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Risk & Insurance Economics

The Social and Economic Value of Insurance

A Geneva Association Paper

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(The International Association for the Study of Insurance Economics)

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The Social and Economic Value of Insurance

A Geneva Association Paper

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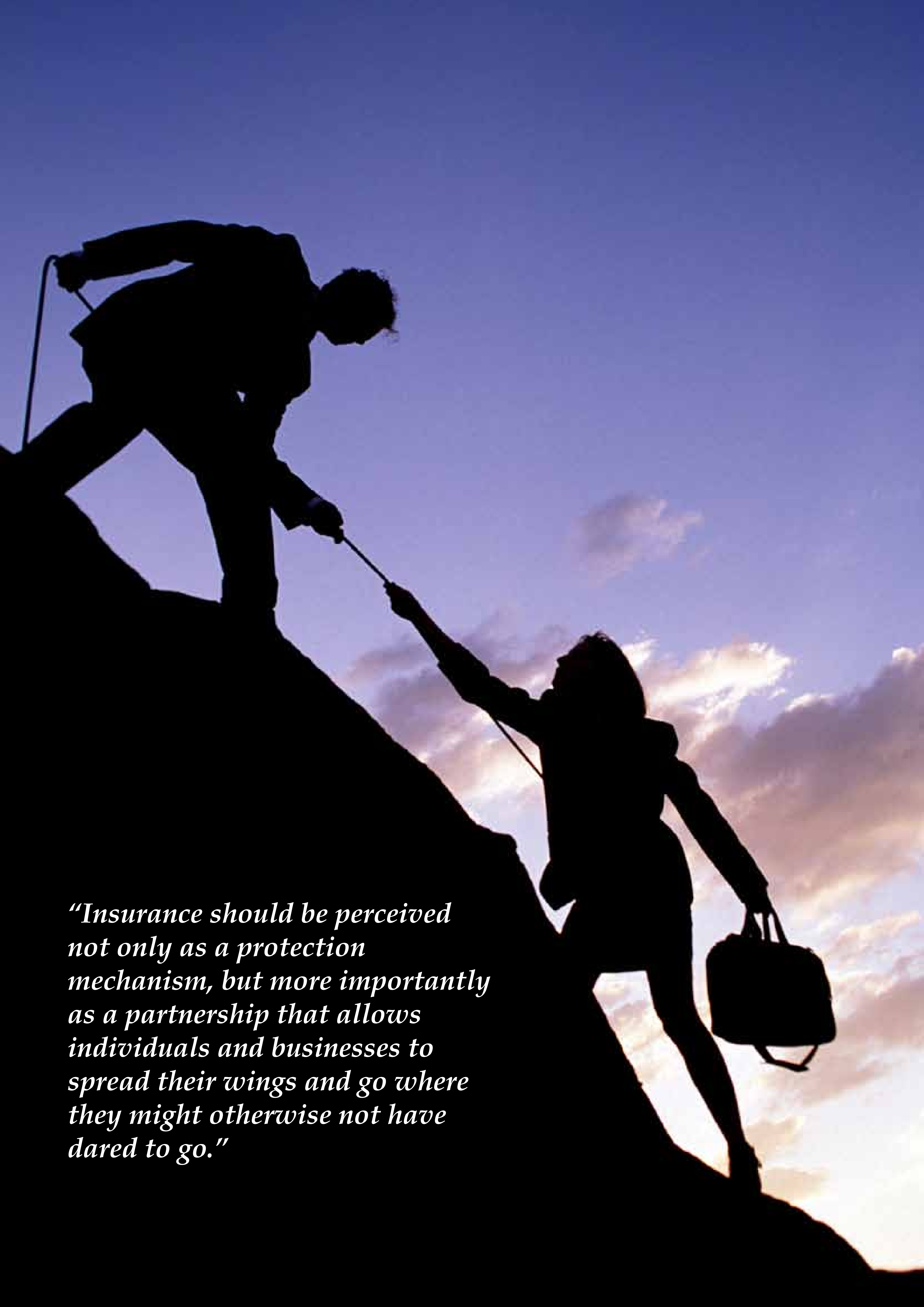


"Insurance should be perceived not only as a protection mechanism, but more importantly as a partnership that allows individuals and businesses to spread their wings and go where they might otherwise not have dared to go."

Overview

This paper seeks first and foremost to provide a more detailed understanding of the role, benefits and capabilities of the insurance industry, as well as an overview of the functioning of the insurance mechanism. It expounds upon the very real value that insurance offers individuals, institutions and the economy by providing a sense of security and peace of mind, encouraging loss mitigation, increasing prosperity, and generally making people more aware of the reality of risks and their consequences through information and pricing signals. It also addresses some of the misunderstandings about insurance coverage, in particular those areas where they have led to disappointment or disillusionment about the industry.

The role of insurance as a social protection mechanism is perhaps what first comes to mind when asked to think about its benefits. Indeed, by mitigating the effects of exogenous events over which we have no control—illness, accident, death, natural disasters—insurance allows individuals to recover from sudden misfortune by relieving or at least limiting the financial burden. In the case of health insurance, it could even mean the difference between life and death.

Insurance, however, has a far wider and more profound impact than this initial perception, though its value to society derives from this primary function. Because it manages, diversifies and absorbs the risks of individuals and companies, insurance is often a precondition for the development of other productive activities, such as buying a home and starting or expanding a business. In turn, these activities fuel demand, facilitate supply and support trade—but are only generally engaged in once the associated external risks are managed through insurance.

This facilitating effect operates also on an individual level, spreading out as a natural consequence of its social protection value. An insured person who does not suffer undue financial loss after a sudden misfortune will more easily maintain his purchasing power. The aggregate impact of insurance, therefore, is to level consumption patterns and contribute more widely to financial and social stability. This stabilising factor is reinforced by the role of insurance as a long-term investor in projects and businesses.

Insurance has a real effect on the global economy, of course, through the sheer number of people that the sector employs. But it also acts in a complementary fashion with the banking sector, offering easier access to credit, channelling savings into long-term investments and providing greater transparency and liquidity to the markets, thus providing further support and growth to the economy.

It contributes to public safety and new product development by raising awareness about security, leading to improved safety requirements that save lives and fuel innovation in the manufacturing sector (e.g. car insurance and seat belts, home insurance and fire prevention).

Finally, as a risk management service provider, the insurance industry is ideally placed to help design innovative products and contribute to solving urgent global societal challenges such as population ageing and emerging threats such as climate change and cyber risks.

The ways in which insurance contributes to society and economic growth can be summed up as follows:[1]

- it allows different risks to be managed more efficiently;
- it encourages loss mitigation;
- it enhances peace of mind and promotes financial stability;
- it helps relieve the burden on governments for providing all services of social protection to citizens via social security systems;
- it facilitates trade and commerce, supporting businesses and economic growth;
- it mobilises domestic savings; and,
- it fosters a more efficient allocation of capital, advancing the development of financial services.

For these many reasons—and this is the point that this paper would like to stress—insurance should rightly be perceived not only as a protection and risk management mechanism, which pays out when a catastrophe occurs, but more as a partnership that allows individuals and businesses to spread their wings and go where they might otherwise not have dared to go.

1 These principal contributions were outlined by Skipper (1997).

Risk and the insurance mechanism

The insurance mechanism involves the management and mitigation of risk, and is based on a principle of shared responsibility between insurer and insured. However, insufficient communication from the insurance industry has largely contributed to a lack of understanding of its benefit to society.

Whether we are conscious of it or not, risk permeates our lives. We are threatened every day by the possible occurrence of events that can have severe social, human or financial consequences: property damage, natural disaster, sickness, disability, accidents in their myriad forms, and of course death. The best we can hope for is to mitigate their consequences and thus alleviate our fear of their occurrence.

Since it addresses these two fundamental and interconnected human emotions—fear and hope—the insurance mechanism is an intrinsic part of society and social behaviour. In its most obvious expression, insurance eases the financial burden of sudden misfortune and loss for individuals or entities in the form of monetary compensation or services that can sometimes mean the difference between financial security and poverty or bankruptcy: providing for a family after the breadwinner dies, encouraging a person to seek medical help without fearing the expense, assisting a homeowner or business owner in rebuilding his property after a fire or flood, protecting both consumers and manufacturers against a defective product...

