5 Doubling Security
Prudential Standards for Insurance Regulation

Insurance seems incredibly boring. Each time I mention the topic, the person I am speaking to comes back to me with images of salesmen that bother you trying to sell useless and incomprehensible policies over the phone, the Internet, and door-to-door. This is certainly true sometimes and probably why Woody Allen is known for having said: 'there are worse things in life than death: have you ever spent an evening with an insurance salesman?' And yet, as Doyle and Ericson point out, 'insurance has been part of the fine print as modernity has unfolded in all its complexities, fine print that we may seldom force ourselves to read but that we ignore at our peril' (Doyle and Ericson, 2010: 244). So, before going further, here are some basic figures that will set the record of these bits of fine print straight and emphasise that we should never ignore the importance of insurance in contemporary global capitalism as well as in our daily lives.

Insurance companies and pension funds (to which the life insurance industry is closely related) account for more than half of total institutional assets under management in OECD countries, an amount estimated at more than US$50 trillion in 2013. In absolute terms, the United States owns by far the majority of insurance and pension fund assets under management in all OECD countries; the total was over US$21 trillion in 2013, and that accounted for more than half of all institutional assets under management in the country. When valued as a percentage of GDP in advanced markets, insurance companies and pension fund assets under management account for well over 100 per cent of GDP in all ten largest OECD markets except Germany, and over 200 per cent in the United Kingdom and the Netherlands (see Table 5.1).

Total expenditure on insurance premiums in 2015 is as high as 7.76 per cent of GDP in advanced markets, with an average of around $3,500 of premiums paid per capita; in emerging economies, those figures are, respectively, 3.34 per cent of GDP, with $166 of premiums per capita (Swiss Re, 2018b: 37). Although only a small portion of premiums currently originate from this latter market, at the current growth rate it is estimated that emerging economies will constitute within less than ten

Table 5.1 *Assets by institutional investors in the OECD countries: Ten highest by total amount, 2013, millions of USD*

	Investment funds	Insurance companies	Pension funds	Public Pension Reserve Funds	Other (1)	Total	Insurance and pension funds assets as % of GDP (4)
United States (2)	16,683,671	7,508,050	13,941,616	2,764,431	433,477	41,331,245	135
Japan	3,344,575	4,053,603	1,331,231	1,223,863	..	9,953,273	121
United Kingdom (2)	1,079,284	2,467,204	2,676,146	..	..	6,222,633	219
France	1,654,993	2,993,008	11,860	..	..	4,659,862	125
Germany (2,3)	1,745,806	2,295,281	235,474	..	..	4,276,561	75
Luxembourg	4,022,279	203,506	1,323	..	..	4,227,107	449
Canada (3)	1,272,459	700,690	1,260,157	277,766	..	3,511,072	134
Netherlands	628,699	586,355	1,381,901	..	..	2,596,954	265
Australia (2)	320,099	406,281	1,458,132	85,597	86,938	2,357,047	183
Switzerland (2,3)	525,875	701,033	805,462	..	..	2,032,370	358
Total OECD (2)	34,906,446	26,075,932	24,745,764	5,101,316	1,811,323	92,640,781	

Note: ".." means missing. Data in this table were used to produce figure 1 of the newsletter *Pension Markets in Focus 2014* (www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2014.pdf). Book reserves are not included. Pension funds and insurance companies' assets include assets invested in mutual funds, which may also be counted in investment funds.

1. Other forms of institutional savings include foundations and endowment funds, non-pension fund money managed by banks, private investment partnerships, and other forms of institutional investors.
2. Data are preliminary or estimated for at least one of the institutional investors (pension funds, insurance companies, investment companies, or other).
3. Data for investment companies refer to open-end companies only.
4. 2013 GDP in millions of US$ at constant prices and PPPs, OECD base 2010.

Source: OECD Global Pension Statistics, Global Insurance Statistics and Institutional Investors' Assets databases, OECD staff estimates, and my own calculus for insurance and pension fund assets as percentage of GDP.

years more than a quarter of the global insurance market.[1] Beyond market share considerations, insurance services are key market integrators closely related to the financialisation of contemporary capitalism. They lie at the core of the post-crisis accumulation regime. As banks' long-term lending shrinks and governments are set to be durably stuck in austerity gear, they have become key players in financing long-term investments such as in infrastructure, innovation, education, and health. As pension schemes and pension funds increasingly depend on complex financial products offered by life insurers and investment banks, insurance services have also gained considerable prominence in the choices that our societies face with the challenge of an ageing population. Historians consider that 'over the past three centuries, the insurance business has grown into a global colossus [… that plays] a pivotal role in redefining the contours of social solidarity, the boundaries between speculative and prudential behaviour, the basis of social and intellectual authority, the extent of property relationships, and the balance between public and private action in promoting social welfare' (Clark and Anderson, 2010: 4, 6). To what extent, then, has the insurance industry become a global colossus in the current expansion of the tertiary sector? And more specifically, how does it rely on standards to access and create markets to an ever-larger part of the world's population?

This chapter and the following one aim to respond to these questions by shining a distinct spotlight on how insurance is a significant institution of informal governance and alternative sovereignty. Both chapters show how core principles and standards are key instruments in controlling, transferring, and distributing risks in a wide range of domains which also elicit state intervention. In contrast to conventional views that standardisation and internationalisation of the service economy may be easier in a non–ideal-typical industry such as insurance that is neither immaterial nor relational, my analysis provides ample evidence that setting such standards remains, in most cases, difficult and contentious. By paying particular attention to standardisation processes, I probe the overall argument of this book on the ambiguous authority of standards that support the expansion of the tertiary sector with potentially conflicting definitions of quality and security requirements.

For greater clarity, the analysis is divided into two chapters, which focus on standards for market regulation and creation, respectively. Markets require coordination mechanisms, irrespective of policy objectives fulfilled in regulatory standards; and such coordination mechanisms

[1] Swiss Re, Economic Research & Consulting, correspondence with the author.

rest on standards. The distinction echoes the difference between coordinative and regulative standards used elsewhere for studying interoperability in technical systems (Schmidt and Werle, 1998: 120). For instance, at the turn of twentieth century, emerging industries in the field of electricity and communication such as Bell, General Electric, or Siemens developed their own interoperability standards. Likewise, at the turn of the twenty-first century, the (re)insurance industry is inventing standardised formats of data collection, exchange, and valuation. Whilst the subsequent chapter focuses on such developments of standards invented to support the creation of new markets, to reinforce existing ones, and to preside over changes in their work (in particular, in the distinct lines of natural catastrophes and life insurances), this chapter stays within the confines of the regulation of insurance markets. Following some background on the insurance industry – an industry that too often remains an obscure object of global finance and governance – this chapter shows how standards deeply affect the regulation and the supervision of the insurance industry in the post-crisis era. It then examines in some detail the most controversial provisions of the European Directive Solvency II, the most ambitious regulatory overhaul ever undertaken for insurance industries, with tremendous implications across the industry and way beyond the European Union. After that, it briefly outlines how Solvency II set the stage for developments at the global level under the aegis of the International Association of Insurance Supervision (IAIS) and regulatory policy reforms in the United States. In a nutshell, the chapter shows that the protection against risks sold by insurers obviously aims at providing security to the policy holders who buy them. Yet, policy holders may rightly ask for additional guarantees about the ability of the insurer to pay the promised sum should the insured event occur. Prudential standards exist precisely to respond to such calls for doubling the security of insurance policies. There is, however, no single way out of defining standards for such a double security. Let us see, then, what those conflicting views might look like.

