

**DEPARTMENT OF THE TREASURY
FEDERAL INSURANCE OFFICE (FIO)
FEDERAL ADVISORY COMMITTEE ON INSURANCE (FACI)**

MINUTES – 18 SEPTEMBER 2018

The Federal Advisory Committee on Insurance (FACI) convened at 2:30 pm on 18 September 2018 in the Cash Room at the US Department of the Treasury, 1500 Pennsylvania Ave. NW, Washington, D.C., with Kurt Bock, Designated Chair, presiding.

In accordance with the provision of the Federal Advisory Committee Act, the meeting was open to the public.

COMMITTEE MEMBERS PRESENT:

KURT BOCK, Chief Executive Officer, COUNTRY Financial, Designated Chair
AMY BACH, Executive Director, United Policyholders
BIRNY BIRNBAUM, Executive Director, Center for Economic Justice
QUINCY BRANCH, Chief Executive Officer, Branch Benefits Consultants
ELIZABETH FLETCHER BROWN, Associate Professor, University of Wisconsin-La Crosse
JOHN FRANCHINI, Superintendent, New Mexico Office of Superintendent of Insurance*
MARK GRIER, Vice Chairman, Prudential
GEORGE KEISER, Representative, North Dakota House of Representatives
JAMES KELLEHER, Executive Vice President & Chief Legal Officer, Liberty Mutual
THEODORE MATHAS, Chairman, President and Chief Executive Officer, New York Life (by proxy, JULIE HERWIG)
SEAN MCGOVERN, Chief Compliance Officer, XL Catlin
SID SANKARAN, Executive Vice President and Chief Financial Officer, AIG
CHRISTOPHER SWIFT, Chairman and CEO, The Hartford (by proxy, KATHLEEN MELLODY)
MARK THRESHER, Executive Vice President and Chief Financial Officer, Nationwide*
MARIA VULLO, Superintendent, New York Department of Financial Services

*Present via teleconference

ALSO PRESENT:

STEVE DREYER, Director, Federal Insurance Office
LINDSEY BALDWIN, Federal Insurance Office (Designated Federal Officer)
STEPHANIE SCHMELZ, Federal Insurance Office (Alternate Designated Federal Officer)
KIPP KRANBUHL, Acting Assistant Secretary, Financial Institutions, Treasury
TYLER WILLIAMS, Deputy Assistant Secretary, Financial Institutions Policy, Treasury
RICHARD IFFT, Federal Insurance Office
JOHN SEO, Co-Founder and Managing Principal, Fermat Capital Management
JOHN TEDESCHI, Executive Vice President, Guy Carpenter

WELCOME AND INTRODUCTION:

Director Dreyer welcomed members of the Committee and attendees, and provided a brief background. He spent 27 years with S&P ratings; of these, 16 were spent working in insurance, and 6 were spent heading the North American insurance practice (2000-2006). After this, Director Dreyer worked with infrastructure, utilities, and power sector credit analysis. His final role involved serving as a liaison with bond investors, which brought him back into the field of insurance.

Director Dreyer announced that Committee Chairman Dan Glaser was unable to attend the meeting due to a last minute conflict, and Kurt Bock would chair the meeting on behalf of Chairman Glaser. Director Dreyer added that this was also Mr. Bock's last FACI meeting, as he is retiring.

Mr. Bock thanked Director Dreyer and FIO for their work in setting up the FACI meeting, and their work on meaningful matters to the insurance industry. Mr. Bock also thanked the staff at Marsh for helping to prepare the FACI meeting.

Mr. Bock welcomed new members to the Committee: Sid Sankaran of AIG; Mark Thresher of Nationwide; and Texas Insurance Commissioner Kent Sullivan.

Mr. Bock noted that there will continue to be many critical issues facing the insurance industry, and stakeholders are at their best when they come together to anticipate, analyze, and assess their biggest challenges and structures. Mr. Bock added that the FACI continues to be a forum in which ideas and critical issues can be discussed and debated, and the diversity of views represented on the Committee helps FIO fulfil its mandate and inform its way forward.

