
On the Measurement of Solvency of Insurance Companies

Recent Developments that will Alter Methods Adopted In Emerging Markets

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Craig Thorburn¹

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Abbreviations and Definitions

Basel Committee	The Basel Committee on Banking Supervision
Combined Ratio	For non-life insurers, this is the sum of the loss ratio and the expense ratio.
EC	European Commission
EU	European Union
Expense Ratio	The ratio of expenses to earned premium, usually expressed as a percentage.
FSAP	Financial Sector Assessment Program
FSF	Financial Stability Forum
IAA	International Actuarial Association
IAIS	International Association of Insurance Supervisors
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standard
Loss Ratio	The ratio of incurred claims to earned premium, usually expressed as a percentage.
Non-life insurance	Used in this paper although some readers may be more familiar with the term “general insurance” or “property and casualty insurance”.
Solvency	In this paper, solvency should be read as referring to the ongoing ability of an insurance company to meet its obligations as and when they fall due, and not being limited to consideration on a going concern basis.
Solvency Assessment	The practice of assessing the solvency of an insurance company.
Solvency Margin Requirement	A regulatory requirement regarding the minimum surplus of assets over liabilities, however these items may be defined in the solvency regime.
Technical Provisions	Insurance company balance sheets hold, represented as liabilities, provisions for the payment of claims and other insurance related obligations. In general terms, these provisions represent monies to cover known claims that have occurred, been reported to the company, but not yet settled in full, claims that have occurred but have not been reported to the company as yet, the possible adverse development of claims that are yet to be finally settled and paid, and future obligations for events after the balance date that are covered by current contracts. Allowance would also be included for expected costs of the management and settlement of such claims. All of these components can be described as the “technical provisions”.
WTO	World Trade Organization

1 Introduction²

Solvency, its adequacy, regulation and supervision, is at the heart of the operation of the insurance sector and underpins the prospect for insurers to contribute effectively to the financial sector and the economy.

The first aim of insurance supervision is the protection of the interests of the policyholders through a properly managed and financially sound insurance sector. The establishment of effective rules for the proper valuation of insurance liabilities and the establishment of provisions to support those liabilities is fundamental as is a system that requires a margin over and above provisions so as to enable a firm to absorb unexpected adversity. As a result, the most tangible step that can be taken by authorities toward improvement of insurance supervision is the regulation and supervision of solvency.

Regrettably, it is all too often the case that a jurisdiction's solvency regime is identified as being in need of attention. However the solution to a deficient regime is not as clear as in other sectors as there is no standard international approach. Commonly, countries have looked to an index-based system such as the currently operating EU system or a form of "risk-based capital" from North American systems or some point between these two. The EU model is less complex to apply than the RBC formula but does not give a great deal of quantitative attention to asset related risks in the solvency margin requirement itself, instead relying on qualitative asset rules at least for those assets backing the technical provisions of the insurance company, and possibly a guarantee fund.

The recent operating environment for insurers around the world has been harsh. Non-life insurers in most major markets suffered continued falling prices through the 1990s, high claims levels, and consequent poor underwriting profitability. Life Insurers in many jurisdictions have been adversely affected by falling asset values and difficulties in meeting the cost of investment return guarantees. Pressure on capital levels has been reflected in credit rating downgrades and falling values of company stock. Companies are consolidating business operations to focus on core operations or to realize value. Although rate increases in the non-life sector have improved expectations, anecdotal evidence suggests that the current cycle may be peaking well before the point at which stakeholders hoped for to ensure adequate profitability over the full cycle.

The insurance sector in most countries is undergoing development, or the expectation of change is clear. Drivers of change are economic growth, liberalizing markets, international harmonization, and change within firms in response to adverse developments.

² The paper was developed after a series of interviews and documentary review and analysis. Interviews were conducted with ratings agencies, industry observers, and the leaders of the relevant international projects. This paper was prepared in July 2003. Information in the paper is current as at that date.

In the absence of an agreed approach to insurance solvency, several international bodies are developing projects that will have far-reaching consequences for insurance markets. This paper includes a review of a number of projects that influence solvency measurement and solvency assessment of insurance entities and are key to moving toward the development of international standards. A summary of the projects of the European Union, the International Accounting Standards Board, the International Association of Insurance Supervisors and the International Actuarial Association has been included. In large part, although each with their own particular focus, these projects are moving toward a consistent end position. That position will be radically different to the current practice in many countries and will present particular challenges for implementation and transition.

In many emerging markets, the implementation of these international standards is likely to be made more difficult as a result of limited capacity and an absence of necessary infrastructure. At the same time, liberalization of markets is progressing as countries seek WTO accession. Changes usually increase the complexity of the task facing both company management and supervisors. The combined effects of a rapidly liberalizing market, challenging change and limited capacity can only be addressed through proactive steps to anticipate challenges and a phased approach to implementation. The proposed sequencing is set out in the final section of this paper.

The objective of this paper is to:

- prepare a summary of the issues
- develop a view on the key challenges arising
- consider the potential responses to these challenges in the context of our client countries and their insurance markets.

The paper is organized to first provide an overview of some of the influences on the insurance markets at the time of writing. Section 3 provides a short commentary on each project. Section 4 sets out common themes and observations arising, and section 5 proposes a response. The conclusions of the paper are summarized in section 6.

2 Difficult Times

At the time of writing, the insurance sector is enduring a difficult operating climate.

Historically, underwriting and investment results have been considered to be negatively correlated by many market participants. Periods of strong investment

performance attract increased capital and generate increased capacity that leads to increased competition and softening market prices with a deterioration in underwriting results. In contrast to this conventional wisdom, recent performance has seen significantly deteriorating investment market performance coincident with poor underwriting performance. In some cases, the “conventional wisdom” had been taken as immutable law by management, to its subsequent peril.

For insurers and reinsurers, significant claims arising from natural and man-made catastrophes have flowed through to higher claim provisions, lower profitability and reduced capital strength.

Catastrophes have not been the only reason for poor underwriting results. Markets have tended to show marked pricing cycles. A recent period of increased prices has followed a long period where prices were considered to be at levels that were unsustainable. Other insurance classes, such as medical indemnity or workers compensation business have seen prolonged periods of inadequate prices in some jurisdictions that erode profitability. There is evidence emerging that the general turnaround in prices, welcome for insurers and shareholders, may have reached a peak sooner than many were hoping – or indeed sooner than they were relying upon to secure the desired returns on equity.

Major investment markets have seen prolonged falls in interest rates on fixed interest securities and a more recent but dramatic fall in equity prices. Where companies provided products to customers with a guaranteed rate of return over a long term, then the inability to meet this rate implies a negative interest margin – in some cases substantial relative to their balance sheet as a whole – and continuing drains on profitability.

Against this background, official concerns have been elevated and a number of initiatives have been pursued to monitor the insurance sector more closely. Companies have also responded by increasing capital, reducing risk, or consolidating operations and exiting non-core market activities.

This section provides summary information on the operating environment facing the insurance sector with respect to these issues.

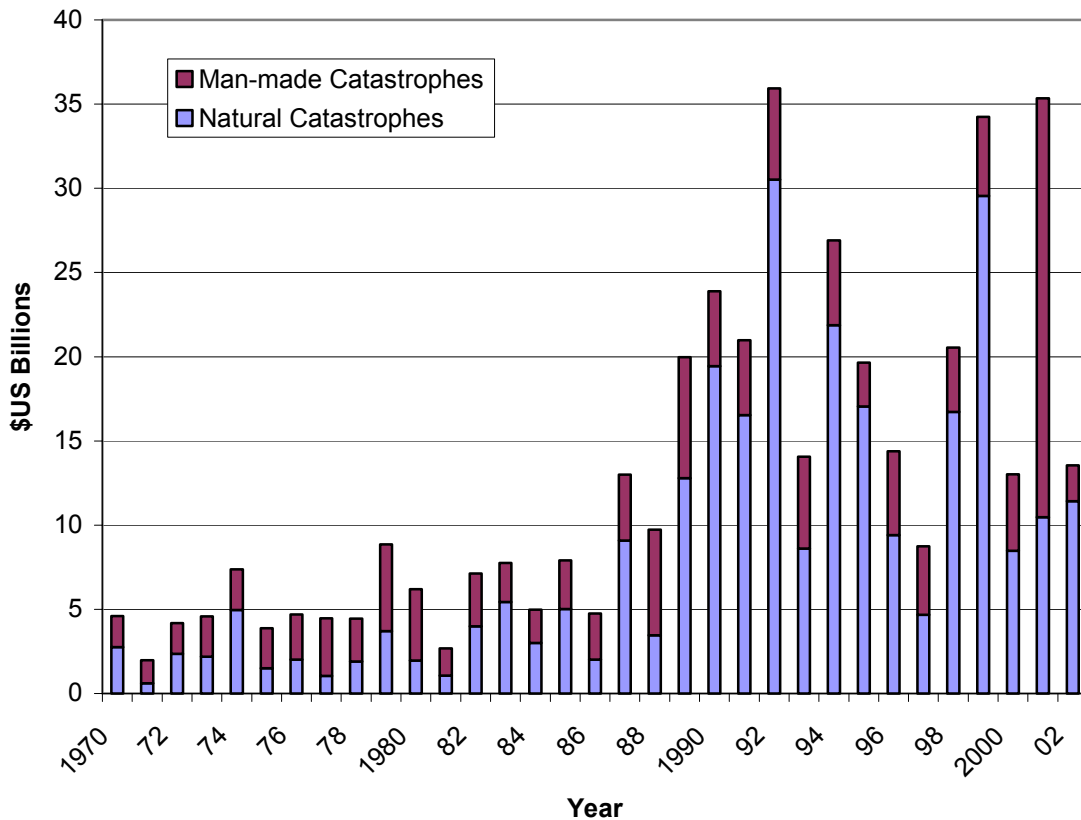
2.1 Catastrophic Risk

Catastrophic events highlight the role of the insurance sector to those outside its normally mysterious world. Significant insurance exposures to catastrophic events in 2001, and the claims that arose both directly and indirectly, provided companies with the catalyst to increase charges and reduce the scope of coverage offered.

