Financial Services Authority

The Nicholas Barbon Lectures 2012:

The impact of changing regulation on the insurance industry

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Thank you very much for inviting me here today to speak on the subject of the impact of changing regulation on the insurance industry. I think that a series of talks celebrating the centenary of the CII provides an excellent opportunity to step back and to consider developments in both the insurance industry and insurance regulation over the longer term and to think about some of the key trends we have seen over the last 100 years or so both in the market and in its regulation. We are obviously at a watershed in terms of the structure of regulation in the UK with our impending move to a Twin Peaks model for banking and insurance companies. In this respect, status disclosure is an important principle and I should declare at the outset that I want to use my time with you tonight to focus on prudential regulation since that reflects both my background and destination.

I would like to share with you some views on what has happened in both the General Insurance market and life market since the early days of solvency regulation, how prudential regulation has had to respond to these developments and come on to consider the UK's regulatory response to some of the new challenges presented by Solvency II and ongoing developments in the market. Specifically I wish to consider three key questions.

1. The first concerns the development of regulation over the last 100 years. It is clear that the nature and system of insurance regulation has changed substantially, but what has driven this change and to what end? Can we identify any major themes which describe, across time periods, how the insurance market and its regulation have developed?

2. The second question I wish to consider flows directly on from the first and concerns what new pressures a range of developments in the insurance markets are providing for the regulator. If we are able to observe any longer term trends in the insurance market, what new challenges does this present and what is the appropriate response from a regulatory perspective?

3. Finally I wish to consider the most substantial ongoing development to insurance regulation, which is of course Solvency II. And the question I wish to address concerns the Financial Services Authority (FSA) and, from 2013, the Prudential Regulatory Authority (PRA)'s approach to the implementation of an increasingly risk sensitive approach to capital requirements. This won't be merely an academic consideration of this question as I intend to outline and explain some important recent developments in the FSA's approach towards the approval of firms' internal models.

In considering these questions I believe that three key trends emerge from some of the major phases of the history of what we can call modern insurance regulation and these continue to this day:

First, there has been an increasing focus both by regulators and by the industry on being more and more risk-sensitive in their approach to the measurement and management of risk. By this I mean there is an ever-growing focus on ensuring that firms' individual solvency positions reflect the specific nature of their idiosyncratic risk profile. Recently we can see this through the increasing demands to model risks and quantify their impacts under a range of stress scenarios. I want to explore what has driven us to this position and with what regulatory consequences.

Secondly, we also see a trend of greater demands for transparency from insurance companies which have led to them providing a substantially increased *volume* and *content* of publically available financial information. Again I want to consider what some of the drivers have been behind this trend.

The final trend which I believe emerges clearly over the last 100 years has been the development of a regulatory framework which has moved first from one of self regulation onto a statutory basis and then secondly moved from being national in its characteristics to one which is increasingly shaped by international standards.

Development of Regulation and the ethos of regulation

So, as I have said, I want to start by briefly running through what I think to be a few of the major phases in the development of history of insurance regulation and to hopefully illustrate the developments in risk sensitivity, transparency and the trend to international solvency standards.

It is my contention that, when we look through these examples, we see two driving forces behind the trajectories of increasing risk sensitivity and transparency. First the innovation and change within the market itself. As new products and organisational structures have emerged this has created new prudential risks which have required advancements in the regulatory tools in response. Much of the regulatory innovation we have seen has been in response to the failure of firms in the nineteenth century, or the adoption of products, such as with profits more recently where the costs of key options and guarantees was never really thought through by many of the firms providing them. The fact that increasing intervention has been demanded by society underlines the importance attached to the insurance sector being relied upon to carry out its core activity of enabling corporates and individuals to pool and thereby manage risk which would otherwise be beyond them as individual agents.

Secondly, the increasing acceptance that the insurance market suffers from substantial issues of informational asymmetry and principal agent problems. With regard to informational asymmetry I am referring to the problem where it is costly for policyholders to assess the financial strength of an insurance company with which they may hold a long term and potentially illiquid policy. This problem is relevant because insurance company and policyholder incentives are misaligned; companies, public or mutual, have strong incentives to distribute surpluses in order to maintain a position in the league table- be it the table of equity return to shareholder or surplus return to policy holder. Policy holders have a different incentive in favour of retained earnings, at least until the point where their personal distribution is involved. We can see this problem as being particularly acute as a firm approaches insolvency. At this point a highly risky 'go-for-broke' investment strategy becomes increasingly valuable to shareholders since they have a limited downside. This approach is of course not in the interests of policyholders who could bear the downside risk of insolvency.[1] The market failures that these problems create, necessitate some form of governmental regulation.