Mr. Bock announced that the meeting would begin with an update on FIO's recent activities.

Update on Federal Insurance Office Activities

Director Dreyer announced that the Committee held an administrative meeting prior to the public meeting, and provided a general review of the matters discussed in the administrative session. The Committee bylaws will be revised to conform with the FACI charter, which permits the appointment of up to 25 Committee members. The Committee also discussed meeting frequency, meeting format, and the nature of the Committee's discussions. There was strong member consensus that FACI meetings should be interactive, engaging, and tightly aligned with FIO's priorities.

Director Dreyer emphasized that the purpose of FACI is to provide non-binding advice and recommendations to FIO, and to that end, provided an overview of FIO's current priorities. FIO was created by Dodd-Frank, and has been in existence for 8 years, but its role was refined with last year's publication of Treasury's Executive Order report on asset management and insurance.

In that report, FIO's role and mission is defined by five pillars. Director Dreyer outlined these pillars: 1) to promote the U.S. state-based regulatory system and advocate for the U.S. insurance sector in international forums; 2) to provide insurance policy expertise and advice to the federal government, state regulators, and industry; and to serve as an evaluator or contributor to evaluations of federal programs that deal with insurance; 3) to provide coordinated and collaborative leadership on insurance issues and engage the federal government and state regulators; 4) to protect the U.S. financial system and the economy by advising the Treasury Secretary and the Financial Stability Oversight Council on insurance-related matters that may pose a threat to U.S. financial stability; and 5) to protect America's financial security by promoting access to insurance products and administering the Terrorism Risk Insurance Program. Director Dreyer noted that the fourth and fifth pillars are two sides of the same coin: the industry as a threat to financial stability versus insurance products as a solution to financial system and economic challenges.

Director Dreyer highlighted a selection of the report's 31 recommendations related to insurance that he considers to be among FIO's top priorities:

- International capital standards – International capital standards need to be developed in a way that accommodates the U.S. system.
- Retirement savings and long-term care – FIO has created an interagency task force on long-term care, which is co-led by Treasury, Health and Human Services, Labor, and the Internal Revenue Service. The aim of this task force is to evaluate solutions that have been proposed externally and determine what the government can do to facilitate handling long-term challenges. The task force has met three times (most recently on September 17, 2018), and has evaluated 10 published recommendations from the National Association of Insurance Commissioners (NAIC) to identify implications for tax policy and other regulatory matters.
- Activities-based approach – Supporting the activities-based approach (or holistic approach) to systemic risk in the insurance industry (rather than the entity-based approach) is a priority for FIO.
- Infrastructure – Insurance has a key relationship with infrastructure as an investor in long-term assets that support infrastructure development as well as a protector of infrastructure projects.
- Cyber risk – FOCI has engaged on this topic in the past, and FIO expects that it will continue to do so going forward.
- National Association of Registered Agents and Brokers – Director Dreyer emphasized the importance of fulfilling the promise to create a Board for this group.
- Terrorism Risk Insurance Act (TRIA) – TRIA will expire at the end of 2020, and FIO is starting to think about the reauthorization.

Director Dreyer asked Mr. Ifft to provide more information about FIO's recent work on TRIA and the Terrorism Risk Insurance Program (TRIP).

Update on Terrorism Risk Insurance Program

Mr. Ifft announced that FIO released a bi-annual report on June 29, 2018 on the effectiveness of TRIP. This report was required to be submitted to Congress no later than June 30, 2018, pursuant to the Terrorism Risk Insurance Program Reauthorization Act (2015 Reauthorization Act). Mr. Ifft outlined the subjects addressed in the report, as required by statute: 1) an analysis of the overall effectiveness of the program; 2) an evaluation of any changes or trends in the data collected by the Secretary; 3) an evaluation of whether any aspects of the program have the effect of discouraging or impeding insurers from providing commercial property and casualty insurance coverage, or coverage specifically for acts of terrorism; 4) an evaluation of the impact to the program on worker's compensation insurers; and 5) and estimate of the total amount of premiums earned on terrorism risk insurance since January 1, 2003. The report relied on data received in the 2017 and 2018 TRIP data calls to address these statutory considerations.