The events of September 2001 did not, however, make that year the largest total catastrophic loss year in recent record. The 1992 events associated, in particular,

with Hurricane Andrew in the USA were greater in cost in current dollar terms (see Figure 1).

Figure 1: Insured Catastrophe Claims 1970 – 2002 (Amounts are in \$US indexed to 2002)



Source: Swiss Re Sigma 2/2003.

Insurance companies are influenced by catastrophes through the combination of the frequency of occurrence of the events themselves and the level of the insurable exposure attached to such events.

Recent experience has seen an increasing number of man-made catastrophes as economic activity expands and terrorism becomes an issue. There is also some evidence of an increase in the frequency of natural hazards. One explanation may be the increased reach of information systems (including increased insurance penetration). Another cause may be long-term climatic trends.

Increasing costs from catastrophic events are also a function of increased insurance coverage. The primary costs of a catastrophe (ie property loss and

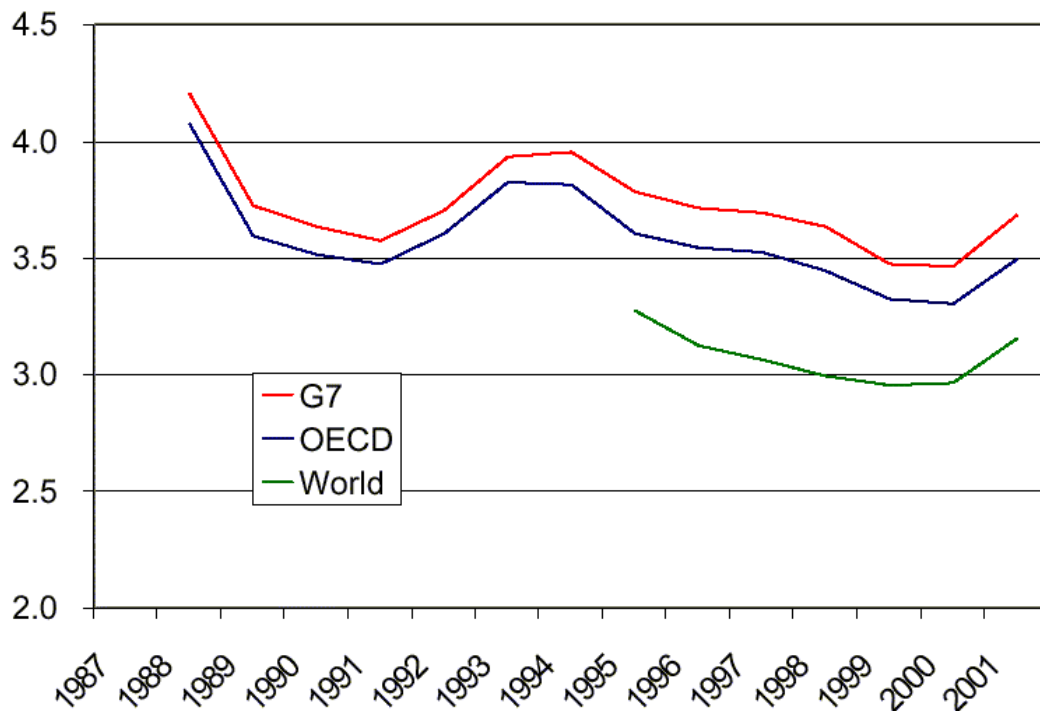
damage) are now more likely to be overtaken by secondary insurance effects such as covers for liability, negligence, or business interruption.

2.2 Rate Cycles

Performance of non-life insurance business lines has been poor in many jurisdictions for reasons that go beyond catastrophic exposures. The sector has seen a prolonged “soft” market through the 1990s. Unfortunately, much of the industry commentary on market cycles is based on commercially sensitive information that is reported anecdotally and is not quantitative. Two indicative sources of information are set out below.

Figure 2 shows premiums to GDP reported for non-life insurance for the total world market and for OECD and G7 country groupings. This indicator should broadly follow market pricing cycle trends as insurance coverage can be assumed to grow with economic activity and, for these aggregates, the index is less likely to be influenced by local factors such as increased utilization of insurance products or privatization in particular markets and product lines. Over the period, the insurance penetration has shown a trending decrease and some evidence of a cycle.

Figure 2: Insurance Penetration (Premiums as a percentage of GDP) for Non-life Insurance



Source: Swiss Re Sigma (various).

If we consider that it is unlikely that insurance coverage would have fallen in real terms over the period and that the value of goods and risks insured would have been maintained if not increased with GDP then, over the period shown in Figure 2, prices have fallen by over 12% in real terms. Profit margins are expressed in terms of much smaller percentages of premium income so these pricing changes have had severe consequences for ongoing profitability.

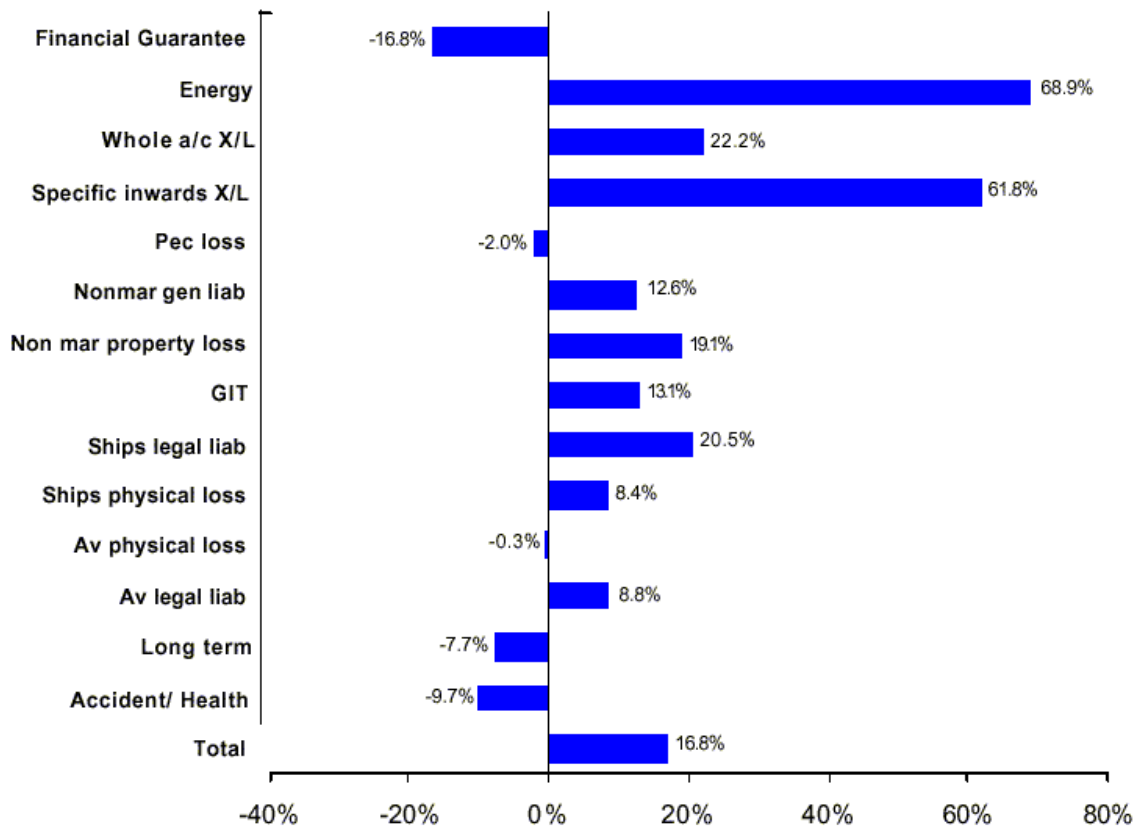
Lloyd's publishes a rate of change in premiums per transaction that is a proxy for rate movements. Reported information from successive quarterly reports is provided in Table 1. Current information by some individual classes of business is shown in Figure 3. There are indications that the period of increasing rates is coming to an end, and that rates are falling in some classes.

Table 1: Premium Rate Changes in the Lloyd's Market

Period (months)	Period end	Percentage increase (total compared to equivalent period in previous year)
Twelve	Dec-02	16.8
Nine	Sep-02	23.0
Six	Jun-02	25.3
Three	Mar-02	26.7
Twelve	Dec-01	24.1
Nine	Sep-01	28.5
Six	Jun-01	32.0
Three	Mar-01	42.5
Twelve	Dec-00	n/a
Nine	Sep-00	10.0
Six	Jun-00	8.4
Three	Mar-00	2.2

Source: Lloyd's Quarterly Business Reports.

Figure 3: Change in Premium per Transaction – 2002 compared to equivalent period in 2001



Source: Lloyds, Ins-sure and MR analysis.

Other analyses based on surveys of underwriters have pointed to expectations for increased rates during periods of rate “hardening” and can provide a leading indicator in terms of the availability of statistics. However, the surveys tend to overstate the upturn in rates once actual renewal data are examined. Even now, expectations are moderating compared to that of a year ago suggesting the cycle is turning. “The latest market survey shows that underwriters across all the sectors are still expecting rates to rise overall but that the rises are harder to achieve in a fewer areas of business”³.

For the sector, there is a clear view that prices need to increase further if profitability is to be restored to adequate levels⁴. The emerging evidence that the extent of price increases seen in the last two years may be the totality of the market “hardening” would be of concern to those who are relying on price increases alone to restore adequate profitability.

³ Lloyds Quarterly Business Report for Q4 2002 – p(i).