Insurance: That Obscure Object of Global Finance and Governance

The service sold by insurance companies is a protection against risk paid by the insured as a defined price in what is called a premium. It takes the form of an insurance policy which, on the one hand, provides to the policy holder the contractual right to claim that protection should the insured-against event occur and, on the other hand, commits the insurance company to pay if and when such a time comes. For insurance

companies, promises to pay policyholders are financial liabilities, for which they must be sure to have the money from day one to far into the future. To guarantee that protection, their task is to spread risks among the greatest and most diversified set of policy holders in order to diminish their exposure to a certain type of claim, or even a single claim too big to pay. For decades, let alone centuries, actuaries have used probability calculus to model matrixes and curves of potential losses and their frequency against which to price the premiums charged to policy holders. The weight given to the geographical distribution of potential losses, their frequency, and their size – that is where, how often, how severe the event may be – will depend on the line of insurance concerned. For instance, a large difference exists between life and natural catastrophe insurance. Having any trustworthy knowledge to estimate future losses from natural catastrophes such as earthquakes, windstorms, and floods is extremely difficult; the geographical distribution of the loss has a huge impact, with major fluctuations in size in case of extreme events (think of Fukushima!) and whose frequency is so low that there is no reliable historical data series upon which to build probabilistic calculus. In contrast, for life insurance, actuaries have built solid probabilistic and statistical knowledge to derive life expectancy estimates from mortality tables aggregating data such as age, gender, socio-economic class, smoker status, and other health-related information. In this case, the geographical distribution of the loss has less impact, the frequency is high, and the size of the loss has minor fluctuations and tends to be evenly distributed in the portfolio (risk management is like controlling for the accumulation of billions of rain drops, in contrast to a sudden flash flood[2]). All in all, the larger, the longer, and the more granular the information gathered, the better the probability calculated – and, most likely, the higher the company's profits.

This is, however, only the liability side of the balance sheet. On the asset side, an insurance company holds reserves to cover those liabilities. Those reserves are made up of various assets, such as its shares and the premiums paid by policy holders. As insurers are contractually bound to the promise to pay the insured events, even those that may occur far in the future, they face a particularly difficult trade-off between safety and long-term economic return when investing this reserve capital in the economy. As Zhang emphasises, 'there are no investments in the economy as certain and as guaranteed as promises made by insurance companies. By definition. The unavoidable implication is that insurers' assets

[2] I thank Matthieu Leimgruber for this metaphor.

can never be as securely guaranteed as their liabilities – which those assets are supposed to cover' (Zhang, 2014: chap 4). How do insurers manage the risk that their assets might lose value in the future and, thus, compromise their promise to policy holders? For a long time, the basic tool at hand has been to invest assets in low risk and long maturity instruments, such as real estate and high grade corporate and sovereign bonds, with special attention paid to the diversification of the portfolio on both the asset and liability sides of the balance sheet. Another long-established technique is reinsurance. In order to share a portion of the risks included in their portfolio, insurers use the services provided by specialised reinsurance companies that take over that part of the risk in return for a corresponding part of the premiums. This is particularly used for high loss and low frequency hazards such as natural catastrophes; but it has also been used since the 1890s in life insurance for hedging so-called substandard risks – those regarded as so high and extraordinary that they were previously insured with a hefty surcharge or, more commonly, excluded from access to a life insurance policy (Lengwiler, 2009).

While safety, diversification, and reinsurance have been used across the industry since its early days, securitisation is a more recent development. It profoundly transformed the way insurers do their job. In the same way as the banking industry has invented sophisticated instruments to pool various types of debts into securities such as the infamous collateralised debt obligations (CDOs) that gained centre stage with the global financial crisis, insurers now commonly turn insurance policies (their liabilities) into securities sold off to investors on global capital markets. Basically, securitisation is the process by which something which is not a security is converted into a security, that is, into a capital market instrument. It enables insurers to transfer risk from themselves to investors in capital markets. This involves ceding the risk to a special purpose vehicle (SPV) in charge of issuing securities and using the proceeds from the sale to pay out any claims emerging from the risk transferred (Ramella, 2010: 230). While the technique has been pioneered in the domain of natural catastrophes, it is now widely used in the arrangements used for transferring risks from pension plans and pension funds to life insurance and reinsurance. As (re)insurers are seen to have only limited capacity to accept this transfer of risks, capital market solutions are increasingly viewed as a promising option for hedging the risk that pension plans and annuity providers are not willing or able to retain via a capital buffer. Recent developments in the securitisation of the life insurance industry thus give rise to much overlap with the pension and finance industries. It brings the industry ever closer to investment banking and shapes new demands for pricing and regulatory standards.

Insurance services thus control, transfer, and distribute risks in a wide range of domains in which states can intervene as well. More importantly, by pooling risks into sophisticated actuarial tools, insurance products sold by companies shape multiple and contradictory forms of private governance beyond state control at an increasingly global level. According to Ericson, Doyle, and Barry (2003: 14), "insurance is even THE main institution of governance after the State". Differing from one country to another, certain lines of private insurance are mandatory, such as those for cars, occupational accident, or conversion of pension annuities. In other cases, they are not, but can be compelled upon request from one party to a contract (for renting an object, for instance). General conditions, information provided, exclusion clauses, and so on confer to insurers a role of 'extra-legal regulators'. As Heimer (2002: 128) points out, 'in requiring insurance coverage as a condition for operating a business, owning a home, driving a car, holding office, or engaging in any number of activities, governments, employers, banks and other organisations are also requiring policyholders to follow insurers' rules'.