Mr. Ifft explained that the 2015 Reauthorization Act also requires Treasury to collect data related to the report on an annual basis. To date, Treasury has conducted three data calls: a voluntary call in 2016 seeking calendar year 2015 data, and mandatory calls in 2017 and in 2018 requesting, respectively, the production of 2016 and 2017 data.

Mr. Ifft noted that the 2017 Executive Order report on asset management and insurance recommended that FIO coordinate with state insurance coordinators and the NAIC to reduce data reporting inconsistencies, and if possible, to conduct a single data call that could reduce unnecessary compliance costs on industry. FIO was able to conduct a joint data call per the recommendations through significant engagement with state regulators, the NAIC, and industry stakeholders, and participating insurers were able to submit, for the most part, a single data set to Treasury (through a site operated by Insurance Services Office) and state regulators (through a portal operated by the New York Department of Financial Services). Mr. Ifft stated that this approach worked well, and Treasury is currently working with state regulators and the NAIC to further improve and streamline the process for future data calls. He added that this approach has reduced burdens on the industry, according to comments from stakeholders and interaction with reporting insurers.

Mr. Ifft highlighted conclusions from the 2018 effectiveness report:

- The Program has generally has been effective in making terrorism risk insurance available and affordable in the insurance marketplace.
- During the time the program has been in effect, private reinsurance capacity for terrorism risk that is not backstopped by the program has increased substantially, although, that increase has not been observed in connection with nuclear, biological, chemical, or radiological risks.
- The 2016 and 2017 data collected by Treasury indicates that the market for terrorism and risk insurance has been relatively stable over this two-year period, with few observable differences in the relevant benchmarks such as price and take-up rate.

- Treasury has not observed any aspects of the program, either based upon the collected data or the operation of the program generally that have had the effect of discouraging or impeding insurers for providing property and casualty insurance in general or coverage for acts of terrorism specifically.
- The program continues to serve as an important backstop to workers' compensation insurance, given that under state law, workers' compensation insurance must cover terrorism risk, must not be subject to limits of liability, and cannot exclude causes of loss posing extreme aggregation risk such as nuclear, biological, chemical, and radiological exposures.
- Treasury's estimate of total earned premiums for terrorism risk insurance, from 2003 to 2017 inclusive, is approximately \$37.6 billion (not including captive insurers). This estimate was based on: information collected by A.M. Best from 2004 to 2016; data reported to Treasury for 2016 and 2017; and estimates from a portion of the market for the entire period from 2003 to 2016. This estimate is between one and two percent of total premiums earned in the lines of insurance subject to the program.

Mr. Ifft noted that methodology and further detail about these topics can be found in the report, which is available on FIO's website. He stated that next year, FIO will produce its second report on the competitiveness of small insurers in the terrorism risk insurance marketplace (the first was issued in 2017), and in 2020, FIO will issue another report on the effectiveness of the program, utilizing four years of data for analysis.

Director Dreyer added that FIO's annual report on the insurance industry is scheduled for publication on September 30, and will cover information on TRIP as well as some of the priorities discussed by Director Dreyer earlier in the meeting.

Public Sector Risk and Risk Transfer

Mr. Bock introduced the next meeting segment, focusing on the risk and opportunities to effectively manage risk held on the federal government's balance sheet. He highlighted a recent whitepaper from a former Treasury official (Greg Wilson) which found that de-risking the federal government's balance sheet protects taxpayers from future losses, reduces systemic risk, and allows federal agencies to meet their statutory objectives more efficiently. The whitepaper found that transferring public risk to the private sector through the purchase of reinsurance and insurance-linked securities allows better positioning for risk to be managed and absorbed through a well-founded risk management strategy that will also protect taxpayers from real-world catastrophic losses.

