Insurance is Invisible yet Everywhere

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Introduction

Insurance is largely invisible in our developed economies, and yet insurance is everywhere. A vast number of actions are covered by an insurance contract: people's health, their movements, purchases, homes, and even their lives. As modern insurance manages risks, it allows individuals, companies, and societies to take them.

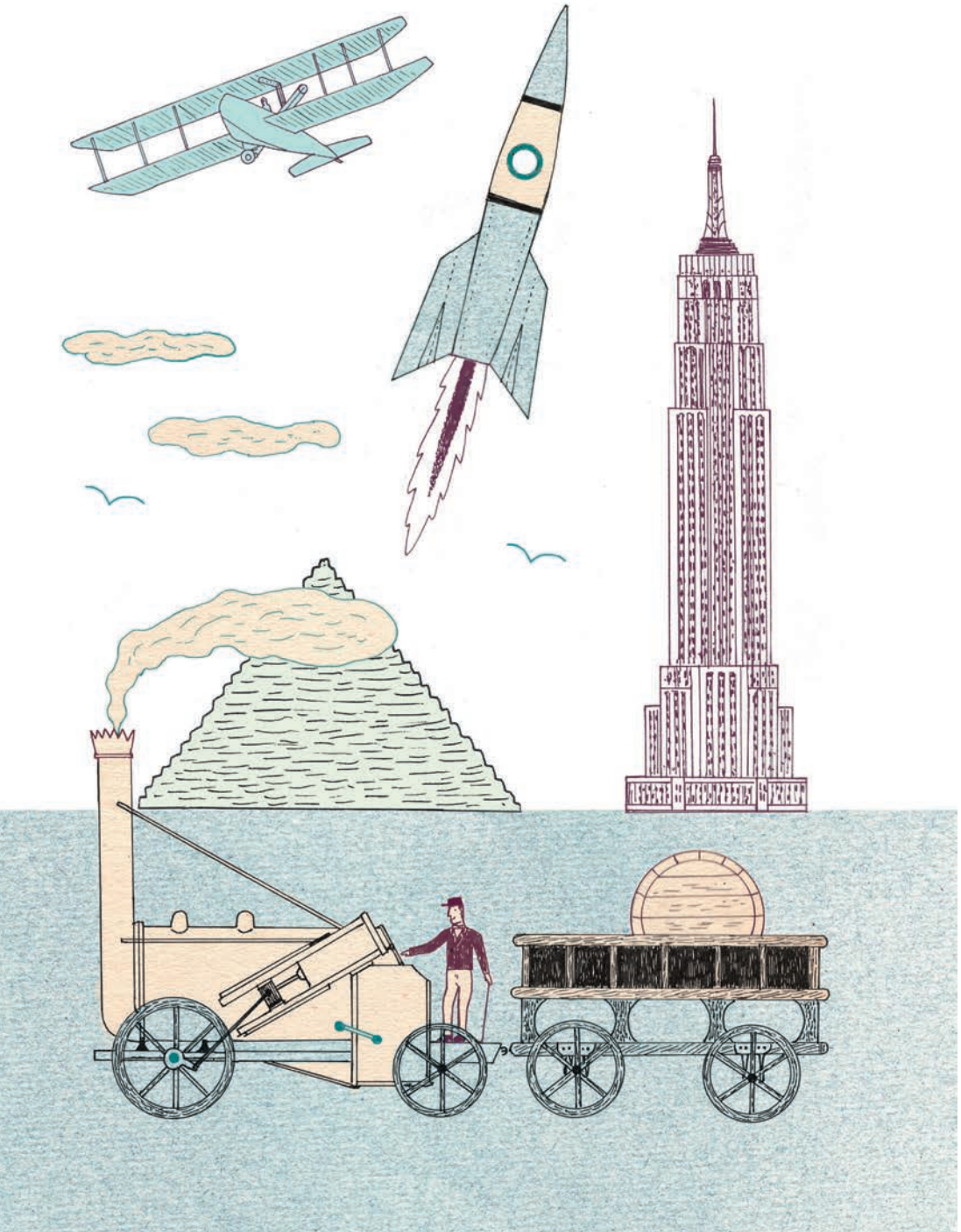
The concept of insurance has existed in many ways since Antiquity. Indeed, insurance as we know it today is a sophisticated form of the tools developed by traditional societies to create a climate of mutual trust among people. These traditional tools have often taken the form of community savings supervised by a wise person.