In the broadest sense, then, the insurance industry looks like an institution of informal governance resting on a system that, although largely behind the scenes, remains closely connected to state power in its capacity to exert control at distance in counterpart to security guaranties.[3] Very few studies have investigated the pioneering hypotheses of the late Susan Strange and Virginia Haufler on the ambiguous authority of the public/private nexus of insurance services across domestic and global realms (Strange, 1996: 122–134; Haufler, 1997). Strange emphasised that to understand how 'more and more lives and fortunes are affected by the ways in which … the insurance business is conducted', we should return to the key questions of how does it exercise, '"power over what and whom? And in the end, in whose favour does it operate, and at whose cost?' (Strange, 1996: 123 and 124). Power issues in the insurance industry are clearly all-pervasive, but what matters here is that to give effect to such forms of private authority on an international plane, insurance companies – as in any other industry – set guidelines and standards reducing uncertainty in the delivery and consumption of their services. From an institutionalist approach à la North, Haufler (1997: 16) underlines that insurances are basically nothing else than intermediations in market transactions, transforming uncertainty into risks sufficiently measurable to objectify the required conditions to provide against them. From this perspective, standards provide the best way to influence the provision of

[3] See Chapter 1 for further references to studies in sociology and history.

public as well as private security against risk: 'the relevant norms and practices concern both the treatment of customers and the ways insurers, reinsurers, and ancillary businesses cooperate among themselves'. In political risks studied by Haufler, insurance principles and standards play a key role in framing the behaviour of market actors, especially in the domain of export credit and investment guarantees and marine insurance. Lobo-Guerrero's inspiring trilogy on insurance gives more emphasise to substantive and normative issues (Lobo-Guerrero, 2011, 2012, 2016). By combining Foucauldian approaches, security studies, and international political economy, insurance is understood as a technology of government promoting and protecting distinct lifestyles. From this perspective, insurance transforms uncertainty into risk through a complex process by which it 'renders uncertainty fungible' (Lobo-Guerrero, 2011: 4). This goes back to the classical age, with the invention of life insurance policies and the strengthening of maritime insurance. In the present day, this form of power exercised by insurance can be found in domains as diverse as environmental risks, kidnapping, or health insurance. According to Lobo-Guerrero, the strings of this peculiar form of 'insurantial sovereignty' reconstitute the international, all the more with the recent development of liberal governance practices 'premised on the capacity to transform uncertainty into risk and to act upon it through risk management partnerships and schemes' (Lobo-Guerrero, 2012: 125). This has recently been reinforced by the growing use of capital markets to complement old-style actuarial calculus for hedging risk portfolios. Together with highly sophisticated simulation and modelling techniques, the securitisation of life insurance is thus seen as a strategy to 'liberate insurability from the temporal strictures of traditional actuarial practices and create an infinite space for market development' (Lobo-Guerrero, 2014: 366). Securitisation, simulation, and risk modelling unmistakably support an insurance industry that brings together powerful transnational forces shaping a global finance-led accumulation regime. Yet, the financial manoeuvres, mathematical calculus, and asset management techniques used by insurers and investment bankers to issue life-related bonds need additional qualification against some agreed benchmark before finding a swift pathway on capital markets. Otherwise, the market would never be liquid enough to offer any prospects of 'infinite space for market development'. In other words, standardisation is part and parcel of securitisation.

Those few studies take due account of norms of behaviour and institutional forms upon which private insurance contracts rely to provide security on a scale that transcends states' territorial sovereignty. Yet, in contrast to accounts of insurance governance in terms of discursive regimes, governmental rationalities, securitisation, and modelling

strategies, this chapter and the following one focus on how the insurance industry relies on standards to control, transfer, and distribute risks as well as to avoid, as much as possible, state intervention. In paying particular attention to standardisation processes, I continue my journey on the ambiguous authority of standards that support the expansion of the tertiary sector. Let us then see to what extent the insurance industry uses standards to provide guarantees against opposing understanding of quality and security uncertainties. I begin with the post-crisis supervisory and regulatory environment.

Supervising and Regulating Insurance after the Crisis

Apart from the special case of AIG, who benefited from the largest bail-out in the history of the United States after having sold too many securitised products with too few guarantees to Lehman Brothers, insurance companies were not at the crux of the global financial crisis. Nevertheless, the volume of their assets under management, the growing convergence of the industry with banking and other financial services, and the subsequent systemic risk borne by the largest companies have spawned considerable efforts to bring insurance regulation in line with the more stringent rules directed to finance. According to industry experts, officials of regulatory agencies, and analysts, the reforms of the regulatory environment in the post-crisis era brought a revolutionary change to the insurance industry, with a major expansion of public oversight and tighter definition of industry self-regulation (Monkiewicz, 2013). The package brought together with the Solvency II Directive of the European Union undoubtedly assumes a leading role in this regard. This is why our analysis focuses almost entirely on the standards set in motion by the European regulatory environment, with only a cursory examination of what has happened in a direct line from the Solvency II framework in the United States and at the multilateral level. As Gideon Benary, founder and editor of the boutique online publication *Solvency II Wire*, makes it plain, 'the whole drive for global insurance regulation comes from Europe; the EU clearly drives the pack'.[4] Similarly, JP Morgan, arguably the investment bank with the closest links to asset management and specialised financial products for insurers on the London market, defined Solvency II as a 'game changer' that made the power of regulators full and comprehensive.[5] Be that as it may, the

[4] Interview with Gideon Benari, Editor of *Solvency II Wire*, London, 31 March 2015.
[5] JP Morgan, 'European Insurance – Solvency II: a Potential Game Changer.' *Europe Equity Research*, 19 January 2010 (quoted in: Hall and Berset (2010: 97)). According to

following analysis shows that the change in the game made by Solvency II is as much about the power of the regulators as it is about conferring authority on standards and internal models in which the industry as a whole – and the biggest firms in particular – have considerable clout. Yet, before going into some details of Solvency II, let us have a brief account of why standards are in a position to stand as regulation in the shift towards risk-based regulation that has taken place over the last two decades.

Risk-based regulation has gained momentum following the rise of financialisation and globalisation. By and large, it substitutes for rule-based regulation considered too costly and too inflexible for keeping pace with market innovation and timely supervisory intervention. Far from mere deregulation, it sets general principles and countless technical criteria devised to foster market-based incentives and the use of business self-regulation tools. In the field of insurance – as in banking and elsewhere – the argument goes, each company's products and liabilities are unique in detail and the global and highly competitive marketplace makes flexibility and responsiveness indispensable in an ever-changing environment. Zhang reminds us, not without irony, that risk-based approaches reflect a broader principle-based regulation in which, 'fixed rules and standards are impossible to define – let alone to meet or enforce. The only body with the necessary data and knowledge to evaluate the operations and status of a 21st-century insurance company is … the insurance company itself' (Zhang, 2014: chap. 3). While the rationale of regulation in a rule-based system is legalistic and tends to take the general public as the prime reference point, risk-based regulation takes an economic approach, bringing on board other stakeholders, such as management, shareholders, and market players to whom the regulator is supposed to respond.[6]

Paul Fisher, Executive Director at the Bank of England and former Deputy Head of the Prudential Regulation Authority, Solvency II is much more rule-based than the Individual Capital Adequacy Standards (ICAS) used so far in the United Kingdom with more leeway for the judgement of both regulators and regulatees (interview with the author, London, 28 April 2015).