Mr. Bock stated that managing risk in the private sector protects important government programs and reduces the disaster burden on taxpayers by diversifying risk products. He highlighted FEMA's first reinsurance purchase in 2016 for \$1 million in coverage for the National Flood Insurance Program (NFIP) as a precedent and proof of effectiveness for risk transfer programs.

He added that NFIP has transitioned to multi-year reinsurance and purchased \$1.46 billion of reinsurance in 2018. Mr. Bock also noted the July 2018 launch of FEMA's first catastrophic bond-to-transfer risk from the NFIP to the capital markets for \$500 million.

Mr. Bock introduced presenters John Tedeschi and John Seo. John Tedeschi is the Executive Vice President of Guy Carpenter. Since joining Guy Carpenter in 1994, Mr. Tedeschi has been instrumental in expanding Guy Carpenter's analytical platform. His current role is overseeing Guy Carpenter's analytical efforts with complex clients such as Fannie Mae, Freddie Mac, international insurance programs, and other state and Federal entities.

John Seo is Co-Founder and Managing Director of Fermat Capital, Mr. Seo has 26 years of experience in fixed income foreign exchange options and interest rate derivatives structuring and trading. Prior to creating Fermat Capital in 2001, he was the Head Insurance Risk Transfer Trader at Lehman Brothers, an officer of Lehman Re Ltd., and the state-appointed advisor to the Florida Hurricane Catastrophe Fund. Mr. Seo has testified as an expert witness on alternative-risk transfer markets before Congress and in 2015 was appointed to Treasury's Advisory Committee on Risk-Sharing Mechanisms.

Mr. Tedeschi provided an overview of financial gaps at the consumer, local, state, and federal government levels. He noted that although he and Mr. Seo would be discussing the NFIP, Fannie Mae, Freddie Mac, and earthquakes, many risks can cause massive destruction to municipalities, states, and/or the federal government. When financial gaps due to these risks, the financial burden falls initially to individuals, then tends to flow to the federal government. He noted Hurricane Maria in Puerto Rico is an example of where poor financial decisions were made, resulting in the cost of rebuilding falling on taxpayers.

Mr. Tedeschi provided case studies to highlight ways to minimize financial gaps. In the case of Hurricane Florence (which was occurring at the time of the meeting), observers anticipated that it would be a relatively small event where losses could easily be absorbed. That said, Florence would still result in typical property damage, displace residents, and impact commercial and industrial facilities and infrastructure. Mr. Tedeschi noted that rebuilding can be costly to when resolving interruptions to lives and businesses, and he highlighted the potential for additional non-traditional losses, such as pollution, which can be very costly to clean up. As an example, he noted that Florence caused coal ash pits to dump contaminants into the water system. Mr. Tedeschi identified additional costs, such as job loss due to displacement, crisis management to minimize the impact of disasters on children, and vaccinations. While these individual factors may not be individually costly, they become significant when scaled up to a major event. Mr. Tedeschi also highlighted longer-term issues that impact economic recovery – such as property foreclosures resulting from unemployment, family disruption, lost tax revenue in local municipalities – which are difficult to resolve.

Mr. Tedeschi also discussed the potential impact on entire industries if a major event occurs, noting that if Mount Rainier erupts or a major earthquake takes in the Pacific Northwest, there are major corporations in Seattle worth trillions of dollars that will be impacted.

Mr. Tedeschi highlighted earthquakes as an area with significant gaps in disaster coverage. In California, less than 10 percent of consumers have earthquake protection. Consumer earthquake insurance coverage is even lower in the Pacific Northwest. He speculated that a large event would need to occur for the federal government to transfer significant risk, noting that the NFIP was put in place as a result of big events.

