We are pleased to provide the latest issue of the Center for Insurance Policy and Research (CIPR) Newsletter. Our goal is to provide thought leadership and information for an audience including U.S. and international regulators, state and federal policy makers, law makers, academics, researchers and consumers on the latest regulatory activities and key issues, trends and risks that affect the insurance industry. We want to provide you with insight into the major challenges that face the regulatory community and to promote a greater understanding of a wide range of national and international developments in the insurance world.

This issue includes nine articles we hope are of great interest to our readers. We begin with a timely discussion of health insurance reform. Brian Webb, NAIC Health Policy Team Manager, addresses some of the frequently asked questions for consumers and employers about the new health insurance reform legislation.

David Keleher, NAIC Senior Property and Casualty Insurance Specialist, discusses workers’ compensation self-insurance and the implications of the Prime Tanning bankruptcy case. The bankruptcy case contained several features that could have overturned state workers’ compensation law and damaged the ability of the states to regulate workers’ compensation self-insurance.

Reggie Mazyck, NAIC Life Actuary, writes about Principle-Based Reserves (PBR). The NAIC recent adoption of the Valuation Manual is the first major step in the move to PBR and likely marks the beginning of a new era of life insurance regulation. Sara Pankow, NAIC Research Analyst, provides a comprehensive overview of crop insurance and discusses key issues such as the summer-long drought which caused extensive damage to crops last year. The NAIC Research and Actuarial Department provides data at a glance. This quarter we take a look at market concentration and profitability for several property/casualty lines of business.

I contribute two articles to this edition. The first article explores the early stages of the self-driving car and looks at some possible insurance issues that may arise. The second article discusses the considerable efforts by a number of parties working together to make responding to a disaster possible and how Insurance regulators play key roles in several areas.

This edition also features two articles from invited authors. The first article, written by Sebastian von Dahlen and Goetz von Peter, examines catastrophe-related losses over the past three decades, and explores the linkages that arise in the transfer of risk from policyholders all the way to the ultimate bearer of risk. The second article, written by Brenda J. Cude and Daniel Schwarcz, discusses the importance of effective disclosure of complex financial products and outlines specific recommendations for designing disclosures in insurance.

I hope you enjoy the Newsletter. Your comments and suggestions for improvement are always welcome.

Eric Nordman
CIPR Director
FREQUENTLY ASKED QUESTIONS ABOUT HEALTH INSURANCE REFORM

By Brian Webb, NAIC Health Policy Team Manager

The Patient Protection and Affordable Care Act (PPACA) was signed into law by President Obama March 23, 2010. PPACA, along with the Health Care and Education Reconciliation Act of 2010, makes comprehensive changes to the U.S. health insurance system. These changes are implemented over several years. This article provides answers to frequently asked questions regarding the provisions of the PPACA relevant to consumers and employers.

Consumers

When will the health care reform law take effect?
The health insurance reforms adopted as part of the PPACA, and the subsequent reconciliation bill, are phased-in over five years. Most provisions will not take effect until January 1, 2014. However, there are some new protections that have already been implemented:

- Lifetime limits are prohibited and annual limits are restricted.
- Enhanced appeal procedures are available to consumers.
- Children under 19 years of age cannot be denied coverage.
- Children up to age 26 may remain on a parent’s policy.
- Preventive services must be covered and cannot have cost-sharing.
- New rate review transparency requirements are in place.
- Medical loss ratio standards limit insurers’ overhead.
- A standardized summary of benefits must be used by all insurers, allowing for easier comparison of plans.

In addition, subsidized coverage for people with pre-existing conditions that cannot find coverage in the private market is now available in every state through January 1, 2014.

Will I be required to give up my current coverage?
No. Health plans in effect as of March 23, 2010, are grandfathered under the law and will be considered ‘qualified coverage’ that meets the mandate to have health insurance that begins January 2014 as long as the issuer continues to offer it without substantial changes.

Why does the law require me to purchase health insurance coverage?
The key goal of the health care reform law is to ensure that nobody can be denied coverage or be priced out of coverage due to a health problem. However, if you allow people to wait until they have a health problem to purchase insurance, then the market simply will not work. There would be few choices available to consumers, and those choices would be expensive for everyone. So, the law requires everyone to have minimum coverage, thus creating a pool of both sick and healthy individuals.

How will my benefits be impacted by the law?
Every plan sold or renewed in the individual and small group market after January 1, 2014 must include all the benefits in a “benchmark” plan—a plan chosen for the state based on coverage currently available in the state—and will cover services in the following categories:

- Ambulatory patient services
- Emergency services
- Hospitalization
- Maternity and newborn care
- Mental health and substance abuse disorder services, including behavioral health treatment
- Prescription drugs
- Rehabilitative and habilitative services and devices
- Laboratory services
- Preventive and wellness services and chronic disease management
- Pediatric services, including oral and vision care

How will my out-of-pocket costs be impacted?
All plans sold or renewed in 2014 must limit the out-of-pocket exposure of consumers to approximately $6,000 for individuals and $12,000 for families. These limits will be indexed to average premium growth in future years. In addition, the deductible for plans in the small group market will be limited to $2,000 for individuals and $4,000 for families in 2014, also indexed to average premium growth in future years.

Also, all plans must design their cost-sharing (deductibles, copays, coinsurance) to fit into specific levels of coverage. The levels of coverage are defined as follows:

- **Bronze Level** – The plan must cover 60% of expected costs for the average individual.
- **Silver Level** – The plan must cover 70% of expected costs for the average individual.
- **Gold Level** – The plan must cover 80% of expected costs for the average individual.
- **Platinum Level** – The plan must cover 90% of expected costs for the average individual.

The Exchange will group coverage by these ‘metal’ levels, allowing consumers to easily evaluate comparable options.

(Continued on page 3)
FREQUENTLY ASKED QUESTIONS ABOUT HEALTH INSURANCE REFORM (CONTINUED)

Will insurers be able to charge me more because of my age? Yes, though they may not charge older individuals a premium that is more than 300% of the premium charged a younger individual. Currently, rates can vary based on age as much as 700% in some cases. In addition, insurers may not vary rates based on health, claims, genetic information, or any other health-related factors. Insurers may only vary rates in a state by age (within limits), tobacco use, geography, and the number of family members covered.

When can my 21 year old be added to my plan? The health reform law requires that insurers and employers that provide dependent coverage to children make that coverage available to adult children of enrollees up to their 26th birthday. This requirement became effective for “plan years” beginning September 23, 2010, so parents will be able to enroll a child in group coverage during the next open enrollment period. Children can be added to an individual policy when it is renewed.

Of course, adding an adult child to the plan will likely increase your premiums. If the child is 19 or older, the insurer may exclude coverage of pre-existing conditions for a period of time, as allowed by existing state and federal law, until the prohibition on preexisting condition exclusions takes effect in 2014.

When can I enroll my 10-year-old who has a pre-existing condition? The law and subsequent regulations prohibit insurers from denying coverage for children based on health status or excluding coverage of their pre-existing conditions if otherwise covered under the policy. This protection became effective after September 23, 2010. A child can be added to an existing policy under the enrollment rules of the policy. If you are seeking a child-only policy, you will need to inquire whether child-only coverage is available in your state. If you are covered under a group plan, you may add your child to your policy at the next open enrollment period.

I have been denied coverage because I have a pre-existing condition. What will this law do for me? Subsidized coverage is now available in every state to individuals with pre-existing conditions who have been uninsured for at least six months through the Pre-Existing Condition Insurance Program. This program, either run by the federal government or the state, provides coverage that immediately covers pre-existing conditions at premiums that are capped at the average cost of private coverage in your state’s individual market.

Beginning January 1, 2014, insurers will be prohibited from discriminating against individuals with pre-existing conditions in offering or pricing health insurance policies. In addition, for those with qualifying incomes, subsidies will be available to reduce premiums and cost-sharing for plans purchased through the Exchange.

My family income is about $45,000, but my employer does not subsidize our health insurance and we cannot afford it on our own. What will the new law do to make coverage more affordable? Low and moderate-income individuals and families whose employers do not subsidize health insurance coverage will be eligible for subsidies that enable them to purchase coverage through the Exchange in their state. The amount of these subsidies, which will reduce premiums and out-of-pocket costs for deductibles, copayments and coinsurance, will depend upon the size of your family and your household income.

What are “Exchanges”? Can I still purchase coverage through my agent? Exchanges are the central mechanisms created by the health reform bill to help individuals and small businesses purchase health insurance coverage. On October 1, 2013, an Exchange in every state will begin enrolling individuals and small businesses into qualified health plans. The Exchange, operated by the federal government or by the state, will provide information to consumers about their coverage options and what assistance is available to them.

The Exchanges will also administer the new health insurance subsidies and facilitate enrollment in private health insurance, Medicaid, and the Children’s Health Insurance Program (CHIP). The federal law does not require anyone to purchase health insurance through the Exchange, though subsidies will only be available for plans sold through the Exchange. You will be able to purchase this coverage right on the Exchange’s website or through your agent if he or she is approved to sell Exchange plans. If you would rather buy other health insurance through an insurance agent or broker, you will be free to do so.

What should I do if my insurance company rescinds my coverage? If your insurance company rescinds, or retroactively cancels, your health insurance coverage, it is now required to provide advance notice of its intention to do so, and may only do so if you committed fraud or made an intentional misrepresentation of an important fact. If your insurer noti-
lies you that it wants to rescind your policy, and you have not done either of these things, request more information from the company. If you are not satisfied with their explanation, immediately contact your state department of insurance to file a complaint.

Can I still have a Health Savings Account (HSA)?
Yes, nothing in the legislation would infringe upon the ability of an individual to contribute to a Health Savings Account, or discourage an individual from doing so. The minimum level of coverage required to meet the individual mandate was specifically designed to allow for the purchase of a qualified high deductible health plan that would complement the HSA.

Will my health insurance premiums continue to go up?
Unfortunately, the grim fact is that health care spending is likely to continue rising faster than general inflation well into the future, resulting in higher premiums. While some individuals and families with health problems may see their premiums decrease significantly under the new rating rules, for most Americans premiums will continue to increase from year to year. However, the new regulations are designed to prevent unreasonable and unexpected spikes in premiums and, over time, to slow the growth in health care spending.

Employers

What is the new small business tax credit and how do I know if I am eligible?
The Small Business Tax Credit has been available since the 2010 Tax Year. Businesses with fewer than 25 full-time equivalent employees (FTE) and average annual wages less than $50,000 per employee may qualify. To receive the tax credit, an employer must have a group health plan and must pay at least 50% of the premium.

The tax credit is equal to a percentage of what the employer pays and is based on the average premium in the small group market in the state. For Tax Years 2010 through 2013, the maximum credit in each year is 35% of the employer’s contributions (25% for nonprofit employers). Beginning Tax Year 2014, the maximum credit is 50% of the employer’s contribution (35% for nonprofit employers). The full 35% tax credit (50% in future years) is available for a business with 10 or fewer FTEs and average annual wages of $25,000 or less. The tax credit phases out completely for employers with 25 workers (FTEs) or average wages of $50,000.

I have five employees. Will I be required to provide insurance for my employees?
No. The employer responsibilities under the health reform bill do not apply to employers with fewer than 50 employees. However, you will be able to enroll your employees in coverage through the Exchanges beginning in 2014, if you choose to do so.

I have 75 employees. Will I be required to provide insurance for my employees?
Yes. An employer that fails to offer “minimum essential coverage” to its employees will be subject to a penalty of $2,000 for each of their employees beyond the first 30. In your case, this penalty would be $2,000 x (75-30) = $90,000. Employers that do offer minimum essential coverage will be assessed a penalty of $3,000 per employee that is eligible for, and receives, a subsidy through the Exchange because their share of the premium for the employer’s group health plan exceeds 9.5% of their household income. This penalty may not exceed $2,000 times the number of employees, disregarding the first 30 employees.