Yet this begs the question: if the value of insurance is so widespread, why is the industry so poorly understood and often maligned or—at best—the victim of a longstanding reputation for stolidness and staid conservatism? Indeed, not much seems to have changed in almost 40 years since Woody Allen uttered the line: "There are worse things in life than death. Have you ever spent an evening with an insurance salesman?" (*Love and Death*, 1975). Though the quote might prompt a smile, such a dire opinion can have fundamental and negative consequences on the industry's ability to do business efficiently, deploy its full value to society and achieve the recognition for doing so.

Understanding insurance

At its most basic and fundamental level, the insurance mechanism involves individuals or entities (policyholders) paying a fixed amount at regular intervals (premium) into a common fund (the insurance scheme), from which money is drawn (payout for a claim) to compensate one or more policyholders who are victims of a predefined event under specific circumstances (scope of coverage).

The insurance policy—the agreement between insurer and insured—can therefore be considered a compact based on mutual trust; a partnership whereby the insured prefers to pay with certainty a defined amount to guard against an uncertain loss, the financial consequences of which would be much higher without insurance, and the insurer compensates for that loss in the event of misfortune.

The key term in insurance is risk—or rather, “shared risk”. Both the insurance company and the policyholder are affected by the possibility of the insured event taking place and the consequences if it does, but of course not in the same manner. Furthermore, the risks inherent in an event involve far more factors than simply the chance of the event occurring. With regards to accident insurance, for instance, aspects of age, environment, lifestyle, behaviour, etc., all affect not only the probability of an accident taking place but also the extent of the loss if it does.

Therefore for the arrangement to be fair for both parties—for the premiums paid by the policyholder to aptly reflect the risk—all aspects of the insured risk must be properly assessed, or “actuarially calculated”, taking into account the scope and specific nature of the event, the extent of the benefits paid, the characteristics of the insured and also the number of individuals or entities simultaneously covered for a similar risk (i.e. the pooling or sharing of risk, which will be developed later). In other words, premium pricing and risk assessment are not arbitrary practices left to the insurers’ discretion.[2]

This notion of “shared risk” between individuals and insurers is important because it underlines the ideas of solidarity and individual responsibility that are traditionally at the root of the insurance mechanism. Indeed, the aspect of solidarity in insurance cannot be sustained if each individual participant in the insurance pool does not make himself responsible for preventing and mitigating risk as much as he can.

Addressing a lack of communication in the industry

Unfortunately, this notion of a common goal of pooling risks against misfortune by a range of individuals deemed equal has not always been well conveyed by the insurance industry. Over the years, it has been replaced by an atmosphere of mistrust and a mentality of “us against them”, i.e. policyholders against large, anonymous bureaucracies. And though public trust in the insurance system remains stable, policyholders sometimes no longer perceive their premiums as payment for a shared risk but rather as down payment towards a future reimbursement or for a service which they are due.[3]

2 Chiappori (1997).

3 We are refering here primarily to non-life (or Property & Casualty) insurance; in the case of life insurance, particularly longevity insurance, policyholders can indeed expect to be building a “fund” for the future. See “Reduction and mitigation of loss”, p. 8, for more specific definitions of different forms of insurance.

In an article on "The Invisible Hand of Insurance", Hans-Peter Würmli points out that "if insurers and banks were to compete for popularity, insurers would lose with the public, even in light of the recent financial crisis."[4] Indeed, the banking sector has consistently offered a relatively clear picture of how it operates and what it contributes to society and economies.

The insurance industry, on the other hand, has tended to neglect its image, and informed poorly or not at all of the precise mechanisms that allow it to function. This is due to several reasons, many of which are related to the low-profile nature of the insurance sector and its stability, in contrast to the banking industry, as well as the fact that insurance is usually conducted locally even if some companies operate globally.

Würmli writes, "the insurance community has failed, in my opinion, to convince the public of the benefits of insurance to society and, equally, legislators have failed to regulate appropriately. The insurers' skills, knowledge and expertise to design, place and maintain appropriate insurance covers are not recognised adequately by society."[5]

This lack of communication has unfortunately, however, contributed to a fair amount of misinterpretation, or even a total incomprehension and lack of knowledge of the insurance business, leading to a biased reputation. This can have far-reaching implications on consumer behaviour, public policy and industry regulation that are not immediately obvious.

It is particularly damaging in a situation of ongoing financial crisis and for an industry so tightly linked to managing life's afflictions, rendered even more so by the fact that the aspect of social welfare underlining insurance is concomitant with the for-profit nature of the business. This, however, is actually a benefit to consumers since "where society uses the insurers' services, the public's trust does not need to rest on some blurry hope for better and more competent experts, but it can rely on their profit incentive and loss disincentive that risk is assessed and dealt with objectively."[6]

Several associations have published explanatory brochures recently with the aim of improving the understanding of the insurance mechanism.[7] This report continues and builds on these efforts to address the reputational disconnect that exists for insurance, in an attempt to communicate the widespread benefits of insurance and the role it plays in society and for the economy.

4 Würmli (2011).
5 *Ibid.*
6 *Ibid.*
7 See, for example, Insurance Bureau of Canada (2012) *How insurance works* and Comité européen des Assurances (CEA) (2005), *Between public and private: insurance solutions for a changing society*, as well as other works cited in this report by Zurich, the Association of British Insurers (ABI) and The Geneva Association.

Reduction and mitigation of risk: supporting citizens and social protection systems

Insurance plays a crucial role in alleviating people's fear of sudden misfortune by mitigating loss through services and /or financial compensation. By extension, it contributes to the social protection of citizens by enhancing their financial security and peace of mind. It also sends pricing signals that lead to improved risk-resilient behaviour.

Largely we can separate insurance into two categories: health and life insurance; and general insurance, also known as property/casualty or non-life insurance.

Health insurance is intended to cover risks related to illness or bodily injury, providing reimbursement for medicine, visits to the doctor, hospital stays and other medical expenses. Life insurance compensates designated beneficiary(ies) in the event of the insured person's death or can constitute a form of retirement fund (longevity insurance), in which case the policyholder receives regular payments from the insurance company (annuities) starting at a specific age and for an indeterminate number of years, in exchange for a series of prior regular payments or a one-off ("single premium") payment.

Non-life or property/casualty (P&C) insurance covers all types of property damage, bodily harm or incidents affecting business procedures and resulting from external factors or unintentional behaviour by the policyholder: accident, fire, water, legal action, natural disasters, etc.

Risk management fundamentally involves three major principles—risk assessment, risk prevention/mitigation and risk transfer—and insurance deals with all three aspects. This paper will examine the various aspects of these principles in depth.

Insurers have years of experience and research in assessing a wide variety of risks. This often leads to the insurance sector directly or indirectly sending pricing signals that can affect behaviour towards risk that favours preventive measures and mitigation. Risk transfer can involve pooling risks and covering a large number of people who pay premiums into a fund from which anyone who is affected by loss can draw. On an individual level, the insurance mechanism transfers the financial loss of the victim to the insurance company.

From mutual assistance to insurance

Other than putting aside money against a potential catastrophe and to protect against the vagaries of life, individuals first sought to manage the possible financial consequences of risk by grouping themselves in communities (e.g. families, villages, trade organisations) and paying into a common fund on which any member suffering a misfortune could draw. Such systems of mutual assistance are still common in some developing countries, where there is no formal insurance mechanism and people rely on traditional values of group support, craft or trade organisations.[8]

Mutual assistance schemes, however, have a very real drawback that goes a long way in explaining how many trade organisations, for instance, ultimately evolved into modern insurance companies: the members of the communities present a similar exposure to risk. Family members often fall sick together or within a very short time frame; or, fire in a factory will put all workers out of work and under financial strain at the same time. In these cases, the common fund is not enough to cover all individual losses and therefore does not protect against the consequences of the very risk that the community was attempting to manage.