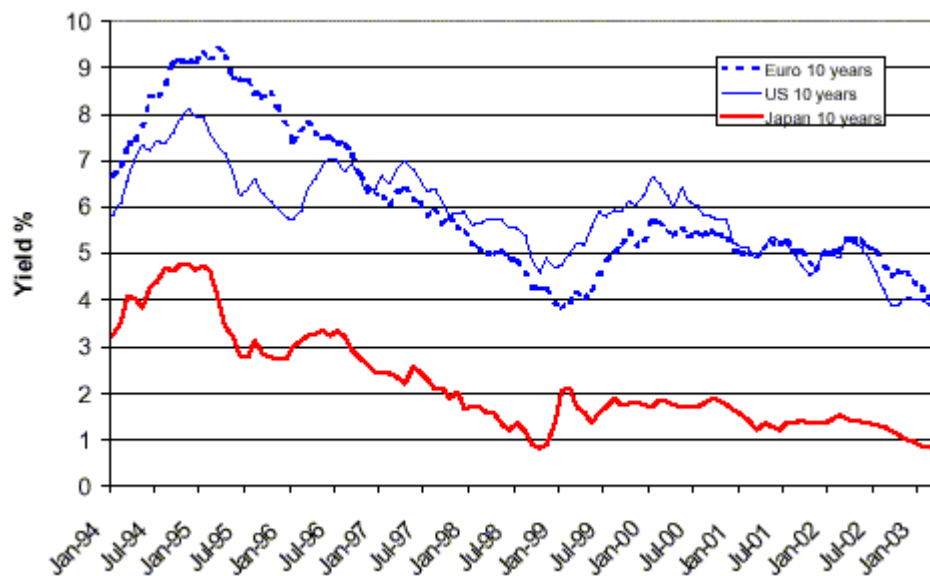
⁴ In the US market, for example, the non-life industry combined ratio improved to 107.2% in 2002 from 115.7% in 2001 but needs to fall to a level much closer to 100%, if not below it, for adequate profitability. (Source AM Best). With respect to the top 25 international reinsurance groups by premium income, their combined ratio for the year ending 2000 was 112.1 and their profit stood at just 1.13% of shareholders funds (adjusted to a common accounting base) Source: Standard and Poors.

2.3 Asset Market Performance

Just as the performance of non-life insurance company liabilities has been poor, asset markets in major jurisdictions have also imposed adversity on balance sheets of insurance companies.

A fundamental investment of insurance companies has always been fixed interest securities, particularly those issued by governments. Over the last decade, yields on these contracts have fallen progressively (see Figure 4). Market limitations usually imply that life insurers are most likely to have liabilities of a longer duration than their assets - a permanent mismatched position. As a result, there is an adverse impact when rates fall as liability values increase at a greater rate than asset values. Even where book value accounting may preclude an immediate transparent view, there is a consequential problem frequently referred to in terms of reinvestment of assets as they mature at rates lower than that required to support the liabilities (the so-called “negative margin” problem).

Figure 4: Bond Yields 1994 - 2003



Source: European Central Bank.

In response, where minimum rates of return were specified in regulations, moves to reduce the minimum rate for new business have been initiated⁵. In the most extreme situations, reductions in rates for existing contracts have also been proposed by industry in a number of countries.

Some jurisdictions saw companies respond to the pressure of negative interest margins through efforts to increase returns on assets by increasing exposure to

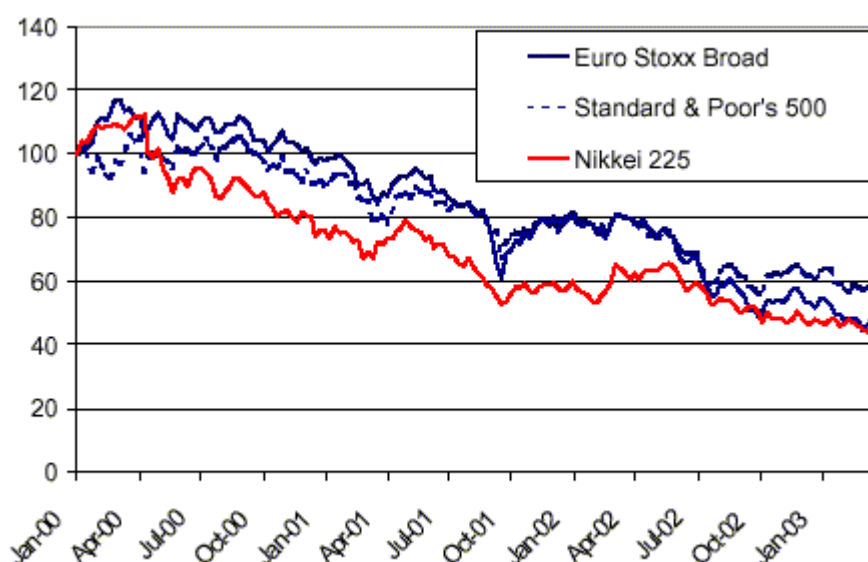
⁵ By way of example, reductions have taken place in EU countries and Switzerland and are under active consideration at the time of writing in Japan.

the equity markets. Since the end of 1999, however, equity returns in major markets have also been poor (see Table 2 and Figure 5).

Table 2: Falls in Equity Markets (January 2000 to March 2002)

Market Index	End March 2003 position relative to Jan 2000
Europe (Euro Stoxx Broad)	-52.9%
USA (S&P 500)	-40.1%
Japan (Nikkei 225)	-54.5%

Figure 5: Stock Market Performance January 2000 to March 2003



Source: European Central Bank, Staff Analysis.

2.4 Heightened Official Concern

In response to the adverse environment, supervisors and others at official level have taken a number of initiatives. These have ranged from closer monitoring of companies by individual supervisors to system-wide analyses within countries and at the international level⁶.

The IMF's Global Financial Stability Reports have also highlighted continuing weakness in the insurance sector. The March 2003 report states: "On balance, the financial condition of the insurance company sector has worsened, in some countries significantly. Insurance companies have been hard hit by the decline in equity and corporate bond markets In the early 1990s, many insurance

⁶ For example, see the coverage of insurance exposures in the half-yearly 'Financial Stability Report' of the Sveriges Riksbank p 37-40 of the 2002:2 edition. Also, chapter VII of the BIS 73rd Annual Report.

companies locked into annuity products promising to pay fixed interest rates at the same time they were earning even higher returns on their asset portfolios with a high share of equities and corporate bonds in them. Since the bursting of the bubble, earnings on their asset portfolios have dropped below these fixed rates and in some cases turned negative. In the past three years, some insurance companies have also been substantial net sellers (protection providers) of credit default swaps, total return swaps, and equity put options. ... Given the decline in equity and lower-quality bond markets, insurance companies participating in these markets might have to recognize further substantial losses in the near term.” (p22)

“While financial institutions have been resilient despite severe asset price adjustments and corporate weakness, their remaining ability to absorb additional shocks may have been weakened.” (p16)

The BIS annual report also expresses the continuing assessment of the insurance sector indicating, as part of their financial sector review, that “insurance companies showed more signs of stress, with portfolio losses imposing severe strains in some cases. Nonetheless, market-based measures of risk for both banks and insurance companies remained at low levels relative to those for non-financial firms, although default risk in the insurance sector rose last year.” (p121)

The chorus of commentary and continued attention serves to highlight the importance of efforts to enhance supervision and to improve the transparency of the financial performance of the sector⁷.

In response to encouragement, the IAIS has moved to develop a standard on the supervision of reinsurance companies, particularly those that are internationally active, and established a Task Force to improve the transparency of the reinsurance sector.

The IAIS adopted *Principles on the Minimum Requirements for the Supervision of Reinsurers* in 2002. This is a significant first step toward harmonizing supervisory practices for the global reinsurance industry. Under the principles, all reinsurers must be supervised, and it is expected that a global approach to supervision of reinsurers will be developed for consideration and adoption later in 2003.

2.5 Capital, Ratings and Consolidation of Operations

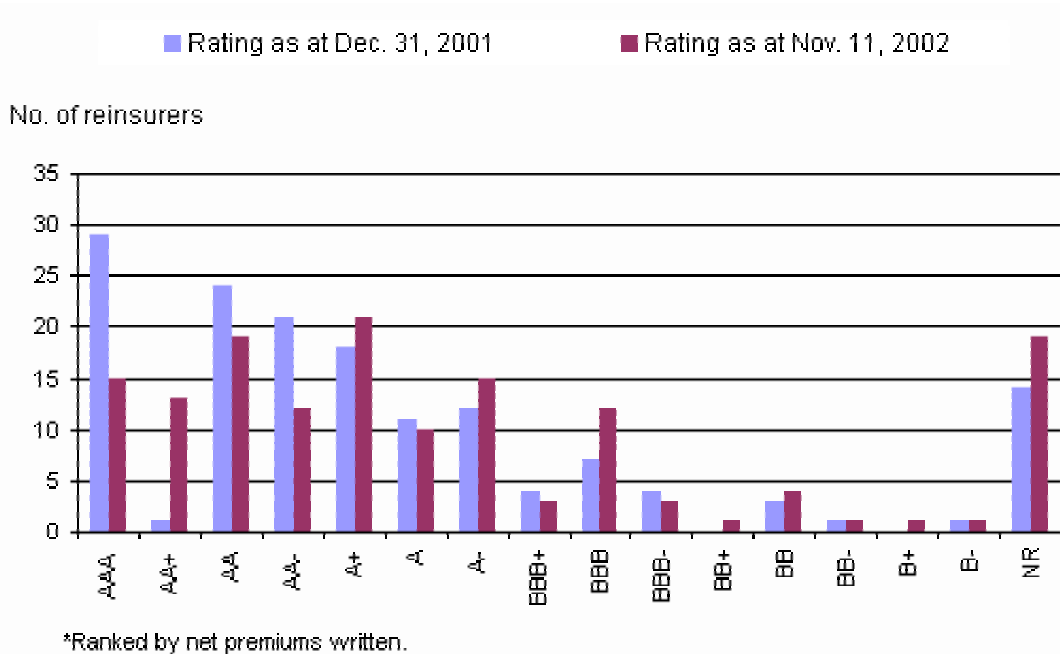
In response to this adversity, many companies have sought to raise additional capital. Between September 11, 2001 and the end of that year \$US24.7 billion

⁷ For another succinct and current example, readers may wish to refer to the speech by Sir Andrew Large: *Convergence in insurance and banking - some financial stability issues*, London, 12 June 2003.

was raised by the industry to assist in rebuilding balance sheets and to establish new reinsurance companies and capacity.⁸

Losses have, however, generally exceeded the additional capital subscribed and the success of capital issues is far from guaranteed despite the perceived positive price outlook.⁹ Ratings agencies have responded with successive downgrades. For example, 12 of the top 25 reinsurance groups carried negative ratings outlooks at the end of 2002 and, out of the top 150 reinsurance companies, there had been 47 downgrades through 2002 and just 3 upgrades¹⁰ (see Figure 6).