[1] Martin F. Grace, et al, "Insurance Company Failures: Why Do They Cost So Much?" (Washington: American Council of Life Insurers, 2007).

These problems, combined with a number of high profile and costly insurance company failures has cemented the view that the social welfare benefits of regulation through improved stability of the insurance market outweighs its marginal cost. Consequently this has encouraged a more intrusive and intensive approach to insurance company supervision. Indeed there is a clear line of development from accounting transparency and regulation (e.g. the setting reserve requirements) onto supervisory approaches with much greater power of direction and involvement.

The Life Assurance Companies Act 1870 and the Assurance Companies Act 1909

Appropriately, given the occasion of this lecture, we can begin an analysis of the development of insurance regulation at the same time at the origins of the CII – in the early 1870s. It was around this time that the first Insurance Institute was founded[2] and that the first substantive piece of Insurance Regulation was created through the Life Assurance Companies Act 1870. This was enacted following the rapid growth and subsequent demise of a few high profile life assurance companies in the preceding decades[3][4][5]. Its introduction demonstrated the increasingly important role that the life assurance sector was playing in the provision of social welfare and this created the need and demand for some greater security for policyholders. The Vice-President of the Board of Trade gave an impassioned plea to this effect in his introduction to the Bill by decrying the loss of policyholder savings at the hands of an imprudent insurance company. He said that:

> *"There are few more pitiable sights than an old age of indigence closing a life of toil, even when that indigence is caused by extravagance and improvidence, but how infinitely more miserable it is when a man, by his thrift and self-denial, has made provision for himself and his family by the only means in his power, means which have the sanction and encouragement of the laws of his country, that this provision should be snatched from him by malpractices against which he is powerless to guard himself.*[6]

Arguably there were two main planks to the 1870 Act. The first required insurance companies to keep a deposit of £20,000 with the Paymaster General in respect of the five classes of insurance business in which they engaged. And the second required all life assurance companies to make an annual return in a prescribed form showing income and expenses and importantly a periodic actuarial valuation of their assets and liabilities. Its aim was to promote greater publicity and standardisation of accounts to prevent insolvent companies from continuing to trade.

In general insurance there was already Marine Conduct Regulation which significantly pre-dated this Life Assurance Act. Nevertheless what we might term modern solvency regulation for general insurers actually emerged somewhat later in 1909 with the Assurance Companies Act which was introduced by Winston Churchill, then President of the Board of Trade[7]. This replaced previous Acts by implementing insurance company legislation covering fire, accident, employers' liability insurance and bond investment insurance business. The Act reconfirmed and supplemented the original principle of the life assurance act – that of "freedom with publicity". This principle stressed that Insurance companies should be able to price their products freely, and should have the discretion to manage their own

[2] The Manchester Institute on 14 March 1873

[3] For example the Albert Insurance Company in 1869

[4] D.G.R Fergson, "Life Office Solvency and Insolvency" (Journal of the Institute of Actuaries Students" Society, 1978 22: 1-44)

[5] Fraud and the subsequent failure of insurance companies figure in a number of Victorian novels which underlines those such events were not that uncommon. Particularly colourful examples include Dickens' characterisation of the shenanigans of Tigg Montague and the Anglo-Bengalee Disinterested Loan and Life Assurance Company in *Martin Chuzzlewit* and Thackeray's transformation of the West Middlesex Fire and Life into the appropriately named 'West Diddlesex'.

[6] UK. Parliament "Bill 2. Second Reading".1870: 731 http://hansard.millbanksystems.com/commons/1870/feb/23/bill-2-second-reading#column_731
(Accessed 08 Jun. 12)

[7] Parliamentary and Health Service Ombudsman. "Equitable Life a Decade of Regulatory Failure – Part 2: the regulatory regime"(*The House of Commons,* 2008.229:17)

financial affairs but in return companies were required to publish annual financial statements disclosing their financial position. This ‘publicity’ was argued to provide a control on insurance company behaviour and incentives for developing strong balance sheets. To be clear this narrative plays to the second of my themes not the third: the push was to better disclosure and more transparency, in the hope that better practice and consequently more protection would be delivered

Even at this early stage I think we can see the ethos progressing that disclosure could be used for the public interest by trying to overcome the problem of informational asymmetry where policyholders are unable to observe the financial prudence of the firm with which they may hold a long term and potentially very illiquid policy. We also see that there were substantial concerns over the misalignment of incentives between policyholders and insurance companies.