The law of large numbers

The efficiency of insurance companies in contrast to systems of mutual assistance lies in part in the "law of large numbers". Insurers pool independent risks and aggregate individual risk exposures to allow them to make accurate estimates with regards to overall expected losses. The larger the number of insureds, the more stable and predictable are the losses. And when insurers are more certain of the extent of their future losses, they can offer lower and more stable premiums. In this way, insurance preserves the original social goal of risk sharing and the human dimension, trust and individual responsibility of mutual assistance, while reflecting the development and growing complexity of society.

The law of large numbers is perhaps best illustrated by car insurance, which aggregates widely varying risk exposures in terms of gender, age, type of car, driving habits and experience, etc., allowing for relatively reliable statistics with regards to frequency and severity of accidents.

Enhancing financial security and peace of mind

Enabling families and businesses to remain financially stable in the face of hardship constitutes the primary social protection mechanism of insurance that has many positive spillovers or facilitating effects.

Thus insurance can help maintain a decent standard of living and quality of life after retirement in the case of certain life insurance products and long-term care insurance. It can prevent business interruptions that could lead to bankruptcies, which in turn can result in job loss and economic hardship for employees. And the financial security offered by insurance removes the risk of destitution if someone falls ill for any length of time or their house burns down.

8 Zurich Government and Industry Affairs (2011).

Misfortune can also occur at the hands of a third party, such as damage resulting from car accidents or faulty products. In these instances, liability insurance plays an important role in protecting innocent victims via the tort system because compensation for negligence is no longer limited solely to the perpetrator's financial situation and can be commensurate to the nature of the injuries suffered. An example of this can be found in third-party liability (TLP) car insurance.

In order to pursue optimally its role in enhancing social protection and promoting the welfare of individuals and businesses, the insurance industry has often shown an ability to offer innovative products that answer either new trends in consumer consumption or, more importantly, respond to emerging social needs. Long-term care for ageing populations, as we shall see below, is one of them. Others include cancer insurance, which covers medical care as well as non-medical care not usually included in regular health insurance policies, and HIV/AIDS insurance products.

Microinsurance is an innovative product for developing economies that consists of providing low-cost life, health, crop and property insurance in low-income societies where people have traditionally relied on an extended network of family and friends for support. By extending insurance with low transaction costs, microinsurance serves to protect the most vulnerable areas from floods, hurricanes and drought,[9] and contributes to alleviating poverty and economic growth.

Supporting social security systems

Advanced economies today are facing major sovereign debt issues at the same time that the social welfare systems set up after World War II are increasingly weighing on national budgets. According to the International Monetary Fund

(IMF), "In advanced economies, public pension spending has increased from 5 per cent of GDP in 1970 to 8.5 per cent in 2010," and the IMF expects it to increase further by a percentage point over the next two decades.[10] At the same time, advanced economies are facing large increases in health spending—by two percentage points in Europe and by about five percentage points of GDP over the next 20 years in the U.S.[11] The U.K. government currently accounts for 65 per cent of the insurance coverage for risks associated with retirement, accidents, health care and income loss.[12]

9 Kelly (2011).
10 International Monetary Fund (2012).
11 *Ibid.*
12 HM Treasury (2009).

Those countries that do not enact a fundamental shift in their welfare strategy risk suffering from low economic growth, depressed demand and an erosion of their competitiveness due to growing demographic pressures. There is room for task sharing between private and social insurance, and indeed the insurance sector can play an important part in helping states provide security to citizens while alleviating their financial burden.

In conjunction with public policy initiatives—financial and behavioural incentives such as tax breaks for retirement savings, regulation to enhance risk protection and avoid underinsurance and individuals' dependence on the state—the insurance industry can contribute its experience and know-how in risk management to offer complementary products and services and help design solutions to these formidable challenges.

In contrast to national public plans covering basic health care such as those in France and the U.K., some countries such as Switzerland and now the United States aim for comprehensive health coverage through private insurers. They do so by imposing a mandate or penalty tax on individuals and/or larger employers, while insurers for their part are subject to certain requirements such as premium increase reviews and no pre-existing conditions exclusions. The insurance industry can also have a significant impact in reducing the financial consequences of health risk, not only by offering alternate and additional coverage to public plans but also by encouraging prevention and emphasising rehabilitation.[13]

With regard to retirement financing, public Pay-As-You-Go schemes, often called the "first pillar" of pension systems, are increasingly unable to address the financial needs of the growing number of elderly who are living longer and in better health. Private-public schemes in the form of "second pillar" occupational pensions and private insurance have emerged to complement the first pillar, but now even these appear inadequate to maintain a post-retirement standard of living.[14] The need for a "third pillar" of the retirement system in the form of private savings arises, and insurance—better equipped to assess and manage risk and investments—can be a key contributor in helping governments and individuals manage old-age funding.

Insurance as a risk management service

In addition to risk coverage, the insurance industry is a valuable source of risk management skills and information that benefit society as a whole. Because of the very nature of its business, the sector needs to gather a large quantity of research on what constitutes and contributes to risk in many areas and across a broad spectrum of disciplines: construction, geography, geology, demography, health, finance, etc.

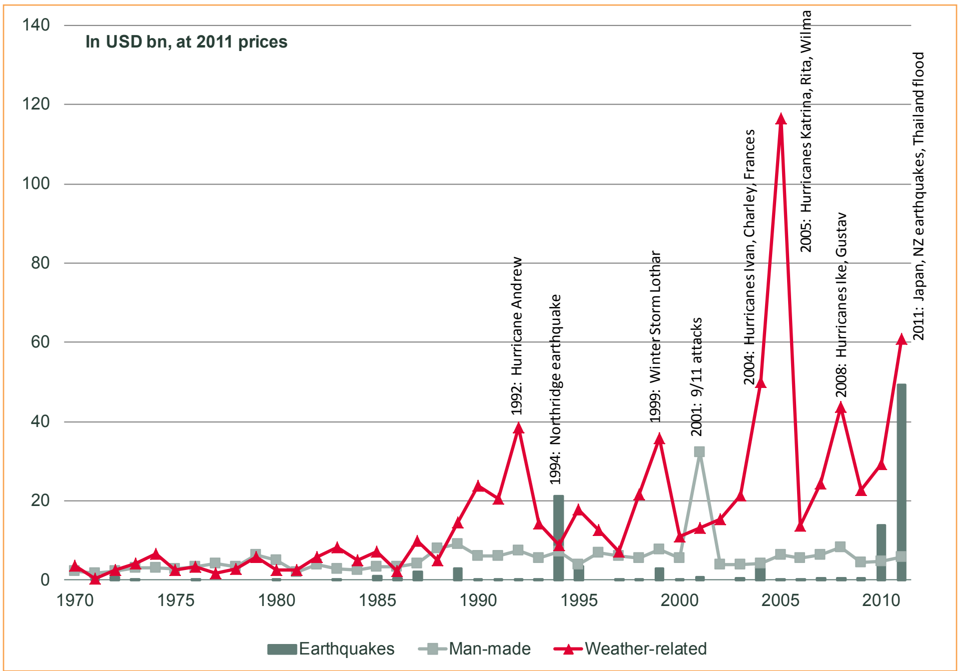
The results of such research send pricing signals that fuel many public debates on safety, lead to more risk-resilient behaviour on behalf of consumers, and encourage broader and better legal standards such as improved safety performance requirements for cars, fire alarms and sprinklers or security systems for homes and businesses, building codes to protect against earthquakes, floods or high winds. A corollary of disposing of such information is a reduction in the number of unproductive investments (e.g. building in an avalanche zone).

13 Association of British Insurers (2005b).
14 Ostaszewski (2012).

These few examples also highlight the common link between the existence of insurance and preventive measures.[15] Indeed, risk management prior to an event in an attempt to prevent it from taking place or contain the effects (*ex ante* behaviour) is generally more beneficial to all parties than actions undertaken afterwards (*ex post* behaviour), which can only lessen the impact of the loss. Indeed, the insured would generally rather not suffer the physical loss—or suffer less—and the insurer the financial loss (though one might argue that this depends on probabilities, costs and the degree of loss).

