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White Paper Catastrophe Risk Management for the U.S. Economy

Background

There are several watershed events in recent years that captured the nation's attention. In 1989 Hurricane Hugo caused \$_____ million in insured losses to South Carolina. In 1992 Hurricanes Andrew and Iniki devastated Florida and Hawaii resulting in \$_____ and \$_____ in insured losses respectively. In 1993 foreign terrorists attacked New York's World Trade Center causing \$_____ in insured losses. In 1995 domestic terrorists Timothy McVeigh and Terry Nichols brought fear to the nation with the bombing of the Alfred P. Murrah Federal Building in Oklahoma City. Losses were estimated at \$_____. In 2001 foreign terrorists again attacked the World Trade Center using passenger airplanes as weapons causing \$_____ in insured losses. A passenger airplane was crashed in Pennsylvania as part of the same attack, causing additional loss of \$_____. Also on the same day, terrorists used a passenger airplane to attack the Pentagon. The federal government's cost for repairing the Pentagon from the attack was \$_____. In 2004, four major hurricanes made landfall in Florida and other gulf coast states causing \$_____ in insured losses.

All of this devastation has been handled to date either by the insurance industry or by the federal government in the case of the Alfred P. Murrah Federal Building and the Pentagon. However, these catastrophic losses have caused insurers and public policymakers to ask, "What comes next?" Insurers and their regulators wonder if the industry has the capacity to deal with the next catastrophe.

Mega Catastrophe

What is a mega catastrophe? While there are many ways to define what constitutes a mega catastrophe; for purposes of the white paper it is an insured catastrophic event of a magnitude that it would affect the ability of the U. S. insurance industry to carry on its everyday activities. A mega catastrophe would impair an insurers ability to serve its policyholders in managing their ordinary business and personal risk transfers. Recognizing that this definition is imprecise, we could also define a mega catastrophe as one that exceeds _____% of the capitol and surplus held by insurers.

The occurrence of a mega catastrophe, regardless of the event that caused the loss, would place a considerable strain on the U.S. economy. When an economic loss reaches a mega catastrophe status it is a matter of national significance and one that calls for a public response rather than reliance on the private sector. Whether the federal government chooses to recognize the issue or not, the occurrence of a mega catastrophe will present a national problem that it will be forced to address.

Risk Management and Catastrophes

American businesses and families are challenged to manage a wide variety of risks. Insurance is available to businesses and families to help them manage many of the risks that are too large for them to retain and fund using current assets. Examples of this are auto, homeowners and life insurance for families. Businesses purchase a variety of commercial insurance products to cover their risk of loss for real and business property, negligence of principals or employees, and work related injury, illness or death. In addition, businesses often use insurance to fund a variety of employee benefits including life and health insurance on employees and their dependents.

Insurers are very good at pricing and managing the many risks that they assume. However, insurers have more difficulty in pricing risks that present a catastrophic risk of loss than they are for those that occur at a predictable frequency and severity of loss. In actuarial terms, insurers find that predictable claims frequency and independence of each exposure to the risk of loss leads to predictable rates. Catastrophic events occur infrequently and generally involve more than one policyholder experiencing a loss from the same event. They are simply more difficult for insurers to manage than are their more mundane counterparts. It is possible that some catastrophes will be so large as to exceed insurers ability to deal with them at all.

The American Academy of Actuaries has a Catastrophic Management Work Group that has published a monograph that describes insurer catastrophe management practices.¹ This monograph describes how insurers identify their catastrophe risk appetite, measure their catastrophic exposure, price catastrophe risk, control exposures and evaluate whether they have the ability to fund catastrophe losses. Those interested in greater detail regarding this process are encouraged to read the monograph.

While insurers do not like catastrophes and would prefer to insure more predictable events, American business and families demand that catastrophic coverage be provided. Insurers are happy to oblige, however, they recognize that there are practical limitations to the amount of catastrophe coverage that they are able to provide. They also realize that it is possible that catastrophic events could occur that will result in the insolvency of many insurers.

Certain Perils are Uninsurable

There are several perils that the private sector refuses to insure under most circumstances. Included on the list of uninsurable perils are some that have federal programs to address them, such as flood, crop,² certain aviation risks and nuclear energy. There are other perils that are not generally covered by private insurers and not covered by federal programs. On that list are terrorist acts that result in release of nuclear, biological or chemical agents, earthquake³ and war. When these perils are excluded from insurance contracts and are not provided for directly by federal programs, the presumption is that businesses and families would be required to manage and fund any losses that occur.