What new options will be available to me as a small employer?
Through the small business (SHOP) exchange, small employers will have the option of choosing a level of coverage and then allowing each employee to select their own insurer and plan. The Exchange can also collect the employer and employee contributions and direct those payments to the chosen insurers.

Will I be required to drop my current coverage?
No. Group health plans in effect as of March 23, 2010, are grandfathered under the law and will be considered “qualified coverage” that meets the mandate to have health insurance that begins January 2014. Employees and dependents can be added to the policy without losing grandfather status, though other substantial changes, such as an increase in the percentage of premium an employee must contribute, may cause your plan to lose its grandfathered status.

Must I go to the Exchange to purchase insurance, or can I continue to purchase coverage through my insurance agent?
The federal law specifically states that businesses are not required to purchase through the small business Exchange.

Can I continue to provide assistance to my employees through flexible spending accounts?
Yes, nothing in the PPACA would eliminate these options, nor discourage them.
ARE WE READY FOR SELF-DRIVING CARS?

By Eric Nordman, Director of Regulatory Services and CIPR

INTRODUCTION
On September 25, 2012, California Governor Edmund ‘Jerry’ Brown signed into law a bill that allows the operation of an autonomous or ‘self-driving’ vehicle on California streets for testing purposes. So, what is an autonomous vehicle? According to the California Legislature, an autonomous vehicle is one with “technology that, through the use of computers, sensors, and other systems, permits a motor vehicle to operate without the active control and continuous monitoring of a human operator.” This article will explore the early stages of the self-driving car and look at some possible insurance issues that may arise.

THE GOOGLE EXPERIMENT AND DARPA
Now that there is legislation, most of us wonder why they have it and why we need it. This story starts with a name familiar to us all: Google. That’s right; not an auto manufacturer, but a software developer and innovator. In 2005, Google established a team of engineers led by Sebastian Thrun. He is the director of the Artificial Intelligence Laboratory at Stanford University and perhaps is most famous for his role as co-inventor of Google Street View. Thrun and his team of engineers developed a robotic vehicle that won a contest sponsored by the Defense Advanced Research Projects Agency (DARPA).

DARPA is a wing of the U.S. Department of Defense with a budget approaching $3 billion and is tasked with development of new technologies for military use. While that sounds a bit ominous, there are often benefits to society beyond military operations when new technologies are discovered. It is DARPA that was responsible for inventing the military communication network we know today as the Internet. While opinions vary as to whether the Internet is a good or a bad thing, almost everyone uses it in their daily personal and business lives. Will the self-driving car be as successful as the Internet? Will our ability to drive a car be as useful to us as knowing how to use a slide rule?

According to several sources, Google now has a fleet of more than a dozen self-driving vehicles. Google believes that self-driving cars can make driving more efficient and safer by eliminating distracted driving and other human error. More than 30,000 people are killed each year in auto collisions. Google would like to bring that number to zero. Google claims the self-driving vehicles have traveled more than 300,000 miles accident free. There is, however, admission of at least one accident. That occurred when a human took over control of the vehicle in question.

SAFETY ISSUES
As a youngster, I watched ‘The Jetsons,’ a Hanna-Barbera cartoon about a futuristic family set in 2062—100 years after the show first aired in 1962. The Jetsons traveled in hovercrafts along an intergalactic freeway. There was no such thing as a traffic accident in the future. I am a bit more skeptical about today’s self-driving vehicle. I guess I envisioned devices embedded in the highways that communicated with the cars, much like an assembly line in a factory. Instead, we have vehicles communicating with satellites using GPS technology. I am familiar with GPS devices and communication with satellites … and it frightens me. Have you ever lost your Sirius Satellite Radio connection while you are driving? I have. It happens to me every day in the same spot. I only lose it for a second, but I have to wonder: If I were relying on this same technology to drive my car rather than provide me with music, would I be as tolerant of the signal interruption? And, will it work in tunnels?

So far, the test results have been positive. However, they are limited, as not a lot of time has been spent with these vehicles on the road. We do not know what happens when two self-driving vehicles encounter each other in traffic. What kind of decision will a self-driving car make under stressful situations? What happens when a deer runs in front of the self-driving car? Will it sacrifice the passenger to save the deer?

INSURANCE / LEGAL ISSUES
Over the past decade, automakers have been gradually introducing automated safety features into cars. Many cars now have limited self-driving abilities; some cars can automatically parallel park themselves or watch blind spots with radar, and some have backup cameras. However, in the case of self-driving cars, technology is way ahead of the law. Getting the technology to make the vehicles is only half the challenge; the other half will be creating a legal, liability and regulatory framework to govern their use on public streets.

There are many laws and regulations regarding the automobile in the U.S. There are laws regarding the safety standards required to be in automobiles. The National Highway Traffic Safety Administration (NHTSA) is part of the U.S. Department of Transportation. There are crash-avoidance standards, crash-worthiness standards, post-crash stand-

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ADDED:

State motor vehicle administrators have many state laws and regulations to enforce in regard to who is eligible to drive a vehicle, how to become licensed as a driver, how vehicles are titled and how titles are exchanged when a vehicle is sold.

State insurance codes have much to say about vehicle operation. Each state has a unique auto reparation system that specifies who is financially responsible if an accident occurs. The state laws will specify the court system used, the type of negligence law that applies and the mandatory insurance coverage that must be included or offered.

In addition to California, two other states (Florida and Nevada) have passed laws permitting self-driving cars for testing purposes, although only with a human passenger along as a safety measure. These states are ahead of the curve, having already passed legislation governing their use on public streets. However, new laws will have to be written to address the complex legal issues as these vehicles move from prototype to product. According to The New York Times, “the technology is now advancing so quickly that it is in danger of outstripping existing law, some of which dates back to the era of horse-drawn carriages.”

The insurance issues are just as complex as the legal issues. What happens if a self-driving car gets into an accident? Who is liable for the damages? Will the human “co-pilot” be at fault or will the car’s manufacturer? The vast majority of accidents are currently caused by the driver and the manufacturer’s liability is small. With self-driving cars, the number of accidents should decline significantly, but the manufacturers’ risk of liability may increase. A balance will have to be reached so that consumers do not shy away from buying these vehicles and manufacturers do not avoid the sector.

What about underwriting? What will the auto policy say about the ‘driver’ of a self-driving car? Auto policies are written with the assumption that cars are driven by people, and most of the states require insurers to set rates based on the insured person’s driving history. What happens when a machine is doing the driving? With self-driving cars, the entire underwriting process will need to be revamped.

There are numerous questions that will need to be addressed before such vehicles take the road. Will the ‘driver’ have to maintain a constant vigil on the road ahead at all times? What are they allowed to do inside the vehicle? Can they drink? Can they nap, read a book or text message while the car does all the navigating? Will they even need a driver’s license?

SUMMARY

When signing the bill that allows self-driving cars on California’s roads, Governor Brown said, “We are looking at science fiction becoming reality in a self-driving car.” Although self-driving cars are still in the experimental phase, cars are inching closer to a Jetsons-like world where drivers may no longer have to drive. Automakers are taking incremental steps toward producing fully autonomous vehicles. At the 2013 Consumer Electronics Show, Audi unveiled a car that could park itself in a garage after dropping you off. In addition, several manufacturers have recently announced they will soon offer models that will come with ‘Traffic Jam Assist’ technology, which will allow the car to drive itself in heavy traffic.

The U.S. Institute of Electrical and Electronics Engineers, Inc., predicts that 75% of cars on the roads in the world in 2040 will be self-driving and that the people operating them will not need a license. As excitement and momentum for self-driving cars grows, there is, however, a long list of safety, legal and insurance issues to iron out before these vehicles can roam the roads in the near future.

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WORKERS’ COMPENSATION SELF-INSURANCE AND POSSIBLE IMPLICATIONS OF THE PRIME TANNING BANKRUPTCY CASE

By David Keleher, ARM, CPCU, CIC, AIM, NAIC Senior Property and Casualty Insurance Specialist

INTRODUCTION

Workers’ compensation insurance is one of the largest lines of commercial insurance in the United States. In 2011, direct written premiums for all companies writing workers’ compensation insurance on a primary basis were $47.8 billion; while direct written premiums for insurance carriers writing workers’ compensation policies on an excess basis were $9.6 billion.1

The majority of employers elect to transfer all of their workers’ compensation risk to a workers’ compensation insurer through the purchase of a standard workers’ compensation policy. However, many employers with the financial means and ability to manage their own claims and safety programs elect to ‘self-insure’ their workers’ compensation exposure. The Self-Insurance Institute of America estimates that more than 6,000 corporations and their subsidiaries nationwide operate self-insured workers’ compensation programs.

While the workers’ compensation system has successfully operated for more than 100 years, a recent workers’ compensation bankruptcy case signaled implications for self-insurance across the country. In 2011, Prime Tanning-Hartland (Prime Tanning) filed for Chapter 11 bankruptcy protection. The debtors’ plan of reorganization contained several features that would have overturned state workers’ compensation law and damaged the ability of the states to regulate workers’ compensation self-insurers.

SELF-INSURANCE: WORKERS’ COMPENSATION

Employers can meet their workers’ compensation obligation by purchasing insurance or by becoming a state-certified self-insurer. A self-insured workers’ compensation plan is one in which the employer assumes the financial risk for providing workers’ compensation benefits to its employees. In other words, rather than purchasing a workers’ compensation insurance policy to pay for work-related injuries, a company would instead pay the cost of each claim themselves (i.e., out of pocket) as they are incurred, instead of paying a fixed premium to an insurance carrier or to a state-sponsored workers’ compensation fund.

When a company elects to self-insure their workers’ compensation exposure, they literally step into the role that is normally filled by an insurance carrier. They commit to fulfill all the duties and responsibilities that an insurance company would provide. They also subject themselves to greater scrutiny by state insurance regulators than if they had simply transferred their workers’ compensation risk to an insurance company.

When self-insured workers’ compensation operates properly, it can result in lower overall costs and greater control for the employer. However, if the employer is not financially sound, workers’ compensation self-insurance can be a disaster for the employer and have tragic results for injured employees. That is why most of the states that allow workers’ compensation self-insurance have put strict requirements in place to ensure that there will be funds available to pay for employee injuries.

Self-insurance is permitted in 48 states. In each of these jurisdictions, there are rules governing the respective self-insured programs. Most of the states only allow large, financially stable companies to self-insure their workers’ compensation exposure if they can meet rigorous qualification standards (see sidebar on page 9). Most of the states also require that businesses making this election provide collateral to protect injured workers in the event that the business is unable to pay those benefits.

Figure 1 on the following page reflects the significant role that self-insurance plays in workers’ compensation. Approximately 20% of all workers’ compensation coverage is provided through self-insured plans. There has been some modest growth of self-insurance in workers’ compensation, even during the Great Recession of 2007–2009.

THE PRIME TANNING BANKRUPTCY

Becoming a workers’ compensation self-insurer is not a trivial matter. Any company that assumes these risks is making a serious long-term financial commitment. The problem is what happens when a self-insurer, such as Prime Tanning, goes bankrupt?