Prevention is, of course, primarily the responsibility of the policyholder. In some cases, preventive measures come in the form of legal requirements, such as speed limits or wearing a seat belt. In many other cases, incentives for *ex ante* risk resilient behaviour are provided by the insurer in the form of reduced premiums, which encourage the policyholder to take beneficial preventive action (e.g. lower life insurance premiums for non-smokers). This underscores how insureds and insurers work towards the common goal of risk mitigation, as insurers make themselves co-responsible and support policyholders' efforts to realise effective prevention in an increasingly complex societal environment.

Figure 1. Natural catastrophes and man-made disasters 1970-2011



Source: Swiss Re (2012).

Preventive measures are not always sufficient, however, to protect fully against certain large events such as natural catastrophes and terrorism. In these situations, information from the insurance industry has an effect on *ex post* behaviour in a very substantial way by facilitating and speeding up post-disaster efforts. Following the earthquake in Japan in March 2011, for example, insurance companies dispatched close to 10,000 staff to assist in the relief efforts and rapidly settled claims to make funds immediately available to policyholders.[16]

Conversely, the absence of insurance may result, for example, in making construction companies reluctant to step in after a catastrophe for fear of not

15 Liedtke (2007).
16 Nagamura (2012).

being paid, thus delaying relief efforts and increasing human suffering.[17] In extreme cases such as nuclear disaster, widespread flooding or terrorism, however, the effectiveness of insurance goes hand-in-hand with effective government intervention. This underlines the importance of public-private solutions, not only to mitigate the effects of a catastrophe but also to promote the development of certain at-risk regions where businesses may be otherwise reluctant to establish themselves.

In a similar vein, the insurance industry can, and has, widely contributed to the debate surrounding climate risk, and the impact of climate change on physical, biological and human systems as well as on local and national economies.[18] Extensive research by the insurance industry helps to raise awareness, reduce societal risks, promote the reduction of greenhouse gas (GHG) emissions and provide opportunities within a changing economic landscape. Insurers are also involved in crafting innovative insurance products to respond to the specific challenges of climate risk.

Box 1

The concept of moral hazard

While insurance is designed to allow people to act more serenely and more positively with the prospect of financial security in the event of misfortune, it could also be perceived as enhancing risky behaviour because the associated risk is mitigated and insureds don't have to bear the consequences of their actions. An example of this would be a homeowner neglecting ageing water pipes or a car owner with comprehensive car insurance being more careless about knocks and scratches.

There is no doubt that the existence of insurance can at times result in negative rather than positive behaviour. For this reason the issue of moral hazard has sometimes been raised to dampen the argument that insurance acts as a social protection mechanism by suggesting that insurance does as much harm as good. However, much of the debate centres on opposing opinions on the correct balance between social welfare and personal responsibility,[19] and not on life and non-life insurance where benefits are generally perceived to outweigh the negative consequences of moral hazard, even in contested areas such as healthcare.[20]

Insurance companies nevertheless attempt to address the issue of moral hazard and rectify risky behaviour by the proper pricing of premiums and limiting the level of compensation or imposing a deductible or a co-pay system, all approaches which require the insured to share part of the loss.[21] In the example above, the car owner will now presumably be more careful because he will have to pay for minor scratches but does not have to fear severe consequences in the case of serious damage.

But there are some situations where moral hazard can be so pronounced that insurance companies may choose not to cover them, e.g. covering track racing for non-professional drivers in a regular car insurance policy. Moral hazard highlights the degree to which insurance starts with individual responsibility.

17 Liedtke (2007).
18 Bosse and Liedtke (2009).
19 Dewan (2012).
20 Gladwell (2005).
21 The Geneva Association (2011a).

Box 2

The concept of adverse selection

Adverse selection is a situation where an insurer's portfolio includes substantially more high-risk people compared to the average population. This situation can arise when, for example, mostly people with risky profiles seek a specific insurance coverage because of advantageous premiums. Such a positive correlation between risk and insurance makes the diversification of risks difficult (since insureds will tend to have similar exposures), and the pooling of risks becomes not only ineffective but can possibly increase the chance of claims far out-weighing the amounts covered by premiums.

Insurance companies safeguard against adverse selection through careful screening, which is the primary explanation for the myriad forms often required for certain kinds of insurance as well as the differences in premium rates. As an example, a company that charges flat rates across the board for life insurance could run the risk of attracting an inordinate amount of smokers, and would not be protecting itself against this outcome by being able to charge higher premiums for this higher-risk category of insureds.

Another example resides in the growing need for long-term care (LTC) as populations worldwide but especially in developing countries tend to live longer lives. This presents a particular challenge to insurers to make LTC products attractive to both parties, i.e. low enough premiums to make it palatable for consumers but not too low as to be detrimental to the insurer—a delicate balance to strike for a product that tends to interest people only as they approach old age and are most at risk.

For these situations, insurers are developing solutions such as combining LTC insurance with life insurance because they are complementary (i.e. an individual cannot be at high risk for LTC and life insurance), or group insurance. Employee-sponsored schemes, for instance, reduce the impact of the voluntary opt-in aspect of LTC that contributes to adverse selection, and avoid underwriting and anti-selection concerns.[22]

22 Courbage (2012).

Promoting financial stability and economic growth

Just as insurance provides individuals with greater peace of mind, it also makes life more predictable for businesses, facilitating corporate planning. And similarly to how it impacts social behaviour, insurance promotes sensible corporate risk management measures through pooling and transparent pricing.[23]

When individuals no longer fear destitution from sudden misfortune, they may feel more inclined to spend on life's comforts and make longer-term investments—and have the funds to do so. Policyholders of certain types of life insurance do not have to curtail excessively their spending in retirement. As a consequence of providing financial security and acting as a social protection mechanism, insurance also therefore contributes to more stable and even increased consumption, which in turn is a driver of economic growth.

This is a foundational role of the insurance industry, which developed in its modern form to manage risks related to shipping and commercial trade in the 18th century (the first documented references to insurance—in maritime contracts—actually date back to ancient Babylonia).[24]

The empirical link between insurance development and economic growth

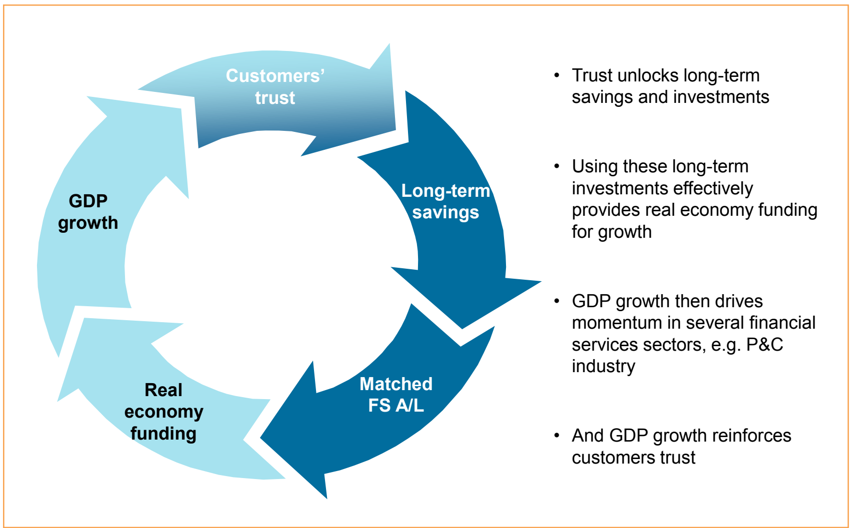
There is a circular and long-run relationship between insurance market size and economic growth, in particular life insurance in developed countries.[25] This would suggest not only that a growth of the insurance sector in developing countries is to be expected as their economies expand (as individuals and business seek to manage their new risk exposures) but also that an increase in the presence and availability of insurance should be actively encouraged in order to stimulate economic growth.

