance (<https://grma.global/about-the-alliance/>); UN Climate Change High-Level Champions et al. (2022).

40. Moody et al. (2020).

41. Aggarwal et al. (2023).

the macroeconomic return on prevention is found to be higher in lower-income countries, where insurance penetration rates are also lower.⁴² Substantial investment gaps persist, owing to insufficient financing and challenges related to risk reduction.⁴³

Extending Risk Protection

The Swiss Re researchers also emphasize that, on top of individual-level benefits, shifting risk to insurance markets improves macroeconomic resilience by enabling faster recovery after a shock event and by promoting secondary network effects.⁴⁴ Collaboration among governments, regulators, insurers, and businesses is key to increasing insurance uptake.⁴⁵ Government entities can use tax and regulatory frameworks to promote insurance take-up.⁴⁶ Product innovations can also help, such as when advances in data analytics extend insurance coverage to previously underserved risk segments.⁴⁷ Products may range from comprehensive policies covering multiple risks to integrated insurance packages bundled with other purchases.⁴⁸ The adoption of microinsurance and other novel distribution channels can further expand access to coverage.⁴⁹

Innovative public-private partnerships are increasingly seeking to facilitate the insurability of risks that are traditionally challenging to cover. Such partnerships may include regional entities such as the African Risk Capacity (box 8.2) and global partnerships such as the IDF.

Rowan Douglas, chair of the IDF Operating Committee, has argued that “insurance is not the silver bullet for climate resilience (which is the product of many factors), but it is a necessary component.”⁵⁰ He asserts that vulnerable populations can partake of the collective benefit of insurance as a communal asset, pointing out that risks can be distributed among public, private, and mutual systems through premiums, taxation, and hybrid

42. Ibid.

43. Ibid.

44. Ibid.

45. Ibid.

46. Ibid.

47. Ibid.

48. Ibid.

49. Ibid.

50. Douglas (2021).

Box 8.2. Pooling Climate-Related Disaster Risks Across African Governments

A vast continent spanning diverse geographies on both sides of the equator, Africa is home to an incredibly wide range of localized climate patterns. Because agriculture provides the largest share of economic activity on the continent, most African countries' local development paths are uniquely susceptible to the consequences of severe weather events.

To help address this challenge, the African Risk Capacity Limited (ARC Ltd.) was established in 2014 as a hybrid mutual insurer and financial arm of the African Risk Capacity Group. ARC offers parametric insurance services to African Union (AU) member states and farmer organizations, consolidating disaster-related risk across Africa and transferring it to global markets. Its membership consists of African governments that have adopted a policy agreement in a given year, along with capital contributors. ARC aims to shift climate-related disaster risks away from governments and populations, enhancing the continent's ability to address disasters, promote food security, and bolster overall resilience. Current maximum coverage for a country is \$30 million per season. It allocates financing to support pre-approved contingency plans, ensuring rapid and predictable responses to disasters.

ARC was established with a commercial mandate as a Class 2 mutual insurance company, originally funded with seed capital. The organization receives funding from a wide range of donor entities, with the aim of eventual full ownership by African sovereign states. It operates out of Bermuda until a comparable legal and regulatory framework can be established in an AU member state, conducting commercial insurance activities in compliance with national regulations for parametric weather insurance. ARC continues to pursue new products to meet its African member states' needs.

Source: African Risk Capacity Ltd. (<https://www.arc.int/arc-limited>).

approaches. Douglas further observes that costs, payouts, and incentives can be structured to promote affordability, signal risk, foster resilience, and encourage broader solidarity.⁵¹ It is for these reasons that businesses and governments should take further steps to assess and formally manage their potential risks and liabilities where needed.⁵²

Today's societies face a broad spectrum of industrial and environmental shocks along with significant economic, industrial, and social transformations. New risks and dislocation are being generated as sectors retreat,

51. Ibid.

52. Ibid.

regions decline, and long-established occupational skills become outmoded.⁵³ This situation draws attention to the importance of social protection systems that would encompass both government and business.⁵⁴ It is becoming increasingly urgent to proactively research, design, and prepare insurance systems before major disasters and dislocations occur. This approach is much more effective than delivering unprepared responses in emergency contexts. Public, private, and mutual-cooperative expertise and capital should be applied to develop the optimum levels of alignment, incentives, and risk sharing at local, regional, and global scales and across time scales and generations.⁵⁵

Focus on Climate: Social Protection for Sectors and Economies in Transition

Despite the advantages of insurance, significant protection gaps persist, particularly in emerging markets where insurance penetration rates remain low compared to more established markets.⁵⁶ But as Douglas has also argued, the insurance industry has unique capabilities, expertise, financial resources, and influence that can help inform optimal pathways for diverse industries and regions amid the challenges posed by climate change.⁵⁷ (See, for example, box 8.3 regarding “loss and damage.”) The sector has a distinctive ability to integrate disparate risks into a holistic perspective, evaluate their community- and asset-level impacts, and articulate the micro- and macro-scale consequences.⁵⁸ Equipped with this information, insurance underwriting and investment strategies can jointly influence the direction, magnitude, and distribution of capital allocations to facilitate a net zero transition that adheres to sustainable risk parameters.⁵⁹

Investment policies by insurers as asset owners will be important, too, and this will be amplified by the unique role of risk underwriters. Underwriting coverage can affect the operational standards of public, corporate,

53. CISL (2021).

54. Douglas (2021).

55. CISL (2021).

56. Aggarwal et al. (2023).

57. Douglas (2021).

58. Ibid.

59. Ibid.

Box 8.3. Climate Change and Loss and Damage

In international climate policy debates, “loss and damage” considerations mainly focus on strategies to assist developing nations facing heightened vulnerability to the detrimental consequences of climate change.* According to Byrnes and Surmiski (2019), a broader definition of loss and damage relates to the adverse economic and noneconomic impacts of climate change on both human communities and the environment. But as Plichta and Poole (2023) describe, the loss and damage issue has proved politically delicate when it comes to global public financing debates, largely because of the long-standing reluctance of developed nations to assume legal obligations for compensating climate-vulnerable states.

