

top issues

An annual report

Volume 5
2013

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The insurance industry in 2013



pwc

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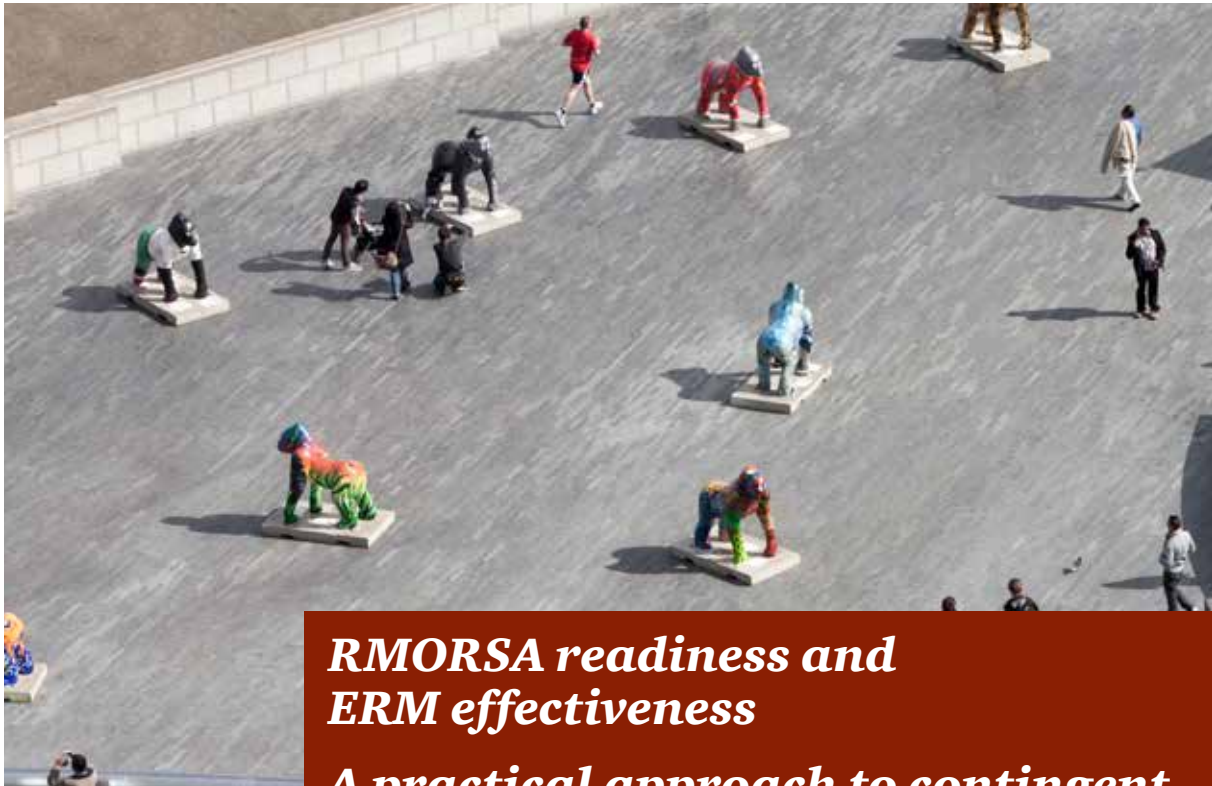
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Risk management



***RMORSA readiness and
ERM effectiveness***

***A practical approach to contingent
business interruption modeling and
risk assessment***

RMORSA readiness and ERM effectiveness

In September 2011, the National Association of Insurance Commissioners (NAIC) unanimously adopted the Risk Management and Own Risk and Solvency Assessment (RMORSA) Model Act, with an effective date of January 1, 2015. This signifies a fundamental shift in the regulatory scrutiny of the insurance industry's enterprise risk management (ERM) practices, and requires an "ORSA Summary Report" to be filed with the insurance commissioner in the lead state of domicile in 2015.

The findings of a recent survey¹ by PwC on the US insurance industry's Enterprise Risk Management and ORSA readiness indicate that significant investment in resources and organizational commitment are necessary for many insurers to facilitate filing a complete and comprehensive report in 2015.

A potentially significant gap appears to exist between the perception of preparedness for the RMORSA and the actual completeness of the underlying risk management framework.

Perceptions of RMORSA preparedness

35%

of companies indicated they do not have a fully operational risk appetite with tolerances linked to business strategy.

38%

of company boards are reported to either not be engaged or only passively engaged in risk management.

82%

And, yet, 82% of respondents believe existing ERM processes are largely or already adequate for the RMORSA.

¹ From May to September 2012, PwC undertook the survey, which consisted of four sections: risk strategy, risk governance, risk management, and risk quantification. The survey participants represented approximately 30% of the US market by premium written, and covered a cross section of life, P&C and health insurance companies operating in the United States. They include US headquartered international groups, US domestic groups or companies, US subsidiaries of European groups and US subsidiaries of other foreign groups. The survey report is available at www.pwc.com/us/insurance.

Key findings from the survey and our related discussions with insurers include:

Risk strategy

In our experience, risk strategy should be at the heart of the organization. Risk should be a core consideration when setting strategy, formulating business plans, managing performance, and rewarding management success. Risk appetite should be clearly articulated and reflect the organization's risk carrying capacity, business strategy, and financial goals. Processes and procedures should be in place to manage risk on an enterprise wide basis within defined boundaries, without stifling day-to-day operations.

Survey respondents' most commonly reported objective for risk management is to control and limit risk events. Among publicly traded survey respondents, 90 percent indicated that shareholder value enhancement is also a risk management objective.

Only 65 percent of companies indicated they have a risk appetite statement that reflects tolerance, strategy and financial goals, suggesting there may not be sufficient focus on linkages to top down strategic objectives and metrics across the industry. As might be expected because of their resources, the largest organizations scored very well in having formal risk appetite statements for each key risk category, such as market, underwriting, credit, liquidity, and operational risks.

Only three quarters of companies have a risk-specific limit framework to guide the business' compliance with risk appetite. Where limit frameworks are in place, this understandably has a high correlation with the risk categories most typically reflected within appetite statements. 25 percent of companies reported that risk appetite metrics are not part of the business planning process, while only 57 percent include some, highlighting a significant disconnect between risk management and strategic decision-making.

Risk governance

A governance structure based on a "three lines of defense" model is emerging as a leading practice in the industry. A key component of successful ERM is a risk culture that permeates the organization and drives a sense of shared responsibility for risk management throughout the company.

However, 38 percent of survey respondents reported that company boards are not engaged or are only passively engaged in risk management. In addition, only two thirds of companies indicated that they have a dedicated chief risk officer (CRO), and where companies did not have a dedicated CRO, three quarters of them reported that other positions cover the role, often on a part-time basis. In 40 percent of companies, the CRO does not report directly to the CEO or the board; the other most common reporting line is to the chief financial officer. And, while almost all board risk committees have formal terms of reference in place, with corporate risk committees and other risk committees achieving almost the same level of formality, the existence of formal terms of reference starts to fall off dramatically for business unit risk committees. 84 percent of companies responded that the risk function is responsible for risk oversight, with business areas owning and managing the risks.

Regardless of the reporting structure a company employs, the CRO or risk committees will be largely responsible, either solely or jointly, for compliance with the RMORSA requirements.

Risk management

We believe a robust stress and scenario testing process is an essential part of a risk management framework. The RMORSA process is an ideal opportunity to perform a comprehensive stress and scenario exercise. When properly orchestrated, the RMORSA will take place in conjunction with an organization's business planning process. This is an ideal time to stress- and scenario-test business plans, risk exposures, and appetite metrics in a comprehensive and coordinated manner.

However, the majority of survey respondents said that their companies do not have a fully operational stress testing program. Furthermore, the maturity of stress testing varies across the life, P&C and health insurance sectors. Moreover, only three quarters of responding companies have a risk dashboard or risk management information pack. Of those with such information, 36 percent reported that the process to produce this information takes longer than a month, while 60 percent of companies produce this quarterly, and only 20 percent do so monthly.

Correspondingly, only 78 percent of companies reported having a formal process to address risk identification, and only one in five reported having a dedicated emerging risks team. Moreover, many companies indicated they do not have fully documented risk policies that cover the significant risks to which they are exposed. In addition, only 41 percent of companies reported that they actively review, update and enforce all risk management policies.

Lastly, only 55 percent of companies reported a high degree of coordination between and among risk, finance and compliance functions, and a further 42 percent reported a moderate level of coordination. Of those who reported a high degree of coordination, 28 percent reported that they fully embed risk appetite in the business planning cycle.

Risk quantification

Internal risk and capital models are at the heart of an ERM framework. The latest draft of the NAIC ORSA Guidance Manual requires models to meet the highest quality standards, be appropriately calibrated ("real time"), and fully tested and documented, as well as subject to independent scrutiny and validation.

Nearly two thirds of respondents report using an economic capital measure in addition to the more traditional capital metrics of statutory capital, GAAP and rating agency capital. US domestic companies have the lowest take-up rate of economic capital (51 percent), compared with US international groups and subsidiaries of overseas groups. This is likely to be driven by the need for international groups to comply with other regulatory regimes. Where economic capital is used, 71 percent have the capability to project it – a requirement if this is to be used as a RMORSA metric. Of this group, 41 percent report the ability to do so over one year, while 55 percent can make projections beyond three years.

In quantifying risks, market and underwriting risks are most likely to be stochastically modeled, and 40 percent of companies reported that they had infrastructure or data issues that prevented them from following their desired approach to risk quantification.

39 percent of companies believe their risk aggregation approach needs improving or is at a low level of sophistication. However, for US domestic companies, this increases to 60 percent. This may be a feature of groups having to address aggregation across entities and geographies, as well as across risk types. This may result in a greater focus by groups on this topic and therefore a higher level of comfort in their approach.

44 percent of companies reported not having a model risk management framework that includes model validation requirements. These respondents either have no model risk management framework, or their requirements do not include validation.

Implications

- While US insurers are making strides towards RMORSA readiness, many of them still have a number of material gaps. There are many important advantages to having a well embedded ERM framework with clearly defined risk limits that allows insurers to exploit key opportunities and maximize risk-adjusted returns, while protecting policyholders' interests. Meeting regulatory requirements as a by-product of an effective ERM framework and risk-aware culture, rather than seeing the RMORSA as a purely compliance requirement, will help differentiate tomorrow's winners in the market.
- Companies that do not yet have a fully operational RMORSA strategy and process have much to gain, such as a better ratings agency view of their ERM framework, lower impact regulatory exams, better risk practices, and enhanced collaboration between actuaries and asset managers. Dedicating resources and budget to develop the overall risk strategy will help companies with less developed strategies and processes to catch up to their more advanced competitors. In the longer term, all market participants' focus will move beyond regulatory compliance and become more strategic, as companies surpass the basic requirements and approach their RMORSA from a primarily commercial, value-adding perspective.
- The level of board engagement will need to increase for most insurers as the implementation date of the new RMORSA requirements approaches. Risk committees will have to have formal terms of reference in order to comply with the NAIC's expectation of governance structures that clearly define and articulate roles, responsibilities and accountabilities.
- Insurers would benefit from establishing a formal risk appetite statement with their boards. This is a fundamental component of the ERM framework for any organization. Companies with less complex risk profiles should develop a risk appetite statement commensurately; a relatively simple risk profile does not mean a formal risk appetite statement is any less relevant. A formal risk appetite statement should be the universal currency within an organization against which it assesses all major decisions. A robust and useable risk appetite statement enhances risk governance and provides a platform on which to engage every stakeholder.
- High on the list of many insurers' ERM priorities should be:
 - » Investment in formal and fully operational stress testing programs;
 - » The development of new (or refinement of existing) economic capital models to allow prospective assessments of solvency and capital positions over longer time horizons;
 - » The subsequent independent validation of these models; and
 - » The refinement of risk quantification techniques and available data and information.
- If regulators are to be certain that an organization has a well established and embedded risk culture and ERM framework, the insurer will need to:
 - » Fully document and rigorously manage risk policies; and
 - » Design and implement risk management dashboards or management information suites where they do not currently exist.

A practical approach to contingent business interruption modeling and risk assessment

A volcano erupts in Iceland and cancels air travel throughout Europe and across the Atlantic for several days in 2010, causing an estimated \$2 billion in business interruption losses. An earthquake, tsunami, and nuclear disaster strike Japan in 2011, causing an estimated \$5 billion in global business interruption losses. These and many more recent natural disasters, most notably the 2011 Thai floods and last autumn's Hurricane Sandy, have resulted in significant supply chain disruptions.

Natural catastrophe (or “nat cat”) modeling effectively began in the aftermath of Hurricane Andrew, which struck Southern Florida in 1992. Since that time, both insurance companies and their insureds have had the benefit of risk models to guide decision-making on properties at-risk of nat cats such as hurricanes, earthquakes and tornadoes. Over the past twenty years, nat cat models have continued to develop and become institutionalized at insurance companies the world over.