Empirical studies have highlighted this positive correlation between insurance development and economic growth. Enz (2000) describes it as an S-curve, "which stated the starting sharp and then smooth increase of insurance development

23 CEA (2006).
24 Association of British Insurers (2005a).
25 Soo (1996); Kugler and Ofoghi (2005).

corresponding to the lower and higher stages of economic development, respectively". Marco Arena (2006) of the World Bank drew on data from 56 countries for the 1976-2004 period to find equally strong evidence of a causal relationship between insurance market activity and economic growth. And a study by the National University of Singapore proves the significant impact of institutional investors on stock market development and economic growth in OECD countries. [26]

Figure 2. Supporting long-term prosperity



Source: Oliver Wyman.

Figure 2 above shows how the development of insurance and economic growth tend to go hand-in-hand. Indeed, as we have seen, the presence of insurance provides peace of mind, enhances consumption, favours entrepreneurial activity and fosters creativity and innovation—all factors of economic growth. In turn, as the economy grows, people have increasing reasons to seek out insurance against sudden misfortune, etc.

As an illustration, microinsurance has allowed the basic insurance concept of risk transfer (i.e. paying a fixed premium against reimbursement for potential loss) to provide protection in areas where such mechanisms were not previously available. This can largely contribute to educating people about the insurance mechanism and its benefits, leading to increased insurance penetration (total insurance premiums as a percentage of GDP) and insurance density (the amount of insurance per capita), two factors that contribute to economic growth in developing countries particularly.

Fuelling demand and facilitating supply: supporting trade

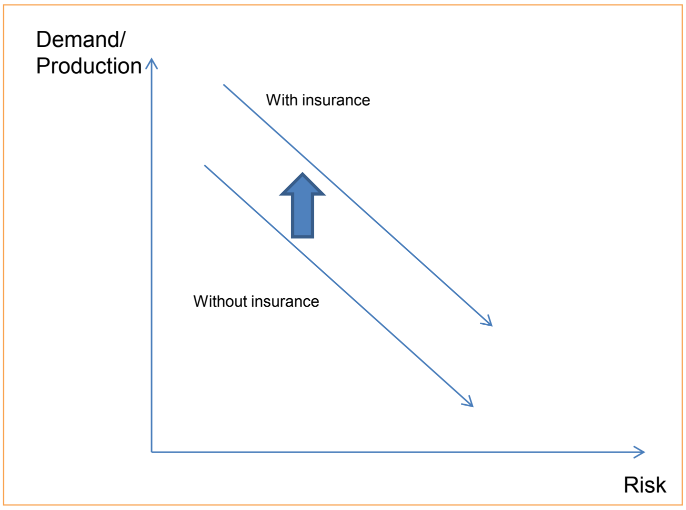
Commercial lines insurance—such as business interruption, workers compensation, fire and flood, malpractice and liability, crop and shipping, and errors and omissions coverage for managers—ensures that companies do not have to set aside funds against exogenous events. Insurance is integrated into their risk management operations and allows them to concentrate on their core activities.

26 Harichandra and Thagavelu (2004).

In this regard, the manifold aspects of business insurance provide a great many benefits to the economy as a whole. By warding off bankruptcies that could result from non-commercially related outside events, insurance saves jobs—which means less human and social distress, less burden on the state welfare system and, again, more regular consumption not only from employees who keep their jobs but also from clients who would otherwise not be able to buy the company's products. The impact of insurance on supply and demand is summarised in Figure 3.

Product liability insurance has a similar effect on businesses that would otherwise not be able to develop and manufacture new products.[27] In the case of terrorism insurance, some companies may opt out of setting up businesses in certain regions because of a major potential threat, but choose to make that commitment when insured against loss.[28] For example, London's Canary Wharf could have lost its position as a major financial services centre if businesses hadn't been able to insure themselves against the relatively higher level of terrorism risk in London.[29]

Figure 3. By managing risk, insurance facilitates economic growth, thereby increasing demand and production



Conversely, the current debate surrounding flood insurance cover in the U.K. is threatening to depress the housing market. In the current *ad hoc* arrangement from 1961, insurers provide cover while the government invests in flood defences.[30] However, there are claims that the government has not held up its side of the agreement since the late 1990s, and the insurance industry believes that the arrangement is now untenable, with many insurers covering a disproportionate number of high flood risk properties.[31] The insurance industry therefore plans to withdraw from the agreement when it expires in June 2013 unless a solution is found—and these severe doubts could leave 200,000 homes without cover and are undermining the housing market recovery, according to the Council of Mortgage Lenders.[32]

27 Hess (2006).
28 Weisbart (2011).
29 Association of British Insurers (2005a).
30 Gray (2012).
31 King (2012).
32 Gray (2012).

Enhancing entrepreneurial activity

Risk, in and of itself, is neither good nor bad; [33] risk-taking behaviour, on the other hand, can be construed as "good" or "bad" in that it can be either constructive or destructive (Boxes 1 and 2 provide examples of these in the context of moral hazard and adverse selection). Constructive risk-taking, for its part, is clearly visible when someone decides to start a new business, since a successful business generates employment and increases consumption.[34]

In this context, insurance allows entrepreneurs to focus on the commercial and financial challenges of their business model without fearing the negative consequences of sudden, non-business-related events. Insurance further enables companies to put reserves to better use by reducing the need for liquidity against potential loss and encouraging long-term investments in infrastructure and new projects.

The degree to which the alleviation of exogenous risk promotes business growth and competition, frees up creative thought and fuels innovation cannot be overstated: insurance allows individuals and companies to spread their wings, innovate, and expand their economic activities by managing, diversifying and absorbing risks for them. In fact, many venture capitalists require entrepreneurs to be insured before they invest.[35]

This highlights another important benefit of insurance for the economy—access to credit—which also exists at the consumer level if one considers that it is almost impossible to obtain a mortgage loan without homeowner insurance, even when it is not required by law.

A recent article in the online magazine *LifeHealthPro* provides true-life examples of how life insurance enabled the development, or even survival, of well-known icons such as Disneyland and McDonald's. "After failing in the pursuit of traditional means of financing to build what would become Disneyland, Walt (Disney) decided to provide his own financing. A large part of this came to be by collaterally borrowing money from his cash value life insurance," writes author Brian Anderson.[36] Similarly, Ray Kroc, who bought out the McDonald

33 This refers to "pure risk", which can be a loss or a gain, rather than "financial risk", which is always a loss.
34 Zurich Government and Industry Affairs (2011) citing Sinn, H.-W. (1986). See also: Zwilling (2011).
35 Association of British Insurers (2005a).
36 Anderson (2012).

brothers in 1961, borrowed money from two cash value life insurance policies to pay salaries of key employees for the first eight years.[37]

The insurance industry as a major employer and investor

In terms of numbers, insurance companies managed some US$24.63tn in assets in 2010, excluding pension funds which account for almost US$30tn.[38] Total premiums reached US$4.34tn or roughly 6.9 per cent of world GDP.[39] The sector directly employs millions of people worldwide and indirectly even more when taking into account subsidiary service providers such as agents, brokers, financial intermediaries, IT support, transportation, auditors and consultants—often high-skilled and quality jobs in domestic economies.[40]

As an integral component of global asset management and investment, the insurance mechanism generally favours long-term investments that are channelled into job-creating projects and more productive sectors of the economy. These contribute to alleviating poverty and creating new asset classes, as well as supporting clean energy and eco-friendly projects.[41]

The effect is noticeable in developing countries, where life insurance assets provide the basis for investments in long-term projects such as infrastructure.[42] Indeed, emerging market infrastructure investment represents a potentially important new asset class that can generate reliable, long-term income and serve to pay the pensions of rapidly ageing populations.[43]

The funds for long-term investments derive primarily from insurance products with a long-term investment horizon such as life insurance as well as from dynamic capital freed up by businesses that do not have to build up precautionary savings thanks to the existence of insurance. As it has been shown, this long-term financing is a key driver of growth and prosperity in the economy: by amassing huge funds in the form of premium income, insurers encourage long-term savings and help drive up the savings rate. In this way, the insurance mechanism adds financial depth to the economy by channelling these savings into investments in primary and secondary equity markets, corporate bonds and real estate,[44] thus transforming dormant or unproductive capital into more dynamic, long-term capital.