A second issue we can see in the discussion of the 1870 Act concerns the appropriate role of the government in supervising the financial positions of firms more directly. One Member of Parliament for instance, agreed that publication of firms’ financial affairs was valuable but argued that the Board of Trade should directly investigate the financial position of a company. This idea was strongly resisted by a number of different administrations. In response to a Parliamentary Question in 1878 asking the Board of Trade to take on expanded powers to deal with failing insurance companies, Sir Charles Adderby was emphatic that this was not the role of either the Board or of the 1870 Act. He noted that:

> “the principle of the Life Assurance Act is *simply to make companies’ own financial statements accessible to the public* [my emphasis].”

Prudential supervision was one or two steps behind transparency. This idea that greater transparency could promote greater stability of the insurance market is crucial. It should be noted that at this stage the reporting demands on firms were far from onerous. Returns were to be submitted annually – although up to 9 months later - whilst actuarial valuations were required quinquenially.[8] Nevertheless we can see this focus on transparency as remaining central to a number of the later developments to the regulatory environment to which I now turn.

The Insurance Companies Act 1973

I think the next major development in insurance regulation should be seen as the emergence of the concept of the ‘Appointed Actuary’ and this arrives first with the Insurance Companies Act of 1973. There were, of course, a number of other developments of insurance company legislation over this period preceding this act but, I think if we examine some of the circumstances surrounding the act and the implications, this can rightly be seen as a step change.

Let’s first look at some of the events that led to its development. In the retail General Insurance market there were two major scandals; first the collapse of Fire, Auto and Marine Insurance Company following discovery of the systematic defrauding of policyholders; and secondly there was the emergence, rapid growth and then complete collapse of the motor insurer, Vehicle & General which left nearly a million drivers uninsured. This second case is interesting because Vehicle and General had swept to a dominant market position by challenging the cartel of the previously leading market players who had developed an industry tariff for motor insurance. Vehicle & General by ignoring this tariff system and developing their own rating system were able to grow substantially, but clearly not sustainably.[9]

In the life market a number of new products were developed. In particular it was at this time that unit-linked business and various types of guaranteed income bonds and some pension business emerged. Unfortunately some of these new products contributed to the demise of a number of small life insurers

[8] See 4.
[9] Chris Daykin and Catherine Cresswell, “The regulation of non-life insurance in the United Kingdom”. Government Actuary’s Department.
www.actuaries.org/ASTIN/Colloquia/Washington/Daykin_Cresswell.pdf . Accessed June 8, 2012

such as Lifeguard, Capital Annuities and London Indemnity & General. These failures again caused policyholder detriment. It was in this context that The Insurance Companies Act 1973 was enacted and the newly created position of the Appointed Actuary - and the responsibilities that this position held – was introduced.[10] In the words of a subsequent Government Actuary, the individual occupying the role of Appointed Actuary was:

> *in a special position in that he [was] appointed and remunerated by the company, and thus forms part of the management team responsible to the Directors, and at the same time he [had] responsibilities and obligations to the Department of Trade and Industry by reason of his statutory duties*[11]

These statutory duties included the publication of clear and fair financial reports in accordance with the, subsequently refined, guidance notes offered by the government. However, whilst an actuary had previously been required to carry out a valuation of assets and liabilities every 3 years, the requirements of the 1973 Act represented a substantial change in responsibility. This was because now, a designated person was given the further responsibility of providing continuous oversight of a firm's financial position and brought that person squarely into the regulatory net.[12]

As I've said, these substantive developments were heralded by changes within the insurance market itself. Without the new products and systems in the life and non life sectors, or the failures of Vehicle and General, and Capital Annuities, amongst others – it seems unlikely we would have had the changes that were implemented by the 1973 Act. We can see also further developments to the principle of "freedom with publicity" underlined through the importance of the role of Appointed Actuary and the development of various guidance notes which shaped how the latter carried out their role. These were also of course a product of the extensive developments in statistical and accounting techniques made within the industry itself. So the early 1970's also witnessed a substantial development in the degree of risk sensitivity of firm approaches to financial management. The emphasis, however, still falls a long way short of supervision, focusing instead on disclosure and regulation of key activities. And the focus is squarely within the UK.