[6] While using the economic approach, regulatory agencies are now furthermore split between two different models of the consumer: the first follows a neoclassical understanding of free market rationality; the second uses recent approaches in behavioural economics. Behavioural regulation considers that the consumer lacks the cognitive capabilities and financial literacy supposed by the neoclassical approach. Therefore, the regulation needs to 'nudge' the consumer to improve her/his supposed judgment, were s/he fully informed or well advised. Cass Sunstein, who coauthored the book that made behavioural regulation famous (Sunstein and Thaler, 2008), was the Administrator of the White House Office of Information and Regulatory Affairs in the first Obama administration. According to David Blake, founder and director of the

Risk-based regulation confers authority on standards in two distinct ways. The first remains within the confines of the technical authority of regulatory state agencies. In the post-crisis environment, their authority has indeed considerably increased with their ability to devise standard formulae for implementing general principles in such a way as to remain responsive to the numerous and highly complex dimensions in which market transactions take place. This leaves only a small circle of accomplished professionals in actuarial calculus, risk management, accounting, and neighbouring fields of finance and economics in a position to draft technical specifications wherever they are not left in the hands of modellers hired by large companies authorised to set their own internal models. The second way in which risk-based regulation confers authority on standards sanctions the expertise of private companies that can, in this new framework, apply their own internal models as an alternative to the standard formula designed by the public regulator. The following example provides a shining illustration of the ability of risk managers to turn internal models to their own advantage. In the United States, so-called variable annuities have been among the most profitable products sold by life insurers for many years. They provide a kind of financial insurance policy with a guaranteed floor for the policyholder's investment whatever happens on the markets. In normal times, policyholders will not make claims. Their funds will face short-term variations, yet remain above the floor value guaranteed by the policy. In times of a widespread downturn, however, the guarantees are likely to kick in and generate a systemic contagion that is very difficult to diversify away. A proper calculation of the reserve and solvency capital required to cover this risk is therefore critical (the AG43 guidelines of the National Association of Insurance Commissioners (NAIC)). It can be done either on a standard scenario with a set of stipulated assumptions prescribed by the regulator or on the insurer's own projections and self-selected set of assumptions (i.e. an internal model). In a preliminary study for the implementation of the guidelines, an insurer was able to tune the self-selected assumptions in such a way as to lower its internal model reserves considerably below the standard scenario reserve. The strategy to minimise the requested reserves amounted to more than half of the original standard scenario reserve designed by the regulator.[7]

Cass Business School Pension Institute, 'we can't ignore behavioural economics; the Bank of England now has a behavioural finance group, like many other regulators and governments' (interview with the author, London, 20 April 2015).

[7] The example is borrowed from Zhang (2014: part II).

This example clearly highlights that the shift towards risk-based regulation not only lends credence to prospects of capture by industry interests and opens space for the ambiguous authority of rules and standards almost impossible to define. It also reveals the democratic deficit of the increasing power of the regulatory state. This is particularly true with regard to the intricacies of the decision-making and oversight procedures of the European Union and the jungle of the federal and state-level regulations in the United States. As we will see in further detail, the European Insurance and Occupational Pensions Authority (EIOPA), the regulatory body in charge of implementing rules and technical standards, fought hard to impose its view on the new regulatory power sanctioned by Solvency II. However, it backed down on a number of key issues that would have forced companies to increase their capital buffers.

The Astonishing Power of Solvency II

Solvency II is the system for insurance regulation set up by the European Union and implemented as of 2016. Its main objective is to strengthen the insurance regulatory regime with a set of new EU-wide harmonised capital adequacy, risk management, and reporting requirements for insurers. It has been established with a view to reducing the prospect of bankruptcy and market disruption in insurance and therefore reinforcing the ultimate protection of policyholders. The Solvency II Framework Directive (Directive 2009/138/EC) was adopted in 2009 and amended in 2014 after strenuous negotiations (Directive 2014/51/EU, the so-called Omnibus II Directive). Following the Lamfalussy process used in the European Union for the regulation of the financial service industry, the framework directive (level 1) is a full legislative process involving the Council and the European Parliament; it sets out general principles, whose implementation is defined more precisely at lower levels. Whilst the European Commission and regulatory agencies consult each other for the definition of the technical implementing rules setting out the so-called delegated regulations (level 2), regulatory agencies are on their own in defining technical standards and guidelines of the so-called levels 2.5 and 3. The Delegated Regulation (EU) 2015/35 on Solvency II and Omnibus II was published in January 2015 with 381 articles (and 797 pages with annexes) of binding rules, directly applicable to all member States of the European Union and the European Economic Area. In 2015 the European Insurance and Occupational Pensions Authority (EIOPA) furthermore published sets of Implementing Technical Standards (ITS) as regulatory tools subsequently endorsed by the Commission.

Like the Basel framework for banks, the risk-based regulation of Solvency II rests on a comprehensive system of quality and security standards divided into three pillars. Pillar 1 addresses quantitative requirements, with sophisticated technical specifications for the valuation of assets and liabilities used in the calculation of capital requirements. Pillar 2 introduces qualitative requirements related to the responsibility of the insurers themselves to manage their risks and governance structure; it includes in particular a new enterprise risk management system called Own Risk and Solvency Assessment (ORSA). Pillar 3 sets out rules on transparency, reporting, and public disclosure with the objective of enhancing market discipline, information, and competition across national jurisdiction.

The most significant change brought by Solvency II is a calculation of capital requirements based on a 'total balance sheet approach' that aims to better take into account the specific risks borne by each insurer and, accordingly, the amount of capital it should keep in reserve to hedge those risks. Capital requirements are defined along a two-step ladder. First, the solvency capital requirement (SCR) sets a level of resources that enables the absorption of significant losses and gives reasonable assurance to policy holders and beneficiaries that payments will be made as they fall due.[8] Then, an additional minimum capital requirement (MCR) sets the lowest level of capital below which the resources should not fall, failing which an intervention of supervisory bodies is triggered and may go as far as a withdrawal of the authorisation. The thousands of items included in the valuation of assets and liabilities must follow a market-consistent approach. To this end, they use, wherever readily available, a mark-to-market approach already used in other regulatory frameworks on banking (Basel II & III) and accounting (IFRS). However, in many cases this is not possible, and alternate principles, guidelines, standard formula, as well as criteria that allow for large companies to set and use their own internal models are required.[9]

This is where the authority of standards in the regulatory environment set by Solvency II begins. Examining the several hundreds of modules and sub-modules of risk defined by Solvency II is beyond the scope of

[8] The 99.5 per cent confidence level set by Solvency II is equivalent to calculations based on a risk of loss caused by a 1 in 200-year event.

[9] According to research conducted by *Solvency II Wire* ('Delivering Solvency II internal models', 4 May 2015, online), approximately 175 insurance and reinsurance entities across Europe were in pre-application for an internal model or a partial internal model in late 2014 in preparation for the implementation of Solvency II in 2016. EIOPA, the European regulator, used a slightly different methodology, based on insurance groups, not individual entities; the figures were therefore smaller, with just over 100 pre-application processes under way in late 2014.

the present analysis. I choose instead to point out the ambiguous authority of standards in the most controversial issues related to the implementation of Solvency II.