Mr. Tedeschi reviewed two charts showing the difference between financing recovery after an event with no funding in place and financing recovery where a re/insurance or ILS contract is in place.¹ In the first chart (on the left), is a situation where no funding is in place. First, money from initial donors (e.g., Red Cross, Centers for Disease Control, Army Corps of Engineers, and religious organizations) arrives quickly, but is of small magnitude. This tends to be followed by municipality and state budget re-allocation. If this is insufficient, the government will begin to issue debt and seek tax increases. Rebuilding major infrastructure can be very costly, and local municipalities may look to state-issued bonds after an event, but these bonds can be costly and slow to process. All of these measures take time to inject money into the economy.

However, funding can be put in place before a disaster. The first component of this type of funding comes from a budget that can be immediately used – every state, municipality, and consumer has some level of a budget for this purpose. A reserve fund may also be available which could be used to purchase insurance, reinsurance, cap-ons, and parametric triggers that can bring money into the system very quickly and help with recovery.

Mr. Tedeschi discussed Hurricane Harvey as a case where reinsurance was quickly deployed to help with recovery. Mr. Tedeschi stated that he was part of the team that participated in the NFIP reinsurance purchase, which provided \$1 billion in reinsurance protection in 2017 as part of FEMA's desire to be fiscally responsible while protecting themselves and taxpayers. In 2018, FEMA purchased \$1.4 billion in reinsurance protection, and added \$500 million in the past two months. When Hurricane Harvey paid out to FEMA, the \$1 billion complete loss was paid within 9 days of notice.

Mr. Tedeschi stated that there was debate about FEMA's decision to purchase reinsurance, particularly because it has the authority to borrow from Treasury, which can provide cheap capital. He noted that reinsurance attaches at \$4 billion, so reinsurance would only apply after the NFIP suffers a loss of over this amount.

¹ A copy of Mr. Tedeschi and Mr. Seo's presentation is available on the FOCI website at https://www.treasury.gov/initiatives/fio/Documents/FACIPresentation_September2018.pdf.

Mr. Tedeschi then discussed Fannie Mae and Freddie Mac's efforts to de-risk with respect to mortgages. He stated that during the financial crisis, taxpayers bailed out these government-sponsored entities (GSEs) for \$187 billion. Today improvements in underwriting and tighter regulation have reduced risk, but these GSEs are also purchasing reinsurance and using the capital markets. Mr. Tedeschi cited \$80 billion of risk (out of \$2.8 trillion in mortgages) that has been transferred. 25 percent of this was ceded into the reinsurance market, and the other 75 percent was put into the capital markets. He said that these deals were structured by offering loans that originated in the second quarter of 2017 (145,000 loans representing \$35 billion in balances) to the reinsurance and capital markets. He added that that Fannie Mae and Freddie Mac each conduct anywhere between 6 and 11 similar deals each year (the specific number will vary based on interest rates for consumers, industry movement, and the amount of loans originating in a given quarter). These agreements cover losses resulting from any type of loan defaults, including those that might be associated with a catastrophe. Mr. Tedeschi emphasized that these purchases protect the investors behind the mortgage, but not the consumers.

Mr. Seo discussed the operations of the California Earthquake Authority (CEA), which is wholly-owned by the State of California but run like a privately-funded insurance company. The CEA was established in 1996 and sells earthquake policies through 19 participating insurers. Under 10 percent of California households (about one million total) have earthquake insurance. Measured in a different way, Mr. Seo said the CEA has a 13 percent penetration rate, with a little over half of its \$15 billion in claims-paying capacity provided by the private market, reinsurance, and catastrophe bonds.

Mr. Seo stated that the CEA was an early adopter of catastrophe bonds, and its initial issuance of \$100 million in 2001 has grown to over \$2 billion. He added that this early participation should be credited with leading to the NFIP's market participation.

Mr. Seo stated that the CEA Board of Directors recently projected a modest growth rate that will require CEA to have \$48 billion in claims-paying capacity by the end of next decade. This estimate was made assuming no change in policies and only a modest increase in penetration rate (from 13 percent to 20 percent).