37 Anderson (2012).
38 TheCityUK (2011).
39 Swiss Re (2011).
40 Liedtke (2007).
41 Liedtke *et al.* (2009).
42 World Bank (1994).
43 Committee on the Global Financial System (2011).
44 Association of British Insurers (2005a).

Box 3

Insurance and the systemic risk debate

Insurance expertise is a vital requirement in the ongoing debate on systemic risk—the threat posed by large institutions to the global economy in the event of a failure—and the need to regulate financial institutions even at the highest regulatory levels.[45] Yet a lack of understanding about the insurance industry and how it operates could contribute to misguided regulation in the context of current supervisory reforms.

This would have a negative effect on the ability of the industry to do business and therefore have consequential financial and social repercussions. These may include increased premiums for consumers and a reduced capacity of the industry to contribute to the development of financial services (see "Advancing the development of financial services", p. 22), as well as a reduced capacity to insure caused by greater regulatory capital requirements.

It has been demonstrated by The Geneva Association and others, however, that core insurance activities do not present systemic risk—that in fact the insurance industry acted as a source of stability during the financial crisis.[46]

Terri Vaughan, CEO of the National Association of Insurance Commissioners (NAIC) pressed this point in her presentation at the 39th General Assembly of The Geneva Association in Washington, D.C. on 7 June 2012. She referred to the historical precedence of the Great Depression where insurance proved to be a source of stability in a time of upheaval and life insurers in particular "played an important role as a source of capital in the ensuing years." Indeed, in a context of high volatility such as exists today, "a sector that can ride out this volatility has an important role to play."

The first reason why insurers do not add to instability but rather serve a stabilising role lies in the structural functioning of insurance, i.e. it is pre-funded by up-front payments of premiums. The risks of those events occurring which trigger payments are actuarially and stochastically calculated, and the appropriate reserve funds are set aside.

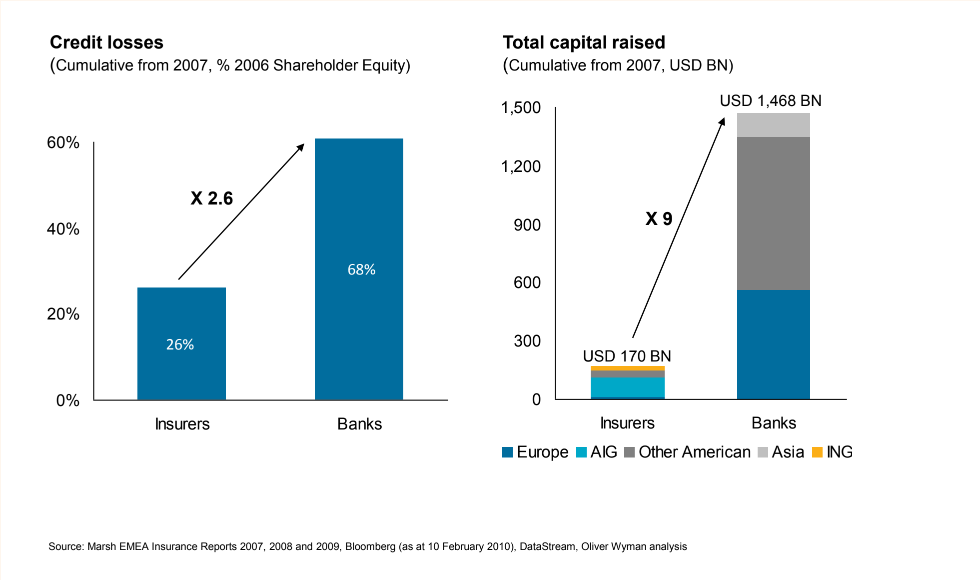
Furthermore, since these events can generally not be triggered voluntarily, a run on insurance companies is an alien concept to the sector, in stark contrast to the much-dreaded run on banks. There are also generally built-in disincentives in the form of penalties for policyholders to surrender, i.e. prematurely renounce a contract, if the option for surrender exists at all, particularly in the case of life insurance.[47]

A second reason is the lack of interconnectedness between the insurance industry and other financial sectors,[48] and the industry's independence from economic cycles (different individuals in different geographical regions are affected by risk differently and at different times).[49] In other words, and based on the detailed research available today, the failure of even a large insurance company would not destabilise the wider financial market.

Nevertheless, regulators may well request—as they have done with banks—that any insurer which they consider systemically important[50] must lay out a resolution procedure that would enable them to shut down their operations in an orderly process. However, again in contrast to the banking sector, the insurance industry already has a longstanding framework for recovery and resolution intended to protect policyholders in the event of failure. Any further regulation could unduly strain the functioning of the insurance mechanism, or even be counterproductive.

45 The Geneva Association (2012b).
46 OECD (2011) and The Geneva Association (2010).
47 The Geneva Association (2012a).
48 See The Geneva Association (2010), p. 20, "Insurers do not rely on wholesale market funding for liquidity" and p. 36, "Exposures to other financial institutions".
49 Han *et al.* (2010).
50 It is important to note that as of the publication of this report, "systemically important insurers", if any exist, will be designated in early 2013.

Figure 4. Insurance—A stabiliser in the last crisis



Source: Oliver Wyman.

Advancing the development of financial services

Insurers are long-term investors who contribute to stabilising financial markets by providing liquidity at critical times when those markets dry up. As such, they act as a powerful counter-cyclical force and provide social benefits generated by their investments in addition to long-term investment gains.[51]

Competition between banks and insurers: improving market efficiency

As alternate accumulators of large amounts of capital, institutional investors such as life insurers and pension funds compete directly with banks, thereby improving the performance and overall efficiency of the financial sector. Because of their ability to make substantial funds available for long-term investments, insurance companies are important stakeholders with professional management systems in many national and multinational corporations—and as such exert efficient checks and balances over the firms in which they invest.[52]

Indeed, with a vested interest in more stable long-term revenue streams, insurers are more inclined to apply positive pressure in adopting more prudent investment practices, encouraging greater transparency in the equity markets and reining in "short-termism". In the U.K., following the financial crisis of 2008, the Department for Business Innovation and Skills has undertaken a number of initiatives and proposals to reform corporate governance, in order to address this excessive focus on short-term gains over attention to long-term value creation.[53]

In a situation such as the one that has existed since 2008, with banks pulling back from longer-term financing and reducing their purchasing of bonds and securities, insurers are also helping to improve the liquidity of the market in an essential way by providing additional sources of funds. It is particularly worrying, therefore, that Solvency II—the new European insurance regulatory framework anticipated for January 2014—threatens to base its capital requirements for securitisations on a faulty assumption that the pre-2008 conditions in the securitisation industry that contributed to the current credit crunch are similar to those governing the industry today.[54] This risks pushing out insurers at a time when banks are far more reluctant to buy bonds and Europe is starved for credit.

51 World Economic Forum (2011).
52 World Bank (1989).
53 Kay (2012).
54 *Financial Times* (2012).

As to developing countries, where insurance activities are hampered largely due to low levels of income and wealth and a lack of insurance awareness and penetration, an efficient supervisory framework can contribute to expanding the role of insurance and reinforcing its positive effect on the economy, particularly by creating a climate of business certainty and providing small businesses with easier access to capital.[55]

In competing with banks as suppliers of credit, insurance companies often provide much-needed credit to financial markets and increase the overall efficiency of the sector. However, banks "typically collect deposits and short-term savings from customers and lend these funds to borrowers usually at a longer maturity".[56] Insurers, on the other hand, actually have a stabilising role, because there is a positive correlation between their long-term liabilities and long-term and relatively low-risk investments, leading to a favourable asset/liability duration match. This has an important bearing on the debate surrounding regulating financial institutions with regards to the danger or systemic risk they represent to the global economy (see Box 3, page 20).