Figure 6: Rating Migrations among the top 150 Reinsurance Companies* during 2002



Source: Standard and Poors.

Of particular relevance in all markets, not simply those that have been affected by local falls in asset markets or catastrophic exposures, has been the influence of the response of major firms. Insurance groups have commenced an active program of corporate restructuring and, in some cases, market exit. Not surprisingly, a number of companies are focusing on their home markets and the

⁸ Source: Standard and Poors Reinsurance Outlook 2002.

⁹ The Economist, April 23, 2003 – “Aon, an insurance broker, estimates that reinsurers have lost \$200 billion in capital since the terrorist attacks of September 11th 2001. Only about \$30 billion in new capital has come in, much of it through new companies established in Bermuda. The value of their equity investments has shrivelled. And most of them have to deal with a legacy of sloppy underwriting when the market was soft.”

¹⁰ Source: Standard and Poors Global Reinsurance Outlook 2003.

need to repatriate capital back to support the existing business rather than to invest in growth opportunities and new ventures¹¹.

In such an environment, diligence on the part of supervisors supported by robust regulatory requirements directed at change of control and market exit is critical, as is the monitoring of the extent that shareholder support for local operations can be expected. Improved efforts in liaison between supervisors will be of value.

In addition, although not all markets have seen exposure to the effect of long-term guarantees in contracts, this is a recurring issue in many markets. Such guarantees can take many forms. Examples include the guarantee of a minimum interest rate for investment accrual, the guarantee of a particular level of ultimate benefit (with the implied rate of return associated with such a benefit), the guarantee to convert to an annuity at a defined point of time and at a defined rate, or the guarantee to renew the contract at defined prices or terms. The lesson of the current times is that such guarantees must be regarded with caution.

Many emerging and transition insurance markets face the effects of these challenges either directly or indirectly. These effects can be magnified because of the relative size of the economy or the specific circumstances in the sector. For example, it is common for these markets to have one or more of the following:

- Relatively strong guarantees in product mixes. Where such guarantees are being given, sometimes as a direct result of regulatory requirements that may mandate product features or include procedural limitations that would impede products without such guarantees, the continuation of this course should be reviewed to provide the relevant policy objectives through alternative methods.
- A greater dependence on international reinsurance markets to support local companies.
- Even where local investment markets have been more favorable, the pressures on multinationals has led to exits from local markets.

3 International Institutional Developments

A number of international institutions are pursuing initiatives of unprecedented scope in their potential impact on the insurance sector and its operating conditions.

¹¹ See , for example, Industry Outlook Reports from Moody's Investors Service.

The importance of the EU solvency system review extends beyond those countries currently in the EU or considering accession. Many jurisdictions use a solvency system modeled on the current EU directives so will look to this project with interest. Further, the project seems likely to move solvency systems in major insurance markets closer together, so increasing the potential for consensus at the global level.

The emergence of an international accounting standard for insurance contracts is also a ground-breaking initiative. For a considerable period of time, the absence of consistent, transparent and comparable accounting practices has been a subject for criticism of the insurance sector. Although the IASB has developed a two-stage approach, the first stage will require those countries that adopt IASB standards to revisit their solvency systems fundamentally, if only because of the changed measurement and recognition elements of the proposals.

The IAA and the IAIS are both working on projects that will ultimately elaborate the approach to quantifying insurance risk and capital requirements.

This section provides some background and reviews the developments and outlook for each of these projects.

In addition, as it is also an influence on the regulatory and supervisory environment, comment is made on the effect of WTO accession agreements that are often being implemented at the same time as the solvency related issues will need to be addressed.

3.1 Developments at the EU

The European Union solvency standard has long been seen as positive, practical, and useful. The EU regime has been based three critical elements:

- The proper establishment of relatively conservative provisions for liabilities to policyholders (technical provisions).
- The backing of these technical provisions with appropriate (and conservatively valued) assets governed by investment allocation rules.
- A solvency margin requirement over and above these other rules that is determined on the basis of a fixed ratio approach. That is, the solvency margin requirement is a function of the greater of a minimum figure¹², a percentage of the premiums and a percentage of the claims provisions in the case of the non-life companies, or a percentage of the technical provisions and the sum at risk (in the case of life companies).

¹² The minimum figure in the directives is referred to as the “guarantee fund” although it is not strictly a policyholder protection scheme arrangement so should not be confused.

Within the EU, the effective operation of the system has also benefited from a history of relatively strong supervision.

This system has proven easy and cost effective to apply and understand. It also has the advantage of being entirely based on insurance company accounting data and, as a result, is subject to the audit and actuarial processes and oversight. The simplicity and cost effectiveness have also meant that the system has been adopted by a large number of non-European countries.

However, the view is emerging that the system is in need of revision. Concerns include the absence of a specific reflection of asset risks in the solvency margin requirement itself, particularly with respect to non-life insurance, the reliance on premiums and provisions even when the company may be under pricing or under provisioning (and the built-in incentive that may exist to do so), the lack of sensitivity to the risk profile of the company, the absence of qualitative considerations of the risk management process within the company, and the absence of a forward-looking construct.

At the same time, the European insurance market has seen increasing competition, pressure on shareholder value, continued capital market integration, the emergence of significant financial conglomerates, new distribution channels, and the development of market techniques such as “Asset Liability Management”, “Alternative Risk Transfer” and the increased use of derivatives (Martinho 2003). The recent unfavorable investment climate (noted in section 2.3 above) is also relevant to the review.

The response has been to move toward a new solvency regime, first through an essentially tactical change (Solvency I) that has now been completed and, more recently through a more wide-ranging review intended to lead to Solvency II. The Solvency II work has developed a number of basic working premises and it is expected that the regime will:

- be more risk-sensitive than the current system
- assess “overall solvency” of an insurance company including both quantitative and qualitative aspects such as requirements on and the assessment of management and internal risk controls
- be based on a three-pillar structure although somewhat adapted to the needs of insurance supervision. (The three-pillar concept is discussed further in 4.1 below)
- be based on more sophisticated risk measurement encouraging insurance companies to improve the measurement and management of their risks

- introduce a two-level structure with both a strictly defined minimum and a higher control level that is oriented more toward economic capital requirements of insurance companies
- improve harmonization of qualitative and quantitative insurance supervisory methods within the EU and also, where possible, across different parts of the financial sector.

At this stage, it is anticipated that a framework directive will be presented as a proposal in 2005.

The proposals are significant in that they :

- address technical provisions in more detail, including the potential for quantitative benchmarks of the level of prudence attached to provisioning
- propose a two-tier intervention level regime
- seek to align capital requirements to economic capital¹³, at least at the second (higher) tier (target capital) and, therefore, envisage the possibility of approved internal model based capital components for larger or more sophisticated firms and “standard models” for smaller or less sophisticated firms
- anticipate a more explicit requirement for asset risk
- extend asset rules to the whole balance sheet rather than just to those backing the technical provisions
- seek to facilitate greater supervisory harmonization and transparency of both supervisory authorities and market participants within the EU market.

The regulatory structure is proposed to follow the “Lamfalussy model” – a similar approach taken with respect to securities regulation¹⁴. Several levels of rule-making from the highest level (primary laws) to various subordinate structures for more detailed rules and the issuance of guidance would be established. As a result, the system is also likely to have more ongoing activity in monitoring and refinement.

¹³ Alignment to “economic capital” implies that the capital a company would hold in the absence of legal requirements would reflect the relative effects of various risks. Whether legal capital requirements are similar or of a marked different order of magnitude, if their relativities by risk type are similar to economic capital then the incentives in the capital structures are also more aligned – a desirable outcome.

¹⁴ For more information on the Lamfalussy approach and its proposed application to insurance supervision in the EU see “Considerations on the links between the Solvency II Project and the extension of the ‘Lamfalussy’ approach to insurance regulation MARKT/2519/02” available on the EU web site.

It should be noted, in the context of countries that are implementing a regime drawing on the current European system, that the countries in Europe see their current system as a minimum requirement and tend to enhance the system in a number of ways within their jurisdiction. As a result, although these changes may represent a significant step for a country with the current directives as both their minimum and maximum position, they are less of a step for many of the existing EU jurisdictions. The proposals that the supervisory processes and requirements can be expected to be more consistent between member states in the future will mean that EU jurisdictions are more likely to see the eventual new directives and subordinate rules and guidance as a move from minimum requirements more toward agreed requirements.

3.2 IASB Developments

There are three projects of particular interest at the IASB plus one “active research” topic. The three projects are

- *Insurance contracts Phase I*
- *Insurance contracts Phase II*
- *Amendments to IAS 32 Financial Instruments: Disclosure and Presentation and IAS 39 Financial Instruments: Recognition and Measurement.*

The two insurance projects represent progress toward an international accounting standard for insurance contracts, the original project having been established in 1997 and separated into these two phases in May of 2002. One of the reasons for the two-phased approach reflects the very far-reaching nature of the proposals overall and the significant technical detail that needs to be worked though to achieve the successful completion of the project. In addition, there is a desire to achieve a deliverable within a sensible timeframe recognizing that many jurisdictions, including most developing and transition countries, have indicated that they would adopt IASB standards (IFRS) at a particular point, and including a requirement that all listed European Union companies be required to adopt IFRS compliance by 2005. In fact, more than 90 countries will either require or permit the use of IFRSs over the next five years.

The IASB has designated an “active research” topic, “*Accounting by Small and Medium Entities and in Emerging or Transition Economies*” that is also of interest.

This section sets out some salient points with respect to each of these initiatives.

3.2.1 Insurance Contracts Phase I

The first phase of the insurance contracts project represents an “interim step” and is focused on the obligations of some companies and jurisdictions in 2005. The current proposal is for an exposure draft to be released in the third quarter of 2003 and then an IFRS in 2004.