Similar to the growth of “nat cat” models following Hurricane Andrew, we believe that the insurance industry will start to focus on modeling contingent business interruption after the significant losses following the storms referenced above.

There is currently a limited amount of insurance available to cover this risk. According to the third edition of the Dictionary of Insurance Terms, the “Contingent Business Interruption Form [provides] coverage for loss in the net earnings of a business if a supplier business, subcontractor, key customer, or manufacturer doing business with the insured business cannot continue to operate because of damage or destruction. For example, a specialty hot dog stand noted for its great buns cannot sell its product if the bakery supplier of hot dog buns burns down. In instances where a business is heavily dependent on its suppliers or subcontractors, interruption of the flow of material from the supplier usually results in a substantial loss” (p. 100).

One of the reasons for limited contingent business interruption (or “CBI”) capacity is that insurance companies do not have the benefit of a risk model that can inform CBI underwriting, pricing and risk management. The industry has recognized the need for such a model for some time but, despite several notable attempts, no-one has yet been able to produce one that adequately quantifies the dynamics of CBI risk. The reasons for this are fairly straightforward: First, nat cat models are anchored to and focused on specific regional perils such as Florida wind events or a California earthquake, etc., while a CBI model would have to be far broader in scope. For example, the supply chain effects of the Thai floods were far broader than many industrial firms and insurance companies originally anticipated.

Second, the exposures that nat cat models quantify are generally very well defined; for example, the location of a property to a peril (often segmented down to the zip code level), as well as the property's physical dimensions and the quality of its construction, are fairly easy to discern, and thus can be subjected to intensive engineering analysis. In contrast, CBI exposures are less well-defined and therefore obfuscate classical analytical techniques such as statistical and engineering analyses.

This is not to suggest that nat cat models are in any way perfect. They are not. All models are simplifications of reality that are designed to facilitate decision-making. As a result of that simplification, they are subject to error (known practically as “model miss”). The fact that nat cat models sometimes miss the mark is effectively why property underwriting is a business rather than a science. And in that business, nat models help to facilitate a much more informed view of property underwriting and risk management than would be available without them.

Because they are simplifications of reality, models are not perfect. However, they do help facilitate a much more informed view of underwriting and risk management than would be available without them.

Insurers have recognized the need for a CBI model for some time but no-one has yet been able to produce one that adequately quantifies the dynamics of CBI risk. However, we believe a change is at hand.

With this in mind, we believe that a promising approach to modeling CBI risk is now at hand. At its core, assessing CBI risk is a network problem as many industrial firms can have a variety of supply chains that expose them to a variety of global CBI exposures. To assess the underlying drivers (or “business physics”) of these exposures, a model employing agent-based modeling techniques, geographical information systems (GIS) and industrial supply chain information can be constructed.

Many industrial firms currently perform some form of business impact analysis (or “BIA”) to identify and assess supply chain vulnerabilities. This information can be practically incorporated into an agent-based CBI model, the output of which can quantify supply chain vulnerabilities both for specific firms and in the aggregate, irrespective of peril, including, not least, terrorist attacks. (This is significant because, as we have noted elsewhere, “Terrorists currently attack global supply chains once every four days on average.”*)

Output from the CBI model can help inform supply chain/ CBI risk assessment in a manner similar to the output that helps inform nat cat risk assessment for both insurance companies and their insureds. Examples of output include:

- Numerical loss estimates of CBI risk by supply chain network; and
- Vulnerability analysis based on a computer program that serves as an “attacking force” against the supply chains, which disables certain links in a chain on a simulated basis to quantify material vulnerabilities.

An attacking force program simulates literally millions of scenarios to identify the probable maximum losses from various global supply chain disruptions, and provides information on those losses by firm and disruption. This information then can inform industrial supply chain risk decisions and insurance accumulation analyses.

Even though model-enabled CBI analysis is in its initial stages, this condition is somewhat analogous to nat cat modeling in the years immediately following Hurricane Andrew over 20 years ago. Therefore, the potential benefits of the approach exist not only in the output of the model, but also in developing the supporting processes for implementing the model. One such process is the quantification of, and possible extension of, insured BIA information in the configuration of the CBI model.

In closing, widespread adoption of a CBI model by both insurers and their insureds could result in added capacity to CBI insurance products, which would have two key benefits: First, the added capacity would help to economically mitigate CBI risks for industrial clients. And second, a broader market for CBI insurance would provide a growth opportunity for certain P&C insurance companies, which could be significant in the current low interest rate/soft pricing environment.

Implications

- Simulation-based contingent business interruption (CBI) model is applicable to both insurance companies and their clients.
- Configuration of a CBI model leverages the business impact analysis (BIA) that many industrial firms are currently conducting.
- Widespread use of the model could result in new CBI insurance products, thereby providing a P&C growth opportunity.

* Jamie Yoder, Anand Rao, and Mansoor Bajowala, Insurance 2020: Turning change into opportunity, PwC white paper, January 2012, p. 10. Note also Scott Harrington and Gregory Niehaus, Risk Management and Insurance 2ne Ed. (NY: McGraw-Hill Irwin, 2004 [1999]), p. 513.

Strategy



Improving the customer experience
Information advantage through analytics
Reshaping auto insurance
Mergers and acquisitions

Improving the customer experience

Among the most significant current opportunities for insurers is optimizing the customer experience and improving how they interact with customers. The widespread revolution of e-commerce and mobile technology over the past two decades has led consumers to expect convenience, simplicity, transparency, and disintermediation. Combined with rapidly changing demographics, economic and regulatory uncertainty, and the constant struggle to competitively differentiate themselves, changing customer expectations are causing insurers to ask the following, basic questions about how their business models should evolve over the next decade:

- How can we optimize the customer experience and still drive efficiency?
- What is the right balance between digital convenience and in-person relationship-building?
- Are current products meeting consumer needs?
- How can we harness data and analytics to provide consumers and policyholders a unique experience across customer segments?

For the most part, carriers are not meeting changing consumer and policyholder expectations, and in turn are missing out on a vital competitive differentiator.

When asking themselves these questions, insurers should be cognizant of the rapidly changing market in which they operate. The diagram on the next page highlights the mismatch between traditional offerings and current demographics, as well as the gap between coverage needs and consumer demand (which is especially true among younger consumers). Of particular note is how non-traditional customer segments representing different ages, cultures, family structures, and socio-economic backgrounds are emerging as significant growth opportunities.

Compounding these developments are technological advances that have transformed consumer preferences about how they interact with insurance carriers. This is creating new distribution and communication channels that are changing how insurers conduct business and manage relationships. While older generations tend to be less at ease with these shifts, younger consumers are generally comfortable utilizing digital platforms to become more informed shoppers and buyers. Moreover, though this lucrative segment likely will remain relatively small, there is an increasing number of self-directed consumers who have a strong desire to play an active role in their own financial planning.

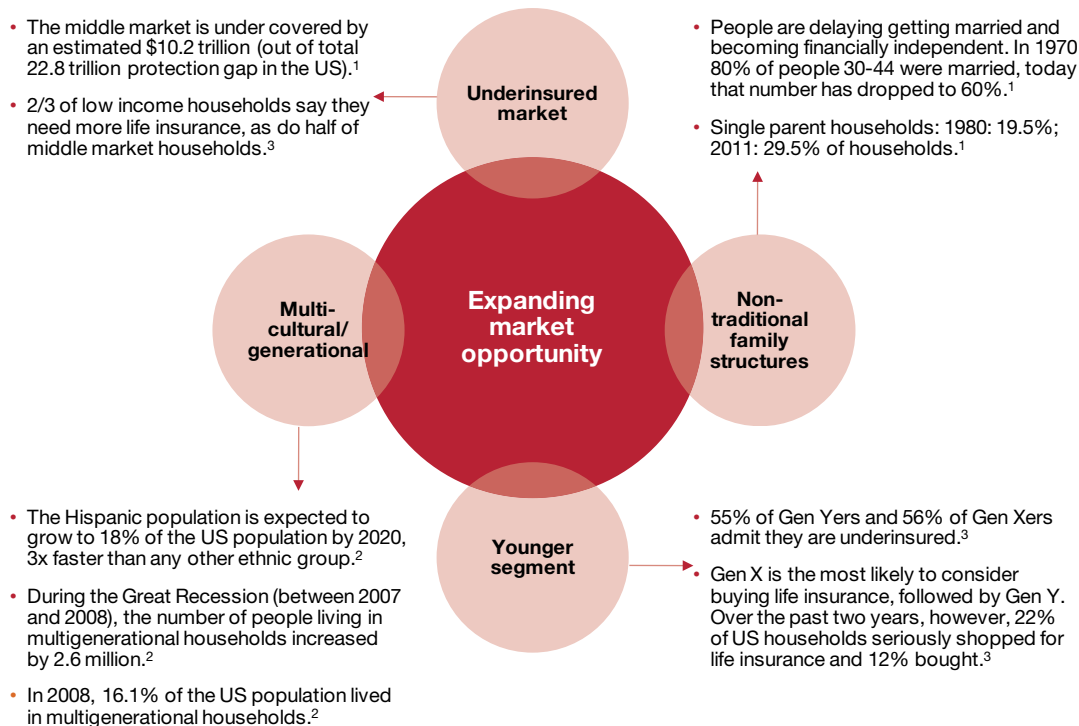
At the same time, the declining number of traditional insurance agents is reducing insurers' ability to have sustained customer interactions. Traditionally, agents would help clients become more financially literate by explaining financial products and services, as well as individual financial and coverage needs over time. Despite the rise in self-directed customers, this lack of personal interaction is hurting insurers' overall ability to market and sell more complex products, particularly via online channels.

Life & retirement

Growing cultural diversity and changing family structures continue to heavily influence demand and life and retirement purchasing patterns. Of particular note, the percentage of white non-Hispanics has dropped from 83 to 69 percent of the population over the past four decades.¹ As a result, effectively reaching certain multicultural markets has become even more critical to insurers' success. In addition, especially since the financial crisis of 2008, the transition into adulthood is occurring at a slower pace, which has delayed the types of life events (e.g., marriage, parenthood) that typically drive the purchase of life insurance.

For example, only 60 percent of the 30- to 44-year-old demographic has gotten married, as opposed to 84 percent forty years ago. Family composition also has undergone significant change since the early 1970s, contributing to the need for more effective target marketing strategies. In particular, single parent households have increased from 19.5 to 29.5 percent in that time, and females are making more financial decisions than ever before.² In the wake of these demographic changes, carriers that are able to accurately assess and address a given household's needs (primarily through advanced analytics and technological innovation), as well as build strong relationships across generations, will gain a potent competitive advantage.

US demographic trends



Sources:

¹Opportunities in Reaching the Middle Market w/Life Insurance, Conning Research, 2012

²Guaranteed Uncertainty, LIMRA 2011

³Trillion Dollar Baby – Growing Up, LIMRA

1 For further information, please see <http://www.acsw.us/fall11/lombardi.pdf>

2 For further information, please see <http://www.pewsocialtrends.org/files/2010/11/new-economics-of-marriage.pdf>

There is a gap between consumer need for and availability of solutions for managing not just financial capital, but also human and social capital.

P&C

Policy shopping and switching behavior is growing, resulting in a larger “at risk” market and increasing difficulty retaining policyholders. Shoppers increased from 27 to 33 percent of total insurance customers between 2009 and 2011, and of those who shopped, switchers increased from 37 to 39 percent (10 to 13 percent of all customers) from 2010 to 2011. Shopping frequency is either “frequent” (at every policy renewal point) or “infrequent” (because of a negative experience, or every three to five years to ensure they are paying appropriate market rates).³ Shoppers’ behavior is either “sequential set” (driven by the lowest price) or “consideration set” (based on customer experience). “Consideration set” customers value brand and policyholder experience almost twice as much as price. Sequential set customers are the most price sensitive, will switch for any discount, and are the least profitable segment. As a result, insurers are addressing the following realities when determining the best ways to attract and retain customers.

- Customers are increasingly willing to switch channels; defectors frequently switch to competitors who exclusively use a different channel than their previous carrier. For example, direct-channel GEICO lost 17 percent of defectors to agent-based carrier Allstate and, comparatively, Allstate lost 24 percent and State Farm 19 percent of defectors to GEICO.
- Most customers (54 percent) initiate contact online. Follow-up is most often via phone, and then customers proceed through whichever channel the carrier routes them.

- Customers want convenient one-stop-shopping, and 50 percent of customers want to buy at least two bundled products at the same time or through the same carrier.
- Customers requiring several policies will pay up to 23 percent more for their coverage if one insurer can meet their needs.
- Although brand and experience are relevant factors for switchers, low price is the primary driving factor. Although only 44 percent of switchers state that price was the most important purchase factor, results prove otherwise; across the industry, 88 percent of switchers defected to the lowest price provider, and 81 percent of retained customers’ current carriers offered the lowest price.