On November 14, 2011, Prime Tanning-Hartland, a leather tanning firm operating under several subsidiary names in Maine and Missouri, sought Chapter 11 bankruptcy protection in a U.S. Bankruptcy Court in Bangor, Maine.2 The reor-

(Continued on page 8)

1 NAIC, 2011 Market Share Reports for Property/Casualty Groups and Companies.
2 The company operated under the names Irving Tanning Company; Prime Tanning Co, Inc.; Prime Tanning Corp.; Gudahy Tanning company, Inc.; Wismo Chemical Corp.; and Prime Tanning Company, Inc.
organization plan petitioned the U.S. Bankruptcy Court to use the self-insurance collateral (i.e., letters of credit and surety bonds) held by the insurance departments in Maine and Missouri to pay future claims from injured employees.

The creditors petition alleged that future loss estimates used by the states of Maine and Missouri were excessive. The debtor presented estimates from its own experts to support this allegation. The creditor also asked the court to take the unusual step of establishing a bar date after which no employees could file claims for work-related injuries. The creditors overall goal was to release funds from securities used to fund the loss reserve accounts held by these states to pay future injured workers.


*Why Would a Bankruptcy Proceeding Pose Such a Threat to the World of Self-Insurance?*

**Concerns for Regulators**

1. Since 1871, the business of insurance has been regulated by the states. In 1945, the passage of the McCarran-Ferguson Act affirmed that the continued regulation of the insurance industry by the states was in the public’s best interest. If a federal bankruptcy judge did order the release of self-insured workers’ compensation loss reserve funds, it would have superseded state-based regulation.

2. Prime Tanning’s creditors had asked that the court establish a bar date after which no additional workers’ compensation claims would be accepted. This would have precluded workers with latent industrial diseases from filing claims for their injuries. This could have proved particularly onerous for past employees, because employees in these tanning operations were exposed to chemicals that are now recognized as carcinogens.

3. It is notoriously hard to set reserves for workers’ compensation claims because the claims have long payout periods. Many claims stay open and require payments for anywhere from 10 to 30 years. During that time, a batch of claims is exposed to substantial swings in cost due to medical price inflation, increased treatment and care needed, and claimant life expectancies.

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1 National Academy of Social Insurance, August 2012, pp. 32–33 (partial data from Table 11).

2 The McCarran-Ferguson Act stated that the regulation and taxation of the insurance business by the states is in the public interest; Principles of Insurance, Mehr and Cammack, Fifth Edition, 1972, p. 790.
4. The plan proposed by the creditors would discharge all potentially liable non-debtor third parties (including guaranty associations) from their own separate obligations to pay workers’ compensation claims that might be discovered after the court-imposed bar date. This would have cut against a well-defined process for guaranteeing payment of full statutory benefits through insurance and other security.

5. Excess self-insurance carriers would exit the market. Insurance carriers rely on letters of credit and surety bonds to guarantee that they will be reimbursed for future loss payments. If this security is compromised or encumbered by bankruptcy judgments, no insurance companies will be willing to accept the risks. Without adequate excess coverage, no potential self-insurer would be approved by state insurance regulators.

**What Was the Judge’s Ruling?**
Fortunately, U.S. Bankruptcy Court District of Maine Chief Judge Louis H. Kornreich ultimately ruled against the creditors in an opinion rendered Aug. 28, 2012.⁵ The ruling preserves self-insurance funds to pay Prime Tanning’s outstanding workers’ compensation obligations.

“The Court concluded that state law, not federal law, determined the nature and extent of the debtor’s interest in the collateral. Reviewing the state law, the Court concluded that the debtors did not have a property interest in the collateral as of the commencement of the case, but rather simply chose an action to recover excess funds under state law. Without that property interest, there could be no present, distributable surplus, even under the debtors’ calculations. Thus, the Court denied confirmation of the Proposed Plan, without prejudice.”⁶

(Continued on page 10)

⁶ Dan Sovocal, Nixon Peabody, San Francisco, CA; distributed at the IAIABC meeting in Newport, RI (October 2012).

### Requirements to Become a Self-Insurer

Most of the states have established a division within either the department of insurance or the department of labor to focus on the regulation of companies that desire to become self-insured for workers’ compensation. While specific state requirements may vary, there are several standard requirements:

- **Actuarial review of past loss information:** The goal of an actuarial review is to establish an appropriate loss pick that is based on historical loss payout patterns and is adjusted for current projected payroll activity. Requiring the potential self-insurer to contract for an actuarial study forces potential self-insurers to consider several years of data, rather than focusing on one year with exceptionally good loss performance. It also forces potential self-insurers to consider actuarial loss treatments, such as the application of loss development factors and reserving for incurred but not reported (IBNR) losses. These concepts are sometime foreign to risk managers or finance department employees that are unfamiliar with workers’ compensation losses and how they develop over time.

- **Excess Insurance:** While self-insurers are willing to accept a certain level of risk, they cannot accept unlimited liability. For this reason, self-insurers are required to purchase specific and aggregate excess insurance to protect their company should individual losses or aggregated losses for a given year exceed the values established in the actuarial projection. Examples of losses that would hit the excess policy include injuries to several employees at the same time; e.g., a plane or vehicle crash or an explosion within the plant that injures or kills multiple employees.

- **Bonds/Letters of Credit:** When a company decides to self-insure its workers’ compensation insurance, it is taking on a “long-tailed” liability exposure. It could be years before all known losses are paid and all claims for a given year are settled. For this reason, state insurance regulators require applicants to supply security in the form of a bond or letter of credit to ensure that future losses will be paid. These guarantees are especially important because only a few states have established guaranty associations to pay claims for self-insured companies that become insolvent.

- **Claims Handling Ability:** State insurance regulators want to make sure that the self-insurer has sufficient staff to adjust claims on a timely basis and to establish fair and adequate loss reserves. In many cases, the self-insured company does not have employees that can handle the claims work, so they will purchase claims services from a third-party administrator.
For now, a crisis in workers’ compensation self-insurance has been averted. The ruling is reassuring for state insurance regulators, because it reaffirms the sovereignty of the regulatory safety nets put in place for self-insurance.

**WHERE DOES THE CASE GO FROM HERE?**
It is clear from the comments in the judge’s ruling that he was concerned with the possible contradiction of the states’ self-insurance laws. However, at the end of the day, his decision was based on the ownership interest (or lack thereof) in the security. A complete copy of the judge’s opinion and all the legal documents related to this case can be found on the website of the International Association of Industrial Accident Boards and Commissioners (IAIABC).7

It is entirely possible that the debtors in this case will attempt to file an alternative plan for reorganization. On November 29, 2012 the debtors filed an appellant’s brief petitioning the court to reverse its decision. It contains an appendix that is more than 4,000 pages long. The Maine Bureau of Insurance brief was filed December 13, 2012. On December 20, 2012, the IAIABC and the Southern Association of Workers’ Compensation Administrators (SAWCA) filed an amicus brief as a response to the appeal filed by the debtors.8

The decision in this case will affect all of the states that allow workers’ compensation self-insurance. State insurance regulators and the NAIC will continue to closely monitor developments in this case. Additional information can be found on the NAIC Workers’ Compensation (C) Task Force Web page.9

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8 www.naic.org/documents/committees_c_wcf_related_docs_prime_tanning_case_amicus_brief.pdf
9 www.naic.org/committees_c_wcf.htm

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**Save the Date**

**CIPR BRUNCH**

**INSURANCE FOR ACTS OF TERRORISM**

Tuesday, April 9, 2013*

10:00 AM - 12:00 PM

During the NAIC Spring National Meeting in Houston, Texas

*Date and time subject to change. Visit the CIPR Events Page for the latest information: www.naic.org/cipr_events.htm
BY REGGIE MAZYCK, NAIC LIFE ACTUARY


WHY CHANGE?

GIVEN THE ILLUSTRIOUS TRACK RECORD OF CONSISTENCY AND STABILITY ACCOMPANYING FORMULA-DRIVEN RESERVES, WHY CHANGE TO PRINCIPLE-BASED RESERVING (PBR)? THE ANSWER LIES IN THE CHANGING NATURE OF INSURANCE PRODUCTS. FOR DECADES THE INDUSTRY FLOURISHED ON PRODUCTS THAT WERE RELATIVELY SIMPLE IN DESIGN AND EASY TO UNDERSTAND. TERM INSURANCE, WHOLE LIFE AND FIXED ANNUITY POLICIES WERE THE STAPLES OF THE INDUSTRY. THESE PRODUCTS, AND THE RIDERS ATTACHED, WERE STRAIGHT FORWARD, SIMPLY PRICED AND EASILY VALUED. THE TASK OF GENERATING ACCURATE RESERVES FOR THESE POLICIES COULD BE ACCOMPLISHED BY ANY SECOND- OR THIRD-YEAR ACTUARIAL STUDENT WITH A SOLID UNDERSTANDING OF LIFE CONTINGENCIES.

The 1980s ushered in the era of universal life policies. While such universal life policy features as flexible premiums, current and guaranteed cost of insurance scales, guaranteed maturity funds and guaranteed maturity premiums added a few wrinkles to the calculation process, the fundamentals of generating policy reserves remained fairly intact. In contrast, today’s products have become much more complex.

The introduction of numerous option-based policy guarantees and other secondary guarantees require additional sophistication to effectively address their recognition and valuation in the reserve development process. Only recently has the industry taken steps to address the fact that some risks inherent in secondary guarantees are not adequately recognized in the traditional reserve formula. In addition to the increased complexity in policy design, significant variation in the types of assets underlying the reserve liability and the expected returns from those assets add to the challenge of determining that reserves are provided for adequately.

CHALLENGES OF MOVING TO PBR

AS THE INDUSTRY MOVES TO PBR, IT WILL NOT BE WITHOUT CHALLENGES. THE INITIAL EXPENSE OF IMPLEMENTING A PBR SYSTEM COULD BE SUBSTANTIAL FOR SOME COMPANIES. COMPANIES MIGHT HAVE TO PURCHASE NEW SOFTWARE, TRAIN CURRENT STAFF OR HIRE ADDITIONAL STAFF TO SUCCESSFULLY ACCOMPLISH PBR. REPLACING

(Continued on page 12)

*AS REPORTED IN THE FOLLOWING ANNUAL STATEMENTS SUBMITTED FOR 2008: LIFE, ACCIDENT AND HEALTH ANNUAL STATEMENTS; HEALTH ANNUAL STATEMENTS; OR FRATERNAL ANNUAL STATEMENTS.*
the formula-driven approach with stochastic processing will be particularly challenging to smaller companies that might not have the in-house actuarial expertise to assume PBR-related responsibilities. These companies might be forced to rely on consultants to provide support. Regulators will also need to add to the resources necessary to review the company submissions and conduct audits.

**NAIC/Industry Response to Challenges**

To allow companies time to identify and address these challenges, the Valuation Manual provides a three-year transition period beginning on the operative date of the manual before companies are required to comply with PBR standards. Companies are permitted to comply earlier, anytime within those three years, if they desire.

The Valuation Manual also provides exemption criteria that might relieve some insurers from having to do more sophisticated stochastic modeling to generate reserves on certain policies. Successfully passing one or both Valuation Manual exclusion tests will allow companies to instead use the simpler, but less exacting, net premium reserve or deterministic reserve calculation.

In recognition of the challenges the states will encounter as PBR is implemented, the NAIC has committed to providing supports to assist state insurance regulators in meeting these challenges. The NAIC’s PBR implementation plan, recently released for comment on the Web page of the Principles-Based Reserving (E) Working Group, lays out the rudimentary steps necessary for PBR implementation, including significant training and the hiring of additional actuarial staff to assist the states in reviewing and assessing company reserves.