The scope for the first phase is to:

- Define what is and what is not an “insurance contract” (Figure 7)
- Define what is not in the scope of phase I, on the basis that it is covered by existing IFRSs
- Consider a range of “temporary exemptions” from existing standards so that insurers may be permitted to continue current practices
- Make a number of improvements to existing practices
- Elaborate on the application of *IAS 39 Financial Instruments: Recognition and Measurement* to insurance and investment contracts issued by insurers
- Consider issues of presentation and disclosure.

Despite being a more limited and “interim” project, the elements of this project will have implications for insurers and supervisors.

In many cases, insurance accounting will have been constructed on an “insurance entity” rather than an “insurance contract” basis. The change to account for insurance contracts is deliberate. The implication is that other activities of insurance entities should be accounted for in the same manner as for any other entity. In this case, the accounting for other financial instruments becomes particularly important (see section 3.2.3 below).

Similarly, the definition of “insurance contract” is important as it will define some activities within the scope of the project and consign others to the accounting approaches under other more general standards. The current definition is as follows (see Figure 7) and is proposed to be adopted throughout all IFRSs so as to ensure consistency.

In particular, some standards have exclusions for “insurance entities” that will be replaced with exclusions for “insurance contracts”. Important examples are the scope exclusions contained in *IAS 18 Revenue*, *IAS 32 Financial Instruments: Disclosure and Presentation*, *IAS 37 Provisions, Contingent Liabilities and Contingent Assets*, *IAS 38 Intangible Assets* and *IAS 39 Financial Instruments:*

Recognition and Measurement. The effect is that “insurance entities” will have to follow these broader standards except for the accounting for the “insurance contracts”. Where an insurer issues insurance policies that do not meet the definition then they would be treated as investment contracts and accounted for under a deposit type approach.

Figure 7: A Definition of an Insurance Contract

An insurance contract is “a contract under which one party (the insurer) accepts significant risk by agreeing with another party (the policyholder) to compensate the policyholder or other beneficiary if a specified uncertain future event (the insured event) adversely affects the policyholder or other beneficiary.”

Source: IASB Project Summary.

The tentative position of the IASB on matters relating to recognition and measurement of assets and liabilities, improvements to existing practices, and disclosure will lead to change in many jurisdictions to a greater or lesser extent as the IFRSs are adopted.

For example,

- While current practices for recognition and measurement can continue under phase I, it will not be possible for an insurer to adopt a new accounting practice that perpetuates practices that are unlikely to survive into phase II. To this end, moving from a discounted to an undiscounted approach to liability valuation, creating or increasing margins in valuations of insurance liabilities that represent an effort toward “deliberate overstatement”, implicitly valuing future asset based fees at an amount above their “fair value”, or permitting subsidiaries to use non-uniform accounting methods should not be adopted as a new practice.
- Catastrophe provisions of a more general nature (not related to the risk of a particular closed book of business) and equalization provisions should not be permitted.
- Offsetting reinsurance assets against insurance liabilities should be prohibited – that is, the use of net provisioning should not be adopted.
- Loss-making contracts, when evaluated on the basis of current estimates of future cash flows, should have that loss recognized immediately.
- Liability valuations should recognize the liability under a contract at all times, until that liability has expired.

- Where a contract has both a deposit component and an insurance component then these should be separated (“unbundled”) and treated accordingly. The deposit component would then be treated as a balance sheet movement and not as premium income. This is expected to apply to such contracts as financial reinsurance contracts and unbundled or universal life insurance policies. Traditional life insurance policies are not intended to be unbundled in this way.
- With respect to embedded derivatives and guarantees in products, more often found in life insurance contracts, phase I will not require these to be separately valued but, as a compromise, is proposing their “prominent disclosure” first descriptively and then quantitatively.
- Disclosure of significant assumptions, changes in assumptions and the sources of uncertainty is proposed along with disclosures on the objectives of risk management activities and the policies for mitigating these risks, extensive disclosure of insurance risk related information.
- Disclosure of fair values of insurance contracts, not yet fully defined by the IASB, will be required from 31 December 2006. From 2005, disclosure should be made about the “principal characteristics of the underlying assets and liabilities that are pertinent to their fair value”.

The combined effects of these principles, in many jurisdictions, quite apart from the implementation challenges, is to recast the balance sheets of firms, increase the extent that information will need to be prepared even if it is disclosed in notes rather than the accounts themselves, require solvency margin requirements to be redefined reflecting the different level of security included in liability and asset values and the revised treatment of such items as premium income, or impose two separate reporting regimes on firms.

Actual solvency may be affected depending, amongst other things, on the interaction between the new regime and the previous regime, the reaction of stakeholders to the new presented results, and the interaction with the taxation basis in force in the jurisdiction. Finally, firms are concerned about the effect that the regime would have on investors’ views of insurance stocks and, therefore, the ability to raise capital and the cost of that capital.

3.2.2 Insurance Contracts Phase II

The second phase of the insurance contracts project is progressing in the background while phase I is completed. A Draft Statement of Principles was prepared before the project was split into the two phases but has not been officially issued for comment although it is publicly available. After deliberation by

the IASB, it is envisaged that they will progress this project through the next phases toward the ultimate development of an IFRS.

The current priority for this part of the project is the challenges associated with recognition and measurement of the “fair” value of insurance contracts so that they can be considered as assets to the policyholder and liabilities to the insurance company.

The proposals under consideration are based on an asset and liability approach rather than a deferral and matching approach – in effect meaning that there will be a significant change for those jurisdictions currently based in a deferral and matching environment.

Once in place, fair value will require discounted measures rather than undiscounted measures, and approach the valuation of liabilities using a stochastic paradigm that is prospective in nature. The liability valuation may include a “market value margin” representing the premium reflecting the risk associated with the overall fair value. Importantly, “fair values” can be expected to be lower than the “conservative” values in place in many jurisdictions, implying a need to enhance the solvency margin requirement in order to maintain an equivalent level of prudence.

Although there is a good deal of work still to be done in this project, the necessity for complex technical capacity to facilitate implementation is clear.

It is envisaged that an exposure draft will be issued late in 2004.

3.2.3 Amendments to IAS 32 Financial Instruments: Disclosure and Presentation and IAS 39 Financial Instruments: Recognition and Measurement

As indicated above, the treatment of financial instruments for accounting purposes takes on a greater importance for insurance companies when it is realized that some of their insurance contracts will be accounted for, under the IASB regime, as financial instruments where they do not meet the definition of insurance contract established by the IASB.

Amendments to these two standards have been under development for some time and the process is now at the stage where comments on the Exposure Draft issued in June 2002 are being considered.

Additional guidance is proposed on issues such as valuation methodologies, the reinforcement of the fair value approach, and the recognition of impairment to assets.

3.2.4 *Implementing International Accounting Standards in Developing Economies*

Separately, in June 2002, the IASB initiated an “active research” project to consider the application of financial reporting standards for both small and medium-sized enterprises and in emerging and transition economies. At this stage, the IASB has determined that this project will have, as its priority, the issues related to SMEs rather than to emerging economies.

This is not to say that no effort is being made to progress the issues related to emerging economies. An advisory panel continues to identify issues of particular interest and relevance to emerging economies.

It can be expected that the IASB will seek to make some progress on the component of this research project that relates to emerging economies in due course.

3.3 *IAA Developments*

The IAA has created an “Insurer Solvency Assessment Working Party” formed in March 2002 whose objective is to support the IAIS in its development of an international capital standard for insurers¹⁵. The working party is seeking to carry out two particular tasks:

- First, to describe the principles and methods that would be available for the quantification of the total funds needed to provide a chosen level of confidence that the insurer’s policyholder obligations will be met¹⁶
- Second, arising from the earlier work, to identify or elaborate on a framework that would apply as a solvency regime (described sometimes as the formula without numbers) including giving regard to the practicality of approach and the potential as a basis for a “global risk-based solvency capital system”.

Ultimately, this work will propose a “consistent framework for capital requirements for insurance companies that ... can be applied in almost all

¹⁵ This working party is chaired by Mr Stuart Wason of Canada and has 20 members (5 from the USA, 3 from each of Canada and the Netherlands, 2 each from Australia and Belgium, and one from each of France, India, Japan, Switzerland, and the UK). Two of the 20 members currently work for supervisory authorities.

¹⁶ The Working Party (draft paragraph 3.7.) recognizes that, in some jurisdictions, there is also an element of protection provided to other creditors but that practices vary. It implicitly notes that the purpose of capital should be to protect policyholders and not to protect owners. Although theoretically uncontroversial, this is an important element when the more technical implications of their report are considered. It is also important as a precondition because there would be cases where the protection of the interests of policyholders can be subordinated to other interests in the country in practice even if not at law.

jurisdictions world-wide to suit the circumstances of each jurisdiction” (Working Party Draft paragraph 3.1.).

This working party follows on from an earlier working party on solvency that delivered a report in early 2002. The earlier working party report outlined key elements including the classification of risks using its own taxonomy of risk, an overview of the risk assessment process, discussion of modeling tools and methods, key components of risk, time horizons, risk management, the combination of risk, the application of distributions, assessment of risk, and measures of risk, and the implications of these issues for solvency assessment. Although it is a reasonably substantive report, it is largely qualitative and conceptual.

The working party proposes to complete its report in August or September of 2003¹⁷.

A review of the draft report of the working party as well as discussions with members indicates that a number of guiding principles have been determined, although these have not as yet passed through the full IAA approval process. The elaboration of these principles, and the points raised relevant to this paper, are as follows:

1. The approach adopted is applied to both insurance and reinsurance companies – consistent with the direction of IAIS initiatives direction toward the supervision of reinsurance companies¹⁸
2. There should be a “three-pillar approach to supervision”. (The three-pillar concept is discussed further in 4.1 below).

In particular, the working party has attempted to find ways to measure risks and therefore to apply a factor or margin to each risk measure that would lead to an element of the capital requirement with respect to these risks. To this end, the working approach leads to an emphasis on the first pillar unless the risk cannot be adequately assessed through solely quantitative measures, or quantitative approaches for solvency purposes requires independent review by the supervisor or a designated qualified party¹⁹, or where data is not available or models not sufficiently developed in which case it would fall to the second pillar. In addition, supervisory review is seen as important to encourage improved risk management and

¹⁷ The IAA procedures mean that this report will continue to be a draft although the working party will have completed their work. Consideration of the parent committee of the working party (the Insurance Regulation Committee) and then the council and members who ultimately vote to accept the paper would take around 1 year.