One way to evaluate the importance of insurance would be to imagine what our modern economies would look like in its absence. Without insurance, an unpredictable future would be a major concern: people would be afraid to drive, launch new products, sign contracts – even to be sick and unable to pay for treatment.

Yet, for many years, the macroeconomic role of insurance has not been a major topic of interest. The sector has long been subsumed in financial services. However, it would be a mistake to amalgamate insurance with banks. Indeed, up until 1993, insurance was treated as part of the industrial sector in national accounts.

This paper presents a framework for understanding how insurance contributes to the functioning of the economy and society. More specifically, it examines three main functions – economic growth, stabilization and distribution – along with the relationship between insurance and innovation.

This text is inspired by the article "The macro-economic role of insurance", co-authored by Denis Kessler, Amélie de Montchalin and Christian Thimann, to be published as part of the book «The Economics, Regulation, and Systemic Risk of Insurance Markets" at Oxford University Press in 2016.



Insurance

and the economy

As a mechanism to mitigate risk, insurance has played a crucial role in the development of modern economies. By being a motor for entrepreneurial innovation, it exerts a downward pressure on interest rates and increases the optimization of savings to enhance investment.

Risk-taking and economic growth

Economic growth is typically defined as the combined effect of two major factors: growth in the quantity and efficiency of labor and the economy's capital intensity. It is hard to predict, since it is based on a sum of individual decisions which all contain a measure of unpredictability linked to the risk-taking they involve. This risk-taking brings the need for mitigation factors – such as insurance – that can allow decision-making to take place. The development of insurance is thus an interesting component in the theory of economic growth.

Historically, insurance has developed in close parallel with economic development and growth – and in particular with the development of manufacturing industry, as shown in the UK during the 19th century. There is ample evidence of a general correlation between formal insurance penetration and GDP growth. A number of studies have also demonstrated the causal relationship

between formalized insurance, growth, and productivity. Reflecting these links, insurance has become a major economic sector in virtually every mature economy.

Most human activities involve uncertainty. Economic growth is rooted in decisions that involve taking risks, whether they are financial, human, reputational, or other. In industrialized societies, the scope of these risks goes beyond individuals' capacities to bear them. This calls for the advanced forms of personal and collective risk-management that are the essence of insurance activities. Insurance has thus grown exponentially since the Industrial Revolution, when entrepreneurs became exposed to uncertainties that could destroy their businesses and reputations.

Insurance provides us with a way of managing this general uncertainty. At the individual level, protection, health and life insurance contracts typically enable people to engage in potentially riskier activities and environments. At the corporate level, insurance is decisive to allow for trade and contract agreement. Insurance can thus be described as a means of enabling people and companies to take risks and as a way of allowing individuals' minds and assets to be productively and confidently invested in the economy.

Insurance and interest rates

A key explanation for the positive impact of insurance on economic growth is its role in reducing risk aversion, thereby reducing the market risk premium and equity premium. Insurance also lowers term premia, thereby easing credit conditions, facilitating investment, and increasing financial returns. The impact of insurance on interest rates must therefore be seen as the result of interacting factors. Its effect on the yield curve can be summarized as allowing lower interest rates and a longer maturity curve.

The ability of an economy to allocate resources efficiently is highly determined by the level of development of its financial sector and the degree of financial intermediation. In turn, the risk management provided by a complete insurance market allows the economy to allocate resources more effectively and reach a more efficient mix of activities, as higher risk-taking usually means higher returns, productivity, and growth. The pricing and signaling of risk by insurance companies is a key tool for helping resources to be allocated more productively.

By providing a range of insurance services to firms and households against property losses, damages and negative events affecting loan repayment abilities, insurers also effectively help lower credit risk. Insurance development can also be specifically targeted at increasing loan repayment abilities and confidence, through trade and credit insurance. As a consequence, insurance provision helps to improve the overall efficiency of the financial sector, notably by facilitating the provision of credit to the private sector.

As institutional investors, insurers also reduce long-term premia through their purchase of long-term assets. Insurers have to honor commitments to policyholders over several decades and their investment profile needs to reflect that with their so-called "Asset Liabilities Management". By increasing the demand for long-term assets with stable income flows, insurers reduce the term premium on the fixed income market. This long-term bias can also lead insurers to favor long-term assets such as infrastructure investments, particularly in the context of overall low interest rates in bond markets.