The Insurance Companies Act 1982

A third important development in the regulation of UK insurance can be seen with the Insurance Companies Act of 1982 and a number of the later amendments. This Act represents another step change in UK regulation not only because of its content but also because of the context of its creation. We can see it as the first major step in a trend of towards a statutory base to regulation, as opposed to self regulation. Furthermore the Act represents the first move towards a more international regulatory framework, a trend which continues today.

This Insurance Companies Act was directly prompted by the UK's membership of the European Economic Community and the development of a single market for life insurance. Specifically the requirements of the First Life Directive of 1979 were required to be transposed into UK law in order to enable the development of a single life assurance market where companies from one member state were able to operate without hindrance in another.

Whilst the 1982 reaffirmed or extended some of the elements of the 1973 Act such as those regarding the role of the Appointed Actuary, it also represented something of a departure from the principle of 'freedom with transparency' which overhung the previous Acts. For example Article 18 required that

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10 Parliamentary and Health Service Ombudsman. "Equitable Life a Decade of Regulatory Failure – Part 2: the regulatory regime"(*The House of Commons,* 2008.229:41)

11 Parliamentary and Health Service Ombudsman. "Equitable Life a Decade of Regulatory Failure – Part 1: main report "(*The House of Commons,* 2008. 22)

12 Parliamentary and Health Service Ombudsman. "Equitable Life a Decade of Regulatory Failure – Part 2: the regulatory regime"(*The House of Commons,* 2008. , Appendix E:41)

supervisory bodies ensure that each life insurance company within the UK maintain a minimum solvency margin in respect of its entire business. To achieve this, supervisory authorities were required to have the power and the capacity to make detailed enquiries and investigations of firms. Many of these powers can be said to have predated this Act However, unlike in previous Acts the prudential regulator –at this time the Board of Trade - was **obliged** to provide direct oversight of firms' financial positions[13][14]. This can be seen as a significant shift towards a statutory basis to regulation and a system of intensive and intrusive supervision which we have today.

The 1982 Act was amended many times to reflect the developments of both the Second Life Directive and the Third Life Directive which aimed to further ensure the co-ordination of financial supervision across Europe. But it has of course not stopped there. Whilst these directives were minimum harmonizing, we are now moving towards a *maximum* harmonizing regime in the form of Solvency II. I also note that the ramifications of the implementation of this regulatory framework are not restricted to European countries. We can see already that they are influencing the global regulatory framework.

This is not restricted to the moves by a number of non-EEA countries making adjustments to their regulatory frameworks to demonstrate 'Solvency II equivalence'. In addition there is the work of the IAIS ComFrame initiative and its attempts to foster global convergence of regulatory and supervisory measures and approaches. Certainly we are some way from achieving this lofty ambition. Nevertheless I believe it continues a trend beginning, for the UK at least, with the 1982 Act. In these developments we see market change and failure as a driver, but also a political response at the European and international levels to the increased globalisation of markets, albeit something which has happened at varying pace and in fractured form.

I do not wish to spend too long running through the annals of regulatory history, nor do I wish to repeat much of what has been said in some the regulatory soul searching that followed the failure of Equitable Life or the problems within the Lloyd's market. However, I wish to consider one further example of how regulation has developed as the insurance market has itself changed and that is the ICAS regime[15][16]. Considering the origins of this development to the regulatory regime and how it has impacted the insurance industry is, I think, timely because the ICAS regime represents a clear precursor to the most substantial recent – and ongoing -development to the UK and European Insurance market, Solvency II.

The origins of the ICAS regime lie, of course, in the package of reforms that came to be known as the Tiner Reforms[17]. These were themselves influenced by a number of market and regulatory developments but most centrally were a product of the recognition of the failure of the regulatory regime to keep up with market developments as highlighted by the collapse of Equitable Life. The Baird[18] and the Penrose[19] reports highlighted a number of key issues: First, they showed that the market's development of popular life policies with substantial options and guarantees had surpassed the regulatory capacity to supervise the prudential risk that this had created. Secondly they raised concerns over the insurance market's increasing use of financial reinsurance which were likely to obscure the true picture of risks of concern to the regulator. Thirdly, they raised the issue of regulatory reporting which was shown to be insufficiently detailed and transparent, to use inappropriate valuation techniques, and to be dependent upon the work of an Appointed Actuary who was not subject to a sufficient degree of independent external review.