¹⁸ Refer paragraph 1.2 of the working party draft report.

¹⁹ With respect to this issue of external review, the working party singles out the assessment and verification of internal models as one aspect of this work, and the external review of work by an independent actuary as another.

measurement practices within firms and to enable intervention if capital is insufficient.

3. All significant types of risk should be included in the structure. The working party is of the view that underwriting risk, credit risk, and market risks should all be considered as part of pillar 1. Liquidity risk is considered to be a matter for pillar II at this stage.
4. The approach should be principles rather than rules based. In particular, they advocate sound principles in the solvency assessment supported by specific rules for the purpose of implementation. The working party also considers that rules should be able to be varied to reflect current or unforeseen circumstances with the agreement of the relevant supervisor. (Working Party Draft paragraph 2.12)

Given a principles based approach, then the working party considers that a jurisdiction with circumstances the same as another jurisdiction would get the same capital requirements whereas a jurisdiction with different circumstances would get a different result but only because of those different conditions²⁰.

A “rules based system” is criticized as being simple and objective but ultimately encourages insurers to “game the system” and “undermine the supervisory process”. (Working Party Draft paragraph 5.7)

5. In advocating a “total balance sheet approach”, it is implied that solvency assessment should be on an economic basis including the measurement of the difference between all of the assets and liabilities of the insurer on a “fair value” (best estimate or similar). There should be no “hidden” surplus.
6. The working party has developed a principle with respect to the measure of risk that is appropriate as the basis for a capital requirement and discuss the desirable qualities of risk measures, particularly that they be coherent²¹. The risk measure favored by the working party is the Conditional Tail Expectation (CTE) or TailVaR²² measure.

The solvency assessment method also needs to recognize the impact of risk dependencies, concentration and diversification as these have a

²⁰ Conditions would include the environmental, demographic, economic, legal and general business circumstances as well as the regulatory philosophy (refer Working Party Draft paragraph 3.1.).

²¹ A “coherent” measure is referred to representing the mathematical meaning of the term – that it should be scaleable (that twice the risk should lead to twice the capital), have ranking properties (that higher risk has higher capital), and allows for diversification (that more diversification reduces the amount of capital accordingly).

²² In some jurisdictions this would also be referred to as “expected shortfall” or “conditional tail expectation”. Essentially, it is the average of all cases occurring beyond the failure probability point in the distribution – ie “how bad is it on average when it goes bad?”

significant impact on the net effect of risks for an insurance company. This need influences the desirability of risk measures. Dependencies in the tails of the risk distribution are of greatest relevance to solvency assessment. The working party is keen on Copulas (borrowed originally from Physics) for the description of dependencies. These mathematical methods have the benefit of allowing for non linear relationships between risk dependencies, that means the risks can be more appropriately modeled. The relevance of dependencies between risks in the tails of statistical distributions is particularly salient for solvency purposes.

7. The working party discusses the time horizon for the calculations and consider that it “should be appropriate”. It is necessary to assess the assets and liabilities of the insurer over the full term of the contracts and obligations but the term of the solvency assessment is a different consideration. The working party has suggested a one year time horizon for the assessment of the current financial position and, for the future financial position, a period of two years for non-life insurers and five years for life insurers²³. As a result, they have implied a two-tier perspective similar to that proposed by the EU Solvency II project.

The relevance of the time for reporting and for corrective action is also noted in the selection of the time horizon (Working Party Draft paragraph 3.20 and 3.21). The effect of this analysis is that a jurisdiction with slower reporting to supervisors, a longer period of time required to analyze supervisory returns or a longer period required before regulatory action could be taken would require a longer time horizon (beyond the one year proposed) and therefore a higher capital requirement.

Working Party Draft paragraph 2.17 goes further to suggest that probabilities are attached to the time horizon’s for the purpose of establishing the overall capital requirements, one short term (99% CTE on a 1 year horizon) and one long term (90% or 95% CTE on all future durations) so as to pick up both systemic and non-systemic risks. The capital requirement would then be the greater of these two measures.

This proposal is a significant contribution to the debate as no other project has proposed levels of certainty. The working party proposals are no more than propositions but their existence in the paper represents a step forward in the international debate on this matter.

8. Risk management is considered to be an important part of the system. In fact, the working party advocates that the system should recognize the risk management practices of the company to the extent that those companies with more advanced risk management procedures should have

²³ Note that this is a little different to the 3 year minimum currently in place for the IAIS licensing standard.

these internal models approved as the basis for capital calculations. In addition, effective risk management is enhanced by disclosure.

9. While considering that the ultimate system should be based on the models of the risks particular to individual insurers and a consistent overall level of security and time horizon, it is recognized that some standard approaches are necessary. In developing a standard approach, the working party is advocating a data based method that would start with a good deal of prescription of parameters by the supervisory authority after due analysis of data. These parameters would, ideally, be required for each type of risk and each line of business and also the dependencies between risks and lines of business. It would be expected that the parameters could be set taking greater account of the individual company situation, over time or on a company by company basis after assessment of their internal risk management and measurement systems.
10. In advocating that “advanced” or “company specific” models be considered as they can better capture and describe risk in specific situations and reflect the peculiarities of a particular portfolio, it is recognized that a system of approval of such models should be in place where the supervisor investigates and authorizes the use of the model for the purpose. Such a system is likely to encourage the development of risk management and modeling methods within companies – both for larger companies who wish to invest in the development of such models and for the jurisdiction as a whole as the best practices of firms gradually progress through the sector.

3.4 Developments at the IAIS

The IAIS is a relatively new standard setting body. To date, it has established and twice revised a set of core principles for insurance supervision and is elaborating principles, standards and guidance papers on more detailed topics. The organization adopts papers and standards by determination at the annual general meeting each year whereby all members vote. There are over 100 member jurisdictions in the IAIS so the principles and standards can be considered to represent a broad consensus view.

In practice, however, the more significant insurance markets play a leading role in the development of principles and standards. The first reason for this is the substantial resources required to attend meetings and follow the work of the numerous committees and sub-committees of the IAIS. The second is that many of the emerging country supervisors are looking to the IAIS standards to inform improvements they wish to make in their own jurisdictions – ie the output is seen as more relevant for them than the input.

A high-priority issue for the IAIS is the development of an internationally applicable solvency regime. This work falls largely to the Solvency

Subcommittee. Although this subcommittee was originally comprised of members from continental Europe and the USA, membership has expanded as the work has developed further momentum.

The IAIS Solvency Subcommittee is charged with a mandate to work toward a solvency standard. To date, this work has progressed first through the development of an issues paper that was released in 2000. Following on from the issues paper, a set of *Principles on Capital Adequacy and Solvency* was developed and approved in 2002. These principles set out a roadmap for future work as well as represent the achievement of some consensus. Although on first reading the principles and accompanying text appear benign enough, there is in fact a quantity of detail that may be read as quite instructive as to a solvency system.

Subsequent efforts have led to the development of papers on:

- *Quantifying and Assessing Insurance Liabilities*: initiated by the IAIS Technical Committee in December 1999. This paper largely discusses the current state of affairs with respect to this issue but also sets out some practices that would be instructive to companies and supervisors.
- *Solvency Control Levels*: considered to have general applicability despite the fact that the underlying minimum solvency requirement is not defined.
- *The Use of Actuaries as Part of a Supervisory Model*: sets out a set of considerations that are relevant when considering whether to adopt an official role for actuaries, and then goes on to elaborate the conditions that should be addressed if such a model is to be adopted.

Further working papers and guidance are under development. These include

- *Guidance Paper on Stress Testing*
- *Standard on the Appropriate Forms of Capital*.

The work plan of the Solvency Subcommittee calls for work in 2003-4 that elaborates on the form of solvency margin requirements and the levels of security for liabilities and solvency margin requirements and in 2004-5 the acceptability and valuation of assets and the matching of assets with liabilities. As the IAA work is timed so as to take the IAA working party report as important input, the proposals and principles of the working party can be considered as fundamental to the IAIS work.

Ultimately, the eventual form of a solvency regime is likely to be substantially more risk based than the current EU system although it may be more practical

than the more complex systems currently in operation in some jurisdictions²⁴. One opportunity for the IAIS project lies in the potential for multi-tiered systems, starting with a broad and pragmatic system and then allowing additional complexity from this starting point through such features as the adoption of internal models or the introduction of less prescription in the parameters as is proposed by the IAA.

The diverse range of practices and systems in countries also suggests that it may be easier to utilize the IAA approach to come to a common view as to the overall levels of adequacy that should be applied. Such an approach would allow jurisdictions to implement systems that were consistent at a high level in their form but with different parameters to fit with local circumstances while achieving the same overall level of security. In other words, a solvency system that is consistent but not uniform.

In fact, in terms of the associated level of security provided by a solvency regime, a uniform system would not be consistent from jurisdiction to jurisdiction. There would be a need to establish parameters on at least a jurisdiction by jurisdiction basis or, as the IAA ultimately proposes, a company by company basis, to deliver a consistent result. Even in jurisdictions looking to employ the most complex approaches, smaller or less sophisticated companies will not be able to justify an individualized approach. The completion of an exercise at an industry level will be needed to establish a standard set of parameters and approaches and this will probably require the leadership of the supervisory authority to complete the task and a level of specialist expertise in the development of parameters.

A second committee of relevance is the Reinsurance Subcommittee. This Subcommittee has pressed toward a regime of supervision of the reinsurance cessions of direct insurance companies and the supervision of reinsurance companies. This work is relevant in the context of liberalizing reinsurance markets under WTO agreements (see below).

The supervision of reinsurance cessions is an important part of the solvency regime. The supervision of the solvency or reinsurance companies is also particularly important when there is greater market access from local or international reinsurance companies. It is, however, for a country where there was previously a single state owned monopoly reinsurance company, a new and complex issue to be addressed by supervisors who have not had experience with these issues in the past.