The costs of marketing to a fickle customer base contribute to a rising expense ratio and a higher product price. The challenge for insurance carriers is to be high on potential customers’ brand “call list” without increasing existing marketing investments. Potential solutions for moving up the call list are plentiful (e.g., improved organic search results, social media engagement, and quote aggregators), but require careful planning and tactics across channels related to costs, risks, and ROI.⁴ It is important to note that in-person transactions continue to decrease as shopping preferences change, with in-person purchases dropping six percent between 2009 and 2011. Beyond the web, mobile is becoming more important, and top direct players offer innovative and robust quoting capabilities. Moreover, social media is important for both agents and direct businesses, enabling more frequent engagement with customers.

³ Sources: J.D. Power and Associates 2001 Insurance Shopping Study; PwC “Experience Radar” Analysis

⁴ As we have noted elsewhere, advanced analytics offer promise in identifying shoppers and potential switchers at the time of a policy quote. Please see “Information as a Game Changer” at: <http://www.insurancetech.com/business-intelligence/3-components-of-a-winning-analytics-strategy/240004896>

Implications

- **Carriers must continue to invest in understanding consumer and policyholder expectations.** The industry's long history of designing products and services based on underwriting's, producers' and legal expectations has made it a challenge to change insurance to a customer- focused business. Making the change is complex and often wrenching, but an enhanced consumer analytics program that can help determine ways to attract and retain more customers is a good first step in meeting this challenge.
- **Revisit your customer experience programs.** Candidly assess your organizational commitment. Are your actions aligned with your slogans? Are you measuring what's important, holding people accountable, and rewarding them for improving the customer experience?
- **Change traditional distribution platforms.** Most carriers have been hamstrung by their existing distribution platforms and have been nervous about disrupting them. This is a rational concern, but we believe change has to occur to promote future success. Taking a long-term view can facilitate this change; organizations that view the ideal distribution model of ten years from now (versus just next year) tend to be in a better position to align distribution with the market's changing expectations.
- **Design products for consumers rather than producers.** Obviously, you can't generate revenue from a product that a producer won't sell, nor can you meet changing consumer needs if you only offer what producers will sell. Accordingly, test a new product aimed specifically at a consumer need and design it for the web, which will maintain simplicity.
- **Differentiate your value proposition through thoughtful advice.** More and more consumers don't have a good understanding of how to protect what's important to them. Prescient carriers will develop new ways to provide them helpful advice, including by utilizing technology to deliver personalized insight.

An insurance company's greatest asset is the data it collects and analyzes.

Information advantage through analytics

The amount of internal and external data (including different types of social, mobile and transactional data), the technologies (i.e., big data technologies such as Hadoop and MapReduce) that facilitate its exploitation, and the analytics companies use to interpret the large volumes of structured and unstructured multimedia data all are the subject of considerable discussion in both the media and corporate board rooms. Senior management is paying closer attention to how information can improve decision-making at both the operational and strategic levels, and more and more insurers are appointing data scientists or creating data science organizations to manage their related efforts to increase their competitive advantage.

We see three main causes of change:

- **Technological advances have led to an explosion of available information:** An insurance company's greatest asset is the data it collects and analyzes. Credit scoring in personal auto lines shows how the collection of external data can transform insurance companies' ability to assess an individual customer's relative risk. In the information age, the breadth of data on individuals and businesses continues to grow exponentially. Numerous external vendors have made the process of aggregating external data much more efficient, thereby making it more cost-effective to incorporate innovative data sources. In the case of personal lines insurance, telematics driver behaviour data, GPS data, as well as potential access to in-car electronic diagnostic data, offer new real-time sources of information that enable better pricing and proactive management of risk (and therefore loss reductions). Use of real-time sensors to monitor physical assets (e.g., temperature sensors that monitor boilers) also is playing a major role in commercial insurance, and wearable devices and medical sensors are creating a similar wealth of information for life and health insurance risk assessment.
- **Widespread customer use of mobile, social, and online channels:** Consumer use of smart phones and tablets is causing insurers to re-think how they promote their brand, educate consumers, and serve policyholders. Social media and social networking channels add an additional dimension to customer interaction. Moreover, the adoption and use of these channels goes beyond just end consumers – agents and advisors increasingly expect information and transactional services to be available on the device of their choice. As a result, insurers have to manage not only internal policyholder data, but also their distributors' and prospective customers' social, mobile, and online data. Effectively combining these external sources with internal policyholder data can provide carriers a significant information advantage when targeting, selecting, and serving their customers (both consumers and agents/advisors).
- **Advances in visualization and analytics are transforming decision-making:** Insurers have always been good at collecting and analyzing information for the purpose of making underwriting and claims decisions. However, the current amount and type of information, as well as the speed at which it is available, can be overwhelming. In response, analytical techniques that go beyond actuarial analysis – such as predictive analytics, machine learning, natural language processing, social network analysis, and simulation analytics – are becoming more widespread. Open source software for performing these analytics, such as R (a statistical package that can be used as a substitute for expensive analytical software packages), NLTK (a natural language tool kit written in Python), Hadoop/MapReduce (a distributed computing environment for big data analysis), and cloud computing are allowing insurers to experiment and implement analytical solutions in an incremental and economical manner. Similarly, advanced visualization packages allow practitioners to “see” the insights from large data sets and, via dashboards and cockpits, and thereby enable senior executives to visualize the impact of their decisions.

Approaches to gaining an information advantage

Depending on how advanced an insurer's access and use of information are, as well as the nature of management's decision-making culture, there are a number of approaches that insurers can take to gain an information advantage:

- **Develop a comprehensive information strategy that aligns with business strategy:** Advances in technology, analytics, and data availability aside, insurers can waste valuable time and resources if they do not have a clear information strategy. Senior management should determine which questions the company needs to answer in order to make effective decisions, as well as where and how information, analytics, and insights can provide it with a competitive advantage. Once there are answers to these questions, the information/data function can determine the most effective and efficient way to capture, collect, analyze and distribute the information and insights that can enhance executives' and staff's decision-making.
- **Generate business insights using analytics that can provide a competitive advantage:** Insurers traditionally have used analytics to understand what happened in the past. They typically have analyzed historical information to determine how many policyholders switched to competitors and why. However, they are increasingly using analytics to answer questions about the future and how they might be able to influence it. These two variants are often called predictive analytics and simulation (or scenario) analytics:
 - » **Predictive analytics:** The development of a predictive analytics solution involves modelling historical data, including prior decisions, in order to synthesize potential connections and gain insight into the effects of different variables. The insight such models provide contributes to more effective decisions in a range of business functions, including segmentation, targeting, pricing and underwriting, fraud prevention, and claims handling. However, companies will not fully benefit from predictive analytics until they can operationalize them and apply these insights to actual decisions (e.g., at the time of quoting, claim intake, in-bound or out-bound customer contact, or a new agency appointment).

As the use of predictive analytics in insurance has grown significantly in recent years, so have investments in related technology. Modernization of policy and claims/benefit administration systems, combined with service-oriented enterprise integration frameworks, has created new opportunities to embed analytics insight within marketing, distribution, pricing, underwriting, and claims handling. In addition, mobile applications allow customers to be connected with an insurer's analytics engine at all times, which gives carriers an opportunity to gain insight into how, where, and when customers interact with them. Lastly, the opportunity to drive analytics-enabled decision making at the point-of-sale also continues to grow rapidly.

- » **Simulation analytics:** While we can learn from the past, it is not always a good indicator of the future. As a result, predictive analytics that use historical data to project the future often are not robust enough to create alternative scenarios. To overcome this, insurers are increasingly using scenario analysis and simulation analytics to analyze both qualitative and quantitative data (as well as internal/external and structured/unstructured data) in order to consider strategic alternatives and their potential future impacts. As a case in point, a large life insurance carrier recently built a sophisticated model to analyze the future of direct-to-consumer life insurance, including current and future market size and growth based on different

Insurers should view data strategically. The first questions they should ask themselves are, "What questions are we trying to answer to make better decisions?" and "Where and how can information, analytics, and insights provide us with a competitive advantage?"

Analytics was once a back-room operation driven primarily by actuaries and statisticians, but it is now a cross-functional group with executive level visibility.

economic scenarios, technological advances (e.g., automation of patient health records), availability of medical data for underwriting purposes, and so on. The model has helped the company devise strategies to increase its share of the market and anticipate likely competitor strategies and reactions. Similarly, a large P&C insurer has devised a number of behavioral interventions to improve retention and simulate their adoption and impact on the book of business.

Creating a data-driven culture

Analytics software vendors have made significant improvements to their analytics development and deployment, as well as their decision management and monitoring technology. Insurers can adopt some of these tools more quickly and at a lower cost than in the past. However, analytics is one of the fastest growing segments in technology, and the variety of available techniques (e.g., social listening, social networking, machine learning), tools, and new market entrants is daunting to many potential users. In order to stay on track, insurers need to make the analytics process their own by:

- **Building a data and governance infrastructure that promotes effective management of information assets:** As businesses start to use extensive external and third-party data and harness substantial volumes of internal information and unstructured data, the information management function will need to transform itself. Some key changes are likely to include the need to very quickly provide data, insights, and reports; integrate internal data with external third-party data; satisfy users who want to slice and dice data and draw their own insights using open software tools or vendor packages; provide visualization tools (and on mobile devices for senior management dashboards); and maintain information security and governance in a rapidly changing and crowded vendor solutions and device market.
- **Institutionalizing data- and insight-driven decision-making at all levels of the organization:** Leading insurers who have been using analytics in specific areas

of the business are now looking to institutionalize the most effective practices. At the most advanced of these organizations, what was once a back-room operation driven primarily by actuaries and statisticians is now a cross-functional group with executive level visibility that focuses on information strategy, processes and products, information management, and IT, and supports multiple analytics applications across the enterprise. To further enhance internal competencies, market leaders are currently making significant investments in developing their internal human capital.

All of this has resulted in changes to how insurers recruit and retain analytics professionals. They are no longer looking for the most mathematically talented actuaries and statisticians, but ones who also have curious minds and can operate in uncertain environments. In order for these people to flourish, organizations must create a fact-based culture in which analytics personnel are not just responsible for supporting existing production type analytics applications, but also have the freedom to “roam” and explore the “outer depths” in order to discover new and innovative analytics applications, data visualization, and techniques. Otherwise, insurers are likely to lose this talent to other data-driven industries, such as advertising and consumer goods.

Implications

In summary, insurers who develop a competitive information advantage through analytics will exhibit the following:

- Successful identification of the key business decisions they need to make and how information, insights, and analytics can impact them;
- Ability to quickly mobilize a cross-functional team of business, technology, and analytics experts within and outside of the organization to deliver on the company’s information strategy; and
- A management culture that is open to experimentation and bases business decisions and actions on the insights the company gains from data and analytics.

Reshaping auto insurance

Several factors aimed at road and vehicle safety are increasingly likely to reshape the auto insurance industry. From numerous advancements in car and truck technologies, to federal and state legislation on driver behavior, to government investments in roads, highways and intersections, insurers should prepare for a changing landscape – though not necessarily fewer opportunities.

State of the art technologies, such as automatic braking, telematics, location awareness, vehicle-to-vehicle (V2V) communications, improved stability control for large commercial vehicles, collision avoidance sensors and technologies, and driverless cars, promise considerable reductions in the frequency and severity of auto collisions. This could significantly reduce auto insurance premiums – in fact, the ongoing evolution of previously unavailable technologies is causing many to wonder if auto insurance will go the way of the Edsel.

At least for the foreseeable future, we think that business will continue more or less as normal for the industry. Better vehicle design, anti-lock braking, stability control, airbags, back-up cameras, and other features are now common throughout model lines, yet the cost of auto insurance held steady with inflation in the US for the decade leading up to 2009.¹ While telematics have the potential to reduce premiums for some drivers – early adopters in particular are likely to be less risky customers and receive the greatest discounts – they actually may help the industry price policies more effectively overall.

A series of cost factors and adoption resistance will continue to buoy premiums: high repair costs for increasingly complex vehicles, increasing medical costs for injuries, more frequent and devastating natural disasters, consumer advocates raising potential privacy risks, and electronic malfunctions

that fail to reduce accidents. Moreover, customers are often slow to adopt new technologies as they evolve because they do not fully understand them, high purchase costs, or the natural inertia of wanting to fully utilize durable products for much of their lengthy lifecycle. In fact, the age of American cars and trucks on the road recently reached a record high of 10.8 years.²

In terms of government action, the recent passage of Graduated Driver Licensing legislation, which includes federal incentives and state-level implementation, focuses directly on teen driver safety; it increases practice hours and the minimum ages for permit and licensing, and imposes limitations on numbers of passengers and night driving. This ideally will reduce young driver accidents and could eventually lead to lower premiums.