Insurance and savings

By easing decision-making in the face of risks and uncertainty, a direct effect of insurance is to reduce precautionary savings at the individual level and optimize capital allocation at the collective level, thanks to pooling mechanisms. Insurance also enhances savings behavior by providing incentives for long-term savings objectives while supplying customers with more competitive and long-term contractual savings vehicles than those offered by other financial institutions.

By providing a sense of safety and protection against risk, insurance lowers precautionary savings at the individual level (typically small amounts of cash to face future shocks) and increases the collective optimization of savings to enhance investment. Individuals covered by a formal insurance contract use their remaining available income to invest and the insurance company also invests the collected premia in the economy.

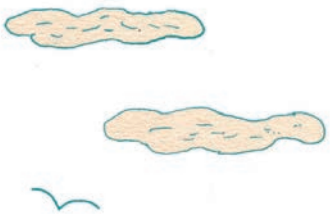
The provision of liquidity at the macro level is therefore optimized, enhanced and stabilized over the long term, allowing investment to be larger and less volatile.

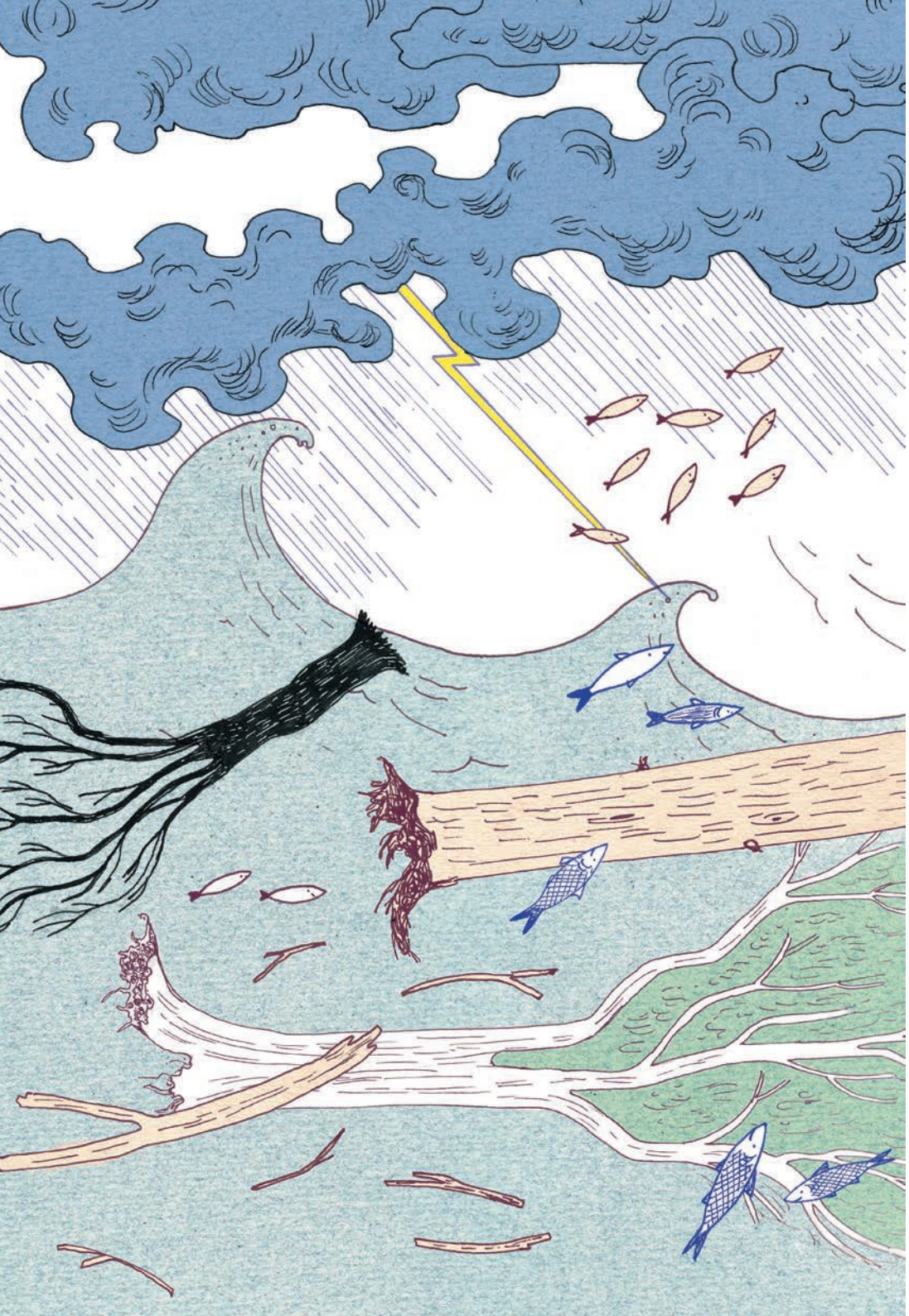
These links between savings, insurance and investments enhancing economic growth are particularly emphasized through the development of microinsurance.