As the PBR process continues to progress, the NAIC will continue to address questions and concerns expressed by regulators and industry. In addition to the question of resources, another concern is that, as PBR decreases reserves, it could also increase the risk of insolvency. While the basic premise underlying this concern—i.e., the lower the reserve the greater the probability of insolvency—is obviously true, it fails to consider that the Towers Watson study on PBR concluded that term policies are possibly over-reserved by as much as 100%. So, while it is fair to surmise that reducing the reserve on a policy to a reasonably conservative level could increase that policy’s risk of default, the increased risk is most likely neither significant nor material. Further, the regulatory framework is set up to adjust the reserving process as needed with changes to the Valuation Manual, and requires the review of company assumptions and experience. This introduces a self-correcting feature into the reserve process.

Another concern is that allowing companies to determine their reserve assumptions could lead to a pursuit of short-term earnings and capital wins at the expense of long term solvency. This concern makes the point that, as the banking industry faced its crisis, the banking version of PBR failed to provide adequate supports to prevent failures. It is expected that insurance regulators will be vigilant to any type of gaming in this regard. Today, companies are engaging in myriad reinsurance and captive arrangements in order to enhance earnings and capital figures by reducing reserve redundancies. Some regulators believe that the move to PBR will minimize the need for such arrangements, thereby allowing state insurance regulators to regain control of how reserves are generated.

Further, it must be noted that, while there are some similarities between the insurance and banking sectors, the two sectors are fundamentally different, as is the nature of the liabilities. While both banking and insurance offer products, bank deposits and cash value insurance policies, that are essentially put options owned by the depositor/policyowner, only the insurance products require the maintenance of cash equal to 100% of the value of the option. Insurance entities also tend to invest funds supporting its liabilities more conservatively, resulting in lower asset default rates and more predictable returns. The major risks accepted by insurance entities are based on fortuitous events that conform well to the law of large numbers and are therefore fairly predictable. Most importantly, the application of PBR to the insurance valuation process will be prospective, covering only policies issued after adoption of the regulation. This will allow ample opportunities for the industry to apply corrections to the principle-based approach at a time when reserve redundancies in policies issued prior to PBR can absorb the capital strain.

**Conclusion**

It is anticipated to take from three to five years to obtain the 42 state adoptions of Model #820 necessary to make the Valuation Manual operative. Given that time frame and the three-year transition period required by the Valuation Manual, most companies will not produce PBR until 2018 at the earliest. In the meantime the NAIC is continuing to develop supports for the states for PBR implementation. Not only will the supports assist in the performance of reviews and assessments, but NAIC will also work with insurance industry trade groups to provide training. Meanwhile, the Valuation Manual will continue to undergo additions, revisions and enhancements to incorporate more products and to capture the product innovations that are sure to arise.

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1. www.naic.org/committees_e_isff_pbr_wg.htm
ANATOMY OF A DISASTER

By Eric Nordman, Director of Regulatory Services and CIPR

When bad weather threatens, people are on the job well before a storm makes landfall. This article will discuss some of the people involved in disaster preparation, disaster response and managing the financial consequences of a catastrophic event. It will draw on some of the experiences related to recent Superstorm Sandy to show how various response activities are coordinated to a much greater extent than the public might imagine.

♦ THE ROLE OF THE FBIIC

The Financial and Banking Information Infrastructure Committee (FBIIC) is chartered under the President’s Working Group on Financial Markets, and is charged with improving coordination and communication among financial regulators, enhancing the resiliency of the financial sector and promoting the public/private partnership. The FBIIC is chaired by the Treasury’s Assistant Secretary for Financial Institutions.1

You might wonder why the U.S. Treasury Department is involved managing the country’s response to a natural disaster. The FBIIC is a public/private sector partnership tasked with coordinating efforts to improve the reliability and security of financial-information infrastructure. On a day-to-day basis, the FBIIC is involved in planning activities such as identifying critical infrastructure assets, documenting their locations and figuring out their potential vulnerabilities. Then the FBIIC prioritizes their importance to the U.S. financial system. The FBIIC also establishes secure communications capability among the various financial regulators and develops protocols for communicating during an emergency.

When a disaster is about to occur, the FBIIC convenes to discuss the pending event. It serves a coordinating role while the disaster unfolds. Information is disseminated concerning the storm. Predictions from the National Weather Service are used to track the path of the storm. Information on power outages and other infrastructure relied upon by the financial sector are also provided to FBIIC members. These various pieces of information are useful to insurance regulators, as they provide information and insight regarding the most likely areas of damage. In addition, information is shared about open bank branches, hotels, food stores and gas stations, so that people can find out how and where to meet their basic needs. Gasoline supplies and cash for ATMs are also monitored and coordinated. Information is exchanged about any impact on regulated entities, such as banks, insurers and securities firms.

In summary, the important role of the FBIIC is little known to the public. It does, however, serve a crucial role in assisting with disaster response and recovery.

♦ TIMING OF ACTIVITIES

When a storm hits, it is the first responders (i.e., fire, policy and emergency medical personnel) who are on the scene before others. Their task is to prevent loss of life and to move people out of harm’s way. The needs of financial institutions differ greatly. Banks are required to seek approval from their regulator if they plan to close a branch office. Their immediate need is to provide a way for depositors to access needed funds. Thus, it is an important coordinating activity to make it known which ATMs have electricity available to them and have sufficient funds to dispense. If either of these are lacking, the public cannot access funds from the particular ATM.

Insurers have a less immediate concern. The insurers are part of the recovery crew. They come in after the storm has passed and provide financing for living expenses, debris removal and rebuilding. Insurers can be hindered by the efforts of first responders that deny them access to damaged properties. Without access, a claim cannot be processed. Insurance regulators work with law enforcement to provide early access to authorized claims adjusters. Most of the states have procedures in place to react promptly to a disaster. In some cases, it is too dangerous for a claims adjuster to access a damaged property. If that occurs, claim payment might be delayed.

♦ SUPERSTORM SANDY

Superstorm Sandy was an unusual and difficult-to-classify storm that started as a tropical storm, then became a Category 2 hurricane as it crossed the Caribbean, killing 71 people and causing millions of dollars in damage. As it approached the United States, it was downgraded to a Category 1 hurricane and, when it reached landfall (October 29, 2012, in the Northeast), it was technically classified as a post-tropical cyclone. Then, it met up with a nor’easter to become a most unusual ‘superstorm,’ exhibiting both tropical storm and winter storm characteristics. There were more than 100 people killed in the United States and one person killed in Canada.

(Continued on page 14)

Superstorm Sandy resulted in record numbers of power outages, hitting a peak of 8,511,251 homes and businesses.² The most highly impacted jurisdictions were New Jersey (2.6 million), New York (2.1 million), Pennsylvania (1.3 million), Connecticut (627,000), Maryland (311,000), Massachusetts (298,000), West Virginia (272,000) and Ohio (267,000). Power losses of less than 200,000 were also reported in Delaware, Kentucky, Maine, Michigan, New Hampshire, Rhode Island, Vermont and Virginia.

On November 7, the impacted states were hammered once again by bad weather as another nor’easter brought strong winds, cold temperatures, rain or snow, and coastal flooding. This storm knocked out power to an additional 150,000 homes and business and hampered recovery efforts.

According to EQECAT, preliminary estimates of total economic losses are in the $30 billion to $50 billion range. It is possible that economic damage estimates will go higher. Preliminary insured loss estimates are in the $16 billion to $22 billion range according to AIR Worldwide and in the $10 billion to $20 billion range according to EQECAT. The modeling firm RMS placed its damage estimates in the $20 billion to $25 billion range.

**Coordinated Data-Collection Effort**

Impacted states agreed upon a coordinated data-collection effort to gather necessary regulatory information while causing minimal interruption for insurers. The following jurisdictions participated in the common data-collection: Connecticut, Delaware, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island and West Virginia. Maryland used a data-collection form already included in a promulgated regulation. Other states decided that their losses from the storm were not significant enough to warrant special data collection. Collectively, more than 1 million claims were reported related to the storm. By early January 2013, more than 80% of the residential claims had been closed, with almost 72% of all claims closed. Incurred losses reported were slightly more than $8.2 billion, not including losses reported under the National Flood Insurance Program. Interestingly, the magnitude of the losses correlated closely with the power outage numbers mentioned above.

**Coordinated Call Center**

Due to the extensive damage in New Jersey, a call for assistance from other states was made. The New Jersey Department of Banking and Insurance asked for help in meeting the demands for consumer assistance. The NAIC coordinat-

ed a phone bank in its Kansas City office to provide a place for regulators to gather to meet the needs of their fellow regulators. Regulators from several states (Iowa, Kansas, Missouri and Nebraska) volunteered to assist New Jersey, thereby allowing New Jersey to deploy its staff in the affected communities to meet directly with consumers.

**Exploring Issues Related to Hurricane and Named-Storm Deductibles**

Insurers began to introduce hurricane and windstorm deductibles in the mid-1990s after the Hurricane Hugo (1989) and Hurricane Andrew (1992). A hurricane or named-storm deductible applies only to a particular hurricane and only if it meets certain parameters spelled out in the insurance contract and often proscribed or limited in state law. In contrast, a windstorm deductible applies to any wind damage.

These deductibles were introduced when reinsurance became more expensive and less available following Hurricane Andrew. Reinsurers were encouraging primary insurers to take steps to better manage their catastrophe risk. One of the answers for insurers was to limit potential losses through higher deductibles. Hurricane deductibles are often expressed as a percentage of the home’s insured value, although they can be a flat amount. Alabama, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Louisiana, Maine, Maryland, Massachusetts, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Texas and Virginia have legislation in place regarding the use of hurricane deductibles. Other states may allow insurers to include hurricane deductibles in property insurance products. It is safe to say there are similarities among the state laws; however, no two laws are identical.

Insurers and consumers have issues with the use of hurricane deductibles. Insurers are concerned about the clarity of state laws and the actions of state officials that might limit the use of hurricane deductibles. Consumers are concerned about what (to them) seems an unjustified cost-shifting at a time when they can least afford it. Consumers also complain about lack of meaningful disclosure about the deductibles.

Insurers and consumers desire certainty for different reasons. Insurers want to know the policy provisions containing hurricane deductibles will be enforced, so they can rely on (Continued on page 15)

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the expected loss costs used as the building block for their rates. Consumers want meaningful disclosure so they can know what they are buying and prepare for funding the portion of a loss not transferred to the insurer. Insurance regulators are working on improving transparency and disclosures through the NAIC Property and Casualty Insurance (C) Committee.

One of the possible solutions being explored is the introduction of pre-tax deductible savings accounts. Conceptually, the savings account would allow a homeowner to pre-fund disaster-related costs in a tax-free or tax-deferred manner. The Property and Casualty Insurance (C) Committee will explore the implications of deductible savings accounts and determine whether it should recommend that the NAIC support legislation to allow or encourage them.

**CONCLUSION**

There are many issues related to disaster response and recovery. There are considerable efforts by a number of parties working together to make responding to a disaster possible. Coordination is the key. Each party has a role to play and the timing of each deployment is critical to successful disaster response and recovery. Insurance regulators play key roles in several areas. Participation in the FBIIC, working with first responders, working with claims adjusters, collecting pertinent regulatory information and helping each other are all important to a successful recovery for all involved.
CROP INSURANCE TAKES CENTER STAGE

By Sara Pankow, NAIC Research Analyst II

♦ INTRODUCTION
Adverse weather conditions such as frost, hail, thunderstorm or drought can cost a farmer a season’s crop. Crop insurance is an important tool to help farmers and ranchers better manage risk. In 2012, weather-related natural catastrophes—as well as the summer-long drought, which affected the Midwest and surrounding states—caused extensive damage to crops. According to Munich Re, crop losses in the United States totaled $20 billion in 2012, making it the largest loss in U.S. agricultural history. Approximately $15 billion to $17 billion of these losses are covered by the feder-ally subsidized multi-peril crop insurance program. The federal crop insurance program, which provides U.S. farmers and agricultural entities with crop insurance protection, was recently extended into the 113th U.S. Congress, which is now tasked with passing a new Farm Bill before the extension expires later this year.