Mr. Seo projected that if CEA's penetration increased to 100 percent (the same assumption used for hurricane risk, because it is considered a side effect of a homeowners policy), the California earthquake market would increase to \$300 billion in risk. When added to Florida's hurricane market, which is projected to have a maximum probable loss of \$225 billion by the end of next decade, Mr. Seo emphasized that this translates into over \$500 billion in risk exposure from these two state markets alone.

Mr. Seo discussed the importance of maintaining insurance to manage these risks. He said the CEA was created after the Northridge Earthquake in 1994, and the Florida Hurricane Catastrophe Fund and Florida Citizens were created in reaction to Hurricane Andrew in 1992.

The CEA's website notes that the homeowners insurance market collapsed as a result of the Northridge Earthquake, which caused the housing market to go into a tailspin. Mr. Seo added that when insurance is not available, a homeowners transaction with a mortgage cannot be closed, and homes can only be sold on an all-cash basis. This has a significantly negative impact on the resale price of homes in the market.

Mr. Seo said that relatively few insured losses occurred from these events, but the events revealed concentration risks in the market, leading to insurer fears of insolvency and the resulting real estate crisis. Mr. Seo stated that risk projections demonstrate that concentration risks still remain in coastal markets, and could result in another financial real estate crisis.

Mr. Seo presented the \$100 trillion capital market as a solution for this pending crisis, (which could easily provide the financial capacity to absorb the largest U.S. single event risks), but noted that it will require the insurance industry to work with all levels of government to expand and scale insurance practices to effectively and efficiently process claims resulting from a major catastrophe.

Mr. Seo closed by recommending the development of a nationwide inventory of fiscal assets in both the private and public sectors, as well as monitoring future risk projections while taking into account growth rates, inflation, and density effects.

Mr. Bock asked Mr. Seo and Mr. Tedeschi whether they believe government entities understand the importance of using pre-catastrophe financing over post-catastrophe funding. Mr. Tedeschi responded that most entities do not want to spend money unless necessary, although they can see that financially responsible areas that plan their funding tend to recover faster and stronger than other areas. Mr. Seo opined that governments are expressing interest, particularly in the international sphere. As an example, he noted that the World Bank bought a bond in 2017 covering Ebola and related pandemic diseases, and although it was difficult to bring this bond into the market, the World Bank had reviewed data showing the multiplier effect (specifically that early spending on an emerging pandemic is worth over \$400 spent only months later). He added that Mexico issued a catastrophe bond about a month before a major earthquake occurred, and received an immediate payout. Mr. Seo said this demonstrates that the message about the possibility of pre-disaster financing at scale is spreading.

Ms. Bach said she is familiar with the CEA, and that the reason their policy count has not increased is due to the size of the policy deductible. She noted that the last sizeable earthquake that occurred (in Napa) involved a payout of under \$1 million, because many deductibles were around \$100,000. CEA was struggled because the high deductible was necessary in order to maintain its financial balance with claims-paying capacity and an affordable product that consumers are willing to purchase. Congress would not issue legislation provided CEA with a loan guarantee, so CEA has become gotten more sophisticated about purchasing reinsurance. She asked Mr. Seo and Mr. Tedeschi whether they believed that the CEA has the right "risk tower" for a public entity, and whether participating insurers have enough at stake, given

reinsurance contributions and the CEA's ability to borrow inexpensively due to its government function.

Mr. Seo said that he believes the CEA's risk profile has the right balance. The entity has approximately \$5.5 billion in equity, and has paid out very little in claims due to its high deductible product (he estimated around \$8 million total since 1997). He generally believes homeowners are willing to take on high deductibles, but they have concerns about financing the deductible when needed. Emerging evidence suggests that homeowners are willing to have this amount added to their mortgage to distribute the cost over time. Accordingly, CEA has the proper risk tower for a situation where policyholders are retaining a significant amount of risk. In these situations, policyholders purchase limited policies to cover total loss scenarios, but are willing to self-finance minor damage. Mr. Seo stated that if the CEA wants to offer fuller coverage on its earthquake policy, the risk tower needs to quadruple, and therefore so does the premium for policyholders (which is not affordable for many).