Where there is no formal insurance, poor households and communities attempt to self-insure through a combination of building assets, diversifying sources of income, implementing basic pooling schemes at the community level or simply short-term hoarding. This all leads to suboptimal allocation of capital in the economy and a lower level of investment.

Microinsurance is specifically designed to manage the risks faced by low-income people, through products tailored to their needs. The microinsurance market is a particularly important and fast growing one, estimated at more than four billion people across the planet.

By providing financial protection to poor households, microinsurance can enable the beginning of specialization, as households do not need to resort to ineffective alternative coping mechanisms. It can also increase productivity by inducing healthier habits, as in the case of health insurance: there have been solid findings that health microinsurance helps to reduce out-of-pocket health expenditure and increases the use of healthcare services.





Insurance and finance

Insurance exerts a stabilizing influence on financial systems, protecting them against external shocks. As a key source of stable funding for financial markets, it fosters long-term investment by transforming savings into available capital for the economy.

Stabilizing the economic cycle

Insurance acts as an economic stabilizer, smoothing the consumption of individuals facing idiosyncratic or aggregated shocks, such as natural catastrophes. This stabilization role is visible when natural catastrophes hit lower income countries. As they may not have the funds or borrowing capacity to recover from natural disasters, risk transfer to insurance markets can help them avoid drastic disruptions to economic growth.

The positive trend in insured losses due to natural catastrophes underlines the growing resilience of economies exposed to extreme and destructive events, sheltering them from their full-blown economic consequences. Almost one third of the US $140 billion in total economic losses from natural and man-made disasters in 2013 were covered by the insurance industry.

A second function of insurance is to protect savings and retirement income thanks to modern and innovative

products. Variable annuities are a good example of income stabilization provided by insurers. Such contracts enable policyholders to diversify their savings allocation towards a wider and potentially more profitable range of investment products while benefiting from future minimum guaranteed incomes.

Another example is unemployment insurance attached to mortgages, which enables people facing unemployment to maintain the level of income required to meet their payments. Without it, an economic downturn would bring severe and immediate real estate price adjustments, banks affected by higher non-performing mortgages and families losing shelter – three outcomes that would make an economic recession deeper.

Stabilizing the financial cycle

Insurance is also a key source of stable funding – and thus stabilization – for global financial markets, as it fosters long-term lending and investment. Looking at the US economy, historically the insurance sector has been substantially more stable than the banking sector.

This stability results from the future-oriented business model of insurance: insurers collect the current liquidity of individuals and organizations to fund their future lifestyles. In contrast, banks are present-oriented: through credit, they use future liquidity to fund today's projects and lifestyle. This differing relationship with time is visible in the nature and importance of liquidity for insurers and banks: banks are extremely dependent on market liquidity to stay solvent, while insurers are liquidity-rich.

Insurers have long-term, stable liabilities, which they match with their assets profile. The result is that insurers are net suppliers of stable capital in the economy. Life insurers are large players in financial markets. In 2010, they managed US$ 18.7 trillion of assets, or 11% of the world's total financial assets. The insurance sector is also the largest institutional investor in the European Union, with over €8.4 trillion of assets invested in the economy at the end of 2012, representing 60% of GDP.

Finally, insurers have a natural attraction for financial assets that can deliver stable returns and income flows over the long run. In 2013, the largest component of insurance companies' portfolios in four major markets (France, Germany, the UK and the United States) were public and private bonds, followed by listed equities which only represented on average around 10% of their assets.

The role and use of derivatives

To offer credible protection to policyholders and reinforce the positive impact of insurance on growth, insurers need to be able to withstand external shocks while honoring commitments to policyholders. To achieve this self-reinforcement, insurance companies rely on derivatives for limiting financial risk and reinsurance treaties to limit peak exposure to catastrophes (storms, earthquakes, pandemics or large losses).

Derivatives are unfunded instruments, essentially allowing the transfer of financial risk to another investor. As diversification is the essential foundation of modern portfolio management, financial risk is not increased but transferred to willing investors.