♦ BACKGROUND
Crop insurance is a type of insurance that farmers and producers may purchase to help protect them against declines in crop yields and/or revenue. However, there is a deeper complexity to this product than one might initially assume. Crop insurance is divided into two categories: the federally subsidized multiple-peril crop insurance (MPCI) and the state regulated crop/hail insurance. This article will focus primarily on MPCI.

Crop/hail insurance is coverage offered by the private market and regulated by the state insurance departments. It covers a narrower variety of perils, such as hail and fire, and is not reinsured by the Federal Crop Insurance Corporation (FCIC). Some of the advantages of crop/hail insurance are its availability, as many different companies offer the product, and its flexibility, as it may be purchased at any time during the growing season.

By contrast, MPCI covers a much broader range of perils (e.g., drought, excessive moisture, freeze, disease and other natural causes) and must be purchased before planting begins. In 1938, to help agriculture recover from the combined effects of the Great Depression and severe dust storms (the Dust Bowl), the U.S. Congress passed the Federal Crop Insurance Act, which established the first federal crop insurance program. The FCIC was also created to carry out the program. Before the program was established, private insurers had difficulty providing affordable insurance products because of the inherent risks and potential for widespread catastrophic losses associated with agricultural production.

The initial federal crop insurance program was not particularly successful in that the program costs were high and participation was low. Under this initial arrangement, the federal government paid to administer the program, and farmers paid the full cost of their actuarially fair premiums. Moreover, the program had difficulty amassing sufficient reserves to pay claims and was not financially viable. The program remained limited until 1980, when it expanded crop insurance to many more crops and regions of the country. Congress enhanced the crop insurance program again in 1994 and in 2000 in order to encourage greater participation.

In 1996, the U.S. Department of Agriculture’s (USDA) Risk Management Agency (RMA) was created to operate and manage the FCIC, and it is through RMA that policies are now provided for more than 100 crops. With more than 14 different types of policies and endorsements, the RMA offers a plethora of crop policies that offer protection from low personal production and revenue yields, to low community production and revenue yields.

Subsidies were also built into the program, which increased participation significantly. The federal government subsidizes the farmer-paid premiums to reduce the cost to farmers. The federal government also provides reimbursement to the private insurance companies to offset operating and administrative costs that would otherwise be paid by farmers as part of their premium. In addition, if insurers suffer a loss, the government will backstop the losses, much as a big reinsurance company assumes the risks of individual insurers. Through this federal support, crop insurance remains affordable to a majority of America’s farmers.

For a company to write federal crop insurance, they must sign the Standard Reinsurance Agreement (SRA), which is a contract between the company and the FCIC that establishes the terms and conditions for which the FCIC will provide subsidies and reinsurance on eligible crop insurance contracts sold by that company. There are currently 16 companies that have signed the 2013 SRA and are writing MPCI.

The National Crop Insurance Services (NCIS), a non-profit organization whose members are made up of private crop insurance companies, is heavily involved in both crop/hail

(Continued on page 17)

3 For a complete list of crop policies and pilots, and their descriptions, please see the RMA’s website at www.rma.usda.gov/policies.
and MPCI and often works with RMA to allow for easier communication between regulators and the companies. NCIS assists their members with information management, data reporting and meeting state regulatory requirements.

2012 Disasters and Their Impact on Crop Insurance
Not surprisingly, the success of a farmer’s yield is heavily impacted by natural disasters and catastrophes. In 2012, the Federal Emergency Management Agency (FEMA) declared 47 major disaster declarations. A major disaster is classified as one that utilizes long-term federal recovery programs. Among these, and the most notable with more than 23% (11) of the disasters, were related to Superstorm Sandy, which devastated the U.S. East Coast in October 2012.

Most significant to crop insurance, however, was the drought and record high temperatures that afflicted most of the Midwest in the summer of 2012. As of December 17, 2012, RMA reported a loss ratio of 79%, with indemnity payments of more than $8 billion and 300,000 claims. The drought was especially detrimental to farmers, and those states most affected by severe drought had the largest percentages of claims. Nine states—Illinois, Iowa, Kansas, Kentucky, Missouri, Nebraska, New Hampshire, New Jersey and South Dakota—each had a loss ratio of more than 100%, and those states represented 62% of the total indemnity payments so far for 2012.

Farm Bill Reauthorization
While the FCIC is permanently authorized by the Federal Crop Insurance Act, it has been periodically modified by Congress, most recently in the 2008 Farm Bill. The 2008 Farm Bill (also known as the Food, Conservation and Energy Act of 2008) is the primary legal framework for agricultural policy. The bill, which expired in September 2012, was extended for nine months through the ‘fiscal cliff’ agreement passed by Congress in January 2013. The short-term extension was adopted in order to provide time to pass a full reauthorization and to prevent a spike in the price of dairy and other commodities.

There was disappointment that Congress was unable to pass a multi-year reauthorization to provide long-term certainty and stability to farmers and rural communities. The 113th Congress must start the process of crafting and passing a new farm bill before the current extension expires at the end of September 2013. Although proposals from the previous Congress placed a greater emphasis on crop insurance, new membership on both the U.S. House of Representatives’ Committee on Agriculture and the U.S. Senate Committee on Agriculture, Nutrition and Forestry could change the dynamics and policy discussions in the new Congress.

The NAIC Crop Insurance (C) Working Group
The NAIC created the Crop Insurance (C) Working Group, which reports to the Property and Casualty Insurance (C) Committee, to offer a forum for discussing issues related to the interaction of federal crop insurance programs with state insurance regulation. One of the most recent issues the Working Group examined spread over almost four years and dealt with revisions to crop adjuster licensing.

In the 2010 SRA, new requirements for MPCI loss adjusters were introduced. These requirements were an effort to reduce fraud and create uniformity in test and licensing among crop loss adjusters. The SRA now mandates that adjusters must take crop-specific (as determined by the FCIC) tests and, if a state does not provide such a test or does not require a crop-specific license, a potential adjuster may take an FCIC-approved test in lieu of state requirements. Currently, there is only one FCIC-approved program and test, called the Crop Adjuster Proficiency Program (CAPP), which is maintained and administered by NCIS. More details of the loss adjuster requirements are described in Appendix I, Section VIII—Training Requirements, of the 2013 SRA.

In addition, the Crop Insurance (C) Working Group has been updating the NAIC Crop Insurance Handbook, which is an excellent tool for understanding the complexities of crop insurance. RMA and NCIS have been instrumental in the revision of the handbook, which the Working Group hopes to adopt during the NAIC 2013 Spring National Meeting. Insurance regulators and the industry continue to work together to discuss pertinent issues regarding crop insurance. The Working Group meets regularly at the NAIC national meetings in support of such efforts.

For more information on crop insurance, follow these helpful links.

- NAIC Crop Insurance (C) Working Group (www.naic.org/committees_c_ciwg.htm)
- Risk Management Agency (www.rma.usda.gov)
- National Crop Insurance Services (www.ag-risk.org)
- United States Drought Monitor (www.droughtmonitor.unl.edu)
- United States Department of Agriculture (www.ers.usda.gov)

This issue features an analysis of market concentration and profitability for several property/casualty lines of business. Insurer profitability results can be used in conjunction with concentration statistics to determine whether a market is attractive to insurers to enter (i.e., thereby creating greater competition) or unattractive (i.e., causing insurers that are in the market to leave). Persistently high levels of profitability could indicate that a market is failing to attract competitors, thus enabling non-competitive rates of return to be earned.

The data was derived from the Competition Database Report and compiled using information contained in the NAIC database, as well as information contained in the NAIC Report on Profitability by Line by State (Profitability Report). The Competition Database Report provides data for five personal lines and 10 commercial lines countrywide, as well as by state or territory.

**Market Concentration**

Market concentration reflects the degree of competition in a market. There are several methods that exist to examine market concentration. The Competition Database Report utilizes methods contained in the Property and Casualty Commercial Rate and Policy Form Model Law (#777) for determining competition. One method, the concentration ratio, assesses the market share of the four largest groups in an insurance line. This traditional measure of market concentration is often used as a rough indicator of market competition. While there is no formal way to determine market competitiveness based on this calculation, values above 50% suggest that concentration at least be given a closer look in judging the overall competitiveness of a market.

Figure 1 shows the market share of the four largest groups, denoted as a percentage, for private passenger auto, homeowners multiple peril, medical professional liability and commercial auto. As illustrated in Figure 1, none of these lines exceed the 50% concentration threshold; however, the private passenger auto and homeowners multiple peril lines of business exhibit higher concentrations of 42.50% and 45.94%, respectively.

Another widely used measure of competitiveness listed in the Competition Database Report is the Herfindahl-Hirschman Index (HHI). The HHI measures the size of firms in relationship to the industry and indicates the amount of competition among them. It is calculated by summing the squares of the market shares (as a percentage) of all groups in the market. Although there is no precise point at which the HHI indicates that a market or industry is concentrated highly enough to restrict competition, the U.S. Department of Justice (DOJ) has developed objective guidelines with regard to corporate mergers.

Under corporate merger guidelines used by the DOJ, a post-merger market with an HHI of less than 1,000 is considered to be a competitive marketplace, a post-merger market with an HHI between 1,000 and 1,800 is considered to be a moderately concentrated marketplace, and a post-merger market in excess of 1,800 is considered a highly concentrated market. It is important to note that, because these numbers are

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1 For more information about this data, please contact a member of the NAIC Research and Actuarial Department. More information can be found online at: [www.naic.org/research_actuarial_dept.htm](http://www.naic.org/research_actuarial_dept.htm)

2 More information concerning the homeowners and personal automobile insurance lines can be found in the Auto Insurance Database report and the Dwelling Fire, Homeowners Owner-Occupied, and Homeowners Tenant and Condominium/Cooperative Unit Owner’s Insurance report (Homeowners Report) published by the NAIC. These reports include additional data concerning average premiums and expenditures and might be useful in studying the competitiveness of those markets. These reports—as well as the Competition Database Report and Profitability Report—are available for purchase at: [www.naic.org/store_pub_statistical.htm](http://www.naic.org/store_pub_statistical.htm)
guidelines, judgment must be used to interpret what information is provided for a particular market by its HHI.

Figure 2 illustrates the HHI for these same four lines by written premiums. Based on the HHI guidelines, all four markets are considered relatively unconcentrated and the DOJ would most likely not challenge a merger that would leave the HHI in that range.

**Profitability**

The *Competition Database Report* also includes information by line by state on premiums written, number of sellers (groups), number of entries in the past five years, number of exits in the past five years, market growth over the past 10 years, market shares for risk retention groups and surplus lines insurers, and a 10-year mean of return on net worth.

The return on net worth stated in the *Competition Database Report* is obtained from the *Profitability Report*. It is calculated to help regulators and others evaluate the profits earned in a particular market in relation to the net worth committed to that market. Figure 3 displays the 10-year mean return on net worth for the four largest property/casualty lines of business.

