

# The economics of insurance and its borders with general finance

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‘What is insurance and where does insurance end?’ is a pressing question in international finance as global regulators are still pondering whether there can be systemic risk in insurance. This column argues that the challenge faced by regulators partly stems from terminological confusion between insurance activities and more general financial activities. Insurance and finance both use the same terms – in particular the ubiquitous notion of risk – but attach fundamentally different meanings to them. With the proper terminology at hand, the limits of insurance can be re-established. Such delineation is essential to determine appropriate systemic risk regulation.

## I. Introduction

What is insurance, where does insurance end and general finance begin? What sounds a simple, perhaps even awkward, question is one of the most important issues in global finance at present. The reason is that financial regulators broadly agree that most activities conducted by insurance companies do not pose a systemic risk in the financial system, but that certain activities might do so. In general, activities concerning property and casualty insurance, health insurance and most parts of life insurance fall into the first category. But there are certain specific life insurance products, as well as advanced techniques of financial and risk management, which are viewed with some concern.

For insurance, the identification of activities with potential systemic risk is much less straightforward than for banking because the very elements that make banks systemic do not apply to insurance companies: there is no lending and borrowing among insurers as exists among banks in the interbank market; there is no ‘central insurer’ comparable to the central bank at the heart of the banking system. Moreover, insurance companies do not create money or credit, and their liabilities

do not constitute a means of payments. They are stand-alone operators, linked with the financial system essentially through their role as financial intermediaries and financial investors. In many ways, (life) insurance companies are more comparable to asset managers than to banks.

Therefore, the question of why and to what extent insurance activities can be systemically important is difficult to address, and to date, it has not received a satisfactory answer. The classification proposed by regulators of ‘traditional’ and ‘non-traditional’ insurance activities has semantic appeal, but due to innovation in insurance products – inter alia, in response to changes in public policies in the areas of pension or health, or in response to policyholder demands and financial innovation – such a distinction is not robust and actually not known in business practice (Thimann 2015).

## II. The economics of insurance

Insurance and its basic concepts pre-date modern economic theory and especially finance. But its key notions – especially that of risk – have been espoused by the economics profession from the 1920s onwards. They were transformed and popularised in particular by the development of financial economics in the 1950s and 1960s, and today they are omnipresent in economics, corporate finance and even the everyday media commentary about financial markets. In this process, the notions that were longstanding insurance concepts received a very different meaning.

It is therefore important to clarify the key concepts of insurance and contrast them with their meaning in finance.

In insurance, key terms include:

- *Risk* is the possibility of actual damage, injury, liability or loss of existing value or status

(property, health, life) as a consequence of an external event.

- *Value* refers to an actual endowment regarding property, health or life.
- *Losses* refer to the partial or total damage of the object insured or personal injury experienced by the policyholder.
- *Trading* of insurance contracts is generally not possible; an insurance company may cede some of the risk taken to a reinsurer or the financial market, for example, via so-called Natcat bonds, but itself remains fully liable vis-à-vis the initial policyholder.

In finance, and specifically capital markets, these terms have a fundamentally different meaning:

- *Risk* means uncertainty or probabilistic change<sup>1</sup> in value over time. A financial asset is considered risky when the standard deviation of its fluctuations over time is positive and/or when its return is not guaranteed;<sup>2</sup> the higher the standard deviation and the larger the possibility that the actual return is below the expected return, the riskier is an asset.
- *Value* is the price of an asset or a portfolio at a given point in time. In principle, when prices follow a random walk or a random walk with a drift (Fama, 1965; Malkiel, 1973; Lo et al., 1999), the value of a financial asset is bounded from below at zero and it is unbounded from above.
- *Losses* are a negative change in the asset value over a given period.
- *Trading* refers to the exchange of contracts at varying prices, and is generally possible.

It is essential to clarify the fundamental distinction between risk in insurance and risk in finance (Table 1). Risk materialisation in insurance is a relatively rare event, happening exogenously ‘out of normal’; by contrast, in a market economy or finance, risk materialisation is endogenous, ‘within normal’, and happens all the time. Values in insurance are based on actual values, whereas value in financial markets refers to expected value. And losses in insurance are actual losses related to damage or

injury, whereas losses in financial products reflect decreases in value, including to zero.