3.5 The Influence of WTO Initiatives

With respect to liberalizing markets, many countries are progressively moving away from product by product approval toward a system that places greater

²⁴ The EU Solvency II project is also moving in this direction, a factor which is likely to make the finding of a consensus between the advanced markets more likely.

reliance on the supervision of solvency and the risk management capacity of firms. As a result, with a stronger reliance on solvency regulation as the critical supervisory tool it is important that the solvency regime is robust and provides the appropriate level of security for policyholders. Often, however, the product liberalization takes place without a review and reinforcement of the solvency regime.

The opening of the market to new players including banks and foreign insurers increases the number of firms and the level of competition. Competition includes both competition for customers as well as competition for distributors, technical staff and management. Under the pressure of competition, poor practices are more likely to occur as some participants cut corners. Increased competition also requires an increased focus on profitability and sound management rather than simply on sales growth.

Invariably, the infrastructure to provide for proper risk management such as the availability of technical data will be limited. For example, product pricing may be based on new concepts where past data are not relevant or the most valid data set may only exist in the large former monopoly companies and not be available to other insurance companies. The risk of mis-pricing in pursuit of competitive goals and underestimating provisions is high.

It could be expected that some companies may not succeed in their plans in the new market. As a result, new laws and regulations are required to deal with market exit and transfer of ownership and supervision of solvency has to replace compliance-based supervisory approaches.

In an environment of competition with new companies and new products, new customers are more likely to have a less developed understanding of the insurance contracts that are being presented to them and market conduct and disclosure rules may be limited.

Common elements of WTO accession include the liberalization of the forms of product that can be issued, breaking down monopolies in particular product lines, the liberalization of the form of insurance market entry, leading to a wider diversity of corporate entity forms that require supervision within a market, the liberalization of reinsurance arrangements including the abolition of monopolies and compulsory cessions and the licensing of new entrants, particularly the large international reinsurance firms, the liberalization of asset controls moving away from stricter investment rules toward a more prudent expert approach, and finally the liberalization of distribution permitting a wider variety of distribution channels and, potentially but not always, cross-border provision of insurance.

This liberalization may be phased over a period but usually one that is fairly short.

The insurance sector usually benefits rapidly from the introduction of new capital, innovation and competition. Product development proceeds at a rapid pace, new risk management skills are introduced, and cost efficiency in the sector improves.

However, for the supervisor there are critical challenges in such an environment. It is important to effectively supervise the existing companies as they cope with rapid change that puts pressure on management, staff, systems and procedures. Supervisors also have to deal with either inadequate or recently upgraded regulations, contribute to the work of improvement in regulations so that they can respond to the new sector situation, and improve their supervision to cover new entities and business types.

Where the number of applications for new licenses is also unprecedented, then this will seriously stretch even the most competent regulators and supervisors.

If we overlay this with the potential for a radically changing solvency and accounting framework then it is clear that investment in the support and development of the supervisors in this environment should be a major priority.

4 Common Themes

This section examines the common aspects to the various initiatives. The steps that may need attention are then taken up in the following section.

4.1 The Attraction of Three Pillars

Each of the developments targeted at the solvency regulation and supervision look likely to embrace the three-pillar paradigm that has been established by the review work being conducted by the Basel Committee. A consistent application would look like the following:

- Pillar I: Quantitative requirements

Rules with respect to the valuation of assets and liabilities, capital requirements, quantitative rules with respect to asset mix and asset and liability matching.

- Pillar II: Regulations on the conduct of insurance companies and supervisory review

With respect to company operations and conduct, qualitative rules such as those that require certain corporate governance and internal control practices within insurance companies are included.

With respect to the actions of the supervisor, going beyond the verification of compliance with the regulatory requirements and quantitative rules, supervisory review is targeted at an ongoing risk assessment of insurance

companies and their continuing viability. In addition to the conventional activities of off-site analysis and on-site inspections, this review must also be enhanced by requirements for supervisory approval for particular transactions, effective licensing, and ultimately effective sanctions and exit procedures.

- Pillar III: Market discipline

The discipline of the market place can be brought to bear on the management and operation of companies. This acts as a force to encourage the prudent operation of insurance firms. Such discipline can be applied through requirements to disclose information to the marketplace. In general terms, this market would be both the market to customers, distributors and others associated with the purchase of products, and the disclosure to investors and potential investors and their representatives who provide capital or debt funding to the institution.

4.2 A Statistical Perspective to Valuation and Capital

Within the first pillar, the valuation of assets and liabilities and the determination of capital levels is proposed to be prospective and heavily dependant on statistical methods and approaches.

Such approaches move away from broader “rules of thumb” and approximate methods. They rely on technical expertise to develop, maintain and interpret the results of the models involved in the valuations and data to be retained and analyzed to establish and update parameters.

4.3 Risk Management within Firms

The accounting and solvency projects both assume that companies are able to measure and manage their risks using the kind of sophisticated techniques that are under consideration. To some extent at least, it is recognized that such an assumption is made with an element of aspiration rather than as the current position in all cases. In other commentary, the importance of having the necessary information and methods to effectively operate an insurance business are highlighted. Without an understanding of the cost of the benefits provided and the potential for variability in outcome it is difficult to make sound business decisions about the sound price to charge customers.

Some of the commentary on the IASB proposals, particularly those that have generated concern, has indicated that improvements can be made in the management and measurement of risk within insurance firms.

The use of these methods for the purpose of reporting to supervisors and to the public will automatically lead to company senior management and boards

wanting to understand the drivers and implications of the results of the calculations. The next step for those companies where management and boards would like to see the results improved is to give greater prominence to the risk management and measurement processes within the organization.

4.4 Standard Approaches and Internal Models

All jurisdictions will require standard approaches under the proposals that are emerging. Some or all jurisdictions will also have companies that seek to utilize internal models.

It is intended that companies will see the internal model development as an opportunity to gain some capital relief in return for the effort involved in preparing such a model. Efficiencies in management will also be available for internationally active firms if they can succeed in having their global models accepted in a number of jurisdictions. For supervisors, companies are to be encouraged to do so as this improves the recognition of risk and the assessment of the solvency position of individual firms. But there needs to be a balance between the relative freedom of such an approach and the supervisory review and approval of such models.

The EU and the IAIS, should the proposals proceed, would need to elaborate conditions and procedures for the approval of internal models in a similar way to the approval guidance provided by the Basel Committee with respect to the approval of market risk models for banks.

For global models, consideration will need to be given to the approach that would be needed if the model is operated from the home office of an insurance group but is considered for application toward the capital regime in various host jurisdictions.

4.5 An Absence of Margins in Asset and Liability Valuations

Both the IAA and the IASB discourage values for assets or liabilities that include margins of prudence although for different reasons. The IAA wishes to maintain the coherency of the proposed risk measures and the economic approach to the assessment of solvency and the IASB is seeking transparency and comparability – something that insurance accounts have often lacked. Put simply, “Most investors and analysts can’t understand insurer’ financial statements” (Gutterman, p3).

In many jurisdictions this will be a significant change in three respects:

- First, the determination of a provision that is conservative is easier than the determination of a provision that represents a particular point estimate. A conservative estimate may be more or less conservative and still be

conservative whereas a fair value that is overestimated or underestimated is no longer the “fair value”.

- Second, the first time that these values are introduced there could be a very substantial one-off effect that will be difficult to interpret and also, because of the absence of a past history, difficult for observers to validate and understand.
- Third, without the margins in asset or liability values, the solvency margin requirement will be less conservative than it would have otherwise been and will need to be adjusted if the force and intent of the statutory requirements is to be preserved.

4.6 Consideration of the Enterprise as a Whole

Where the current regime does not provide the supervisor with oversight of assets other than those that back the technical provisions, then the proposals of the EU and the IAA would represent a change in the regulatory approach.

4.7 The Supervision and Regulation of Reinsurance Companies

The several moves toward the supervision of reinsurance companies are supported or implied by the various initiatives of the IAIS and IAA. Liberalization of reinsurance markets in developing countries is also progressing such that this matter is taking on greater importance.

4.8 International Cooperation

In the context of new entrants from other jurisdictions, the home supervisor can be a source of assistance to the host supervisory authority provided that communication and information exchange arrangements can be put in place.

International cooperation, particularly on the reinsurance front, is also important.

Finally, the approval of internal models that operate under management structures that are international will provide the opportunity for collaboration between home and host supervisors.

5 A Multi-Pillar Response

The previous sections of this note have set out environmental and institutional changes. These changes influence the supervision of solvency in all countries through the application of international standards and the increasing presence of internationally operating firms. These two factors alone are sufficient to require attention to the future for insurance solvency and related supervision.

For developed insurance sectors, the proposals have led to concerns being expressed about the administrative and technical requirements, the so far limited opportunity to fully understanding the implications of the changes, and the relatively short timetable particularly with respect to the IASB Phase I project. For emerging and developing insurance sectors the proposals, when considered in aggregate, could appear to represent a much larger challenge, compounded by the additional burdens that need to be given attention in markets in transition rather than in a mature and stable state.

For a jurisdiction with concerns about how it would implement the various initiatives under development, this section provides some proposals for consideration under a broad framework. The framework can be considered first overall then with respect to each of the resulting “pillars”.

5.1 Pillars of Different Strengths

Within each jurisdiction, and particularly in emerging and developing countries, the strength of each of the proposed pillars will be different. The particular pillars are subject to separate commentary below. Here, attention is drawn to the generic issue.

Within supervisory circles there is a concept of varying reliance on various pillars. In effect, if the third pillar is weaker then this should be balanced with a greater weight on the second or first pillar within a well balanced supervisory system. The IAA working party has gone further to suggest that, where possible, risk should be addressed in pillar I, but where this is not possible then recourse is needed to pillar II, although this would be the most far reaching of the various proposals. For emerging and developing jurisdictions it can be expected that there may be weaknesses in each area.

For the authorities, however, it is not possible to rectify all pillars at the one time. Priorities have to be established. Some elements cannot be mandated to operate effectively through regulation alone and need to be encouraged to develop effectively over time. The two areas where the authorities will have control is a standardized solvency regime under pillar I and an effective supervisory oversight under pillar II.