Figure 4 compares the return on net worth in the property/casualty insurance industry with the return on net worth in other industries. Over the period of 2002 to 2011, the property/casualty insurance industry had an average return on net worth of 6.6%, considerably lower compared to an estimated 13.3% for all industries.
**Natural Catastrophes and Global Reinsurance—Exploring the Linkages**

By Sebastian von Dahlen, Principal Administrator, Bank for International Settlements and Goetz von Peter, Senior Economist, Bank for International Settlements

The following article is a condensed version of a special report originally published as a feature within the Bank for International Settlements (BIS) Quarterly on December 10, 2012. The full article can be viewed at: www.bis.org/publ/qtrpdf/r_qt1212e.pdf (JEL classification: G22, L22, Q54). Please note that the views expressed in this article are those of the authors and do not necessarily reflect those of the BIS, the IAIS, the NAIC or any affiliated institution.

The CIPR thanks the authors as well as the International Association of Insurance Supervisors (IAIS) for this contribution to the CIPR Newsletter.

**Introduction**
Natural disasters resulting in significant losses have become more frequent in recent decades, with 2011 being the costliest year in history. This feature explores how risk is transferred within and beyond the global insurance sector and assesses the financial linkages that arise in the process. In particular, retrocession and securitisation allow for risk-sharing with other financial institutions and the broader financial market. While the fact that most risk is retained within the global insurance market makes these linkages appear small, they warrant attention due to their potential ramifications and the dependencies they introduce.

**Financial Losses**
The year 2011 witnessed the greatest natural catastrophe-related losses in history, reaching $386 billion (Graph 1 on the following page, top panel). The trend in loss developments can be attributed in large measure to weather-related events (Graph 1, bottom right-hand panel). And losses have been compounded by rising wealth and increased population concentration in exposed areas such as coastal regions and earthquake-prone cities.

These factors translate into greater insured losses where insurance penetration is high. At $110 billion, insured losses in 2011 came close to the 2005 record of $116 billion (in constant 2011 dollars). The reinsurance sector absorbed more than half of insured catastrophe losses in 2011. This considerable burden on reinsurers reflected the materialisation of various peak risks, notably in Japan, New Zealand, Thailand and the United States.

**Risk Transfer**
Natural catastrophe-related losses are large and unpredictable. This section describes the sequence of payments based on contractual obligations that is triggered when an insured event materialises.

One can think of the insurance market as organising risk transfer in a hierarchical way. Losses cascade down from insured policyholders to the ultimate bearers of risk. When catastrophe strikes, the extent of physical damage determines total economic losses, a large share of which is typically uninsured. The insured losses, however, must be shouldered by the global insurance market. The public sector, when it insures infrastructure, often does so directly with reinsurers through public-private partnerships, although more data would be necessary to pin down the exact scope worldwide. The majority of the losses relate to private entities contracting with primary insurers, the firms that locally insure policyholders against risks.

Claims for reimbursement thus first affect primary insurers. But they absorb only some of the losses, having ceded (transferred) a share of their exposure to reinsurance companies. Reinsurers usually bear 55–65% of insured losses when a large natural disaster occurs. They diversify concentrated risks among themselves and pass a fraction of losses on to the broader financial market, while ultimately retaining most catastrophe-related risk.

Before disaster strikes, however, there is a corresponding premium flow in exchange for protection. Based on worldwide aggregate premium payments in 2011, policyholders and insured entities, both private and public sector, spent $4,596 billion to receive insurance protection. Some 43% of this global premium volume ($1,969 billion) relates to non-life insurance and the remainder to life insurance products (IAIS (2012)). Primary insurers, in turn, paid close to $215 billion to buy coverage from reinsurers. The lion’s share, nearly $165 billion, came from primary insurers active in the non-life business. About one third of this amount, $65 billion, was geared towards protection against peak risks, with $18 billion for specific natural catastrophe contracts.

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1 For example, in the late 1990s the Mexican government established a mechanism to support the rapid rehabilitation of federal and state infrastructure affected by natural disasters (Fonden), in which reinsurers play a key role in transferring risks outside Mexico.
By way of comparison, life insurance companies spent 2% of their premium income, $40 billion, on reinsurance protection. This comparatively low degree of reinsurance protection is due to the fact that results are typically less volatile in life insurance than in non-life insurance. Following any risk transfer, insurers remain fully liable vis-à-vis the policyholder based on the initial contractual obligations, regardless of whether or not the next instance pays up on the ceded risk.

Reinsurance companies, in turn, buy protection against peak risks from other reinsurers and financial institutions. In this process of retrocession, reinsurers spent $25 billion in 2011 to mitigate their own downside risk. The bulk of this amount represents retroceded risks transferred to other reinsurance companies ($20 billion in premiums), while a relatively small share is ceded to other market participants such as hedge funds and banks ($4 billion) and financial markets ($1 billion). An important aspect of this structure is the prefunding of insured risks. Premiums are paid ex ante for protection against an event that may or may not materialise over the course of the contract. These payments by policyholders (Continued on page 22)

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1. Includes all natural catastrophes reported to have caused property damage since 1980. “Major catastrophes” are events causing more than 100 fatalities or more than $250 million in losses. Losses are expressed in terms of constant 2011 US dollars using the US CPI, and derive primarily from damage to property and infrastructure. Earthquakes, volcanic eruptions and dry mass movement (landslides) and their direct consequences (eg the tsunami following Japan’s earthquake in 2011).
2. Storms and their direct consequences (eg the flooding following Hurricanes Katrina, Rita and Wilma in 2005).
and insurers generate a steady premium flow to insurers and reinsurers, respectively. Only if and when an event with the specified characteristics occurs are the claims payments triggered. At all other times, premium flows are accumulated in the form of assets held against technical reserves (see next section).

Reinsurance contracts come in two basic forms which differ in the way primary insurers and reinsurers determine premiums and losses. Proportional reinsurance contracts share premiums and losses in a predefined ratio. Since the 1970s, non-proportional contracts have increasingly been used as a substitute. Instead of sharing losses and premiums in fixed proportions, both parties agree on the insured risks and calculate a specific premium on that basis. The typical non-proportional contract specifies the amount beyond which the reinsurer assumes losses, up to an agreed upon ceiling (first limit). Depending on the underlying exposure, a primary insurer may decide to buy additional layers of reinsurance coverage, for example with other reinsurers, on top of the first limit.

“Excess of loss” agreements are the most common form of non-proportional reinsurance cover. For natural catastrophes, these contracts are known as CatXL (catastrophe excess of loss) and cover the loss exceeding the primary insurer’s retention for a single event. A major earthquake, for example, is likely to affect the entire portfolio of a primary insurer, leading to thousands of claims in different lines of business, such as motor, business interruption and private property insurance. As a result, primary insurers often purchase CatXL coverage to protect themselves against peak risks.

### Peak Risks and the Reinsurance Market

A reinsurer’s balance sheet reflects its current and past acceptance of risks through its underwriting activity. Dealing with exposure to peak risks, which relate to natural catastrophes, is the core business of the reinsurance industry. Natural catastrophes are rooted in idiosyncratic physical events such as earthquakes. When underwriting natural catastrophe risks, reinsurers can rely to a large extent on the fact that physical events do not correlate endogenously in the way financial risk does. To achieve geographical diversification, reinsurers offer peak risk protection not just for one country but ideally on a worldwide basis.

Another form of diversification takes place over time. Premiums are accumulated over years, and claims payments are usually paid out over the course of months or sometimes years. Statistics on reinsurance payments show that claims are typically settled over an extended period. On average, 63% of the ultimate obligations are paid within a year and 82% within two years, and it takes more than five years after a natural disaster strikes for the cumulative payout to reach 100%.

The occurrence of a major natural catastrophe dents reinsurers’ underwriting profitability, as reflected in the combined ratio. This indicator sets costs against premium income. A combined ratio above 100% is not sustainable for an extended period. By contrast, temporary spikes in the combined ratio are indicative of one-off extreme events which can be absorbed by an intertemporal transfer of risk. The combined ratio spiked in the years featuring the most costly natural catastrophes to date: 2005, the year of major hurricanes in the US, and 2011, following earthquakes and flooding in Asia and Oceania. Both occasions also reduced the stock of assets reserved for meeting claims. Yet these temporary spikes in the combined ratio did not cut through to shareholder equity to any significant extent. Catastrophes affect equity only if losses exceed the catastrophe reserve.

Recent market developments caused shareholder equity to decrease more than insurers’ core underwriting business ever has. During the global financial crisis of 2008–09, shareholder equity (book value) declined by 15%, and insurance companies’ share prices dropped by 59%, more than after any natural catastrophe to date. In contrast, shareholder equity remained resilient in 2005 and 2011, when reinsurers weathered record high catastrophe losses.

In dealing with the consequences of peak catastrophe risks, the industry has gravitated towards a distinctive market structure. One important element is the size of reinsurance companies. Assessing and pricing a large number of different potential physical events involves risk management capabilities and transaction costs on a large scale. Balance sheet size is therefore an important tool for a reinsurer to attain meaningful physical diversification on a global scale. Partly as a result, the 10 largest reinsurance companies account for more than 40% of the global non-life reinsurance market.

In spite of the reinsurance market’s size and concentration, failures of reinsurance companies have remained limited in scope. The largest failures to date, comprising two bankruptcies in 2003, led to an essentially inconsequential reduction in

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2 For instance, the exposure to certain types of natural catastrophes is higher in the United States than in Europe. To diversify, US insurers cede (transfer) nearly twice as much in premium volume to European reinsurers than European insurers cede to US reinsurers.

3 The combined ratio is computed as 100 * (losses + expenses) / (premium income).

4 That said, when financial market conditions were favourable, some insurance companies pursued a business model of loose underwriting standards and low risk premiums, believing that their investment returns would compensate for their elevated combined ratio. These companies were particularly exposed when markets deteriorated.
available reinsurance capacity of 0.4%. That said, any failure of a reinsurer leads to a loss of reinsurance recoverables by primary insurers, and could cause broader market tensions in the event of a disorderly liquidation of large portfolios.

In this respect, the degree of connectedness within the global insurance market plays an important role. Based on their business model, reinsurers enter into contracts with a large number of primary insurance companies, giving rise to numerous vertical links. In addition, risk transfer between reinsurers leads to horizontal linkages. We estimate that 12% of natural catastrophe-related risk accepted by reinsurers is transferred within the reinsurance industry, which implies that the industry as a whole retains most of the risks it contracts. In 2011, reinsurers paid 3% of earned premiums to cede catastrophe risk to entities outside the insurance sector. Judging by premium volume, the global insurance market transfers a similarly small share of accepted risk to other financial institutions and the wider financial markets.

**Linkages with Financial Markets**

Arrangements designed to transfer risk out of the insurance sector create linkages with other financial market participants. Retrocession to other financial institutions uses contractual arrangements similar to those between reinsurers, and commits banks and other financial institutions to pay out if the retroceded risk materialises. Securitisation, on the other hand, involves the issuance of insurance liabilities to the wider financial market. The counterparties are typically other financial institutions, such as hedge funds, banks, pension funds and mutual funds.

Among insurance-linked securities, catastrophe bonds are the main instrument for transferring reinsured disaster risks to financial markets. The exogenous nature of the underlying risks supports the view that catastrophe bonds provide effective diversification unrelated to financial market risk. For these reasons, industry experts had high expectations for the expansion of the catastrophe bond market (eg Jaffee and Russell (1997), Froot (2001)).

The issuance of catastrophe bonds involves financial transactions with a number of parties (Graph 2). At the centre is a special purpose vehicle (SPV) which funds itself by issuing bonds.

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**Graph 2: Securitisation of Natural Catastrophe Risk**

The solid black lines show payments made ex ante with certainty. The green arrow depicts repayment that takes place if the specified catastrophe does not materialise. If the catastrophe occurs, the investments are liquidated and proceeds are transferred to the sponsoring reinsurance company for meeting claims.