Table 1 Key concepts in insurance and finance compared

Insurance		Finance
Possibility of actual damage, injury, liability or loss	<b>Risk</b>	Uncertainty in value over time
Relatively rare occurrence, happening ‘out of normal’, as a consequence of an external event	<b>Risk materialisation</b>	Inherent feature ‘within normal’, happening continuously
Actual endowment regarding property, health or life	<b>Value</b>	Price of an asset or a portfolio at a given point in time
Partial or total damage of the object insured or personal injury experienced	<b>Loss</b>	Negative change in asset value
Possible only if an exposure to the risk exists	<b>Purchase of protection</b>	Possible also if no exposure to the risk exists
Damage	<b>Trigger for payouts</b>	Event
Determined by actual damage	<b>Compensation level</b>	Determined by product terms
Case-by-case	<b>Compensation differentiation</b>	Same for all instrument holders
No. Insurance cannot create profits for policyholders (except for life insurance products); loss compensations cover at best the loss in full	<b>Profits possible?</b>	Yes. Profits are possible; payouts can exceed a possible loss from event and even occur if there is no loss
Generally not possible	<b>Tradability of contracts</b>	Generally possible

Source: Author’s compilation. For further explanations see Thimann (2015).

### The case of CDS

Are credit default swaps (CDS) insurance contracts? No, they are not, for two main reasons: first, because the default of a counterparty is an inherent feature in a market economy<sup>3</sup> and second, because CDS payouts are not damage-driven but event-driven. There are several further attributes that show how far such contracts are from being insurance: CDS contracts are created and sold independently of whether buyers would actually suffer a damage in case of default; they can be produced in unbound numbers and their value can far exceed the value of the underlying assets outstanding; they are determined by a market committee assessing debtor behaviour rather than an expert assessing

1 Knight (1921) introduced the distinction between probabilistic change and changes where the probability distribution of outcomes was unknown; such distinction is however not essential here.

2 The corporate finance literature often distinguishes between “pure risk”, which only refers to possible losses, and “speculative risk”, which can involve both a possibility of gain or loss (Merna et al., 2008). In this terminology, only pure risks can be insurable.

3 The financial sector even created rating agencies to estimate this ‘normal feature’ of default as part of market functioning.

creditor impact;<sup>4</sup> they are freely tradable and they can generate profits. It is for all these reasons that large-scale naked CDS selling creates systemic risk in the financial system and that the AIG debacle of 2008 that arose to a large extent because of massive selling of CDS “protection”, was not an insurance business.

### III. Policy implications

Global financial regulators face a trade-off between uniformity and stability. The main initiatives of recent financial regulation have surely strengthened substantially the prudential regimes for institutions in all sectors. But they contain a number of elements of resemblance across sectors. Uniformity at any point in time implies similar asset holdings; uniformity over time implies similar investment and disinvestment patterns. The former is a problem for credit provision to the real economy; the latter is a problem for procyclicality, which is a key ingredient of systemic risk. Even if institutions and sector are individually stable, uniform behaviour over time can cause systemic instability.

The stability and proper functioning of financial markets require diversity. Such diversity is captured in different balance sheet structures, different investment horizons and different investment and disinvestment behaviour over the financial cycle. Only if different institutions and sectors can maintain different balance sheet structures and time horizons and are not measured by accounting, regulation and supervisory frameworks over the same horizon can they collectively contribute to stability.

This is why the activity-based approach towards which regulators have embarked for insurance is the right one. It is the approach that will be most effective for controlling systemic risk, for safeguarding sectoral specificity and for preventing another AIG debacle caused by a company over-reaching in other sectors.

To achieve systemic stability, the first principle for insurance regulation is to be firm on the frontier with non-insurance activities unrelated to the insurance business itself. For such an approach, it is essential to consider the key distinctions between insurance and finance. The second principle for insurance is to start from the insurance activities proper – that is, insurance contracts and products – and to recognise that certain activities – derivatives in particular – are related to them. It is not possible properly to manage insurance risks and an

insurance balance sheet without resort to standard financial tools.

An activity-based approach to regulation and supervision that is firm on the delineation of insurance from pure finance would help to preserve diversity across sectors and allow the insurance sector to play its role and contribute to overall stability in the financial system.

### References

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<sup>4</sup> The decision whether or not a default occurred and CDS payments need to be made is usually determined by the Determinations Committee of the International Swaps and Derivatives Association, comprising a predetermined set of financial market participants (usually dealers) as members.

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