The successive delays and the high level of technical detail included in the Directives themselves provide primary evidence of the power of standards in Solvency II and Omnibus II. Following the 2002 Sharma Report that initiated the wide-ranging Solvency II reforms, the first timeline set an implementation deadline for 2008, subsequently delayed to 2012, and then again to 2014. In 2011, further delay took place after the shockwave sent by the quantitative impact study (QIS5) published by EIOPA, which showed that in the aftermath of the global financial crisis the application of Solvency II standards would put many companies in a much tougher situation than expected. Negotiations almost froze. According to Gideon Benari, founder and editor of *Solvency II Wire*, 'the industry completely panicked and put all its force against the European Parliament and Council'.[10] Accordingly, the numbers had to be changed with new ways of devising many items included for calculating the solvency capital requirement; moreover, the industry could not leave those detailed measures in the sole hands of a regulator who so blatantly harmed its profit expectation. Strenuous negotiations followed, during which the latest deadline was eventually fixed for January 2016, with a transitional period of twenty (sic) years obtained after heavy lobbying by the German insurance industry, which considered itself as the most affected by the change introduced with the mark-to-market model. In the words of an insider, Napoleonic wars were briefer (Smolinski, 2013)! Once industry lobbies won over the European Parliament and Council that the market consistent valuation of all assets and liabilities would have dramatic effects, they furthermore sought direct legislative control on technical standards on all related matters. While Omnibus II was at first only designed to amend the Solvency II Directive in accordance with the establishment of EIOPA and its new powers in coherence with other post-crisis regulatory agencies, it eventually included many technical specifications supposed to be dealt with at lower levels of the Lamfalussy process. The aim of the industry was indeed to ring-fence at the highest level as many standards as possible. There is no need to point out that this not only strengthens the balance sheet of insurers but also threatens the protection of policy holders and reinforces the likelihood of using taxpayers' money to bail out insolvent companies.

The so-called Long Term Guarantees are the most controversial issue of Omnibus II. They provide a set of detailed measures designed to

[10] Interview with Gideon Benari, Editor of *Solvency II Wire*, London, 31 March 2015.

adjust (and discount) the calculation of solvency capital requirements by taking into account the significant share of long-term liabilities held by life insurers that in principle are not subject to the same risk of market volatility as for other actors of financial markets. But to what extent? The pervasive presence of standards when it comes to responding in concrete ways to the question gives us a measure of their transnational hybrid authority. In the discussion that follows, I show how the defining criteria conferring authority to those new cross-border regulatory practices rest on much ambiguity. Depending on the precise way they are designed, these technical specifications have huge implications in terms of the three-dimensional framework of the private/public institutional continuum, the technical/societal material continuum, and the national/transnational spatial continuum on which the power of standards is situated. I shall come back to this after having presented those technical provisions in some details.

Annuities and many other life insurance products related to savings, pensions, and retirement offer long-term guarantees to policyholders. Some life-related annuities sold by German insurers, for instance, have pay-outs that fall due in more than fifty years' time. Obviously, an insurer holds reserve assets to cover the value of its liabilities. But how to value such liabilities in a mark-to-market total balance sheet approach is a much trickier question – almost impossible to calculate indeed! The Omnibus II Directive introduced so-called long-term guarantee measures to address the technical details according to which the rules for the market-consistent valuation of assets and liabilities should be set. Basically, the measures address three adjustment mechanisms to calculate capital requirements in a way that is supposed to balance the interests of policy holders' protection and of insurers' to hold less reserve and therefore have more assets freed up for other purposes.

The first measure aims at calibrating the capital requirement to a 'matching adjustment'. Even if insurers can never exactly match long-term liabilities with corresponding assets, their balance sheet is not exposed in the same way as banks may be to short-term volatility in the valuation of assets and interest rates. For such assets are in principle held to maturity and the much longer term of the liabilities prevents any risk of forced sale of the assigned portfolio of assets. It is against this background that the measure applies so-called discount rates whenever insurers can match predictable long-term liabilities with a replicating portfolio of assets. A basic job for insurers is to set up provisions for the future payments to policyholders. A trickier one is to apply discount rates to calculate the value at which each of their liabilities can be reduced as a function of the average interest rate expected for the duration of their

maturity. The value of a liability today can thus be discounted at an amount that will depend of the level of future interest rates for the whole time that liability stays in the balance sheet. As life insurance policies sell promises to pay out annuities many years after the policy is contracted, small differences in rates applied for the discount can make huge differences in valued amounts. The higher the discount rate, the lower the value of the liability in today's money. Inversely, a small discount rate reflects a little valorisation expected in the future and thus limits the ability to lower the value of the liability in today's money. Unsurprisingly, insurers are big fans and strong advocates of high discount rates that let them free up more available capital.

This might look like a mere battle of numbers, with EIOPA initially backing much higher figures than the industry. Yet, this hides clear and present danger for pensions backed by life insurance. For instance, according to the methodology derived from the Solvency II regime and tested by a quantitative impact study (QIS) of EIOPA, Sweden's workplace-based defined benefit schemes typically boasted a surplus of assets over liabilities of 13 per cent. By contrast, there would be a deficit of 24 per cent in the United Kingdom compared to existing rules, and even a deficit of between 81 and 93 per cent in Ireland. As highlighted by Jane Beverley, head of research at Punter Southall, a consultancy, 'the results demonstrate that the impact of applying a Solvency II-style regime to pensions could be huge'.[11] The prudent and low discount rate sought by EIOPA clearly limits market expectations for actors operating in the most market-driven insurance and pension funds environments such as Ireland, the Netherlands, Finland, and the United Kingdom. But at the same time, EIOPA's strong regulatory posture aims to strengthen the unification of the European insurance and pension market space.

Actually, member States could already take into account the effects of long-term asset-liability management strategies in valuing their insurance liabilities and the corresponding assigned assets backing them.[12] The issue at stake was to reach a harmonised standard against divergent implementation techniques used in each jurisdiction. Aside from debates related to fundamental flaws of the measure itself, the scope of assets and liabilities to be included in the calculation has been a stumbling block right from the start.[13] Above all, the German life insurance industry, holding a large book of liabilities with long-term guarantees, pushed for the broadest scope, in opposition to the much more prudent accounting practice of UK annuity

[11] 'EU pension proposals alarm local schemes', *Financial Times*, 21 April 2013.
[12] Article 20.1.B.(a)(ii) of Life Directive 2002/83/EC.
[13] For an accessible technical presentation, see in particular: Danielsson et al. (2012).

writers, with whom the whole agenda began. Despite countless attempts to reach precise definitions at the highest institutional level, the Directive does not fully define a closed list of admissible assets. Instead, it only defines certain behavioural features of the entire asset portfolio likely to be eligible. Accordingly, standards setting the capital relief for a 'matching adjustment' of assets and liabilities remain uncertain and ambiguous.[14] Both insurance companies and national supervisory authorities will compete to impose their view according to the interests of the industry, without the larger public of policy holders, who are supposed to be better protected, having much a say.