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5 For example, a reinsurer might exchange some of its exposure to earthquake risk in Japan for US flood risk with another reinsurer.
6 This form of securitisation differs from the practice in credit markets in two ways: the securitised item is an insurance liability, and the sponsoring insurer retains ultimate liability should the counterparty fail to pay.

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1 Special purpose vehicle that issues natural catastrophe bonds and places assets in a trust fund.

Sources: National Association of Insurance Commissions and Center for Insurance Policy and Research; authors’ adaptation.
notes to financial market participants. The SPV invests the proceeds in securities, mostly government bonds which are held in a collateral trust. The sponsoring reinsurer receives these assets in case a natural disaster materialises as specified in the contract. Verifiable physical events, such as storm intensity measured on the Beaufort scale, serve as parametric triggers for catastrophe bonds. Investors recoup the full principal only if no catastrophe occurs. In contrast to other bonds, the possibility of total loss is part of the arrangement from inception, and is compensated ex ante by a higher coupon.

Despite experts’ high expectations, the catastrophe bond market has remained relatively small. Bond issuance has never exceeded $7 billion per year, limiting the outstanding capital at risk to $14 billion (Graph 3). Very few catastrophe bonds have been triggered to date. The 2005 Gulf Coast hurricanes activated payouts from only one of nine catastrophe bonds outstanding at the time (IAIS (2009)). Likewise, the 2011 Japan earthquake and tsunami triggered one known catastrophe bond, resulting in a payout of less than $300 million. Payouts to reinsurers from these bonds are small when compared to the sum of insured losses ($116 billion in 2005 and $110 billion in 2011).

The global financial crisis has also dealt a blow to this market. The year 2008 saw a rapid decline in catastrophe bond issuance, reflecting generalised funding pressure and investor concern over the vulnerability of insurance entities. The crisis also demonstrated that securitisation structures introduce additional risk through linkages between financial entities. A case in point was the Lehman Brothers bankruptcy in September 2008. Four catastrophe bonds were impaired—not due to natural catastrophes, but because they included a total return swap with Lehman Brothers acting as a counterparty. Following Lehman’s failure, these securitisation arrangements were no longer fully funded, and their market value plunged. Investors thus learned that catastrophe bonds are not immune to “unnatural” disasters such as major institutional failures.

A further set of financial linkages arises with other financial institutions through cross-holdings of debt and equity. Insurance companies hold large positions in fixed income instruments, including bank bonds. At the same time, other financial entities own bonds and stocks in insurance companies. For instance, the two largest reinsurance companies stated in their latest (2011) annual reports that Warren Buffett and his companies (Berkshire Hathaway Inc, OBH LLC, National Indemnity Company) own voting rights in ex-

(Continued on page 25)

7 Such parametric solutions prevail because they are triggered by a predefined physical event and hence provide immediate clarity for all parties involved. Less common are, for example, indemnity solutions, where the trigger is based on actual losses, because it often takes a significant amount of time to determine the full loss amount.

8 Following this episode, sponsors of catastrophe bonds employed other types of collateral arrangements in lieu of total return swaps. There has recently been a shift towards the use of government bonds as collateral.
cess of the disclosure threshold (10% in one case and 3.10% in another). Additional shareholders with direct linkages to the financial sector have been disclosed by a number of reinsurance companies. The ramifications of such linkages in this part of the market are difficult to assess.

**CONCLUSION**
The upward trend in overall economic losses in recent decades highlights the global economy’s increasing exposure to natural catastrophes. This development has led to unprecedented losses for the global insurance market, where they cascade from the policyholders via primary insurers to reinsurance companies. Reinsurers cope with these peak risks through diversification, prefunding and risk-sharing with other financial institutions.

This global risk transfer creates linkages within the insurance industry and between insurers and financial markets. While securitisation to financial markets remains relatively small, linkages between financial institutions arising from retrocession have not been fully assessed. It is important for regulators to have access to the data needed for monitoring the relevant linkages in the entire risk transfer cascade, as no comprehensive international statistics exist in this area.

**References**

CONSUMER VIEWPOINTS ON EFFECTIVE DISCLOSURES

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This article expresses the opinions of the authors and is not meant to represent the position or opinions of the NAIC or its members, nor is it the official position of any staff members.

INTRODUCTION

Effective disclosure of complicated financial products is an increasingly important consumer protection issue. As the global financial crisis of 2008 demonstrated, many consumers fail to understand or appreciate important features of the financial products they purchase. In response to this deficiency in consumer understanding, there is increased attention across many fronts to more effectively communicate targeted information to consumers. One example is the federal Dodd-Frank Wall Street Reform and Consumer Protection Act, which created the Consumer Financial Protection Bureau (CFPB). Already, the CFPB has harnessed academic research and empirical methods to develop clear and robust consumer disclosures for non-insurance financial products, such as mortgages. The CFPB is merely one of several federal agencies revamping the ways in which consumer disclosures are designed.

Despite a renewed commitment to the disclosure of complex financial products at the federal level, the NAIC and state insurance regulators currently do not have a coordinated system to develop effective consumer disclosures for insurance products. While various NAIC model laws and regulations deal with the disclosure of insurance policy features—for example, laws and regulations governing disclosure of the terms of individual accident and sickness insurance policies, consumer credit insurance, long-term care insurance, Medicare supplement insurance, annuities and health insurance policies—the processes under which these laws were developed vary substantially.

The absence of coordinated processes to create consumer disclosure rules undermines the quality of those rules. First, it generates product-specific gaps in the intensity of disclosure rules that are often hard to justify. For instance, much more specific rules will govern the disclosure of health insurance products after implementation of the federal Patient Protection and Affordable Care Act than govern disclosure of property/casualty insurance products. Second, it results in unconsidered differences in approaches to disclosure regulation: depending on the underlying insurance product, disclosure rules can range from quantitative rea-

bility scores to rules prohibiting specifically designated terms to mandatory disclosure documents. Third, it undermines the NAIC’s capacity to efficiently collect and make use of state-of-the-art knowledge and processes regarding effective consumer disclosures.

Insurance contracts are immensely complex legal documents. Without effective rules governing disclosure to consumers about the content of their policies, many consumers are at risk of failing to appreciate important elements of their insurance protection. Insurance contracts are drafted to communicate with courts and lawyers who are focused on particular questions, rather than to communicate with consumers about the broad range of potential scenarios that are relevant to making purchasing decisions. Typically, these contracts are not even provided to consumers until after the policy is purchased.

Consumer understanding of insurance policies is fundamental to the effective operation of insurance markets. The core products that insurers sell are insurance policies. Like all other markets, insurance markets are premised on the assumption that buyers can reasonably assess the value they place on different products. If consumers systematically fail to appreciate the important elements of insurance products, then they will tend to purchase coverage that does not meet their needs or preferences. Perhaps even more important, insurers may be rewarded for altering their policies in ways that ultimately harm consumer welfare and be penalized for increasing the generosity of their terms of coverage in ways that benefit consumers (Schwarcz, 2011).

Although certain principles cross-cut the design of effective consumer disclosures, this article does not focus on disclosures regarding issues other than the scope of insurance coverage, such as underwriting methods, consumer privacy or the existence of state guaranty funds. Additionally, this article’s focus is on summary disclosures that are provided to consumers at the time of purchase or beforehand.

THE PURPOSES AND FORMS OF DISCLOSURES

The general purpose of information-disclosure requirements is to improve consumer information. Particularly relevant for insurance regulators is the prospect that insurance consumers may have incorrect or incomplete information re-

(Continued on page 27)

4 NAIC Model Laws, Regulations and Guidelines 650-1, § 5.
5 NAIC Model Laws, Regulations and Guidelines 245-1, § 5.
6 proposed model disclosure.
Regarding the features of the insurance products they purchase or consider purchasing. There are several related reasons why regulation might attempt to correct this type of information deficiency (Kirsch, 2002).

First, regulators may pursue disclosure of insurance product features to improve consumers’ product understanding. Product understanding enhances the likelihood that consumers will purchase the types of insurance products and features that best meet their needs and preferences. For instance, a consumer who is aware that her homeowners insurance policy does not cover floods may then decide whether to purchase federal flood insurance. Consumer understanding of insurance products is particularly important because of the role that moral hazard and adverse selection—both products of information asymmetries—play in the design of insurance products. Many insurance contract provisions are designed to limit the risk of moral hazard by excluding coverage for high-risk activities. But these contract provisions are only effective if policyholders are aware of them; otherwise, they merely shift moral hazard risk to consumers rather than causing consumers to take optimal levels of care.

Insurance contract provisions are also commonly designed to limit “adverse selection”; i.e., the prospect that high-risk policyholders will be drawn to insurance. By excluding coverage that is particularly valuable to high-risk individuals, insurance contracts can theoretically cause high-risk policyholders to “self-reveal” by purchasing more extensive coverage. Once again, this classic insurance contract solution to adverse selection does not work unless policyholders are familiar with the scope of the coverage they purchase.

A second core reason that regulators may require disclosure of product features is to enhance consumers’ capacity to comparison shop, which allows consumers to find the coverage that best fits their needs and budgets. Informed comparison-shopping also improves the incentives of insurers to craft their products in a manner that genuinely reflects consumer preferences.

Third, regulators may require disclosure in order to promote fairness and transparency. The goal here is not to alter or inform consumer decision-making. Rather, it is fundamentally to provide consumers with a procedural right to inform themselves. This right may be valuable not because consumers frequently take advantage of it. Rather, its value lies primarily in promoting trust in the marketplace by assuring consumers that they have the capacity to become informed if they are so inclined. Understanding the purpose or purposes of disclosure is crucial, as this purpose impacts the form that the disclosure ought to take. Broadly construed, there are two basic types of disclosure: summary disclosure and full disclosure. Summary disclosure is “often required at the point of purchase” and “highlight(s) the most relevant information in order to increase the likelihood that people will see it, understand it, and act in accordance with what they have learned” (Sunstein, 2010). Summary disclosure is generally aimed at either promoting product understanding or enhancing comparison-shopping. Because summary disclosure is intended to directly inform consumers by providing only the most relevant information, it presents numerous design challenges for regulators.

Full disclosure, by contrast, provides all relevant information, often including underlying data. Although full disclosure is not generally an effective strategy for promoting product understanding, it can be quite important to promote effective comparison-shopping. The reason is that full disclosure allows market intermediaries, such as consumer-oriented magazines, to offer advice to consumers about competing companies. It also may facilitate the capacity of a small minority of engaged consumers to make decisions that reflect full information, which can have positive effects on uninformed consumers (Schwartz and Wilde, 1979).

Finally, through the above two mechanisms, full disclosure helps to ensure that firms’ reputations are more accurate. Full disclosure also can be an effective strategy to promote fairness and transparency, so long as consumers enjoy a realistic capacity to access this information.

Unlike summary disclosure, however, designing a system to provide full disclosure can be relatively straightforward, depending on the underlying context. Most important, there is no need for regulators to make decisions about which information to prioritize, as all information is disclosed. Additionally, while the usability of a full-disclosure system is important, greater sophistication can typically be expected of the audience for full disclosures. For these reasons, the balance of this article focuses on the design of summary disclosures.

**The Effectiveness of Mandatory Summary Disclosure as a Regulatory Tool**

Mandatory summary disclosure is not an effective response to every market problem. In fact, mandated disclosure has often proven ineffective in responding to a variety of market

(Continued on page 28)
problems (Ben Shahar and Schneider, 2011). Moreover, the effectiveness of mandatory disclosure could well depend on the existence of complementary regulatory tools that are simultaneously deployed. For instance, mandating disclosure of pre-specified contract terms may be ineffective on its own, but quite effective if such disclosure were coupled with regulatory rules mandating the use of a limited number of specific policy forms.