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[13] For an example of the obligations of the prudential regulator see Insurance Companies Act Section 22(5)

[14] Earlier powers were provided amended from the 1958 Insurance Companies Act by the 1968 Companies Act Sections 68,69,81 and 82

[15] FSA CP190, "*Enhanced capital requirements and individual capital assessments for non-life insurers*". 2003

[16] FSA CP195,"*Enhanced capital requirements and individual capital assessments for life insurers*", 2003

[17] FSA Board. "*The future regulation of insurance*". 2001. http://www.fsa.gov.uk/pubs/other/future-reg_insurance.pdf Accessed June 8, 2012

[18] Ronnie Baird "*The Regulation of Equitable Life: an independent report*", H.M. Treasury 2001

[19] The Right Honourable Lord Penrose. "*Report of the Equitable Life Inquiry*", H.M .Treasury, 2004. http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/penrose_report.htm Accessed June 8, 2012.

The resultant ICAS framework represented a large part of the FSA's response to these policy shortcomings. It signalled a decisive shift towards the use of risk-based capital models to demonstrate adequate levels of capital by systematically considering the individual financial resources requirement of each insurer. In essence, the senior management of an insurer must carry out its own assessment of how much capital the firm needs given its business model and risk appetite. Whilst the FSA provided high-level guidance over the approach and supplemented any shortcomings through a series of capital add-ons, the development of these models was primarily driven by the industry itself.

However, in shaping the development of this modelling approach to firm financial risk we should be aware of the significant influence of other parts of the financial sector. Certainly, the advancements in the modelling of market and credit risks in the banking sector contributed to the subsequent agreements over good modelling practice and which formed the basis for the revision to the ICAS principles and guidance issued in December 2006[20]. Indeed, this influence should not be a surprise since in the Baird report itself it highlighted that insurers were behind other parts of capital markets by using deterministic rather than stochastic assumptions of future experience to provision for options and guarantees. This move towards a greater focus on firm-centric stochastic modelling of risks has, of course, spread way beyond the valuing of the costs of option and guarantees embedded in some life policies to a range of other risks including catastrophe, currency, credit, property, and many other risk modules. To anticipate a point later in this lecture- the revealed weaknesses of some of that modelling in the banking space has led us as prudential supervisors, working closely with the Bank of England, to decide that we need to build more safeguards into our supervisory approach.

The second element of the Tiner Reforms I want to draw your attention to concerns the publication of firms' financial positions. As I have said, the Tiner reforms identified substantial limitations to this reporting prior to the collapse of Equitable Life. The discussion that followed started a process of moving towards realistic reporting of liabilities and assts. By amending and reshaping the publically available Annual Returns market analysts - including the rating agencies, consumer organisations, financial commentators and others with an interest in insurance - have been offered much greater capacity to scrutinise the soundness of regulated firms. The developments to regulatory reporting that were heralded by the Tiner Reform should fairly, I think be seen as only represent one part of a move towards a more transparent and market consistent regime. Indeed some substantial steps have been taken by the industry itself. The system, first of European Embedded Value reporting and subsequently, through the Chief Financial Officers (CFO) Forum, of the principles of Market Consistent Embedded Value reporting are representative of other movements in this direction. Clearly Solvency II – a market consistent regime – represents, if perhaps not the final, then the latest step in this direction.

In terms of transparency Solvency II, Pillar 3 will require substantially more and improved public and regulatory disclosures, and on a more frequent basis than we currently demand under ICAS. Certainly we have moved a long way from the 1870 Act's requirement for only quinqueniall actuarial valuations and the annual reports up to 9 months after then end of the year! The founders of the first Life Assurance Companies Act certainly felt that such 'publicity', as they put it, would encourage more prudent management of financial affairs, though to be fair they did not have to struggle with the challenges of market consistency!

New dynamics in insurance market and new regulatory risks

This recognition of the complex dynamic between the regulator and the regulated brings me on to my second question: Can we observe any more recent changes in the dynamics of the insurance market, and if so what new challenges does this present for the regulator? In consideration of this question, I wish to offer a couple of thoughts.