Another safety initiative, installation of cameras to monitor the running of red-lights and speeding, appears not to have its intended impact yet, both in terms of the installation rate (given high costs) and results (which, per follow-on effectiveness studies, have been mixed). A Federal Highway Administration study of 132 treatment sites found that red-light cameras do reduce right-angle crashes but increase rear-end collisions, a fact which could hamper adoption.³ As far as speeding cameras are concerned, a recent study revealed that areas with cameras experience an eight to 49 percent reduction in all crashes.⁴ This is good news for safety, but installing more speed cameras could have a dual effect on insurance premiums. On one hand, speed cameras could provide an incentive for drivers to drive more cautiously, which would reduce the number of accidents and therefore place downward pressure on auto insurance premiums. Conversely, premiums could climb as the number of speeding tickets increase, and carriers penalize those who receive them for their risky behavior.

1 National Association of Insurance Commissioners, 2009, available on www.iii.org

2 USA Today, “Our cars are getting older, too: Average age now 10.8 years,” January 2012. Available at <http://usatoday30.usatoday.com/money/autos/story/2012-01-17/cars-trucks-age-polk/52613102/1>

3 Available at: <http://www.fhwa.dot.gov/publications/research/safety/05049/>

4 Cochrane Database of Systematic Reviews, “Do speed cameras reduce road traffic crashes, injuries and deaths?,” May 2010. Available at <http://summaries.cochrane.org/CD004607/do-speed-cameras-reduce-road-traffic-crashes-injuries-and-deaths>

All of this is not to say that there will not ultimately be a significant reduction in driver premiums, but significant environmental forces and natural inertia mean that they will not occur overnight.

Future scenarios

Although current technology and legislation are still very much works in progress, there are strong forces that do stand to reshape the sector, including shifts to new types of coverage, alternative distribution channels, and redefined customer segments. We envision three highly possible evolutionary changes to the personal auto insurance industry's products, distribution, and customers, as well as one more truly transformative change that, if it occurs, would significantly affect the shape and size of the industry as we know it.

- 1. Risk shifting** – Advanced automotive technologies that reduce collisions, such as location awareness and automatic braking, will increasingly shift the risk of driver error to the risk of mechanical malfunction. This would shift driver liability to manufacturers and result in a new form of auto insurance that could be packaged with cars that rely on these technologies. In turn, this would shift the key buyer from the end-consumer to the manufacturer, and fundamentally change the entire value chain, from product definition to pricing, marketing, distribution, underwriting, service, and claims. If carriers decide to market this coverage to consumers, then they would do so either at the point of sale, or perhaps try to increase market share by co-marketing with the manufacturer and/or dealer.
- 2. Risk sharing** – Smartphone apps and social networking have already started to play a role in collision reduction. In addition, the dramatic rise in social networking has enabled individuals to develop new affinities wherein people with similar attitudes, interests, and behaviors can pool resources to share risk and lower overall costs. For example, there are new carriers that combine social networking with insurance by connecting customers to form insurance networks that promise significantly lower premiums. These carriers claim that their models allow insurers to access new customers virally, decrease process costs, and reduce claim ratios. While, on the one hand, this represents the potential for lower rates for more groups, on the other hand, it also could make insurance more affordable for some and therefore lead to premium growth.
- 3. Risk slicing** – Urban living and the increasing availability of automotive time-sharing suggests a future in which premiums move from 24-hour asset coverage to a pay-per-use model. Over 80 percent of the US and over 50 percent of the global population is considered urban; understandably, car sharing is rapidly growing. According to a Frost & Sullivan research estimate that Forbes reported in March 2012, the global car sharing market could exceed \$10 billion by 2020, and the North American car sharing market alone could surpass 4.4 million members and \$3 billion by 2016. As a result, an increasing number of low-frequency drivers is likely to mean at least some reduction in individual premiums.

There are strong forces that stand to reshape the sector, including shifts to new types of coverage, alternative distribution channels, and redefined customer segments.

Driverless cars equipped with the latest awareness technologies could completely change the industry as we know it.

However, this scenario does not necessarily represent only lost premiums. Most of the people do not choose to own cars will need to rent them at least occasionally; accordingly, car sharing can expand the market for alternative buyers of insurance.

- 4. Risk reduction** – Unlike the above scenarios that represent significant change but not necessarily extreme disruption to the insurance industry, driverless cars equipped with the latest awareness technologies could completely change the industry as we know it. Google, Inc.'s auto research investments are hastening the eventual, widespread availability of driverless cars. Google's driverless, laser-equipped vehicles have logged over 300,000 miles without an accident; moreover, the company has begun investing in the research and development that initially sets and then drives down the costs of new technologies. Driverless cars are now legal on California roadways, and Google's US spending on advocacy of driverless vehicles exceeded \$9 million in just the first half of 2012.⁵ Google estimates that the technology can reduce traffic accidents, the number of cars, and wasted commute time and energy by 90 percent, thereby resulting in savings of \$2 trillion per year for the US economy.⁶

Moreover, in March 2012, J.D. Power and Associates found 37 percent of US consumers were interested in autonomous driving technology. More impressively, the first phase of the NHTSA's Safety Pilot revealed that 9 out of 10 drivers who experienced V2V technology "have a highly favorable opinion of its safety benefits and would [value] V2V safety features on their personal vehicle."

Implications

- Mobile telematics and recent automotive safety features are helping insurers price and manage risk better and definitely are the wave of the future. However, until more drivers utilize them (e.g., through the purchase of a new vehicle), their effect on insurers will be minimal.
- Legislation that ostensibly promotes driver safety so far has had a limited effect on insurers and premiums. Any future developments could cut both ways – a reduction in premiums for safe drivers and an increase for more frequently penalized ones – and result in consistent premiums revenue overall.
- The rise of affinity groups could lead to more risk-sharing; while this could lower prices per premium, increased policy affordability could lead to overall premium growth.
- Risk slicing has the potential to reduce the need for more traditional coverage, but could lead to an increase in the market for alternative coverage.
- Self-driving vehicles have the potential to significantly disrupt the traditional auto insurance industry. While the vehicles currently are on the roads, their widespread use – as well as the infrastructure to support them – is not likely to become a reality for many years.

Whatever the future holds, the automotive insurance business *is* going to change. Despite some doomsday predictions for the industry, there are opportunities for insurers to develop innovative new products, alternative distribution approaches, and new customer segments which can help them thrive, not just survive. The carriers that can think creatively about new markets and potentially drastic changes to automotive technology and ownership will be the ones who are most likely to successfully navigate the path to the future.

5 Wall Street Journal Online, "Google's Driverless Car Draws Political Power," October 12, 2012

6 Forbes, Jan 22, 2013, Fasten your Seatbelts: Google's Driverless Car is Worth Trillions (Part 1), Chunka Mui. Available at <http://www.forbes.com/sites/chunkamui/2013/01/22/fasten-your-seatbelts-googles-driverless-car-is-worth-trillions/>

(Note: The authors would like to thank PwC Associate Nicolas Ingram, who also contributed to this section.)

Mergers and acquisitions

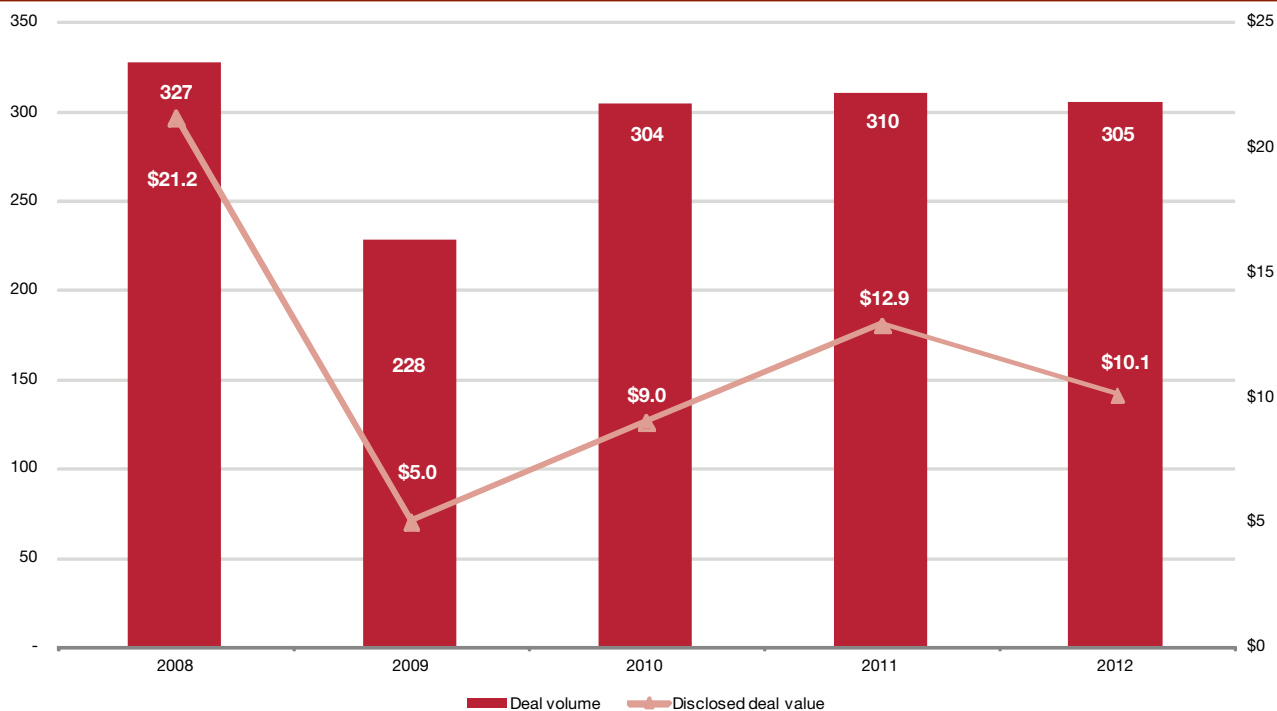
Uncertainty in the US economy has continued to have a major impact on the insurance industry. The Federal Reserve's efforts to keep interest rates low have affected all industry sectors, which depend heavily on investment income for profitability and claims support. Despite positive expectations for increased insurance M&A activity in 2012, M&A deal volume was approximately the same in 2012 as it was in 2011. According to SNL, there were 305 insurance deals (excluding managed care) announced in 2012, compared to 310 in 2011. Total announced deal value decreased by \$2.8 billion in 2012 to \$10.1 billion, from \$12.9 billion in 2011. Over the same period, average deal size and disclosed deal value decreased, and there was only one multi-billion dollar deal in 2012 (the \$2.3 billion acquisition of USI Holdings Corporation) compared to Alleghany Corporation's \$3.5 billion acquisition of Transatlantic Holdings, Inc and Tokio Marine Holdings, Inc's \$2.9 billion acquisition of Delphi Financial Group, Inc in 2011. The decrease in average deal size and disclosed deal values size was largely attributable to widespread uncertainty about the regulatory environment and macroeconomic concerns. As a result, a large portion of M&A activity consisted of small strategic transactions and pressured divestments as companies placed greater emphasis on developing their core competencies and profitability and exiting non-strategic businesses. This was most notable with Aviva plc's announced sale of Aviva USA Corporation, its US life and annuities business and related asset management operations, to Athene Holding Ltd for \$1.8 billion, and Sun Life Financial Inc's announced sale of its US annuity business to Guggenheim Partners LLC for \$1.4 billion.

2012 did see a number of transactions involving private equity and insurance brokers, including New Mountain Capital, LLC's recapitalization of AmWINS Group, Inc. and KKR & Co. L.P.'s acquisition of Alliant Insurance Services, Inc. While the deal values for these transactions have not been disclosed, the acquisition price for each is estimated to be in excess of \$1 billion. (Please note these values are not included in the \$10.1 billion of disclosed 2012 deal value we mention above).

Other significant deals with disclosed deal values in 2012 include the Jackson National Life Insurance Company's \$700 million completed acquisition of SRLC America Holding Corp., Prudential Insurance Company of America's \$600 million announced acquisition of The Hartford's individual life insurance business through a reinsurance transaction, BB&T Insurance Services, Inc.'s \$600 million completed acquisition of Crump Life Insurance Services Inc. and Crump Insurance Services Inc., Athene Annuity & Life Assurance Company's \$400 million announced acquisition of Presidential Life Corporation, and Massachusetts Mutual Life Insurance Company's \$400 million announced acquisition of The Hartford's retirement plans business.

While insurance announced deal volumes have declined slightly in 2012, we have noticed increased interest in the sector on the part of both buyers and sellers. However, this has not translated into an increase in deal volume, as parties have struggled to reach agreement on key transaction terms, including valuation. One particular area of contention has been buyers' desire to acquire specific products or business lines, while sellers instead have been interested in a clean exit.