Two basic conditions should be met in order for summary mandatory disclosure to constitute an effective regulatory strategy. First, consumers must systematically make suboptimal choices because they lack relevant information (Weil, Fung, Graham and Fogotta, 2006). There are a variety of reasons other than deficits in information that consumers may make decisions that raise regulatory concerns. In some cases, for instance, consumers may make problematic decisions because the benefits or costs of their decisions are felt largely by others (externalities). Thus, some consumers may fail to purchase automobile insurance because the cost of that failure is primarily borne by potential accident victims.

Alternatively, research increasingly demonstrates that consumers often systematically make certain types of mistakes because of cognitive heuristics and biases. These mistakes can relate to product attributes, such as the coverage that an insurance product provides, as well as use patterns, such as how often the consumer will make a claim (Bar-Gill and Ferarri, 2010). In certain instances, these heuristics and biases can be manipulated by market actors to exacerbate the likelihood of consumer mistakes or magnify the consequences of those mistakes. To take one common example, there is good evidence that consumers suffer from behavioral biases that lead them to purchase policies with deductibles that are too low (Kunreuther and Pauly, 2005). When consumer behavior is the result of either externalities or cognitive biases, information disclosure on its own will rarely be an effective remedy.

Second, it must be the case that, with the information that is provided in a disclosure, consumers would have the will and capacity to change their behavior. In some cases, the underlying product or market context may make effective disclosure that actually impacts consumer behavior practically impossible, irrespective of the amount of care and effort that is put into crafting such disclosures. This may be most likely when the relevant information is sufficiently complex that it cannot be boiled down to a basic metric, piece of information or recommendation. It also may be particularly likely when the required timing of any disclosure means that it will be provided to the consumer at the same time as numerous other disclosures or after the consumer has made the psychological commitment to the purchase. Alternatively, disclosures may be less effective if they are provided and/or explained by individuals who have financial incentives to undermine the essential message of that disclosure.

Effective disclosure may also prove impossible when consumers lack basic knowledge of the insurance product about which information is being disclosed. In such cases, consumers may be unable to meaningfully use the disclosed information. For example, disclosing that wellness visits are not subject to a deductible may mean little to a consumer who does not know what either a wellness visit or a deductible is. Although this problem may be overcome where consumers can be provided basic consumer education as a component of or a companion to disclosure, in many cases, such consumer education may not be practical, thus rendering disclosure an inappropriate regulatory tool.

If relevant information will improve consumer decisions, and consumers have the will and capacity to change their behavior, then information disclosure may be an appropriate response. However, such disclosures must be carefully designed to inform decisions, rather than constituting mere technical requirements. As Cass Sunstein, the former head of the federal Office of Information and Regulatory Affairs, explained in a June 18, 2010, memo for the heads of executive departments and agencies: “There is a difference between making a merely technical disclosure—that is, making information available somewhere and in some form, regardless of its usefulness—and actually informing choices. Well-designed disclosure policies are preceded by a careful analysis of their likely effects.” Susan Kleimann, a consumer communications expert, said in an interview, “Disclosure is most appropriate when data can be changed into information and then into knowledge and then consumers can do something with that—make an informed decision.”

In sum, the following threshold questions should be answered to determine if disclosure is an appropriate consumer-protection response to address a market issue. In assessing these questions, regulators should remember that mandatory disclosure can, and often should, be used in conjunction with other regulatory tools, such as product standardization, regulatory review, consumer education and minimum product requirements.

• What is the underlying market problem generating the need for a regulatory response? Is this market problem driven by consumers’ lack of information, or instead by...
CONSUMER VIEWPOINTS ON EFFECTIVE DISCLOSURES (CONTINUED)

externalities or cognitive biases? If it is driven by multiple causes, to what extent can disclosure be coupled with other regulatory techniques more appropriate to alternative causes of the problem?

- Can consumers reasonably be expected to make better decisions with the information? What structural impediments are likely to affect consumers’ capacity to digest information, and to what extent are those impediments capable of being counteracted through a regulatory mechanism?
- When do insurance consumers need the information to be disclosed? Can the information be delivered to consumers at that time? To what extent will disclosure be provided by an individual or entity whose financial interests are potentially undermined by the disclosure?
- In what form should the information be delivered? Can the information be delivered to consumers in that way?
- Do consumers have sufficient experience with the product to use the information? If not, would an educational product (in addition to the information disclosure) improve consumers’ use of the information to achieve the stated purpose of the disclosure?
- Can additional regulatory strategies be effectively combined with mandatory disclosure? Would any of these supplemental approaches address some of the drawbacks or limitations of mandatory disclosure?

Specific Recommendations for Designing Disclosures in Insurance

Insurance regulators who are considering consumer disclosure as a regulatory response can think of the process as having eight steps. Consumer advocates recommend that regulators follow these steps when developing consumer disclosures:

1. Confirm that disclosure is the appropriate regulatory response.
2. Identify the purpose and expected outcome(s) of the disclosure.
3. Identify the content of the disclosure.
4. Determine whether the disclosure is to be drafted by the regulator or will be drafted by insurers pursuant to specified guidelines and criteria.
5. Ensure the readability of the disclosure.
6. Design the disclosure or, for disclosures to be provided by insurers, provide guidelines and criteria by which to evaluate the design.
7. Determine when and how the disclosure should be delivered for maximum effectiveness.
8. Determine whether testing of the disclosure with consumers is useful.  

Further explanations of the recommended steps in developing consumer disclosures follow:

1. Confirm that disclosure is the appropriate regulatory response.

Considerations to determine whether a disclosure is an appropriate response:

- What is the regulatory issue?
- Will the disclosure help the consumer make better decisions?
- Do consumers have sufficient experience with the product to use the information? If not, would educational material—such as a brochure or pamphlet (in addition to, or in lieu of, the information disclosure)—improve consumers’ use of the information to achieve the stated purpose of the disclosure?

2. Identify the purpose and expected outcome(s) of the disclosure.

After determining that disclosure is indeed an appropriate regulatory approach, the next step in developing the disclosure should be to identify the purpose of the disclosure. Regulators should carefully consider and specifically articulate what consumer decisions the disclosure is intended to impact. A best practice would be for regulators to be as specific as possible in describing the goals of a disclosure.

3. Identify the content of the disclosure.

The most crucial issue in designing any summary disclosure is determining what information should be provided in that disclosure. As a rule, it is more difficult to provide effective consumer disclosure for complex products or when the information to be disclosed is more complex. Decisions about content are specific to individual disclosures; however, the following key principles should shape this determination.

First, the purpose of the disclosure, as identified in recommendation #2, should be a guiding force in deciding on the content of the disclosure. All content should be scrutinized to assess the extent to which it advances this goal.

Second, regulators must always bear in mind that there is a natural limit to the amount of information that can be effectively provided to consumers. If disclosures include more

(Continued on page 30)

7 See Perry and Blumenthal (2012) and Kozup, Taylor, Capella and Kees (2012) for a discussion of testing the effectiveness of disclosures.
than a few pieces of information, those disclosures typically will be ineffective. It is important to remember that disclosures are only effective when consumers understand what they mean.

4. Determine whether the disclosure is to be drafted by the regulator or will be drafted by insurers pursuant to specified guidelines and criteria.

When establishing the information to be disclosed, regulators must also determine how it is to be stated, providing the precise language. Or, they may specify the content to be communicated, leaving the precise language up to the insurers. Writing the disclosure obviously puts an additional burden on the regulator. However, in the long run it has two advantages:

- It creates consistency across companies, which facilitates comparison shopping among consumers by allowing them to easily assess the differences among competing products.
- It eliminates any unnecessary enforcement responsibility on regulators who would otherwise have to determine whether the disclosure actually communicated the required information.

5. Ensure the readability of the disclosure.

True readability requires disclosures using plain language that is designed to facilitate consumer understanding. Guidelines for writing plain-language documents are available at the www.PlainLanguage.gov. A typical checklist includes most of the items identified below:

- Avoid jargon, technical language, or extraneous information.
- Require an action (signature initials/checklist).
- Do not repeat information.
- Provide examples.
- Use short sentences.
- Provide a way to get more information online, by phone and/or in person.
- Include a glossary.
- Make the information as specific as possible to the individual consumer; if that is not feasible, make it specific to the product and/or the decision being made.
- Write for the average reader, which requires knowing the intended audience for the disclosure.
- Use “you” and other pronouns that the reader can identify with.
- Use active voice.
- Omit excess words. Use concrete, familiar words.
- Use “must” to express requirements; avoid the ambiguous “shall.”

The words in a document are not the only factor that determines how readable that document is. The organization of a document has an equal or greater influence. In organizing a disclosure, regulators should:

- Use a title that communicates the value to the consumer of reading the disclosure and headings that help consumers find the information they need.
- Put the most important information near the beginning (i.e., the purpose, action required).
- Break information into sections.
- Consider using a question and answer format.
- Make the disclosure as short and concise as possible.

6. Design the disclosure or, for disclosures to be provided by insurers, provide guidelines and criteria by which to evaluate the design.

The design of a disclosure influences its usefulness to consumers. Even consumers who are capable of understanding a complex document will often not devote the time and energy to do so, unless it is in a format that is easy to read. Some design suggestions include:

- Use a format that looks readable (bullet-point items, charts, lists). Lines longer than 65 characters are difficult to read.
- Do not justify the right-hand margin or use all capital letters.
- Use vertical (rather than horizontal) lists.
- Use color and highlighting to emphasize important points and to signal section changes.
- Use a larger font.
- Make the disclosure look important (put it on different color or type of paper; present it separately from other paperwork).
- Highlight any action suggested or required.
- Do not use small sheets of paper (which require small font).
- Make the disclosure as short and concise as possible.

7. Determine when and how the disclosure should be delivered for maximum effectiveness.

(Continued on page 31)
8. Determine whether testing of the disclosure with consumers is useful.

Consumer testing of proposed disclosures can assist regulators in evaluating the effectiveness of the disclosures. Consumer testing could be considered a “best practice” in crafting disclosures, but the necessity of utilizing consumer testing must be balanced against the costs, potential delay and efficacy of conducting such evaluation. Consequently, regulators should consider whether resources are available when determining whether testing should be conducted.

Consumer testing can range from informal distribution of a proposed disclosure for comment and suggestion up to engaging professionals to test prototype disclosures. This range includes, but is not limited to:

- Presentation of the proposed disclosure to a consumer group, such as a consumer insurance council, for review, comment and suggestions as to effectiveness and clarity.
- Use of structured focus groups of a small number of individuals using open-ended questions to collect information across a spectrum of potential users of the disclosure.
- Cognitive interviewing of a small number of consumers to explore how consumers make sense of the information within a document. Cognitive interviewing is a one-to-one technique that allows the interviewer to explore individual responses to capture the consumer’s thinking process and understanding.
- Online testing may be conducted by asking consumers to choose between various formats, such as mapping how consumers “click through” parts of a disclosure (i.e., a “heat map” that displays graphically which areas were clicked on most).

More complex disclosures may benefit from consumer testing to ensure they are understandable and effective, but consumer testing may not be necessary for more simple disclosures. Regulators must balance the need for consumer testing against the costs and complexity of conducting such testing. If it is determined to be appropriate to do consumer testing, regulators should choose a testing procedure which will produce the highest effectiveness for the resources expended.

**SUMMARY**

The development and implementation of effective disclosures is an important issue for insurance regulators and the consumers they serve. The authors hope this article provides useful guidance regarding consumer disclosures. Regulators should keep in mind the complexity of insurance information and, therefore, when developing disclosures, seek to communicate in ways that will increase consumer understanding.

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