Derivatives are essential to buffer potential shocks affecting the insurance balance sheet and secure the provision of guarantees over time. Since insurance companies invest the premia received from policyholders in financial markets and as a result accumulate exposure over the long term, they need to hedge against this undiversified risk. They therefore employ financial risk-transfer instruments – derivatives – to limit their exposure to large capital market variations.

From an operational perspective, derivatives enable an insurer to smooth the income stemming from its investment decisions and to limit exposure to financial cycles and corporate insolvency risks. Without derivatives, insurance companies would be completely exposed to financial shocks: the result would be a weakening of the whole financial system.

The impact of regulations

There is evidence that the development of insurance markets contributes to the health and stability of securities markets. Insurers are active in many financial markets and help to provide liquidity through various techniques and tools, such as securities lending. At the same time, questions have emerged about the riskier and more pro-cyclical investment biases of insurance companies in recent years.

Such behavior cannot be understood without looking at the evolution of the regulatory environment. Solvency II calibration and IFRS accounting standards, for example, had counterproductive effects on behavior in financial markets even before their actual implementation. Intrinsic incentives were perceived as twisted towards more short-termism, stronger investment biases towards government bonds and – given the single benchmarks provided by regulators – a transition to uniform balance sheet compositions and maturities across the insurance sector.

Moreover, in a period of durably low interest rates, insurers face some limitations because of regulation to increase their exposure to asset classes generating higher returns as they would wish to do. Frameworks such as Solvency II – which indeed require higher capital charges for riskier asset classes (typically listed equity shares) – are having a massive impact on insurers' portfolio allocation and ultimately reduce their capacity to contribute to the long-term, stable financing of the economy. In this regard, short-term biases, such as mark-to-market valuations and risk-based solvency standards, have hindered the ability of pension funds and insurers to invest in infrastructure and other alternative asset classes.

Insurance

and society

Insurance creates an invisible web of solidarity between people, sharing risks and redistributing income. By establishing trust and reducing uncertainty, it has also been a catalyst for many of humanity's most innovative and historic achievements.

The unequal nature of risk

Insurance creates an invisible net of solidarity between economic agents, interconnecting them in time and place around shared preferences and priorities. It gives economic materiality to the concept of solidarity and organizes it financially through its fundamental principles of pooling – that is, aggregating risks – and mutualizing – that is, pricing them depending on their statistical occurrence for the larger pool and not for the individual.

As it is often said, insurance is about "connecting the misfortunes of the few to the fortunes of the many", which naturally operates a form of distribution. This distribution of income takes place after the fact and is linked to an accident – which is fundamentally different to that operated by public redistribution, which takes place on the basis of a comparison of prior and desired subsequent income levels. Risks are neither equally shared among individuals in society, nor over

time for a given individual: this inequality has little to do with initial income levels.

There is also a genuinely social dimension of risk. Technology contributes to increasing inequality between those who control and understand the industrial cycle – and risk – and those who are affected by it. Multiplicity of risk is a new given in modern societies, and how to share the burden of its consequences has become central to the social and economic decisions of public authorities, local professional communities and corporations.

Intergenerational distribution

The mechanism of risk pooling and the strategy of long-term investment and holding portfolios of securities enable insurers and pension funds to deliver income distribution between generations. This intergenerational sharing of financial risk by life insurers has an impact on intergenerational welfare that has been deemed equivalent to an increase in asset returns by as much as a full 1% every year.
This social benefit is obtained by the anti-cyclical retention of the return on the insurer's general account, as well as the guarantees provided by the insurer over time.

In addition, there exist intergenerational cross-subsidization effects in guaranteed-interest-rate life and pension contracts, as the different generations partially share the same reserves. Early generations build up bonus reserves, which are left with the company at expiry of the contract and then benefit to later generations.

Distribution between individuals

Insurance is also a distributive force among individuals at any given point in time – theoretically independent from their level of income. Insurers appear to be actively recycling and redistributing liquidity (claims and payments) among economic agents, towards those having faced some risks. This is different from the distribution operated by public authorities, which looks at economic needs and seeks to transfer income from the richer to the poorer. As highlighted earlier, mutualization and pooling of risks are the natural engines that enable this distribution to happen.

In addition, mechanisms such as participating contracts (designed so that the pool of policyholders retains a part of the financial risks linked to the investments of their savings and premia) create distribution between individuals, as some will have entered in respectively high/low market environments and then exited in low/high ones, offsetting other individuals who made opposite decisions.