Mr. Seo acknowledged dissatisfaction with the low penetration rate, but observed that in the past, CEA did not actively market its product. He said this is changing, because CEA is confident that it can scale its private market risk transfer, and advertising alone will increase the penetration rate so that CEA can manage \$48 billion in risk.

Ms. Bach noted that FOCI is examining quasi-public insurance entities that are created when the private market fails, and suggested that the Committee could identify best practices for the federal government and individual states. To that end, she asked whether quasi-public entities are striking the right risk balance in purchasing reinsurance compared to relying on their policyholder base and their own investments. She also asked whether these entities should always apply a layer of borrowing capacity as public entities. Mr. Seo he agreed with this mix of financing. Mr. Tedeschi added that there are different ways to measure an entity's risk, and entities must balance their decisions. Although it is possible that an entity will suffer a greater loss than the one identified in its risk tower, but many complex factors must be considered in establishing both upper and lower boundaries.

Mr. Birnbaum believed the presentation was conflating the issue of increasing penetration with the issue of government programs using private risk transfer, because the CEA is essentially an insurance company and the NFIP is a government agency. Therefore, while risk transfer through reinsurance or the capital markets is standard practice for an insurer like the CEA, the NFIP has the capacity of the federal government (which is greater than any private sector entity). Mr. Birnbaum compared the NFIP to the Terrorism Risk Insurance Program, which does not have a need for capital or surplus relief because it can rely on Treasury for funding. He stated that this is less costly for the NFIP to rely on Treasury than to use reinsurance or capital markets, particularly because these private market solutions will involve payment for expected claim losses plus additional costs for administration, capital, and profit.

Mr. Seo responded that he believes the two issues are connected. He stated that the exposure of the NFIP has grown at a compound annual rate of about 10 percent in the last 30 years. Future growth of the NFIP will make it less effective to use the federal government for funding, because the actuarial schemes for charging premiums assumed static exposure. Therefore, the premium required to self-sustain the NFIP will be higher than the rate sustained through private market transfer.

Mr. Birnbaum responded that there is a distinction between flood insurance, which can operate through the state-based system and private market to sell policies to consumers, and the Terrorism Risk Insurance Act, which was established by the federal government to serve as a large catastrophe reinsurance program, rather than to sell terrorism insurance through the market. Rather than relying on reinsurance purchases (which reinforce an inefficient system), he suggested that NFIP reforms should focus on market privatization (and the private market can then use capital markets and reinsurance transfer mechanisms).

Mr. Seo responded that flood is considered a risk that is too big to insure, and large national insurers are not currently willing to insure in Florida due to concentration risks. He proposed that in order to get the private market interested, it is first necessary for the government to prove that the risk transfer market can be scaled (because many insurers still do not consider it proven that the size of the catastrophe bond market could multiply by ten). Mr. Seo suggested that the NFIP is illustrating that a large, consolidated pool of flood risk can actually be managed through risk transfer, rather than using reinsurance as a patch for the program. If the NFIP is able to successfully demonstrate scalability, he believes that the private market will follow. Government entities, out of necessity, are demonstrating to the private market that the broader insurance linked securities market and the newly structured reinsurance market can be used to handle these large risks.

Mr. Kelleher asked whether there are obvious regulatory constraints that impede the ability of capital markets to take on this risk. Mr. Seo responded that they are extensive, and Mr. Tedeschi agreed, and highlighted as an example the NFIP's inability to trade with Bermuda for its reinsurance program due to the Trade Sanctions Act. He added that there are also regulatory limitations in capital markets, but they have been largely circumvented.