The outcomes of COP27 and COP28 were pivotal in this regard, generating a breakthrough consensus on establishing a new, dedicated funding instrument to support developing countries that are most susceptible to the adverse impacts of climate change. The fund is designed to incorporate a “mosaic” of approaches both within and outside the UN Framework Convention on Climate Change.†

Plichta and Poole have summarized some of the constraints regarding the extent and efficacy of pre-arranged financing instruments such as insurance in addressing loss and damage. For example, pre-arranged financing entails tools and strategies that aim to ensure funds are available to manage sudden shocks, and sometimes to execute preparedness measures. Existing pre-arranged instruments are typically used more for crisis planning and readiness rather than for mitigation, adaptation, and restorative measures that could address both preventable and unavoidable losses and damages.‡

While insurance is not the single answer to the issue of loss and damage, it is clear that insurance thinking and capabilities will be needed to address elements of loss and damage. In December 2022 the OECD issued a report offering a framework for governments to manage the risks of losses and damages, with a focus on how emerging markets and developing countries could improve capacities to navigate the financial implications of climate-related risk.§ The recommendations include clear pointers for how insurance-related thinking and capabilities can be practically applied. These processes range from identifying and evaluating climate-related risks and financial implications for governments to applying strategies to minimize financial losses arising from climate risks. They may include targeted efforts to promote affordable insurance options to protect vulnerable groups through regulatory measures and by leveraging international reinsurance markets.

*Grantham Research Institute (2022).

†Plichta and Poole (2023).

‡Ibid.

§OECD (2022).

or governmental entities by either speeding up or stopping their activities.⁶⁰ Businesses may be unable to operate without insurance owing to statutory, legal, regulatory, or financial obligations and unprotected contingent liabilities.⁶¹ These capabilities are powerful levers in helping the global community navigate the whole economy transition to low-carbon energy systems and support individual companies on their own transition pathways. In this respect, risk-informed capital management can align systematically with approaches that prioritize human security and well-being.⁶²

Considered from another angle, global resilience can be achieved only if investments in infrastructure, residences, and other tangible assets integrate physical climate risk into their design, accounting, and pricing.⁶³ Otherwise, urban development along coastlines and rivers, for example, will only intensify risk, leading to the loss of millions of livelihoods and potentially lives, in addition to billions of dollars' worth of depleted assets.⁶⁴ Through its functions as influential investor, underwriter, and risk manager, the insurance sector can play a leadership role in promoting relevant risk-aware rating systems, pricing mechanisms, and economic frameworks across related finance, infrastructure, and government sectors.⁶⁵

Boosting Resilience through Insurance: Recommendations

A central message of this chapter is that public policy, regulation, and market actors collectively are central to advancing the risk management and insurance instruments needed to promote resilient and sustainable development. As Noordhoek and colleagues (2022) emphasize, coming up with precise, accurate assessments of insurance's contributions to economic and societal well-being remains challenging. Nonetheless, the IDF and the Geneva Association have recently published recommendations key to elevating insurance rates and minimizing protection gaps, with the goal of better aligning insurance provisions with the SDGs in the context of the uncertainties

60. Ibid.

61. Ibid.

62. Ibid.

63. Ibid.

64. Ibid.

65. Ibid.

associated with navigating climate change, pandemics, cybersecurity, and other risks.⁶⁶ Key recommendations include the following:⁶⁷

For governments and policymakers:

- Adopt a comprehensive approach to risk management, including national-level disaster risk management, and foster collaboration with insurance regulators and the insurance sector.
- Provide regulatory authorities with clear mandates for insurance market development and allocate appropriate resources to the formulation, implementation, and enforcement of insurance laws and regulations.
- Update tax and subsidy incentives to foster sustainable insurance purchasing behavior.
- Remove undue market-access barriers for insurers and reinsurers to promote competition, innovation, and global risk diversification.
- Elevate financial literacy across all levels of society, including in core school curricula where appropriate.

For regulators:

- Embrace expanded mandates for insurance market development as a key complement to traditional roles of policyholder protection and financial stability maintenance.⁶⁸
- Adopt a comprehensive approach to insurance market development that caters to the needs of both low-income and middle-class populations.
- Proactively educate policymakers about both the economic and the social value of insurance.
- Pursue active dialogue with the insurance industry to enhance national insurance markets through such opportunities as promoting technology and data analytics for consumer needs and enabling digital or other distribution methods to serve remote customers cost-effectively.

66. Noordhoek, Marcoux, and Schanz (2022).

67. Ibid.

68. An example of this is the International Association of Insurance Supervisors' (2023) call to action regarding protection gaps.

- Support collaborative programs to enhance financial literacy and risk awareness.

For insurers:

- Focus on meeting the insurance needs of specific market segments and offer straightforward, economical products to meet those needs.
- Educate policymakers and government officials about insurance's role in protecting society, enabling economic development, and enhancing resilience.
- Engage with regulators in constructive, transparent dialogues to address market issues and explore potential solutions.
- Play an active role in increasing financial literacy and raising risk awareness.

These recommendations offer basic stepping stones toward a better long-term approach to risk management and enhanced resilience in societies around the world. Resilient insurance and reinsurance markets buttress societal resilience by safeguarding lives, livelihoods, and assets. Increased efforts to foster collaborative, multistakeholder approaches to insurance market development can help promote long-term sustainable development for communities that need it most.

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