To illustrate the scale of the distribution coming from these pooling mechanisms, US $2.6 trillion and US $2 trillion respectively of life and non-life insurance premia were collected in 2012 around the world, representing 6.5% of world GDP. At the European level, premia collected amounted to €1.4 trillion in 2012 (7.7% of EU GDP), which equals an average of €1,887 per capita in premia (10% of EU average income). These collected premia should be understood in relationship to the benefits and claims paid. At the European scale, €0.9 trillion in benefits and claims were paid in EU countries in 2011, which represents the equivalent of Spain's GDP.

Insurance and innovation

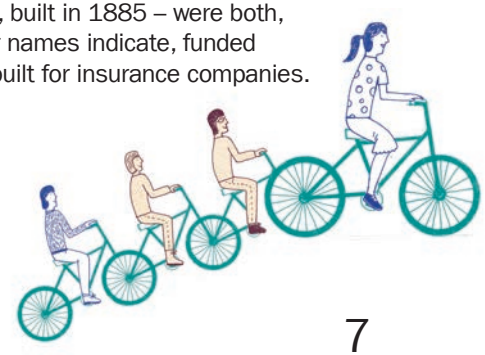
By creating confidence and reducing uncertainty, insurance is an enabler of human and technical endeavors. It produces this effect through its economic function and its long-term investments, as well as the diversified nature and size of its balance sheets. The nature of risk has followed economic progress, and insurance was created as a tool to address new risks and limit their potential consequences.

In the 18th century, the new risks were those taken by entrepreneurs during the Industrial Revolution; in the 19th century, those relating to work accidents; and in the 20th century, those linked to work contracts and more widely the overall environment of economic development (health, technology, and the environment). Over this period, insurance companies have systematically tracked, analyzed and priced innovation and new risks.

More widely, insurance entertains a paradoxical relationship with innovation. It encourages innovation – in particular by protecting innovators from external shocks and protecting their wealth – but simultaneously limits it, by being rather slow in covering new types of risks or adapting its own functioning to technological changes.

In the face of the unknown, insurance is what makes the risk acceptable. However, insurers are not ready to immediately insure everything that is new as they need some history and knowledge about the risk to be able to understand its impact and the "price" for it to be covered. In turn, as soon as insurance companies, regulators and society agree to collectively cover a new risk, the scaling up of a technology beyond the initial circles of pioneers and entrepreneurs can be very fast. In this sense, insurance is a sign of the technological and technical frontiers of a given time.

By taking risks – by strategically mobilizing savings that were previously pooled – and allowing others to take them, insurance and innovation in insurance mechanisms have been closely linked to many great human projects. History offers numerous examples. In the 14th century BC, stonemasons in Lower Egypt were among the first to establish an aid fund in case of accidents on very large projects such as tombstones and pyramids. The UK – commonly seen as the birthplace of the Industrial Revolution – turned to various forms of insurance early on its economic development, thereby contributing to the development of modern insurance market know-how and practices. Moreover, the world's first skyscrapers – New York's Equitable Life Assurance Building, built in 1870, and Chicago's Home Insurance Building, built in 1885 – were both, as their names indicate, funded by and built for insurance companies.

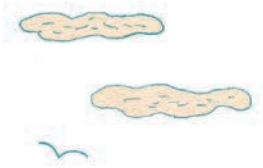


Conclusion

This paper has presented a framework for describing the variety of contributions that modern insurance makes to macroeconomic performance. There are three main levers: the role of insurance in the mechanisms of economic growth; the role of insurance in stabilizing individual incomes and the economic cycle; and finally, the role of insurance in redistributing risk and misfortunes among people over time.

The role of modern insurance is multifaceted. By managing risks, insurance allows individuals and companies to take risks and innovate. Insurance also lowers interest rates, by reducing default probabilities and investing with long-term horizons. Ultimately, insurance modifies the level and allocation of individual and aggregated savings, leading to a more optimal allocation of capital. By doing so, it has an impact on the economic cycle and on the distribution of income but also shocks across economic agents.

Interestingly, some of these observations rely on the long-established methods of pooling and mutualizing risk, while others are linked to the sophisticated financial form that insurance has adopted since the late 19th century.



It is impossible to predict how the macroeconomic role of insurance will evolve given the major changes in risks created by technology and social evolutions as well as in society's acceptance of risk itself. However, since human societies have always created frameworks to reduce uncertainty by collectively managing risks, insurance mechanisms will undoubtedly continue to exist in one form or another.

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