When one of these uninsurable perils strikes, Congress and the President are generally motivated to act by declaring the event to be a disaster and by making available federal grants and low interest loans under the Robert T. Stafford Disaster Relief and

¹ America Academy of Actuaries, June 2001, Insurance Industry Catastrophic Management Practices

² Crop could be privately insured, however, the Federal Crop Insurance Program is heavily subsidized making it impossible for the private sector to compete with it.

³ Earthquake is required to be offered in California and is offered in other states for an additional premium charge.

Emergency Assistance Act. Thus, taxpayers are asked to provide funds for these events on an “as needed” basis. Since these events are of unpredictable frequency and magnitude, it is difficult to budget for them effectively.

A New Way to Handle Catastrophic Risk

Insurers are very good at handling high frequency, low severity events. They are also effective at handling catastrophes (low frequency, high severity events). However, there are limits to their ability to do so. Only government is able to handle a mega catastrophe. However, the federal government does not have the infrastructure in place to deliver the benefits needed to those in need. Fortunately, the insurers do have the infrastructure in place that the government lacks.

It seems logical that an agreement can be crafted so that insurers can access the unlimited capacity of the federal government when it is needed and that the federal government can access the insurer’s infrastructure for benefit delivery when it is needed. Generally these two conditions will be met at the same time.

This calls for a new paradigm to address the catastrophe risk in this country. This new way of thinking will rely on the private sector to deal with the public and to provide the infrastructure for contract sale and delivery and to settle claims made for benefits. The federal government will be involved in providing funding only for mega catastrophes and will do so through a mechanism that is pre-funded by the public through a modest premium surcharge on any policy that covers a peril that could potentially cause a mega catastrophe. The remainder of this white paper will describe how the federal mega catastrophe program will work and how the federal government and state governments can encourage the private sector to manage the risk of loss beneath the mega catastrophe ceiling.

The Mega Catastrophe Reinsurance Mechanism

A private/public reinsurance risk pooling mechanism will be established to pre-fund for a mega catastrophe event. The Mega Catastrophe Reinsurance Fund (the fund) will be established as a non-profit risk pooling mechanism by Congress and authorized by federal law to provide reinsurance for mega catastrophes to all eligible insurers. It will be funded by a ____% surcharge on all eligible premiums until such time as the fund has grown to \$____. At that time the fund would discontinue the collection of the premium surcharge until a mega catastrophe loss causes the fund to drop below \$____.

The fund would need to be able to access the U.S. Treasury in case a mega catastrophe exceeded the amount collected by the fund prior to the loss or if the mega catastrophe exceeded fund limits. The amount expended could be repaid through an additional policy surcharge not to exceed ____% per year until the Treasury has been reimbursed.

The fund would need to have a manager and a small staff that would manage the day to day activities of the fund. It would be governed by a board comprised of representatives of the insurance industry, state insurance regulators, the U.S. Treasury and the public at large.

The Role of the Private Sector

The insurance industry would be involved in the development of pricing, sale and servicing of insurance contracts in the same fashion as they do today. However, as a condition for participating in the fund, the insurer would be required to include most perils that could cause a mega catastrophe in their policies with limits, terms and conditions that are the same as they offer for other non-catastrophe perils. The only perils that could be excluded from property policies are flood; war; nuclear, biological and chemical risks. None of these perils could be excluded in workers' compensation policies. Only war could be excluded from group life insurance policies.

Insurers writing property insurance, including business interruption coverage, workers' compensation and group life insurance would be eligible for participation in the fund. The premium surcharge would be based on eligible direct written premiums for both personal and commercial property insurance, workers' compensation and group life.

Insurers would be encouraged to manage their risk of loss for catastrophes under the mega catastrophe layer through a variety of traditional risk management techniques and the introduction of a tax-deferred catastrophe reserve that would encourage insurers to pre-fund at least part of their layer of risk. The amount of an insurer's catastrophe reserve and their access to it must be controlled by specific laws and accounting guidance. Congress would need to change Internal Revenue Service (IRS) laws to provide for the tax-deferred build up of funds by the insurer.

In addition to the tax-deferred catastrophe reserve, insurance regulators would monitor an insurers management of its catastrophe risk. Insurers would be able to use reinsurance, access to capital market products and other traditional risk management techniques to help them manage their risk of loss.

Conclusion

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