The second technical measure conferring considerable power to standards and how to define them is a "volatility adjustment". Here, the objective is to increase the discount rate to avoid artificial depreciation of the balance sheet in times of stressed economic conditions. For the Commission, this wider application of discounting liabilities should help to avoid pro-cyclical investment behaviour of insurers when bond prices deteriorate owing to low liquidity of bond markets or exceptional expansion of credit spreads; the adjustment thus aims at stabilising the capital resources of insurers in times of crisis rather than the other way round.[15] Like all aspects of the long-term guarantee measures, finding common ground for calculation of this volatility adjustment has been plagued with technical issues, let alone profound doubts on an adjustment measure whose lack of economic foundations makes it easily amenable to capture (Danielsson et al., 2012). Beyond this, the measure adjusts reserve requirements only in distress, contrary to a fully countercyclical buffer approach that would provide for additional reserve accumulation in boom time. Such a lack of symmetry in the adjustment makes it look like a one-way pendulum: it kicks in to the advantage of insurers when markets fall below normal, but does not turn against them with further shock absorbers when they rise above normal (Zhang, 2014: chap. 19). According to Francesco Mazzaferro, Head of Secretariat of the European Systemic Risk Board, and his colleague Jeroen Brinkhoff, this lack of symmetry 'creates an incentive towards risky behaviour [and] gives regulatory relief to insurers' (Mazzaferro and Brinkhoff, 2012). While the standard was first conceived to take due account of the fact that insurers

[14] 'Solvency II uncertainty. A reality', *Solvency II Wire*, 13 October 2014.

[15] European Commission, Solvency II Overview – Frequently Asked Questions, 12 January 2015. This proposal was first advocated by French insurers, who invest heavily in equities and would therefore be more affected than others by profound distress in markets; insurers from Italy, Spain, and Portugal followed suit at a time when they held a lot of bad sovereign debt in the middle of the euro sovereign crisis; for further details, see Smolinski (2013).

are in principle not affected in the same ways as others by volatile markets, it eventually leads to an ambiguous adjustment system that leaves considerable ground to protect the interests of those insurers who are precisely the most affected by volatile markets. With volatility adjustments in times of crisis, a new standard is born, less to reduce the risk borne by insurers than to ease their balance sheet.

The third aspect by which long-term guarantee measures confer power to standards is a new system of valuing liabilities, called extrapolation. It follows the move away from the market consistency approach of Solvency II already seen in the two previous adjustment measures. Here, the alleged objective is to respond to the exacerbating pressure brought on solvency positions by extra-low interest rates and the difficulties raised by the valuation of the very long-term liabilities where no assets with similar maturities exist. As mentioned earlier, German insurers, in particular, sell annuity products whose pay-outs are not due for a very long time. In principle, no risk free assets are on the market with such long maturities. Extrapolation is therefore made up to estimate the interest rate where no reliable market data exist. Instead of using mark-to-market, the asset-liability management here works on a specially calibrated basis, called mark-to-model. According to European officials, this further application of discounting liabilities by extrapolation aims to 'ensure that the valuation of technical provisions and the solvency positions of insurers are not heavily distorted by strong fluctuations in the short-term interest rate'.[16] A further advantage, however, is that extrapolation gives higher and more stable long-term interest rates for valuing the long-dated liabilities of insurers and pension schemes (Evans et al., 2013). A sticking point for raising the rates has therefore been how quickly the extrapolation of interest rates should start and the evolving yield curve converge and reach its highest level. The quicker this happens, the higher the rates – and the lower the reserves to be held by insurers. The controversial fifth quantitative impact study of EIOPA (QIS5) set the starting point at thirty years with a convergence time of over forty years. In contrast, the Omnibus II Directive sets a quicker starting point at twenty years.[17] Here again, the German insurance industry successfully lobbied to set new rates right into the Directive and increase the extrapolated rates quite substantially before the (quite optimistic) 4.2 per cent convergence rate set by EIOPA.

[16] European Commission, Solvency II Overview – Frequently Asked Questions, 12 January 2015.
[17] Directive 2014/51/EU, paragraph 30 of the Preamble.

Beyond these three distinct long-term guarantee measures, the Delegated Regulation of the Commission and the lower level implementing technical standards (ITS) of EIOPA considerably lowered the calibrations of most risk factors in the standard formula used to calculate the solvency capital requirement. Without going into the details of the countless items included in the modules and sub-modules, suffice it here to take the following example. In February 2015 EIOPA set the discount rate for liabilities in euros with a maturity of thirty years at 1.86 per cent, a figure significantly higher than the 1.48 per cent set by the European Central Bank for similar assets (Euro area yield curve for AAA rated government bonds as of 31 December 2014, maturity thirty years). Thanks to such higher figures, liabilities can be discounted to a greater extent and insurers will not need to put as much money aside to cover them. According to Sven Giegold, a Green MEP and one of the most vocal critics of Solvency II, this amounts to nothing else than a financial scandal: it 'puts at risk the security of long-term insurance, in particular of annuity insurance … EIOPA disguises the financial problems of insurance companies instead of ensuring transparency [and] violates its mandate which foresees explicitly consumer protection.'[18] Very few elected politicians are as well aware of the sweeping power issues veiled under the arcane technicalities of insurance standards. Yet, as we have just seen, there is ample room for politicising such technical specifications.

Earlier in this chapter, I stressed that Solvency II set the stage for regulatory overhauls elsewhere, and this is why I decided to concentrate on this framework in my assessment of the power of standards in insurance regulation. It is therefore beyond the scope of this book to make a complete overview of standards used elsewhere, how they replicate what we have just seen with Solvency II, and the extent to which they might on the contrary diverge from it. However, for the sake of avoiding an excessively Eurocentric view, I now briefly examine developments underway at the global level and how both Solvency II and those global developments impact on regulatory policy reforms in the United States.

A Basel for Insurers

At the global level, the International Association of Insurance Supervisors (IAIS) has also undertaken an ambitious programme of enhanced standards of global insurance supervision and cooperation. Analyses

[18] Sven Giegold, Press release, 28 February 2015, available at: www.sven-giegold.de/2015/financial-scandal-over-the-weekend-life-insurance-regulation-denies-reality (accessed 25 June 2015).

often refer to the Swiss town of Basel as a metonymy for the higher standards developed by the Basel Committee on Banking Supervision under the aegis of the Bank for International Settlement (BIS). However, as the BIS also shelters the IAIS Secretariat under its roof, the comprehensive and global framework of insurance regulation and supervision looks a lot like a new Basel for insurers. The architecture of the regulatory and supervisory requirements rests on three tiers. The first sets insurance core principles (ICPs) to be used by distinct legal entities as well as at the higher level of insurance groups. The second tier targets more specifically internationally active insurance groups (IAIGs) and establishes a Common Framework (ComFrame) of global regulatory standards specifically directed towards the fifty or so insurance groups concerned. While this common framework is built and expands upon the insurance core principles whose first version was adopted in 2011, it will set out a comprehensive range of qualitative and quantitative requirements, including a new risk-based global insurance capital standard (ICS), whose version fit to implementation by supervisors is expected to be adopted by the end of 2019. The third tier is even more closely focused, as it is designed for the ten or so global systemically important insurers (G-SIIs) identified under the purview of the Financial Stability Board (FSB) and G20 and for which higher loss absorbency (HLA) requirements are intended to address their systemic importance in the global financial system. As a foundation for those additional requirements to be applied from 2019, the IAIS developed basic capital requirements (BCR) for all group activities, including non-insurance ones. Upon implementation, global systemically important insurers are expected to hold regulatory capital that is not less than the sum of the required capital amounts from the basic capital requirements and higher loss absorbency requirements (regulatory capital $\geq$ BCR + HLA).