Announced US insurance deal activity 2008-2012 excluding managed care



Top 10 US insurance deals announced 2012 (by value) excluding managed care

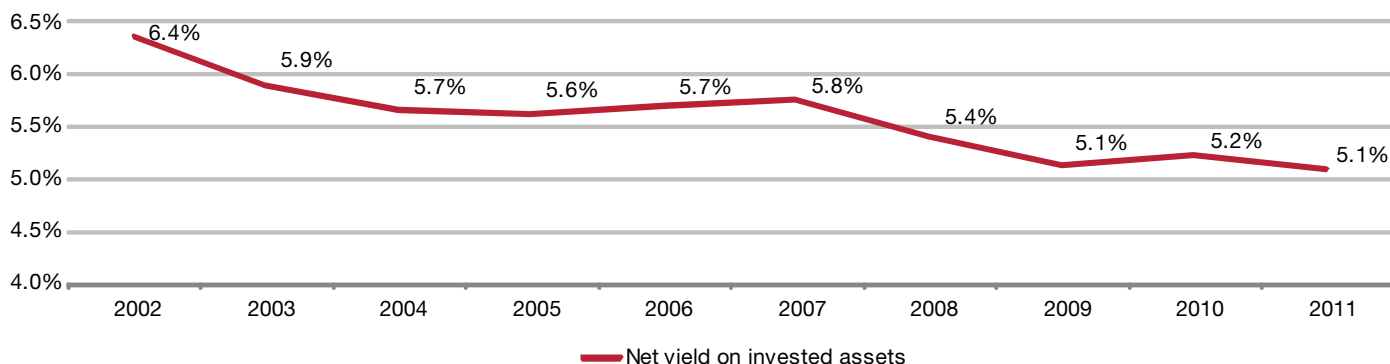
Rank	Month announced	Target name	Acquirer name	Sector	Value (in \$millions)	% of Total
1	Nov 12	USI Holdings Corporation	Investor group	Insurance Broker	2,300	23%
2	Dec 12	Aviva USA Corporation	Athene Holding Ltd	Life & Health	1,550	15%
3	Dec 12	Sun Life Financial Inc US annuity business	Guggenheim Partners LLC	Life & Health	1,350	13%
4	May 12	SRLC America Holding Corp.	Jackson National Life Insurance Company	Life & Health	663	7%
5	Sep 12	The Hartford's individual life insurance business	Prudential Insurance Company of America	Life & Health	615	6%
6	Feb 12	Crump Life Insurance Services Inc. / Crump Insurance	BB&T Insurance Services, Inc.	Insurance Broker	570	6%
7	Jul 12	Presidential Life Corporation	Athene Annuity & Life Assurance Company	Life & Health	414	4%
8	Sep 12	The Hartford's retirement plans business	Massachusetts Mutual Life Insurance Company	Life & Health	400	4%
9	May 12	Great American Supplemental Benefits Group	Cigna Health and Life Insurance Company	Life & Health	310	3%
10	Aug 12	SeaBright Holdings, Inc.	Enstar Group Limited	Property & Casualty	250	2%
Top 10 deal value					8,422	83%
Other deal value					1,706	17%
Total disclosed deal value					10,128	100%

Implications

Overall, deal activity in the insurance industry has been restricted by uncertainty in the US and global economies, continued regulatory reform, including advancements of health care reform and Dodd-Frank, tax reform, and resolution of budget challenges in Washington. While announced insurance M&A activity may strengthen in 2013, we expect a number of issues will negatively impact deal activity overall, including:

- **Investment yields will remain low** – US Federal Reserve efforts to stimulate economic growth through quantitative easing and other monetary policies will prolong the low interest rate environment. It became more apparent during 2012 that low interest rates will have a long-term impact and historically normalized interest rate levels are not likely to return in the near future. As a result, we expect that low investment yields will continue to strain insurance company profitability. Low yields also are likely to impact pricing considerations for many insurers because they rely on investment returns on premiums for profitability and claims support. Insurers will continue to evaluate achievable yields they can earn in the current environment, which may lead to changes in pricing and growth strategies, including exiting certain blocks of business.
- **Solvency II** – Uncertainty about Solvency II and its potential impact on capital requirements for European insurers and reinsurers will probably lead some companies to exit the US market. This regulatory reform is likely to require that European insurers and reinsurers increase their capital reserves, thereby making it more challenging for them to compete in the US market. In fact, several European insurers divested their US operations last year, and we expect this trend to continue this year as companies seek to further enhance their capital positions.
- **Significant catastrophe-related losses may result in a stabilization of or increase in market pricing** – P&C rates have been soft over the last few years, during which time the industry has had ample capital and relatively low catastrophe related losses. These factors have contributed to competitive pricing. However, P&C insurers have recently experienced significant catastrophe-related losses as a result of various floods, hurricanes, earthquakes, droughts, and tsunamis around the world. For example, Superstorm Sandy hit the northeast in late October, causing significant CAT losses, and severe drought conditions in the Midwest caused significant losses for many government and private crop insurers and reinsurers. Some industry observers believe these losses may be severe enough in the US to lead firmer market pricing, particularly in catastrophe prone areas; in turn, this could make US property and casualty insurers more appealing to potential investors.

General account net investment yields – US life insurance companies



Source: SNL

- **Annuities continue to present investment opportunities** – Private equity investors have continued to make inroads into the fixed and indexed annuity space over the past year as evidenced by the Aviva, Sun Life and Presidential deals we cite above. The main catalyst for these deals has been the pressure on supply-side writers to find yield as persistently low interest rates cause spreads to compress. On the demand side, private equity investors view these products as an inexpensive form of financing, as well as an opportunity to leverage their core competency as investment specialists.

Variable annuities also are garnering attention from investors (including private equity) as a value – not just a spread – play. Shareholders view embedded guarantees less favorably than they used to, and variable annuity writers have expressed a willingness to consider all available options to remove them from their balance sheet. Recent related transactions include the Sun Life deal and this month's announcement by Berkshire Hathaway Life Insurance Co. that it will reinsure Cigna's variable annuity death benefits and guaranteed minimum income benefit business. If interest rates continue to remain artificially low and derisking strategies such as policy buyout offers fail to gain traction, then the number of potential targets likely will continue to grow.

Operations



Transforming billing and payments
Improving the claims function

Transforming billing and payments

Customer billing and payments are as much an opportunity to provide excellent customer service as they are a core operational and accounting function. Leading companies leverage their billing and payments process to achieve far more than just the collections of premiums; they use techniques to forge stronger customer relationships and gain greater insight into customer wants and needs. A strong customer billing process is customer-centric and is the primary communication between customers and the company. Moreover, high quality billing and payments provide carriers the opportunity to deliver important marketing, sales and other information the company feels would benefit its customers, as well as to demonstrate the company's commitment to their satisfaction.

The move to electronic billing and payments

Thanks in large part to advances in the accessibility and capability of mobile technologies over the last several years, US consumers have embraced online billing. For companies in many industries, the benefits of migrating to electronic invoicing and payment include operational cost savings in bill presentment and collections, increased customer confidence and satisfaction, and a correspondingly better corporate image.

Because customers are increasingly paying bills electronically, insurance carriers are experiencing pressure from them to offer the same flexibility of choices that many other industries do. Insurers that are unable to provide such options run the risk of customers and other important stakeholders perceiving them as behind the times and/or inefficient.

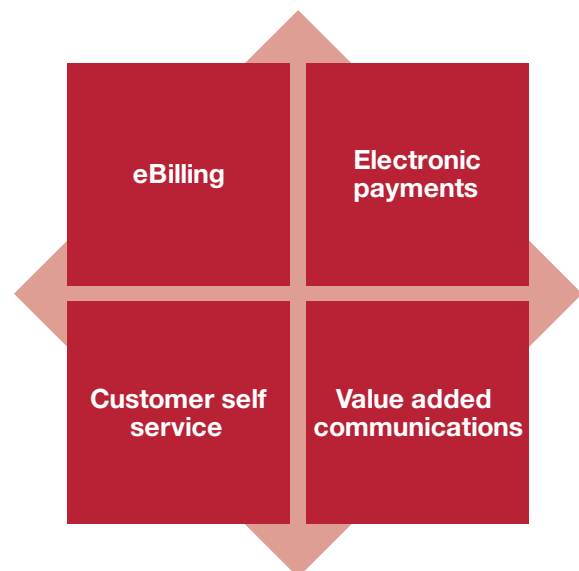
When implementing new billing features/functionality, carriers have primarily focused on an opt-in strategy, making new features available to customers without trying to drive their behavior. Other financial services sectors have

been more aggressive in driving customer interactions to the internet, most notably major credit card companies, which offer customers useful and appealing online tools, such as financial management charts. While developing these tools does require some initial capital, they are not costly to maintain and can easily be made available to the entire customer base.

In contrast, many P&C insurers still generate the bulk of their invoices on paper and deliver them to customers via snail mail. These invoices generate a host of operational costs, including for paper, printing and handling. It also negatively affects the collection process by slowing cash flow as insurers wait for policyholders to receive invoices and mail in payments. In turn, the resulting time lags have led to unsatisfactory rates of cancellation notice issuance and customer dissatisfaction. The rewrite/reissue process for cancelled policies is costly for insurers and disruptive to customers, and in many cases, cancellations may not have occurred had the insured been enrolled in an automatic (electronic) payment plan.

Key areas of focus

The key focus areas of technology- and process-based billing transformations are eBilling, electronic payment, customer self-service, and value-added communications.



eBilling

Approximately two-thirds of all bills are now paid electronically, and most future growth will be in Web and smartphone applications. Electronic billing is far more cost effective for insurers than traditional paper and envelope processes, and it also allows the customer to view current information on their invoices. The most successful programs achieve high adoption rates by educating consumers and business about both the convenience of automatically paying bills and the positive environmental impact of going paperless.

Another way insurers can entice policyholders to adopt electronic billing is by educating them about identity theft. While some people believe that online banking, e-bills and electronic payments are not secure, theft of paper-based information and mail fraud actually are much more significant threats. Insurers dedicated to online billing let their customers know that opting out of paper bills and statements eliminates the risk of having sensitive information stolen from the mailbox, as well as the cost of postage and the inconvenience of shredding old paper statements.

Electronic payments

While many companies are already thinking about optimizing their payment channels to adjust to the expected shift to eBilling over the next five years, fewer are actively managing their mix of payments by type. Insurance companies have attempted to keep costs down by not offering card payments, but customers are increasingly requesting a card-based bill payment option.

When creating long-term payment strategies, it is critical for insurers to build optimized payment plans, including the capability to proactively manage customers' payment behaviours. Insurers can influence the payment type mix both by managing the choices they offer customers and by providing incentives for customers to choose lower cost options. Knowing that many customers select card-based payments to take advantage of rewards programs, some companies incentivize customers to select direct debit and automated clearing house (ACH) based payment options. Similarly, insurers who train their agents and customer service representatives (CSRs) to optimize payment behavior at the time of purchase are much more successful at driving high rates of online bill payment and paperless billing penetration. Carriers also can actively use customer payment information to optimize days outstanding. Customers with chronic late payment history can be targeted with automated payment alerts and direct debit solicitations. Similarly, customers with a history of bad check payments might be candidates to convert to ACH.

Billing and payments can help insurers achieve far more than just the collections of premiums; they also can help create better knowledge of customers and stronger relationships with them.

Customer self-service focus

Telephonic payment and related questions about billing offer more convenience than paper, but online channels tend to be superior for both insurers and policyholders. Billing inquiries and minor corrections of customers' personal information make up a significant amount of the workload in a typical P&C customer service call center, and commonly long wait times and transfers result in a negative customer experience. To minimize these issues and reduce customer service expense, more and more companies are putting more information in the hands of their customers via their web portal, to which electronic billing communications and payments already are directing them. Leading P&C carriers allow customers to check outstanding billing amounts, modify payment plans and make minor changes in their customer records without customer service representative (CSR) intervention. Customers who are comfortable navigating a web form are spared the waiting time that typify call center contact, and they can see the results of their changes immediately.

Value added communications

The opportunity to communicate with customers is available on an ongoing basis through invoices, and forward thinking companies view the process as a multifaceted method of communication that helps grow the business. Insurers are using invoices to announce special promotions, track loyalty program participation, advise customers about billing changes, and offer customised messages for up-selling or cross-selling.

High performing companies also provide their customers with useful online tools to enhance their ability to track their insurance costs, compare current costs with their prior history or peers, and perform "what-if" analysis of possible coverage and deductible changes. Usually, the applications to support these functions cost relatively little to develop and maintain, but they can provide an ongoing benefit to all customers.

Implications

- As customers become more comfortable with self-service through web portals and smartphone applications, their expectations about basic acceptable billing offerings are increasing.
- By combining a customer-centric view of the billing process and applying the most effective technologies and tools available, insurance carriers are significantly streamlining their billing processes, reducing costs, reducing errors and enhancing customer satisfaction and loyalty.
- The most competitive carriers are aggressively investing in and adopting an active billing management program to drive a superior customer experience.
- Adding capabilities via technology and process transformation can improve the effectiveness of the billing process and promote leading practices in several key areas. By providing features not available to most legacy architectures, a transformation can offer insurers a competitive advantage.