Interaction between banks and insurers: contributing to economic growth

The insurance industry further advances the development of financial services, as we have seen, by facilitating credit transactions and bank intermediation.[57] Non-life insurance in particular collateralises credit for consumer goods and business operations, e.g. providing banks with security in the event of bankruptcy by the policyholder, thereby reducing a bank's risk exposure and encouraging further loans. This reduces the market cost of capital for companies and influences economic growth by creating further demand for financial services.[58]

With banks and insurers operating in this complementary fashion, "the individual contributions (to the economy) are greater when both are present"[59] and it has been proved that greater life insurance and banking penetration promotes increased productivity.[60]

Risk-linked securities[61]

Though insurers and reinsurers plan and set aside funds for natural disasters, the scope of claims resulting from these catastrophes can at times weigh heavily even on the largest companies—particularly if they happen in succession, as in 2011. Last year witnessed not only the earthquake and subsequent tsunami in

55 United Nations Conference on Trade and Development (2007).
56 Drzik (2012).
57 Grace and Barth (1993).
58 Zou and Adams (2006).
59 Brainard (2008).
60 Webb *et al.* (2002).
61 For detailed information on risk-linked securities and their role in providing the insurance sector with funds for natural catastrophes, see Cummins (2012).

Fukushima, Japan, but also earthquakes in New Zealand, floods in Australia and Thailand, and hurricanes in the United States. Original insured losses amounted to approximately US$105bn and direct economic costs of up to US$380bn, making it the most expensive year in recorded history for national economies and the insurance sector.[62]

Risk-linked securities such as catastrophe risk (CAT) bonds enable the insurance industry to raise capital to pay the claims resulting from these mega-events. Since there are no underlying assets to risk-linked securities, they are designed to pay off on three primary types of triggering variables: 1) indemnity triggers, where payouts are based on the size of the sponsoring insurer's actual losses; 2) index triggers, where payouts are based on an index not directly tied to the sponsoring firm's losses; 3) parametric triggers, based on the physical characteristics of the event.

> *(...) CAT bonds often are issued to cover the so-called high layers of reinsurance protection for example, protection against events that have a probability of occurrence of 0.02 or less (that is, a return period of at least 50 years) (...) Because CAT bonds are fully collateralised, they eliminate concerns about credit risk.*[63]

CAT bonds proved particularly resilient to the 2008 financial crisis, notably because they offer greater transparency and less moral hazard (see Box 1) than most asset-backed securities, as well as because they are largely de-correlated from financial markets.

Etti Baranoff, Associate Professor of Insurance and Finance at Virginia Commonwealth University and Research Director of The Geneva Association, and Kim Staking, Principal at Staking Financial Consulting, recently highlighted at the 14th meeting of the Amsterdam Circle of Chief Economists (ACCE) the economic importance of insurers as stable investors, particularly in a context of high volatility, changing risk scenarios and the ongoing financial crisis.[64] They pointed out that "the insurance sector continues to be a vital provider of investment funding for the real economy, with more than 50 per cent of the global US$17bn+ investment portfolio allocated to bonds and loans."[65]

Staking and Baranoff also explained that "since 2008, credit by depositary institutions declined by 1.2 per cent while insurance credit expanded 14.4 per cent for the life segment and 4.4 per cent for the non-life segment. In the meantime, insurers provide 42 per cent and 51 per cent of credit granted by depositary institutions and commercial banks, respectively. In general, the insurance sector offers longer maturity credit."[66]

62 See, for example, Courbage and Stahel (2012).
63 Cummins (2012).
64 Schanz (2012).
65 *Ibid.*
66 *Ibid.*

Looking to the future

Through its expertise in risk management and investment, and its underwriting and pricing experience, the insurance industry is uniquely suited to play a key role in meeting the changing needs of society and to offer comprehensive solutions that address current and emerging threats.

Increased public-private cooperation is essential in confronting major global challenges such as population ageing, climate change and other emerging risks. While misguided regulation for insurance would impede the sector from doing business and ultimately harm consumers, there is no doubt that an efficient regulatory framework can enhance the value and benefit of insurance for society and the economy. For this reason, efforts to communicate clearly and efficiently the value of insurance, and interact more dynamically with policyholders, must be pursued by the industry.

Climate, cyber and space weather risks

With regard to climate risk and providing greater resilience against natural disasters, improved private-public cooperation could truly harness the insurance industry's usefulness as a risk management tool in better preparing for and responding to mega-events, thereby mitigating the resulting human, social and economic loss.

The impact of the floods that struck Queensland, Australia, in 2011, would certainly have been less severe if there had been greater communication and coordination on flood risk information and a consistent national flood mapping for the country that would enable setting up preventive schemes.[67] Also, many homes were without insurance: property loss was not compensated, leading to financial loss and further suffering. To increase insurance penetration without making flood insurance mandatory, the National Disaster Insurance Review now suggests requiring all home insurance policies to include flood insurance but allowing consumers to "opt out".[68]

> *The insurance industry therefore represents a potential and valuable private sector counterparty for governments both as an advisor on risk management but also as an industry that, when backed by an appropriate legal and regulatory framework, can send risk-based pricing signals,*

67 Ma *et al.* (2012).
68 *Ibid.*

can encourage climate resilient behaviour and support sustainable development.[69]

With the ubiquitous development of the internet over the past 15 years has emerged the new, vital threat of digital risk. Mike Rogers, Chairman of the U.S. House of Representatives Intelligence Committee recently declared that "cyber attacks represent 'the single largest threat' facing the United States", as quoted by Business Insurance.[70] Since the advent of the internet, cyber attacks—particularly in the form of social engineering and data theft—have become far more pernicious and potentially devastating than ever before, executed by professionals often working for organised crime or foreign nation states.

There are a number of far-reaching potential liabilities for businesses, including: operational risks, financial risks, intellectual property risks, legal and regulatory risks, and reputational risks. A report by Lloyd's on digital risks[71] points out that while many traditional insurance policies do not cover or mention digital risk, there are a growing number of cyber risk products and solutions becoming available. As it has done in the past—indeed since its modern beginnings with marine insurance—the insurance industry can also contribute to heightening the awareness of the issue by sending pricing signals, e.g. refusing to cover certain risks if companies don't take minimum security standards.

Space weather is another area of concern, not only for businesses but for entire economies and societies. Solar flares, in particular, result in magnetic and radiation storms that can affect the Earth's environment and potentially damage conductors and power grids, causing blackouts, as well as satellites and radio communications, disrupting the transport and aviation sectors.

According to Richard Ward, CEO, Lloyd's, "the insurance industry has considerable experience in insuring space assets and includes the risks from space weather when pricing these assets."[72] He added, however, that new products should be developed to cover the threats to assets and services based on Earth from moderate space weather events. Furthermore, "the insurance sector can support joint efforts by governments, regulatory authorities, scientific experts, electricity generators and distributors, and other industries, to mitigate the risk associated with extreme weather events."[73]

A greater need for effective communication

Correct and unbiased information on how insurance contributes to society and the economy is paramount, since lack of sufficient education often results in a negative opinion of the industry that can severely impact consumer confidence—a vital component of the industry's efficiency in managing risks and alleviating suffering. As an example, we can cite the confusion that often exists surrounding what a policy covers and what it doesn't: a responsibility often shared by the

69 The Geneva Association (2011b).
70 Hofmann (2012).
71 Baldwin *et al.* (2010).
72 Ward (2012).
73 The Geneva Association (2011b).

insured and the insurer, wherein the former does not diligently read and the latter does not sufficiently explain.

Indeed, while the insurance pricing mechanism and the extent of coverage are clear in some cases—e.g. the difference between fully comprehensive car insurance and third-party loss—they can be far less so in others. Part of the extensive damage caused by Hurricane Katrina that hit New Orleans in 2005, for instance, was not covered by insurers because it resulted from subsequent flooding when the levees were breached—and not from the hurricane itself.[74]

The insurance industry has already taken an important step in educating consumers and helping them appreciate better what insurance covers and what it doesn't by clarifying policy wordings.[75] Companies can do even more by treating claims fairly and rapidly *ex post*, and clearly and vocally communicating reasons for denying claims when denial is justified.[76] Other additional solutions are for insurers to differentiate themselves from the banking industry and to increase the standardisation of commercial line insurance products.[77]

Such efforts can only be truly efficient, however, if there is a greater understanding among consumers, decision-makers and government bodies of the real and extensive value of insurance to society and the economy. To summarise, Hans Peter Würmli highlights "three decisive strengths of the insurance community: the ability and independence to assess risk, including judgements as the limits of insurability; the capacity to create insurance products to internalise external cost, e.g. of dreaded events; and, most important of all, having the right incentive to impose provisions and measures to manage risk exposures that can render dreaded events more unlikely."[78]

It is indeed important to remember why insurance is so pervasive (and usually voluntarily so) in the developed world today and increasing its presence in the developing world—because it answers some of our most basic needs and it is generally far less costly in the long run to be insured than uninsured.