[20] FSA Policy Statement 06/14, "*Prudential Changes for Insurers".FSA* 2006. http://www.fsa.gov.uk/pubs/policy/ps06_14.pdf. Accessed June 08, 2012.

First, I think we can say that Insurance forms part of a much more complex financial system today. Financial engineering has ensured, for good and ill, that the sector is much more directly integrated with capital markets than a generation ago. I have already outlined how regulation has had to respond to previous changes in the market over the last 100 years and in my view it is crucial that we continue to respond and indeed to proactively plan regulatory and supervisory change. We are now of course moving to a new organisational structure for regulation in the UK as prudential insurance regulation is moved into the newly created Prudential Regulation Authority. We should remember that much of the drive for this change in the regulatory architecture was based on the view that the previous system left a gap between macroprudential stability and microprudential supervision. The majority of the discussion over this underlap has concerned banking regulation. However, given the major product and financial changes in the insurance market which have been discussed above I believe we must be alive to this issue within insurance also. The connection of insurance to other parts of the financial system, coupled with more complex markets that have a stronger global causal linkages require a supervisor to make forward looking judgement calls. Simply basing supervision on backward looking returns, based on data which bears little resemblance to actual markets will not suffice in the 21st century. Yet again supervision will have to raise its game- something fully expected by the new PRA.

This brings me to my second point: whilst I agree that the primary source of macroprudential instability in the financial sector is to be found in the banking sector, I think we can nevertheless identify a number of areas in which insurers offer the potential to be 'cyclical accelerators' within the economy. This is particularly the case in what has been termed 'non-traditional' insurance activities. I wish to consider just a couple; the mortgage indemnity market and the trade credit insurance market

If we take the mortgage indemnity market first, I think we can see that it played a significant role in the major expansion of credit to the housing market that occurred in the late 1980s. Certainly, it was not the only factor but when combined with the government of the time's Income Support for Mortgage Interest scheme, it encouraged the generous extension of credit as it reduced the incentives for banks to make appropriate lending decisions. At that time many mortgages were being offered with LTV ratios of 120% or more. The subsequent spike in mortgage possessions and arrears between 1989 and 1995 was an inevitable consequence of this development.[21]

Moving on to the Trade Credit Insurance Market I think we can again see the potential for a macro-prudential consequence of insurance activity. Currently trade credit insurance represents a significant minority of all forms of extension of trade finance and it may be viewed as increasing the resilience of the international trade system by reducing the dependence upon a smaller number of banking channels. Indeed figures from the Berne Union suggest that medium to long term export credit insurance actually rose during the crisis when trade finance more generally fell which suggests a contribution to sustaining international trade.[22] Nevertheless we should be mindful of this development and consider how the growth of this market presents new risks beyond those to policyholders, on which we have traditionally focused.

Others have talked at length about a number of additional areas where insurers have begun to offer products which start to create new forms of liquidity and other risks. I note, for example, developments in securities lending by some insurers. If we look to AIG we can see that its stock-lending shadow bank, which was an insurance company, suffered a run causing the total failure of the group demonstrating the point that collateral swaps can involve maturity transformation and leverage.[23] In consideration of this issue the FSA has already issued guidance on liquidity swaps to ensure that the risks that are

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[21] Kathleen Scanlon and Christine Whitehead, "The UK mortgage market: responding to volatility" *(Journal of Housing and the Built Environment.*2011)

[22] Berne Union. "The 2011 Yearbook" (Berne Union, 2012) http://www.berneunion.org.uk/pdf/Berne%20Union%20Yearbook%202011.pdf. Accessed 08 June 12

[23] Paul Tucker, "Insurance, Stability and the UK's new regulatory architecture"(*Speech given at the Association of British Insurers. 13 March 2012) http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech551.pdf Accessed 08 Jun. 12*

created when getting involved in capital markets through lending high quality liquid assets against lower quality and illiquid collateral are understood. [24] Of course the driving forces of change here are not only market conditions, with an acute wholesale liquidity shortage, but also credit institutions seeking to meet new international capital standards (Basel III). It's an important lesson in a much more interlinked economy.