Mr. Seo said regulatory constraints require activities to be performed offshore, which is not possible for public entities. He compared this to the U.S. housing market, which he believes is vibrant because mortgage securities were able to move from bank-only financing to a giant, multi-bond market; and foreign entities are permitted to issue bonds onshore. This is not permitted in the insurance-linked securities market and catastrophe bonds, and the requirement to operate offshore creates an impediment for onshore government entities. He added that even if an entity understands offshore transactions, engaging in them appears improper, and is frequently deemed to be illegal by legal counsel. Through work and political will, CEA was able to engage in offshore transactions, which is part of the reason it has been instrumental in moving forward the insurance-linked securities market. He said, however, to penetrate to local municipalities,

regulations need to be changed to allow onshore catastrophe bonds. Mr. Seo noted that the UK passed legislation within the past three years that allow catastrophe bonds to be issued onshore in a tax-privileged manner. This allows the bonds to be regulated onshore in full view of the regulator, with similar tax treatment to U.S. mortgage-backed securities.

Mr. Bock referred to the recommendations slide of the presentation and asked Mr. Seo and Mr. Tedeschi how to make progress in quantifying risks and measuring impact to assets. Mr. Tedeschi responded that legislation is being proposed at the Federal level to perform an inventory to assess resource availability and identify risks, but it remains to be determined how to do this at the county and municipality level. He emphasized that performing a risk inventory is the first step, because if there is not an accurate estimate of the assets at stake, it is not possible to understand the next steps needed to properly recover.

Mr. Tedeschi highlighted the New York City Metropolitan Transit Authority (MTA) as an example of entities with mass infrastructure and many assets at risk. After Hurricane Sandy flooded tunnels and caused other problems, the MTA purchased \$250 million of catastrophe-linked bonds based on flood levels. Similarly, Amtrak purchased bonds related to wind storms and earthquakes. In order to take this step, it was necessary for both entities to first quantify their risk.

Rep. Keiser referenced Mr. Tedeschi's statement that government entities would lose tax revenue/income following a disaster, but said although this is a common assumption, he has seen that occur in his experience. As an example, he highlighted the flooding of the Red River in North Dakota, which displaced 42 percent of the population and was anticipated to result in a significant reduction in tax income. However, North Dakota saw increased sales tax revenue as a result of mitigation activities such as rezoning and changing building codes. Property values also dramatically increased, and at the end of the flooding period there was a significant increase in income. He said that what will hinder recovery (such as in the case of Hurricane Florence) is getting construction materials to the necessary area and finding contractors to perform the work. He inquired whether there is a difference in the impact on local economies and taxes depending on the type of risk (e.g., flooding, fire, or earthquake).

Mr. Tedeschi responded that the ability to generate revenue from recovery depends on the magnitude and destruction of the specific event. He stated that the areas affected by the Fukushima nuclear plant meltdown (caused by an earthquake and tsunami in Japan) are not generating tax revenue and will not for another 30-40 years. Revenue may be generated from smaller losses, but it depends on the specific place and event, and in some events towns and municipalities will not be able to handle the shift caused by an event. Mr. Tedeschi suggested that revenue increases tend to come from neighboring areas that provide temporary housing and other resources during recovery.

Mr. Tedeschi added that conducting an inventory isn't necessary in every municipality and state, however the most fiscally irresponsible locations should be prioritized, because these locations

already have significant financial problems and are more likely to have funding issues in the event of a disaster (see Puerto Rico for example). Other states and towns that are fiscally responsible may ultimately need to make changes to zoning laws and implement other incentives to retain populations and industry, but they are likely capable of figuring out how to do this.

Mr. Bock thanked Mr. Tedeschi and Mr. Seo for their presentation and discussion.

New Business and Closing Remarks

No new business was presented.

The minutes for the May 2018 meeting were not certified due to Chairman Glaser's absence.

Mr. Bock announced that the 2019 FOCI meeting dates would tentatively be held on February 21, June 11, and September 5.

At 3:57 pm, Mr. Bock concluded the meeting.

I hereby certify these minutes of the September 18, 2018 Federal Advisory Committee on Insurance public meeting are true and correct to the best of my knowledge.



Kurt Bock
Designated Chair