Such a “balance for relative strength” approach would seem to have particular merit for developing countries. It would, however, highlight the importance of strong capacity within the supervisory authority – something not always present.

5.2 National Discretion

The approaches proposed in the various projects have yet to detail implementation issues closely. The Basel Committee, in contrast, has made it clear that there are a number of elements of the banking three-pillar approach that are subject to national discretion.

A “national discretion” element may prove to be a useful tool for the insurance sector as it develops the various proposals. In this way, countries can provide an incentive to companies to progress their development of the necessary risk management and technical infrastructure before agreeing to implement the more advanced approaches.

A system that requires preconditions to be in place, infrastructure to be developed and justification to be made to enable the national authorities to provide acceptance can act as an incentive for change. Once the preconditions are identified and elaborated, then the industry leaders will have an incentive to develop the necessary infrastructure, improve the technical capacities, and to do so collaboratively if necessary.

5.3 Strengthening the First Pillar

For many countries, the fundamental insurance solvency regimes will require change as a result of the proposed accounting standards.

First, and most obvious, will be the reclassification of some premiums to deposit type treatments. Where the insurance solvency margin requirement is constructed to include a factor based multiple of premiums then this may undermine the solvency intention.

The move to market-based “fair values” for assets may require some additional supervisory oversight at first in jurisdictions where asset values are not as robust due to limited markets, low turnover, or limited experience in the valuation of non marketable assets.

The IASB initiatives will require increased technical capacity and increased access to market data in many cases. Such approaches require the collection and examination of basic data about the frequency and severity of claims events. The usual experience is that such data will not exist at first or will not be in a form suitable for robust analysis. There may be limited expertise to analyze the data and to apply it to build and then maintain the necessary financial models. These limitations may be expressed both in the number of people and the skills of those available. The IASB and IAA proposals will, in particular, encourage or even mandate improvements to company risk management systems.

The IAA, EU and probably IAIS directions will all require the development of parameters for a standard method for the jurisdiction for the solvency margin requirement that is both adequate and consistent with these directions.

Insurance regulations, particularly those relating to prudential requirements, can take some time to change. An element of the proposed Lamfalussy approach might be useful to enable the solvency system to be sufficiently responsive to future change and reform. That element involves establishing several tiers of regulation and a rule-making body for the elaboration of details. In this way, elements of detail and guidance can be developed under the delegated authority of the ultimate law. Recognizing that some elements of the EU proposal are complicated by the multi-state nature of the EU itself, a simpler form than is envisioned there could be instituted readily, providing legislative powers to make more detailed standards and rules to some appropriate authority.

The introduction of a basic form of stress testing can also be considered as part of this approach. Such a requirement can be implemented relatively easily and be instructive for all parties as well as encouraging the development of more sophisticated approaches within firms over time.

Supervisors can encourage, sponsor, mandate or conduct data studies to overcome proprietary data concerns, reluctance, or disincentives in markets where concentration of large players suggests they are less interested in data sharing.

For those jurisdictions that apply international accounting standards, regulation of solvency needs to be reviewed in the light of the proposed accounting changes. Changes to the primary laws to introduce a rule-making power and process would be beneficial where this does not currently exist. Rule-making powers should cover, at least, the solvency margin requirement itself, and valuation procedures and rules for assets and liabilities. Regulation or supervision can also encourage the development of risk management and measurement within firms and the collection and dissemination of industry data sets.

5.4 Establishing a Strong Second Pillar

In the environment envisioned by the various projects, there is a need for a strong supervisory authority. In the case where other pillars are weaker, it is also appropriate that the supervisory capacity combines greater reliance with greater emphasis.

As pointed out in the discussion on time horizons by the IAA, weaknesses in supervision and regulation mean higher capital is required as a consequence of the longer lead times that will exist for intervention.

The experience of the FSAP has been that regulation and supervision in the insurance sector tend to be underdeveloped in several respects relative to the banking sector. In particular, regulation can have significant shortcomings, supervisory authorities can lack independence and be poorly resourced, transparency can be limited, infrastructure and capacity within the supervisory authority often need enhancement, and industry technical capacity can be low.

“Weaknesses in meeting the preconditions necessary for effective insurance supervision, divergent accounting, actuarial practices, and the absence of internationally acceptable standards relating to capital have also raised concerns relating to the adequacy of insurance supervisory practices. Transparency practices followed by the insurance supervisors need strengthening to conform to the internationally accepted good practices.”

(Experience with the Insurance Core Principles Assessments Under the Financial Sector Assessment Program Prepared by the Staffs of the International Monetary Fund and the World Bank, August 21, 2001)

Particular supervisory skills will be required for the development and maintenance of the standard solvency structures and the parameters associated with them.

For the assessment of company risk management systems and the evaluation and approval of internal models, supervisors will need to have both the technical staff and the supporting powers. In many cases in emerging and developing countries, supervisory authorities are not able to conduct robust off-site analysis. They are hampered by infrequently submitted data from companies, that is largely statistical and historic rather than informative and of sufficient scope to enable analysis to be conducted, and by insufficient analytical resources.

In some cases, however, it will be possible to enlist the assistance of other specialists outside the supervisory staff. Audit firms and actuaries can be engaged in the supervisory process to assist in the development of the relevant skills, data and models through the rest of the sector. Special purpose audit reports can be requested to address issues and inform management and supervisors. Professionals can be engaged to provide advice either on an ad hoc basis or through formal advisory committees.

Where reinsurance companies are to be supervised, it is useful to give specific attention to them even though the structure and processes may well be generic. It is more likely that reinsurance business will exhibit data limitations and difficulties with respect to the ability to apply statistical methods to the risks that they carry.

Where it is proposed to consider internal models, then it may well be desirable, or in some cases necessary, for collaboration with other supervisors. As part of the FSAP procedures, we see that the level of collaboration between supervisors on issues relating to individual firms is less than it is with respect to more general issues. The opportunity exists for increased collaboration. For supervisors in emerging and developing markets, such collaboration should be seen as an opportunity to obtain useful assistance and expertise.

Steps to enhance supervisory capacity should be taken in preparation for a changing environment. Enhancements should be directed at finding additional expert staff, conduct of on-site inspections of company risk management practices, and the updating of statistical data collections.

Consideration should be given to making increased use of professionals to assist the supervisor.

In some cases, supervisors may also have to develop capacities that address the specific nature of reinsurance company supervision.

Collaboration with other supervisors will serve as a useful tool for supervisors in emerging and developing markets.

5.5 Building a Third Pillar

The third pillar will be weak in many jurisdictions. The providers of equity may not impose great pressure on the local management of firms simply because the companies are not listed or not listed in the jurisdiction. Public reporting may be of limited value where they do not permit reasonable comparison of companies.

Where consumers are less sophisticated or familiar with financial services then the market for products will also not provide as much of an aid to the supervision of companies as it would where consumer familiarity with financial issues is more developed.

The opportunity exists for other parties to play a role and encourage the development of the insurance sector third pillar. In many countries, audit firms may prepare an industry overview report on a regular basis. While the effectiveness of this activity depends on sufficient timely information available, this can be encouraged by supervisors. In some cases, ratings agencies may also be engaged in this task, although the sovereign rating ceiling can be an issue meaning that it may not be of commercial interest in some cases.

Supervisors or other authorities can act to enhance consumer education through the effective operation of customer complaint schemes, education programs, and

disclosure requirements on companies. Industry development institutes have also proven effective in this role in some countries and may be considered.

Regardless, the third pillar cannot be mandated into existence in the same way that the other two pillars can. It takes time to develop and needs to be encouraged instead. As a result, although efforts to encourage market discipline should be taken, the importance of supervisory oversight will be greater while the market discipline is weaker.

6 Summary Conclusions

The insurance sector has faced a particularly difficult financial environment in recent times. Even for jurisdictions where the investment climate has not been as adverse, the influence of the international pricing cycles and of international firms seeking to realign operations means that local markets will see secondary effects at the very least.

Important initiatives toward international accounting standards and an international structure for solvency regimes are underway that will significantly change the way insurance solvency is regulated and supervised. Proposals will require significant expertise within the insurance sector and within the supervisory authority, and will rely on the collection and analysis of substantial, detailed data on insurance risks and assets.

The wholesale adoption of the three-pillar approach makes it clear that the solvency margin requirements themselves need to be supported by supervisory oversight and market discipline.

It can be expected that emerging and developing markets will not have the full strength in each of the three pillars that are envisaged by the various proposals. Early steps to enhance the situation can be expected to pay dividends. A basic structure would require:

- Legislation that establishes a rule-making power such that supervisory rules can be developed applying to assets, liabilities and the solvency margin requirement
- Rule-making powers to cover internal risk measurement and management
- Industry or supervisor sponsored collection and publication of data sets to assist in the quantification of risk
- Enhanced supervisory staffing in recognition of the relative weakness of other pillars

- Encouragement of technical developments within the sector
- Consideration of an increased role for professionals to assist with supervisory tasks
- Collaboration with home supervisors of foreign insurers operating in the jurisdiction
- Initiating a program to enhance market discipline through (if necessary) revised public disclosures of financial information by firms, revised disclosures to customers, and encouragement of industry publications.

Initially, the most significant challenges will rest with the development of a standard solvency system that should get early attention. Over time, as technical skills increase within the sector and as market discipline grows, then it will be possible to progressively move to a greater reliance on the alternative pillars of the supervisory structure.

In an environment that is usually marked by a rapid pace of change, the challenges are even greater.

Overall, countries should start now in their efforts to make legislation sufficiently flexible so that the new accounting standards can be easily adopted as they are implemented, gather data for analysis - particularly for parameterization of standard formulae for the solvency margin requirement - and develop technical capacities within the supervisory authority.

At the same time, although recognizing that it will take longer, countries should encourage marketplace development of technical capacity and strengthen market discipline. Even in industrial countries, this can represent a challenge.

Supervisory oversight needs to encourage as well as compensate for weaknesses in the other pillars of the structure - technical capacity within the sector may be limited and market discipline is less likely to be fully developed. Strengthening of supervisory oversight is needed to compensate until other capacities can be grown in the sector.

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