I could go on to talk about a few other areas where insurers have begun to offer complex products which create new interlinkages between financial institutions and create new risks that may go beyond those directly to policyholders. Insurance Linked securities for example represent another area where some observers have pointed to the potential for an expansion of the role of insurance companies into new locations in the financial intermediation space. However, rather than consider these developments directly what I would like to do is consider what new problems this creates for the regulator. One key question is how can we ensure that we have a regulatory regime that is able to respond to a range of the new risks and complexity, some of which I have already discussed, without itself being overly complex and burdensome – both for the regulator and for the regulated community?

Implementing Solvency II – challenges for the regulator

And this question brings me onto my third and final area of discussion – the FSA and the PRA's approach towards the implementation of Solvency II. In particular I wish to address my comments towards the Pillar I requirements, and internal models specifically. Before I go on to outline some of the challenges I see with regard to an 'internal model' method of generating capital standards and the FSA and PRAs response, I wish to make a few general comments about the Solvency II regime.

First, it is of course a pan-European regime. This being so, many elements cannot reflect a number of the unique features of the UK or other European countries insurance markets - and this is particular time of the Standard Formula. Capital requirements calculated such a basis would certainly have a distorting effect when considering, say, the London market subscription business or with-profits business.

Secondly, Solvency II is a *mainly maximum harmonising regime*. This means that there is an obligation to ensure the rules are applied in a consistent way across member states. There is therefore limited discretion for the FSA or the PRA to derogate from the text. This context is important when I come on to outline our approach to implementing the Directive with regard to internal models. Solvency II arguably marks the end of distinctive national prudential rules for insurance, with future regulation being driven out of the European policy process, one within which the nascent EIOPA will come to have a greater role in the years ahead.

Now, as I have said internal models may be viewed as the latest step in developing a more risk sensitive regime across the European insurance market in that they require firms to manage economic and non-economic drivers of their business and hold capital accordingly. Nevertheless we should be aware that Solvency II has been in development for over 10 years, and since 2008 has been developed in rapidly changing market conditions. In particular we should note some of the insights that can be obtained though observing the outcomes of applying a heavily modelled approach to capital standard generation in the banking sector. This encouraged the development of some extremely complex mathematical models and it is now a somewhat hackneyed point to highlight that these models were found wanting not long after their creation. In particular we observed that much academic modelling assumed a lack of correlation between key risk assets, whereas in the crisis we have seen since 2008 we have observed a much higher correlation.

[24] FSA FG12/06. "Collateral upgrade transactions (including liquidity swaps)" *FSA.* *http://www.fsa.gov.uk/library/policy/final_guides/2012/fg1206* *Accessed 08 Jun. 12*

These are legitimate concerns although it is worth remembering that in the UK we have been using models for regulatory capital purposes for some 7 years, as these have underpinned our ICAS regime. Solvency II will maintain a similar standard of prudence, which as a regime has proved generally robust in the face of the financial crisis and significant natural catastrophe experience in 2010 and 2011. But the essential truth remains that model outputs are only ever as good as their inputs and rely on a series of approximations to estimate not only base liabilities but also the correlations between different classes of both asset and insurance risk.

It is incumbent upon the FSA and soon the PRA therefore to ensure that we do not suffer the same model-blindness that has already been shown to result in a reduction in the effectiveness of prudential supervision in the banking sector. And yet our interventions must be aligned within the requirements of Solvency II. So how can we be confident that firm's internal models are fit for purpose in this complex background? In response to this question I would like to outline a couple of recent developments in our approach towards the approval of internal models.

First, we have refined and re-focussed our approach to assessment work to make sure that our work is proportionate. It is worth recalling that the Directive contains just over 300 requirements which relate to internal model approval, which can be derived from the text of the Directive itself and the supporting implementing measures. Any firm applying for such an approval needs to meet those requirements.

So, we have provided firms with a self-assessment template which includes all of those requirements but at the same time have made it clear that: first, we don't necessarily expect 300 separate pieces of evidence, one for each requirement; and second, our supervisors and actuaries will not carry out an in-depth review on the evidence which supports each and every requirement. Rather our review work will be organised into 15 themes, such as scope, use test, and validation, and the actual work carried out with each firm will be targeted on those issues which are of the greatest and most fundamental materiality to the firm's overall solvency position. Proportionality comes into play in the amount of work we will expect firms to do to demonstrate that a requirement has been met, and in the amount of supervisory time that we will devote to our own review of the evidence.