Vendor data integration can be a significant contributor to effective vendor management and the reduction of unnecessary claims loss and expense.

Improving the claims function

Like other parts of insurers' business, claims functions are investing billions of dollars, often with outside vendors, in new technologies and processes to help them manage the torrent of data that has become available in recent years and improve the claims process. In order to manage costs and increase claimant satisfaction, carriers are refining how they manage vendor relationships and embracing new technologies that promise more usable insight into customer behavior and expectations.

Systematic large-scale data integration for vendor management

To maximize their investment, insurers are consolidating vendor work orders, estimates, invoices and customer feedback scores into databases in order to track, analyze and manage vendor performance and enhance the overall claims outcome. Carriers can use systematic performance data to make vendor selections and manage service fulfillment throughout the claims lifecycle. Since vendor management also is a critical skill for claims adjusters, analysis of the adjuster's role also can be assessed as part of the process.

P&C supply chains exhibit some leading practices (mainly in auto claims), but there are opportunities to change the relationships with many vendors and reduce unnecessary claims loss and expense. We see data integration as the primary way to achieve this; doing so will allow insurers to develop predictive analytics capabilities that provide insights into customer behavior. Analysis of structured and unstructured data will provide new metrics and information throughout insurers' operations, and allow more efficient and directed management of vendor services. All of this should help improve overall claimant satisfaction and reduce costs.

Carriers who do all of this effectively are able to consolidate vendor work orders, estimates, invoices and customer feedback score into databases that track, analyze, and manage vendor performance. They can use this systematic performance data to make vendor selections and manage

service fulfillment throughout the claims lifecycle. And, while automated analysis capabilities based on consolidated vendor data currently are providing competitive advantages to carriers on the cutting edge, they are likely to become the norm in the relatively near future.

Third-party administrator (TPA) management

Market consolidation and evolving claims practices are continuing to drive the need for operational effectiveness. This is leading to greater focus on the role and management of TPAs. TPAs can be effective partners for self-insured corporations or insurance carriers that do not have the resources to process claims internally. However, for a TPA relationship to be successful, an organization needs to have a comprehensive management program that addresses the TPA's qualifications, establishes standards, develops consistent contract terms, and monitors the effectiveness of the TPA's performance.

In our view, an effective TPA management program needs to satisfy three fundamental objectives:

- **Due diligence** – An insurer should establish vendor selection criteria covering cost, customer service, service accuracy, and quality. The carrier also will need to understand the TPA's ability to manage risks, as well as obtain and verify references prior to engaging it. Furthermore, the carrier should conduct an operational review to understand the TPA's system capabilities, staff experience levels, claims handling and reserving methodology, and quality of work. Both parties need to understand each other's expectations and limitations and should not make assumptions about service conditions. No TPA service will be free, and insurers should clearly understand services, including ancillary services, by the end of the contracting stage.
- **Contracting** – Contract terms and conditions should include performance requirements, termination clauses and reporting procedures. Compensation agreements, roles, responsibilities, and expectations for performance should be clearly defined, and make clear the required

and expected extent of TPA oversight. The contract should clearly state who owns the work product, and discuss liability responsibilities; moreover, the carrier should require the TPA to carry errors & omissions (E&O) coverage and to hold the insurer harmless from any liability it may cause.

- **Audit** – It is standard for TPAs to have claims processes and procedures manuals, which often include best practice guidelines. However, insurers should not rely solely on the existence of a manual, and should use audit procedures to determine if the TPA is following the procedures manual's recommended practices.

TPA selection used to be mainly about price. However, there is now a focus on finding a business partner who shares the same values and way of doing business. This makes due diligence especially important.

Using sensor networks for proactive property loss mitigation

Some insurers already have access to near real-time data on natural disaster damage from aerial flyovers (including by unmanned aerial drones) and advanced radar. They use this data to provide quicker and more accurate post-catastrophe estimates of damage, and to anticipate the numbers of field agents they will need on the ground. Moreover, advances in sensor and networking technologies are allowing insurers to monitor insureds and enable the targeted deployment of services in ways that previously would not have been feasible or economical. Telematics in auto insurance is the most commonly known, but monitoring and analysis is becoming possible at a much greater level of detail for a wider range of insurance types through inexpensive, miniature sensors, including “smart dust” technology.

For example, it is now possible to externally distribute miniature sensors and build them into buildings, utilities and other infrastructure. The sensors can detect environmental information such as light, voltage,

temperature, humidity, vibration, gas and fluid flow rates, magnetism, and gas and chemical presence. Insurers have used sensors for high-end personal and commercial risks for some time, but the declining cost of the technology and miniaturization of the sensors should allow it to become much more widespread. We expect insurers to use information from sensor networks to understand damage and expected claims automatically, providing the equivalent of a loss-adjuster's report in real time as the damage occurs. Systems could even be programmed to auto-populate claims forms, allowing claims to be fulfilled before the customer is even necessarily aware of the extent of the damage. Sensor data will also allow insurers to be more proactive about claims management and mitigation, by monitoring insured assets (and further in the future, even individuals' health), and providing early detection and notification of minor or developing damage (e.g., rot or water leaks) before it becomes serious.

Image analytics and augmented reality for on-the-spot claims settlement

In most industries, the use of smart phones applications to enhance the customer experience has become essential. Many insurers are now using mobile applications to provide first-notice-of-loss (FNOL) for auto insurance and to provide accident help. We expect that, in the coming year, the extent of smart phone use for insurance claims will continue to increase.

The convergence of several established and new technologies will facilitate this growth. Smart phones are now ubiquitous, and newer cars also now commonly have integrated telematics such as GPS, sensors and data-logging. Significant advances also are occurring in advanced image analytics and augmented reality. Insurers are combining these technologies to create powerful new platforms for on-the-spot claims assessment and settlement. As a result, in the mid-term, application of new and emerging technology to insurance auto claims will enable customers to photograph a damaged vehicle at the scene of an accident, filing an FNOL and exchanging proof of insurance and contact details with the other party automatically. Image recognition software will identify the make and model of the

Leading carriers continually segment policyholders by their service needs before a claim starts.

car and associated damage, and augmented reality software will overlay relevant parts over damaged areas to determine the extent of damage. With this information the repairs required, estimated cost and estimated time to repair will be calculated and presented as an estimate to the customer on-the-spot.

Significant integration of contact data to enhance the claims customer experience

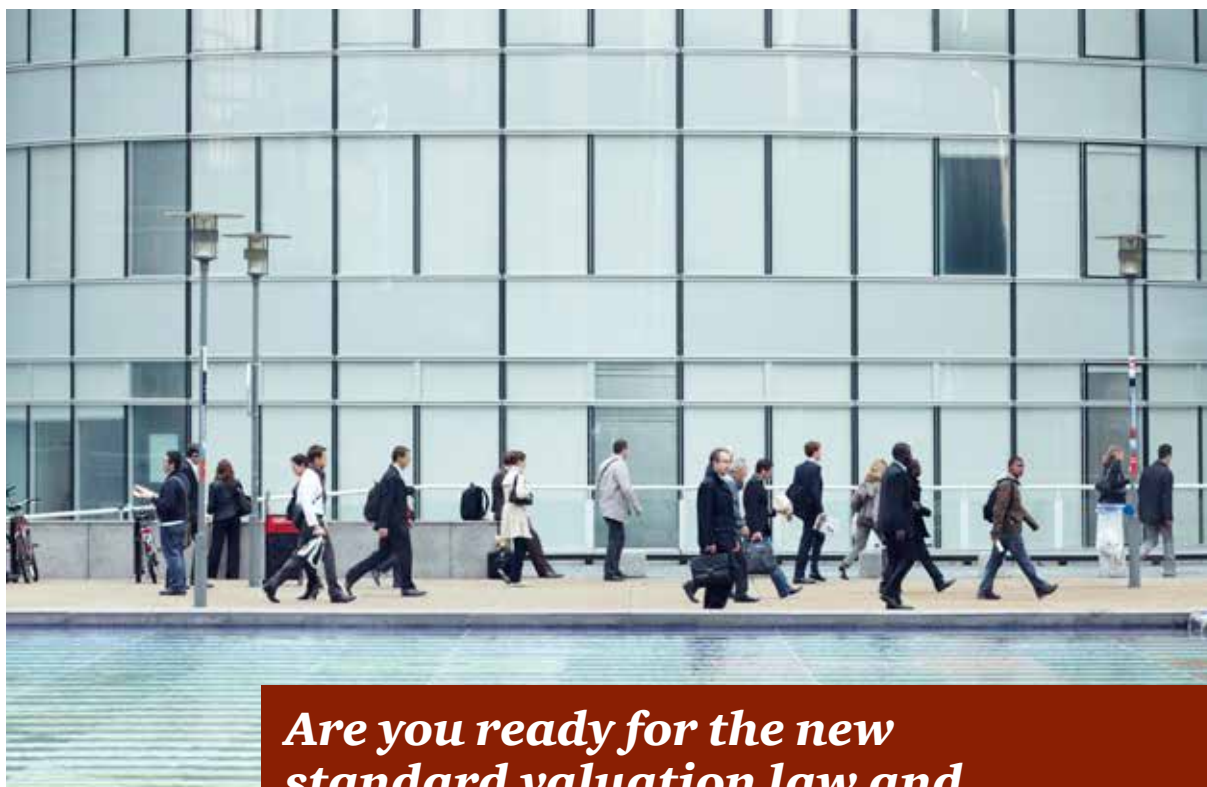
Carriers are developing a sophisticated view of claims service segments and sub-segments by various policy, underwriting and customer dimensions. Most P&C carriers have deployed computer telephony integration (CTI) and web technology in their sales and service operations. Components of these platforms also can be reused in claims with the proper approach to application, data architecture, and integration. Carriers can use this technology to link and/or consolidate contact data across internal and external sources, as well as log all customer interactions, related vendor interaction data, feedback, claims, and social media aggregators in a central location.

Leading carriers continually segment policyholders by their service needs before a claim starts; claimants are identified based on their segment, and claims representatives then are able to provide customized service that helps make the most of the claim experience. More specifically, some companies are developing a range of interaction maps for each claimant type at each interaction point and each channel in the claim lifecycle in order to determine the influencers of the customer experience and when and how to capture experience data. This helps them prevent, manage, and resolve individual and overall claims service failures, as well as improve service levels for personal lines and commercial lines claims; as a result, their overall customer service scores improve.

Implications

- Insurers will continue to evaluate the value in their TPA relationships. Establishing a TPA management program will drive renegotiation of existing TPAs, as well as inform due diligence, contracting and auditing of new TPA agreements. As a greater amount of consolidated data becomes available to management and decision-makers, TPA management has the potential to improve, perhaps significantly. In-house staff will be able to work more easily with TPAs through better integrated systems, and TPA evaluation metrics will become more detailed and monitor key aspects of TPA performance.
- Combining sensor and drone data with advanced geo-location engines will allow insurers to produce highly descriptive displays that provide real-time feedback on major events, and enable them to monitor damage to insured property and causes of damage. Insurers also could use these systems to automatically assign adjusters and estimate losses, as well as coordinate the contacting of customers and the claims process. More importantly, these systems offer much promise in helping to proactively address risks and mitigate loss during a claim event. As a result, unique service offerings and policy riders are likely to become part of retail homeowners coverage.
- Interaction with customers through smart phone interfaces will become an increasingly common part of insurance customer service. It will make doing business faster and more efficient not just for policyholders, but also carriers, and thereby recoup the technology and systems investment necessary to develop and implement new capabilities.
- New systems and automated processes are emerging to complement existing CTI, web, and social media practices, thereby improving customer experience.

Financial reporting



***Are you ready for the new
standard valuation law and
principles based reserves?***

***The insurance contracts exposure
draft – here at last?***

Are you ready for the new standard valuation law and principles based reserves?

In December 2012, the NAIC voted to adopt the current version of the Valuation Manual, recognizing that the manual will see some modifications in coming months. This was a first and crucial regulatory step in the move to principles based reserves (PBR) for life products. This adoption now enables state legislatures to include the revised Standard Valuation Law, which incorporates the Valuation Manual, in their legislative proceedings beginning this year, a crucial date because all legislatures will be in session. If adoption occurs on a timely basis, then the revised Standard Valuation Law and Valuation Manual will potentially be in effect for new issues beginning January 2015.

For individual life products, including term, whole life, universal life and variable life, the approach to reserves changes considerably from what CRVM, Regulation XXX, and AG38 currently prescribe. These changes likely will require many companies to take a fresh look at their systems, processes, data and governance for both pricing and valuation. In addition, the statutory earnings or profit signature likely will change as well, introducing the potential for increased volatility year over year.