The impact of the bold framework of regulation and standards brought together by the IAIS and Solvency II joins forces with the globalisation and financialisation of insurance services as main drivers of policy reforms currently underway in the United States. A key characteristic of the US regulatory environment, which dates back to the nineteenth century, is that the insurance industry is still largely regulated at the level of the fifty states of the Union, above which the National Association of Insurance Commissioners (NAIC) adopts model laws and standards expected to be implemented at the lower level. NAIC has no power to impose them directly, but uses its accreditation authority as a strong implementation incentive. This is clearly a major hindrance for market access across states, let alone from an international perspective. The adoption of the Dodd-Frank Act in 2010 and other post-crisis reforms

that attempt to match IAIS insurance core principles somewhat changed the landscape.[19] The extension of the Federal Reserve Board's responsibilities to cover consolidated supervision of insurance groups has strengthened their supervision and covers around 30 per cent of total premium income in the United States. Moreover, although insurance will continue to be regulated by the states, the Federal Insurance Office (FIO) created within the US Department of the Treasury now has greater monitoring and intervention power, in particular when state laws are considered as inconsistent with a negotiated international agreement and discriminate against non-US insurers.

One of the most contentious issues is the additional collateral requirement imposed on non-US reinsurers in more than half of the American states and the limited number of jurisdictions qualified for lower collateral and inter-state business despite a new NAIC model law adopted in 2011. With removal of such requirements within sixty months, this is one of the key issues of the US–EU covered agreement on insurance signed in 2017.[20] Another important characteristic of the US regulatory environment is its largely principles-based nature. In the same vein as qualitative requirements of the Pillar 2 of Solvency II and the IAIS Insurance Core Principle 16, increased emphasis is being placed on risk management through the introduction from 2015 of an Own Risk and Solvency Assessment (ORSA) regime. However, in contrast to the risk-based approach adopted by Solvency II with detailed and ambitious quantitative and qualitative standards, this principles-based approach provides fewer of these requirements. Instead, the regulator defines guidelines and avoids being too specific in defining the key elements of the calculation. As we have already seen, this also allows insurers to develop their own internal models, whose underlying assumptions leave ample room of manoeuvre for opposing and ambiguous interpretations. According to Benjamin Lawsky, the New York state financial services superintendent, 'companies will take every advantage of [principles-based regulation] to reduce their reserves as much as possible, [which] leaves insurance regulators vulnerable to the charge that we are too willing to sacrifice

[19] For further detail, see: International Monetary Fund (2015).

[20] Interview with Miroslaw Galar, European Commission, DG Trade, Service Unit, Brussels, 28 May 2015; Office of the United States Trade Representative, 'Joint Statement on U.S.-EU Negotiations for a Bilateral Agreement on Insurance and Reinsurance Measures', 13 January 2017; 'Bilateral Agreement between the European Union and the United States of America on Prudential Measures Regarding Insurance and Reinsurance', 22 September 2017, online at: https://ec.europa.eu/info/system/files/170113-us-eu-agreement_en.pdf, accessed 8 August 2018; for background, see Insurance Information Institute, Regulation Modernization, April 2015, online at: www.iii.org/issue-update/regulation-modernization, accessed 29 June 2015.

solvency and consumer protections in our regulation of the industry'.[21] Finally, while Solvency II and IAIS insurance core principles and future insurance capital standards apply at the group level, another key characteristic of the United States is the lack of uniform capital requirement at the level of the insurance group. Several bodies have recently been developing proposals aimed at meeting the standard set by the IAIS. Yet, according to industry experts, group capital requirements are perhaps the most difficult challenge for the US regulatory system to address. So far, consulted parties strongly support the principle of keeping the US Generally Accepted Accounting Principles (US GAAP) approach, which differs from the IAIS's market-adjusted valuation approach (KPMG, 2015: 51). Although IAIS keeps repeating that standards will ultimately be globally harmonised, a double valuation system looks like having a bright future.

⋆ ⋆ ⋆

It is pointless to delve further into the colossal technicalities of all the standards concerned by those major reforms of the insurance regulatory environment to reflect upon the power they exercise. While insurance as such is a prominent instance of global finance and governance, standards provide additional guarantees that the many ways by which insurers transform uncertainty into measurable and fungible risk are secure and backed by solvent companies. In contrast to views focused on the ingrained power of either public regulation or private securitisation, the argument put forward in this chapter is that it is neither strictly one nor exclusively the other. By doubling the security sold by insurers to policy holders, the power of standards as regulation results from their ability to bring together the private and public dimensions of broadly defined security and quality concerns. Moreover, in doing so, they reflect both the physical objectification of many different lines of specialised risk studied by actuaries and other insurance experts and the societal values affected by such technical specifications. Finally, the opposing political economy objectives accommodated in those regulatory standards spread out across territorial states thanks to the intertwined logic of endogenous recognition akin to sovereignty and exogenous adoption akin to market power. Ambiguous transfers of authority thus pervade the three private–public, technical–societal, and national–transnational dimensions of our analytical framework. I now turn to these dimensions, before continuing in the next chapter our journey in the world of insurance standards

[21] Quoted in Zhang (2014: chap. 3).

away from market regulation towards market creation – those unchartered routes that support the creation and consolidation of new insurance markets.

First, concerning the private and public spheres increasingly blurred in this new regulatory framework, there is no question that the aforementioned standards are all set by public regulators. This goes without saying for regulatory bodies such as EIOPA in the European Union and NAIC in the United States. Similarly, IAIS is a public body of insurance regulators and supervisors of more than 200 jurisdictions in nearly 140 countries. Nevertheless, those public actors are not immune from regulatory capture and all follow suit on principles-based regulation that places great emphasis on the ability of private companies to set their own standards. Regarding regulatory capture, we have seen particularly clearly in the context of Solvency II how EIOPA backpedalled on a number of technical specifications and calibration choices faced with a barrage of criticism from all parts of the insurance industry, in particular powerful German life insurers, the London market, and French advocates of 'bancassurance. One can always say that this is common politics. More interesting for my argument is the ability of private companies to set their own standards. Besides Own Risk and Solvency Assessment (ORSA) regimes briefly referred to in this chapter, it is worth mentioning here that IAIS Insurance Core Principle 17 on capital adequacy sets a number of criteria for the use of internal models to determine an insurer's regulatory capital requirements. In doing so, it incorporates a number of provisions earlier discussed within the Solvency II framework intending to revamp and level the playing-field of public regulation. It also sanctions the very rationale of industry self-regulation by internal models: 'where the supervisor allows a range of standardised and more tailored approaches for regulatory Capital purposes, including internal models, an insurer should have a choice as to which approach it adopts' (IAIS ICP guidance 17.12.3). In designing the subsequent ICP Guidance 17.12.4 that considers 'cherry-picking' between those approaches as inappropriate behaviour, the IAIS most probably knows only too well that this can easily be used with the explicit purpose of lowering capital requirements as compared to the standard formula set by the supervisor. The shift towards principles-based regulation, the use of internal models of solvency capital requirement, and qualitative requirements such as the Own Risk and Solvency Assessment (ORSA) put private insurers in a position to set standards on their own and shape regulation for their own favour across borders. In so doing, governmental and inter-governmental regulatory bodies support and fully recognise the self-regulatory power of private insurers. This suggests that the private or