74 Hurricanes insurance does not automatically cover floods results from hurricanes. In some instances (e.g. Japan) the insurance industry stepped in anyway, settling many claims without resort to loss adjusters.
75 Association of British Insurers (2005a).
76 *Insurance Day* (2009).
77 Hess (2006).
78 Würmli (2011).

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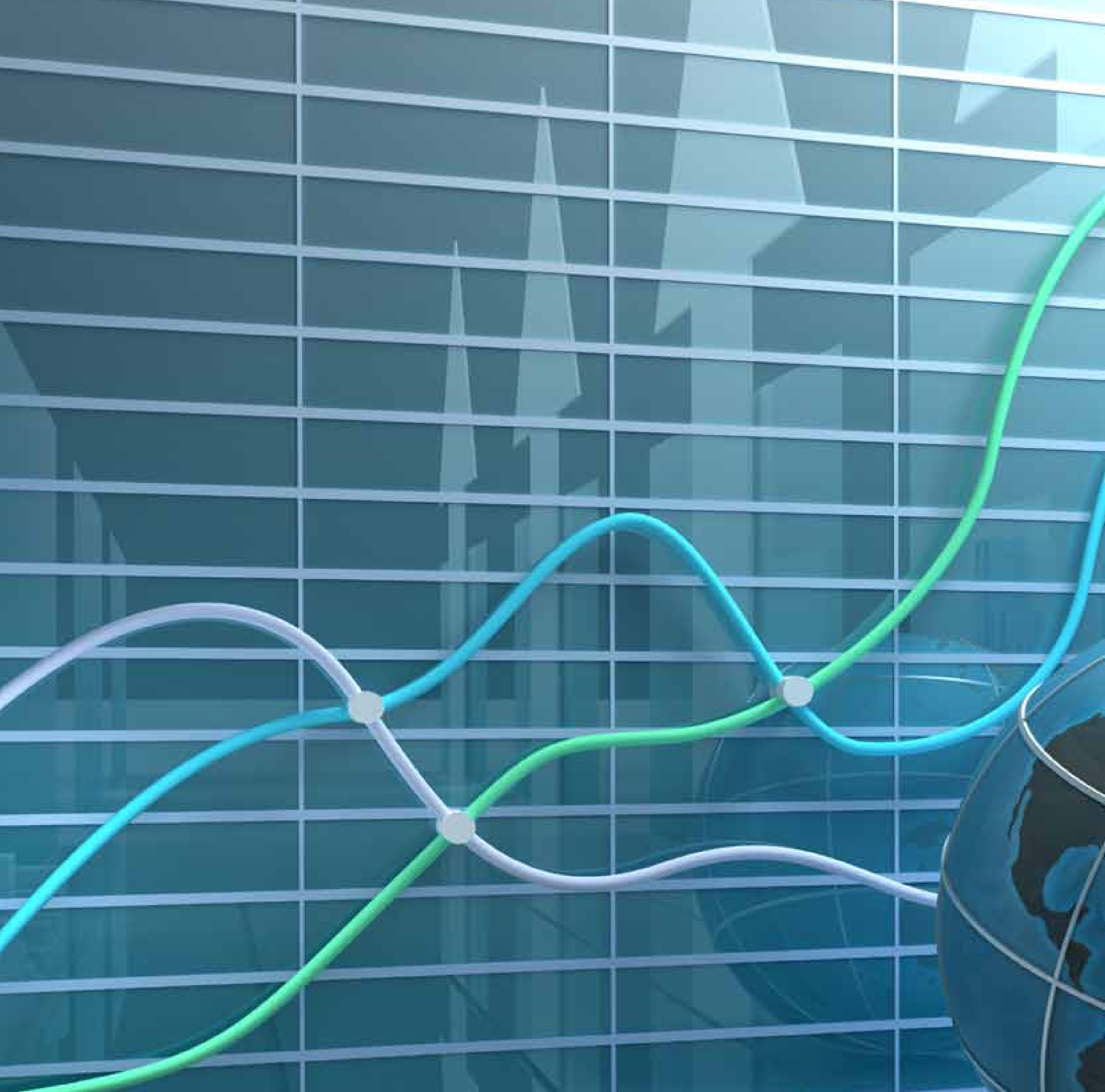
  The Geneva Association acts as a forum for its members, providing a worldwide unique platform for the top insurance CEOs. It organises the framework for its members to exchange ideas and discuss key strategic issues, especially at the General Assembly where once per year more than 50 top insurance CEOs gather.
- ***conducts research:***
  The Geneva Association investigates the growing importance of worldwide insurance activities in all sectors of the economy. It tries to identify fundamental trends and strategic issues where insurance plays a substantial role or which influence the insurance sector. In parallel, The Geneva Association develops and encourages various initiatives concerning the evolution- in economic and cultural terms-of risk management and the notion of uncertainty in the modern economy.
- ***organises expert networks:***
  The Geneva Association organises global networks for experts in various fields linked to insurance: finance, regulation, risk management, pension provision, health, etc. It also manages several extra-company networks of specialists from its members' companies: chief financial officers, chief risk officers, chief investment officers, chief communication officers, the Amsterdam Circle of Chief Economists (ACCE), as well as the Liability Regimes Planning Board with leading underwriters and claims-handlers and the *PROGRES. Net* initiative for chief regulation officers and top regulatory experts in insurance.
- ***maintains dialogue with international institutions:***
  The Geneva Association uses its special risk and insurance expertise and in-depth knowledge to raise subjects of relevance to the insurance sector in global forums. The Geneva Association is the leading interface of the insurance industry with relevant international institutions and advocates the role of insurance and its relevance to the modern economy.
- ***publishes leading insurance journals, newsletters, books and monographs:***
  • **journals**: *The Geneva Papers on Risk and Insurance—Issues and Practice* (4 issues per year) and *The Geneva Risk and Insurance Review* (2 issues per year);
  • **special reports**: Geneva Association reports tackles issues of strategic importance to the insurance industry that warrant special attention and particular analysis;
  • **The Geneva Association newsletters**, usually published twice a year, on Insurance and Finance, Risk Management, PROGRES (regulation and supervision), Insurance Economics, Four Pillars (life insurance, pension and retirement), Health and Ageing, and World Fire Statistics.
  • **working paper series (Etudes & Dossiers)**: conference proceedings, special reports, etc;
  • **books and monographs.**
- ***organises conferences and seminars:***
  Throughout the year, The Geneva Association organises or supports about 20 conferences and seminars on topics which are of high relevance to the insurance industry, gathering experts from all sectors and backgrounds to combine their knowledge. The events are topics- and issues-oriented and aim at developing new knowledge and insights as well as providing platforms for expert opinion interchange.

- ***stimulates and sponsors research in insurance and risk management:***

  The Geneva Association has several ways of stimulating and sponsoring research work in risk management and insurance-related fields through the availability of research grants, scholarships, prizes and support for publishing.

The Geneva Association membership is limited to a maximum of 90 persons, the CEOs of the most prominent insurance companies in the world. It is a non-profit organisation based in Geneva and Basel, Switzerland.

www.genevaassociation.org



Insurance is a vital social protection mechanism that promotes financial and economic stability as well as growth. This paper seeks to highlight the role of insurance in society, expounding upon the very real value that it offers individuals, institutions and the economy by providing a sense of security and peace of mind, mitigating loss, increasing prosperity, and making people more aware of the reality of risks and their consequences. It also examines some of the misunderstandings about insurance coverage, in particular those areas where they have led to disappointment or disillusionment about the industry.

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