There are three components of PBR for life insurance products that section VM-20 of the Valuation Manual covers: a net premium reserve (NPR), a deterministic reserve (DR), and stochastic reserve (SR). The NPR is a minimum policy level reserve that is calculated using prescribed assumptions and is formula-based. However, for many individual life products, the formulae are much more complex than under today's CRVM requirements. Companies will need to determine and hold the greater of a DR and SR unless the product meets the requirements of either the deterministic or stochastic exclusion tests. The DR and SR are calculated using projected asset and liability cash flows and are based on a gross premium rather than net premium basis. Reserves calculations are based on a combination of a company's prudent estimate assumptions (own experience assumptions

with margin) and market assumptions in certain situations in which the company has little to no control over market forces (e.g., credit spreads and default rates).

PBR is a fundamental and comprehensive change to the way companies perform valuation.

Scope

All individual life products, including term, universal life and whole life are within the scope of VM-20. Although VM-20 currently excludes pre-need and credit life, it includes guaranteed issue and simplified issue products. VM-21 covers variable annuity products, and remains essentially unchanged from current AG43. The principles-based approaches for fixed annuities and health products are currently in development but we do not expect them to be in place by January 2015. The reserving guidelines for these products, as well as for credit life and disability, remain unchanged; sections VM-A and VM-C (fixed annuities), VM-25 (health) and VM-26 (credit life and disability) of the valuation manual include relevant requirements.

At a minimum, VM-20 requires all companies issuing individual life products, even those with only basic traditional products, to review their systems and processes to ensure their ability to meet:

- As VM-20 outlines, the minimum reserving requirements for the net premium reserve and,
- At a minimum, the deterministic and stochastic exclusion tests.

Accordingly, there are steps insurers should take now to prepare for the changes that lie ahead. Areas for consideration include:

- **Experience Analysis/Data** – For assumptions where experience is somewhat in the company's control (e.g., persistency, mortality, expenses, interest crediting spreads), PBR requires insurers to utilize their own

A robust governance process is necessary in order to align assumptions with experience.

experience, to the extent they have it, and look to industry or other relevant data to supplement theirs, as necessary. This requires robust data collection and experience analysis. While many companies have recently improved their experience analysis, it often is not at the level of detail that a principles based approach expects or requires; moreover, this analysis often fails to incorporate a credibility assessment, as PBR requires for mortality.

PBR requires re-assessment of assumptions for each valuation period. Therefore, a robust governance process is necessary in order to align assumptions with experience. Re-assessment also will require more communication and coordination between and among pricing, planning and forecasting, and valuation to prevent disconnects on reserving assumptions.

In addition, Section VM-50 requires all companies with more than \$50 million in individual life premiums (on an aggregate basis, including all affiliated companies) to annually submit data to the NAIC's designated statistical agent (e.g., MIB). Companies that are subject to the data submission requirements will need to be able to submit, at a minimum, mortality and policyholder behaviour data which meets the requirements that Section VM-51 outlines. Companies that do not already submit data to industry mortality studies will need the resources, data and capabilities to do so.

- **Margins** – For each major risk factor or assumption, other than those which are prescribed (such as mortality and assumptions in the NPR) or stochastically determined, a company will need to determine a margin it believes to be sufficient to “provide for adverse deviations and estimation error in the prudent estimate assumption.” VM-20 identifies the following assumptions as material: mortality, morbidity, interest, equity returns, expenses, lapses, partial withdrawals, loans and option elections.

The margin is subject to various requirements, including its need to be 1) explicit for each material assumption and 2) independent of any correlation among risk factors. Correlation can be taken into account, but only to the

extent “the company can demonstrate that the method used to justify such a reduction is reasonable considering the range of scenarios contributing to the CTE calculation or considering the scenario used to calculate the deterministic reserve as applicable or considering appropriate adverse circumstances for risk factors not stochastically modeled.” It is unclear how companies will demonstrate this.

The insurance industry has raised a general concern about the overall impact of the margins in aggregate. This is an area of continued discussion concerning VM-20, and it may lead to changes prior to PBR's effective date.

- **Systems capabilities** – PBR requires projection of both asset and liability cash flows. Depending on the product characteristics, some products will require stochastic modelling in addition to deterministic or prescribed cash flows. Moreover, companies will need to be able to determine reserves under three different bases: net premium method (minimum), deterministic and stochastic, as well as including and excluding ceded reinsurance. Even with a very simple product portfolio for which the net premium reserve is the minimum floor, a company must be able to show it meets the stochastic and deterministic exclusion tests and ensure it does so on both a ceded and gross of reinsurance basis.
- **Asset modelling** – VM-20 requires the modelling of all cash flows, including assets and liabilities. Asset modelling requires the company to model the segments of business consistent to its asset segmentation plan, investment strategies and allocation strategies of investment income. Asset modelling also requires companies to identify their starting asset position, net asset earned rates, discount rates, derivative programs, realized capitals gains and losses, investment expenses, asset prepayments, policy loans, interest maintenance reserve liabilities, etc.
- **Reinsurance** – The application of reinsurance, allocation of reinsurance credit to each reinsurance agreement, as well as consideration of assumptions absent reinsurance, still need further consideration and development. Within

Senior management and the board are likely to need additional instruction on changes in potential profit emergence, increased volatility and expected outcomes.

VM-20, ceded reinsurance is to be considered in the determination of the minimum reserves. Reinsurance cash flows need to take into consideration the specific terms of the reinsurance agreements, actions, or the options available to the assuming company, including elements of the agreements which 1) they can change, 2) account for the insurer's right to terminate and recapture, among other things. However, VM-20 also requires that a company determine and disclose the minimum reserves excluding the effect of ceded reinsurance. This can lead to a very complex determination of the deterministic and stochastic exclusion tests. If, absent reinsurance, a group of policies does not pass the exclusion tests, then a company will need to determine the minimum reserves without reinsurance by considering the deterministic and stochastic reserve amounts (even if, on an after reinsurance basis, they would not be required). Determining modified coinsurance reserve and interest determination also require special consideration. In addition, in some instances, modelling the assets held by a counterparty may be mandatory, and the company will have to consider the investment strategy and management actions of the party holding the assets.

- **Reporting and management information** – In addition to the traditional Actuarial Opinion and Model Regulation (AOMR) reporting requirements, PBR requires additional reporting in the form of a PBR Actuarial Report; VM-31 spells out these requirements. For individual life policies and contracts, an actuarial report must include the following:

1. Summary of Results
2. Assumptions and margins
3. Cash Flow Model
4. Mortality Assumptions
5. Policyholder Behavior Assumptions
6. Expense Assumptions
7. Asset Assumptions
8. Revenue Sharing Assumptions
9. Reinsurance Assumptions

10. Non-Guaranteed Element Assumptions
11. Deterministic and Stochastic Reserve Exclusion Tests
12. Other Disclosure Information
13. Investment Certification
14. Senior Management Certification

For the above requirements, the PBR Actuarial Report must include “documentation and disclosure sufficient for another qualified actuary in the same practice area to evaluate the work,” as well as “descriptions of all material decisions made and information used by the company in complying with the minimum documentation and reporting requirements.” For many organizations, this will require improvements to their documentation, especially for key assumptions, material decisions, and model completeness and validation processes. The reporting requirements for mortality, policyholder behaviour, asset and reinsurance assumptions are likely to be much more complex than the current AOMR requirements.

In addition to the reporting requirements the valuation manual outlines, principles-based reserves will result in more volatility in statutory earnings. There also are more drivers for change in the overall reserve levels. This brings into question traditional management reporting information for key drivers of value and uncertainty if it will be sufficient for the blocks of business under the newer reserving method. As a result, senior management and the board are likely to need additional instruction on changes in potential profit emergence, increased volatility and expected outcomes.

- **Governance/controls** – VM-20 requirements require significant changes to companies' processes and controls to ensure a sufficient change control process, assumption governance and controls, experience analysis governance and documentation. The reliance on modelling and cash flow projections necessitates a need for model governance and validation of inputs/outputs and an internal feedback loop on the process.

Statutory reserves now will be subject to a company's experience assumptions and margin development, and theoretically will be reset each year after issue as insurers gain experience and modify assumptions. Accordingly, in order to set appropriate expectations for profitability, earnings growth, and capital requirements, it will be imperative for insurers to align and effectively coordinate product development, in force product management, planning, forecasting, and valuation. In addition, some companies have separate and distinct areas that perform statutory valuation but not other reporting requirements such as US GAAP, IFRS or MCEV.

While there will continue to be substantial differences in the methods insurers use to determine the reserves of values under these different basis, they all will be dependent to some extent on future cash flow expectations and anticipated experience assumptions. Companies may want to revisit their current systems, processes and structures to verify that there is appropriate alignment among the various reporting methods, and that their closing processes are leveraging all available common technology and calculation engines to improve reporting efficiency. There is no doubt that the new calculation and reporting requirements under VM-20 will require a more involved closing process for statutory reserves.

Implications

PBR may not be effective until year-end 2015, but the timeframe for implementation is actually quite short for the amount of effort involved. As we have described, PBR:

- Is a fundamental and comprehensive change to the way companies perform valuation;
- Is occurring in an environment in which there are many competing demands for actuarial resources (including ORSA development and, quite possibly, a new insurance contracts standard for GAAP reporting); and,
- As companies begin to plan for their adoption of PBR, they are frequently surprised by the amount of effort it requires.

Unless you like surprises, we strongly recommend you start planning too!

The insurance exposure draft – here at last?

Can it really be true? The FASB intends to publish its long-awaited exposure draft on insurance contracts by the end of June. The FASB is in the process of wrapping up its discussions in March, and has only a few areas left to deliberate, including presentation and disclosure. The IASB has completed its discussions and intends to issue a revised exposure draft on a slightly earlier timetable, seeking comments only on select areas.

Why is it important now?

The FASB and IASB proposals would represent a transformational change in the way that insurance contracts are measured and reported in the financial statements. The formal comment period on the proposals is this year, and may be the final opportunity for industry stakeholders to influence the proposed accounting standards. Companies should ensure they have analyzed potential impacts and are prepared to respond to them. Although final standards may not be effective until 2017-2019, retrospective application will be required, with certain practical expedients. Companies that understand the impacts and challenges will be better placed to act on opportunities and make informed strategic business decisions.

Business impacts

Adoption would have wide-ranging, significant impacts on investor education, key performance indicators, underlying processes, systems, internal controls, valuation models, and other fundamental aspects of the business. Insurers also will need to consider the impact on non-GAAP measures, product design and budgeting and forecasting. To prepare for this large-scale change, companies should make significant investments to ensure alignment and coordination among finance, actuarial and risk functions at every level.

Financial impacts

Financial impacts can vary by product type. For life and annuity contracts, some potential impacts and related challenges to consider include:

- Earnings pattern of underwriting and net investment margins will change.
- More earnings volatility is likely due to the updating of market and insurance-specific assumptions each period.
- Single margin (FASB) amortization pattern (net of direct acquisition costs) will be based on release from risk and the pattern updated prospectively each period, which may be back ended.
- Residual margin (IASB) amortization pattern will be based on services provided over the coverage period, with the pattern updated prospectively; it also will be adjusted for positive and negative changes in expected cash flows, reducing the volatility of changed cash flow assumptions until the margin is fully absorbed.
- Discounting of the liability will be at a “liability rate” rather than projected asset yield.
- The impact of changes in discount rate will be excluded from net income but included in other comprehensive income, thus offsetting interest rate changes in available for sale assets recorded in other comprehensive income. There will be volatility to the extent assets and liabilities are mismatched.
- Premium revenue recognition will be based on the expected pattern of benefit payments (e.g., back ended for life products).
- Premium revenue could be reduced due to the exclusion of more deposit elements, such as cash surrender values.

1 To see PwC’s ongoing observations on and insights into the Insurance Contracts Project, please visit: <http://www.pwc.com/us/en/insurance/publications/IASB-FASB-insurance-contracts-project.jhtml>

Adoption would have wide-ranging, significant impacts on investor education, key performance indicators, underlying processes, systems, internal controls, valuation models, and other fundamental aspects of the business.

Even though a modified approach will be used for certain short duration contracts, these proposed changes can potentially change the pattern of revenue recognition and profit emergence; thus impacting loss ratios. Some key considerations include:

- The liability for incurred claims would be discounted.
- Interest expense would be accreted through income at a locked-in inception rate, and the liability measured through other comprehensive income at a current discount rate, adding significant operational complexity.
- Earnings pattern could be front ended due to discounting.
- Premium revenue and claims expense may be reduced by experience adjustments.
- There is a potential for increased premium deficiencies due to lower grouping levels.

Systems

Insurers will need to process and report a greater volume of more complex data. It will be important to assess existing models and valuation software and identify changes that will need to occur in order to produce actual and expected results, including numerous additional disclosures within the required close timeframes. Extensive disclosures on the nature and extent of risks, as well as balance roll forwards, also may be required.