public status of standards in the enhanced regulatory environment of the insurance industry in the post-crisis era remains highly ambiguous. Indeed, public regulators tend to relinquish their responsibilities in a number of domains and hand it over directly to the companies they regulate. At the same time, we cannot deny that major developments of public regulation have taken place, with concrete and across-the-board outcomes for standards included in hundreds of modules, sub-modules, and items to follow and report on.

Second, on the material dimension merging technical specifications and societal values, those complex regulatory regimes in progress indubitably hide behind their cloak of protection bold societal values, such as greater policyholder protection and enhanced confidence in fair, safe, and stable insurance markets supporting a more secure daily life.[22] While the industry identifies consumer protection as a prominent trend in current and future regulatory reforms, its effectiveness remains questionable. The end-consumer who holds insurance policies is largely excluded from this highly technical framework. As Dough Taylor, member of the UK Financial Services Consumer Panel, points out, 'consumer representation in the financial and insurance industry remains extremely weak as it needs very high skills similar to those used in the industry and can only offer very low wages in no proportion to those practiced in the industry'.[23] Moreover, the maths used for formulas and the numbers used for calibration tend to conceal blunt truths of major social implications for the consumer behind the veil of sophisticated science. For instance, we saw the huge impact that Solvency II is expected to have on the daily life of pensioners over the next few decades via the new standards factored into the long-term guarantee measures used for the adjustment of the balance sheets of life insurers and pension schemes. In this regard, the authority of standards is all the more ambiguous in that they distance themselves from the market-consistent approach and are, at least, as much the result of horse-trading as of expert advice. As we saw in a number of cases, fixed rules and standards are impossible to define for frameworks of principles-based and risk-based regulation. Yet, the insurance industry fiercely struggled to ring-fence the most highly sophisticated standards and calibration formulas at the highest legal European

[22] Fair, safe, and stable insurance markets are at the core of the IAIS mission. See for instance: Address to the International Actuarial Association Council by Peter Braumüller, Chair of the IAIS Executive Committee, London, 13 September 2014. Available at: www.actuaries.org/LIBRARY/Presentations/2014/Braumuller_AddresstoIAACouncilLondonSaturdaySeptember13.pdf, accessed 15 July 2015.

[23] Interview with Doug Taylor, UK Financial Services Consumer Panel, London, 28 April 2015.

level. This was particularly true during the drafting of the Omnibus II Directive that was originally supposed to be not much more than an administrative exercise to bring the institutional environment of insurance regulation in line with the creation of EIOPA along with the new post-crisis European system of financial supervision. Finally, we should also take due account that the US regulator put additional emphasis on professional skills of insurance agents and brokers and accredited certification programmes to ensure a sufficient level of consumer protection. This distinct business education for qualifying the quality and security of insurance services sold by the industry clearly rests on societal values that support a less tangible influence of the United States on insurance markets (Kobrak, 2012). However, those skills are primarily assessed against an ability to comply with sophisticated standards which more often than not impose a market discipline comparable to invariable physical measures.

Third, regarding the space in which the authority of those regulatory standards is recognised, things have clearly changed over the last decade or so. Intra-state level regulation in the Unites States is losing ground with stronger oversight at the federal level, increasing convergence with Solvency II, and greater compliance to international standards such as those set by the IAIS. Likewise, Solvency II not only represents a sweeping change in setting standards for strengthening the unification of the insurance market under a common regulatory umbrella of the European Union. It also creates a global benchmark, often referred to as the new gold standard of insurance regulation. For their part, IAIS officials cannot state strongly enough that their work in progress is no replica of Solvency II and sets the stage for a truly global 'lingua franca' that should be 'clear, coherent, comparable and measurable' (Lezon, 2015: 55). Yet, according to Catherine Lezon, Vice General Secretary of IAIS for standards, 'IAIS's principles not only need adjustments with regard to Solvency II, but also, as the system is still very fragmented beyond Europe, to become applicable to other countries, such as Australia, Japan, Canada and the United States; norms will have to be transposed into domestic law with adjustments of various scales depending on each situation'.[24] A proper appraisal of the balance between the transnational projection of the first-mover advantage of Solvency II and the ability of other regulators within IAIS to make their voices heard is difficult to assess. It would indeed require an ex-post and item-by-item assessment after full implementation of Solvency II and the completion of the IAIS project in a

[24] Telephone interview with Catherine Lezon, Vice General Secretary of IAIS for standards, 14 July 2015.

number of years. For the time being and within the limits of this study, it is worth emphasising the ambiguous underpinning that remains at the core of the insurance capital standard (ICS) proposed by IAIS as part of its common framework for internationally active insurance groups. Although IAIS sets as its ultimate goal a common methodology by which the standard would achieve substantially the same outcome across jurisdiction, this is far from sure. According to the global consultancy firm KPMG, the ultimate form of the standards even remains 'worryingly unclear' (KPMG, 2015: 6). One of the main reasons for that is that US regulators were successful in their demand to keep generally accepted accounting principles (GAAP) used in the United States as an alternative valuation methodology alongside the so-called market-adjusted valuation approach developed by the IAIS for a globally comparable and risk-sensitive capital requirement standard. As a result, the IAIS is field-testing both options.[25] Another is the nature of safeguards set for the use of internal models from the insurance companies themselves for calculating the capital requirements – and therefore the extent of a system of compliance with non-state rules that encroach upon conflicting sources of transnational authority. The hybrid authority of insurance capital standards is thus caught between the principle of exclusiveness of territorial sovereignty in the United States and its continuing use of GAAP accounting standards and the inclusiveness of rules governing the global economy ultimately sought by the IAIS following the pioneer work of Solvency II. All in all, the spatial relations on which the effectiveness of regulatory standards for the insurance industry rests interpenetrate multiple jurisdictions. It remains highly ambiguous as to whether it is based on an endogenous logic of territorial sovereignty or the exogenous logic of the transnational underpinning of capitalism.

[25] For further details, see: International Association of Insurance Supervisors (2014, 2015).