We feel that this is the most appropriate way to discharge our overall obligations but also act in accordance with the PRA's general approach, focusing on a small number of key issues which are of highest impact It will enable us to rigorously assess core dependencies and give us greater confidence in reliability of models to meet the confidence level anticipated by the Directive. Ultimately though, Solvency II is, as I have said, a maximum harmonising regime, and therefore firms using internal model, must be complaint with the legal requirements. Necessarily then internal model approval is a challenging a complex process both for firms and the regulator.

In the light of this difficulty and with a mind to the limits of models I have discussed, we have made a second refinement to our approach to internal models. I outlined this last week in a letter to firms where I identified the need for the PRA to develop and implement a range of early warning indicators in the form of ratios or ranges which were independent of a firms modeled output. These will help give us confidence that the modeled SCR retains a confidence level of 99.5% over a one year period, including in stressed market conditions, on an on-going basis. We propose to make the modelled SCR falling outside of these predetermined ranges a notification event which will trigger an immediate supervisory review of the appropriateness of the model which could result in the revision of the parameters or the imposition of a capital add-on. The aim of such action would be to ensure that we are confident that the SCR meets the Solvency II calibration requirement of 99.5% over a one year period.

One of the indicators we are currently developing is a multiple of the MCR. We intend to calibrate this indicator such that, should a firm submit a model which properly reflects the firm's risk profile to a level required by the Solvency II directive, it will fall within the range of our early warning ratio or range. The introduction of this new heuristic should not therefore affect approved models on day 1. Fundamentally our intention is to prevent a subsequent downward SCR drift relative to risk profile by giving supervisors new tools to reduce the risk of model blindness.

I believe that these two core approaches to reviewing the use of internal models are fully consistent with the move towards more forward-looking judgment based supervision that the PRA has been given the responsibility of implementing across both insurance and banking. A judgment based approach to supervision has, of course, been driven by a recognition of the inadequacies of an excessive reliance upon statistical measures of risk and, when looked at from an accounting perspective, a very much backward looking measure of risk. In the context of Solvency II this is hugely important, but, this renewed focus on forward-looking supervisory judgment demands new supervisory tools. With regard to Solvency II, early warning indicators provided by non-modelled heuristics will represent one of those tools. It will help us not to lose sight of the fact that models are by their very nature only ever an approximate view of the world.

This approach will also be helpful when we come to consider on a sector wide basis individual firm assessments of risk exposures. Drawing again upon some insights from the banking sector, one of the issues with which we should be concerned is the potential for individually justifiable assumptions about exposures to severe scenarios producing assumptions which at the aggregate level are inappropriate. In other words we need to take a view of capital in the sector as a whole against the environment in which it is operating. We saw during the crisis that modelled allocations of risk from individual firms produced an inaccurate picture of risks at the aggregate level. Financial risks had not been diversified away; they had simply not been recognised into the sector's collective risk framework. This was very difficult to observe at the micro level of individual firms, but may have been more easily tackled when looking with a wider, cross sectoral view. Earlier I outlined the new regulatory structure in the UK which hopes to overcome regulatory underlap between microprudential supervision and marcoprudential stability. I am focused on ensuring that the benefits of this framework extend beyond banking supervision, to the regulation of the insurance market. A more critical and holistic approach to model assessment and approval will allow us to achieve this and avoid repeating some of the difficulties that have been experienced in the banking sector.

Concluding Remarks

I said at the outset of tonight's talk that I though we had the opportunity to look at the insurance market and insurance regulation from a slightly longer term perspective. I wanted to do this not merely as a matter of academic curiosity, but also to help inform our thoughts on some contemporary issues.

In particular I have noted how the relationship between the market and its regulation has been in a continual state of evolution; as new products, market structures and risks have emerged so the regulatory architecture has had to adjust - and perhaps often to *catch up* - to the new demands this has created.

We are now close to the implementation of a pan-European regulatory system, in the form of Solvency II But it is quite clear to me that this will be a long way from the final word on the subject of insurance regulation and supervision. Indeed I have touched upon one of the ways we have already begun to incorporate some of the lessons of the crisis into our thinking on how we intend to implement the Solvency II framework.

But that is just one area to which we must be alert. As a regulator we must also remain vigilant and flexible towards new types of risks that changes in the insurance market may create-driven by economic and financial considerations, but also by social and normative change, as seen in the gender directive. I have also suggested a few other areas to consider this context, namely trade credit insurance market and the innovation of bank-like insurance products. But, again this is not and should not be the last to be said on those subjects.