Operations

Insurers will need to develop a robust process to update assumptions each reporting period. The historical discount rate will need to be tracked, as well as the amortization of the single margin. Companies will need to ensure that they understand the results and perform thorough analysis in order to effectively communicate with the market. The increased use of complex actuarial models also will require insurers to establish robust model governance procedures to support the integrity of actuarial projections.

Implications

Given the fundamental impact of the proposed insurance contracts standard, companies should understand and anticipate how their business should react and be prepared to respond. Notably:

- Adoption would have wide-ranging, significant impacts fundamental aspects of the business.
- Financial impacts can vary by product type.
- Insurers will need to process and report a greater volume of more complex data.
- Insurers will need to develop a robust process to update assumptions each reporting period
- Insurers currently have an opportunity to take a measured approach in order to assess key decisions that will impact future profits, leverage existing or planned projects and embed sustainable reporting across the organization.

Please see the next page for Insurance Contracts Project highlights.

Insurance contracts project highlights

Component	Current proposal
Scope	<ul style="list-style-type: none"> Applies to “insurance contracts” as broadly defined rather than “insurance entities”, e.g., bank guarantees included in scope.
Current value measurement model (“building block approach”)	<ul style="list-style-type: none"> Insurance liability measured as net present value of expected future cash inflows (premiums) minus outflows (claims and benefits). Cash flows remeasured each period using current assumptions. Net inflows at inception = deferred margin; net outflows = day 1 loss. Margin amortized as risk is released with pattern updated each period. IASB model includes an explicit risk adjustment while FASB model does not.
Acquisition costs	<ul style="list-style-type: none"> Direct costs associated with selling, underwriting, and initiating contracts, consistent with latest FASB model except for prohibition on direct response advertising. IASB would include successful and unsuccessful efforts.
Simplified measurement model (premium allocation approach)	<ul style="list-style-type: none"> Generally expected to apply to contracts that use unearned premium approach today (e.g., property/casualty, health, single year term life). Premium revenue (net of deposit elements) will be recognized over coverage period based on expected claims. Claims (net of deposit elements) will be recognized as incurred. Building block approach (including discounting) will apply to incurred claims.
Reinsurance	<ul style="list-style-type: none"> Gains on ceded reinsurance will be deferred, premiums paid for coverage of future events will be deferred, and losses relating to reinsurance of past events will be recognized immediately.
Presentation and disclosure	<ul style="list-style-type: none"> Original proposal to record only the margin as revenue was rejected. Premium revenue for contracts under building block approach will be recorded “as earned;” calculated based on relative value of insurance coverage provided in that period (i.e., expected claims) plus amortized margin plus amortized acquisition costs. Deposit elements such as cash surrender value in life insurance contracts and experience adjustments in property/casualty contracts will be excluded from premium revenue and from claims/benefits. Changes in the liability relating to changes in discount rates will be recorded in other comprehensive income rather than earnings. Accretion of interest expense on insurance liability through income at locked in at inception rate; presented after investment income. Disclosures to include qualitative and quantitative information about amounts recognized in the financial statements and the nature and extent of risks, as well as balance roll forwards.
Transition and effective date	<ul style="list-style-type: none"> Apply retrospective method with restatement required for comparative years (e.g., 2015 and 2016). Apply practical expedients to estimate margin and discount rates where observable data not available. Redesignation of financial assets will be permitted at transition (IASB for fair value option only). No decision by FASB on effective date, but likely to be no earlier than 2017. IASB decided on effective date approximately 3 years from issuance of final standard, which is expected late 2014-early 2015.

Tax compliance



Tax compliance

Legislative outlook

While there was little in the way of insurance-specific legislation in 2012, the Obama Administration's increased interest in and action on tax reform, and its possible impact on insurance companies, is certainly of great importance to the insurance industry. Some proponents see tax reform as an opportunity to improve the competitiveness of American businesses, attract investment to the United States, and increase job growth. Others – eyeing projections of significant future deficits – believe tax reform could be an important element of an overall deficit reduction package in which spending cuts are combined with revenue increases.

As part of its movement towards tax reform, the Administration issued a “Framework for Business Tax Reform” on February 22, 2012 that generally calls for a 28 percent top corporate income tax rate. The framework also proposes a tax rate of no more than 25 percent for certain domestic manufacturers, with an unspecified lower rate for “advanced manufacturing activities,” and a permanent research credit.

The framework specifically rejects moving toward a “pure” territorial tax system. The framework instead states that “income earned by subsidiaries of US corporations operating abroad must be subject to a minimum rate of tax,” but does not detail a specific minimum rate. The Administration's proposed minimum tax on overseas profits would expand the reach of the current US worldwide tax system by limiting the ability of companies to defer US taxes on foreign earnings until those earnings are repatriated.

The framework also calls for separate reforms to reduce incentives to shift income and assets overseas. The Administration proposes to tax “excess profits” associated with shifting intangibles to low-tax jurisdictions and to limit interest deductions related to unrepatriated foreign earnings. Both of these proposals were included in the Administration's FY 2013 budget.

Like the Administration's proposal to tax currently excess returns associated with certain transfers of intangibles offshore – which would require the current taxation of excess intangible income subject to a low-rate of taxation – the Administration argues that subjecting overseas profits to a minimum level of taxation would reduce the incentive for companies to engage in transactions to shift and leave profits offshore. In contrast to the excess returns proposal, the proposal to impose a minimum tax on overseas profits could apply more broadly to all income subject to a low rate of taxation.

The framework also includes proposals from the Administration's FY 2013 budget to eliminate tax deductions for moving production overseas and to provide new incentives for bringing production back to the United States. The Administration states that the cost of lowering the US corporate tax rate should be fully offset by limiting various business tax provisions; the framework sets forth a “menu of options” for base broadening and states that several options would be necessary to reduce the corporate rate to 28 percent.

Insurance-related revenue raisers

The Administration's business reform framework also includes several possible revenue-increase measures specific to insurance companies that were also included in the President's FY 2013 budget. Among the insurance-related revenue-raising provisions to reform taxation of insurance companies and products are provisions that would:

- Disallow the deduction for non-taxed reinsurance premiums paid to affiliates. The proposal would disallow any deduction to covered insurance companies for the full amount of reinsurance premiums paid to foreign affiliated insurance companies if the premium is not subject to US income taxation. The proposal would provide a corresponding exclusion from income for reinsurance recovered with respect to a reinsurance arrangement for which the premium deduction has been disallowed. The proposal also would provide an exclusion from income for ceding commissions received

The Obama Administration's proposed minimum tax on overseas profits would expand the reach of the current US worldwide tax system by limiting the ability of companies to defer US taxes on foreign earnings until those earnings are repatriated.

with respect to a reinsurance arrangement for which the premium deduction has been disallowed. The exclusions are intended to apply only to the extent the corresponding premium deduction is disallowed. The proposal would provide that a foreign corporation that is paid a premium from an affiliate that would otherwise be denied a deduction under this provision may elect to treat those premiums and the associated investment income as income effectively connected with the conduct of a trade or business in the United States. If such election is made, the disallowance provisions would not apply.

- Modify rules that apply to sales of life insurance contracts, including transfer for value rules. This proposal would create a reporting requirement for the purchases of any interest in an existing life insurance contract with a death benefit equal to or exceeding \$500,000. The proposal also would modify the transfer-for-value rule to ensure that exceptions to that rule would not apply to buyers of policies, and would apply to sales or assignment of interests in life insurance policies and payments of death benefits for tax years beginning after December 31, 2012.
- Modify dividends received deduction for life insurance company separate accounts. This proposal would repeal the present-law proration rules for life insurance companies and replace them with two new rules, one for the general account, and one for the separate account. For the general account, a 15-percent reduction rule would apply to the company's deductions, calculated with respect to the dividends received deduction, tax exempt interest, policy cash values of the company, similar to the property and casualty insurance company proration rule

For separate accounts, the proposal would apply a rule similar to the pro-rata interest disallowance limitation rules that apply to corporations that are not insurers with respect to the DRD in situations in which the corporation has a diminished risk of loss with respect to the stock. The rule would apply in the same proportion as the mean of the reserves for the separate account bears to the mean of the total assets of the separate account. The proposal would be effective for tax years beginning after December 31, 2012.

- Expand pro rata interest expense disallowance for company-owned life insurance ("COLI"). The Administration's proposal would deny a pro rata portion of the interest deduction of a company, based on the unborrowed cash value of COLI policies on the lives of anyone other than 20-percent owners, repealing the exception to the interest disallowance rule for COLI policies on the lives of individuals who are officers, directors, or employees. The proposal would apply to contracts issued after December 31, 2012, in tax years ending after that date. For this purpose, any change in the contract would be treated as a new contract except that in the case of a master contract, the addition of covered lives would be treated as a new contract only with respect to the additional covered lives.
- Require information reporting for private separate accounts of life insurance companies. The proposal would impose information reporting requirements with respect to life insurance, endowment, or annuity contracts, if any portion of the cash value is invested in a private separate account, provided the investment represents at least 10% of the value of the account. The proposal defines a "private" separate account as any separate account of an insurance with respect to which related persons hold annuity, endowment, or life insurance contracts whose aggregate cash values represent at least 10% of the value of the assets in the separate account.
- Repeal special estimated tax payment provision for insurance companies under section 847. The proposal would repeal IRC Section 847 and provides that the entire balance of an existing account would be included into income in the first tax year beginning after 2012 and the entire amount of existing special deduction estimated tax payments would be applied in that same year. Alternatively, the taxpayer may elect to include it in income ratably over four years.

These insurance provisions were all previously included in the President's fiscal 2012 budget proposal.

The IRS's Priority Guidance Plan continues to focus more on life than P&C companies.

Administrative developments

On the administrative side, there was little published tax guidance from the Internal Revenue Service (IRS) and Treasury in the insurance space; however, as it has done in prior years, the IRS issued its Priority Guidance Plan for the 2012-2013 year. The plan continues to focus more on life than property and casualty insurance companies. This year's plan addresses a variety of issues, and also indicates that implementing health care reform law will continue to be a major priority the IRS. The following insurance-specific items were listed as priority items, some of which were previously listed in the 2011-2012 Priority Guidance Plan:

- Final regulations under §72 on the exchange of property for an annuity contract. Proposed regulations were published on October 18, 2006.
- Guidance on annuity contracts with a long-term care insurance feature under §§72 and 7702B. (Published as Notice 2011-68).
- Notice clarifying whether deficiency reserves should be taken into account in computing statutory reserves under §807(d)(6).
- Guidance clarifying which table should be used for §807(d)(2) purposes when there is more than one applicable table in the 2001 CSO mortality table.
- Revenue ruling on the determination of the company's share and policyholders' share of the net investment income of a life insurance company under §812.
- Revenue ruling under §801 addressing the application of Revenue Ruling 2005-40 or Revenue Ruling 92-93 to health insurance arrangements that are sponsored by a single employer.
- Guidance clarifying whether the Conditional Tail Expectation Amount computed under AG 43 should be taken into account for purposes of the Reserve Ratio Test under §816(a) and the Statutory Reserve Cap under §807(d)(6).
- Regulations under §833 to establish the method to be used by Blue Cross Blue Shield entities in determining the medical loss ratio required by that section.
- Guidance on exchanges under §1035 of annuities for long-term care insurance contracts.

- Regulations under §7702 defining cash surrender value.
- Final regulations under §§4375-4377 to implement the provisions of the ACA to fund the Patient-Centered Outcomes Research Trust Fund.

The guidance plan also lists a number of non-insurance-specific provisions which may be of interest to insurance companies in the areas of employee benefits, executive compensation, financial products, international tax, transfer pricing, amongst others. One such issue is § 162(m)(6), which limits the deduction for individual remuneration by health insurance providers and is listed under Health Care and Other Benefits, and Employment Taxes. Another issue is guidance on the annual fee on health insurance providers under the Affordable Care Act, which is listed under Excise Taxes.

There is no guarantee that the IRS and Treasury will accomplish all the tasks on the plan in a given year, and it remains uncertain just how many items they are able to complete by the end of the 2012-2013 plan year.

Finally, although it is not currently in the Priority Guidance Plan, one of the most significant administrative issues for insurance companies in the next two to five years may result from the adoption of principles based reserving (PBR) for life insurance companies. We discuss PBR in more detail in the "Financial Reporting" section of this publication.

Implications

- Insurers should closely monitor legislative developments pertaining to taxation of overseas profits, and depending on any what transpires, re-evaluate their incentives to shift and leave profits offshore.
- The Obama Administration's business reform framework includes several possible revenue-increase measures specific to insurance companies, and life products in particular. Insurers will need to stay abreast of the status of these measures both in order to address them internally and educate their policyholders on their potential implications.
- The IRS's Priority Plan contains priority items that have the potential to affect a variety of life and health products.

Risk management

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