Lessons from an insurer and an academic on the role of insurance in resiliency finance

Resilience Funding Forum     May 3, 2019

Professor Donald T. Hornstein

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*All views expressed are my own and not those of the NCIUA
Climate Change

On the Front Lines

Insurers are working with their clients -- and their own organizations -- to reduce carbon footprints and better manage climate change.

By: Maura Ciccarelli | January 25, 2016 - 8 min read

Topics: Climate Change | Insurance Industry | January 2016 Issue
Let’s go to the Oracle to check your insurance IQ

Nationwide is ____________________?

Like a good neighbor, ______________ is there?
FLOOD EXCLUSION  -- since 1968

**We do not insure** for loss caused directly or indirectly by any of the following.

**Water Damage.**

Water Damage means (a) flood, surface water, waves, tidal water, overflow of a body of water, or spray from any of these, whether or not driven by wind;
Until very recently, the prevailing movement of private insurers re CAT wind was **towards the exits**

- Nationwide drops thousands of coastal policies in Fla, SC, Va, Md
- Allstate drops 320,000 policies in Fla
- In 2008, Farmers threatened to leave NC altogether
- Between 1990-2012, insured value in “residual-risk entities” grew **1,517%**. Policies expanded from 930,000 to 3.2 million policies nationally
Worldwide, relatively weak insurance penetration for CAT losses

World natural catastrophes by overall and insured losses, 1980–2017

Source: © 2018 Munich Re, Geo Risks Research, NatCatSERVICE. As of January 2018.
But some underappreciated innovations in insurance finance and instruments

• Let’s come back to that later, if there’s time

• But for now, back to public/private forms of weather-related insurance – available at the ground level
Coastal Area is served by the Coastal Property Insurance Pool and the FAIR Plan. The FAIR Plan provides Dwelling Fire and Commercial Fire coverage forms.
NCIUA/Coastal Property Insurance Pool
FAIR Plan
MEET THE NCIUA (financially)

NORTH CAROLINA INSURANCE UNDERWRITING ASSOCIATION
2016 RISK FINANCING STRUCTURE

Probability of Non-Return Period
99.13% 115 Year
99.00% 100 Year
98.81% 84 Year
98.47% 65 Year
98.20% 57 Year
97.84% 46 Year
95.50% 23 Year

Catastrophe: Recovery Charge: $326M
4th Layer: 100% of $244M vs $3.176B Annual Aggregate
3rd Layer: 3.439% of $442M vs $1.796B Multi-Year Drop Down Aggregate (Year 2 of 2)
2nd Layer: 100% of $255M vs $2.478B Multi-Year Drop Down Aggregate (Year 1 of 2)
1st Layer: 100% of $374M vs $2.100B Annual Aggregate
Member Company Assessments: $1B
Retained Earnings: $1.100B
15% OF BEACH RISKS (8,084 LOCATIONS)
BRONZE LEVEL – OPTION 1
COST AND SAVINGS

Notes:
Beach Area Only; Single Family Homes Only; Locations (8,084) selected based on reinsurance cost allocation; Assumes 15% of all risks have IBHS status at the same time
15% OF BEACH RISKS (8,084 LOCATIONS)  
BRONZE LEVEL – OPTION 1  
COST AND SAVINGS

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Beach Area Only; Single Family Homes Only; Locations (8,084) selected based on reinsurance cost allocation; Assumes 15% of all risks have IBHS status at the same time.
NCIUA Special Roof Endorsement

SPECIAL ROOF COVERAGE, IBHS FORTIFIED HOME™
BRONZE LEVEL ROOF REPLACEMENT (OPTION TWO),
TERRITORIES 110 & 120 ONLY

INTRODUCTION
FORTIFIED Home™ is an engineering and building standard developed by the Insurance Institute for Business & Home Safety (IBHS) to mitigate wind-related hurricane damage. The program also includes evaluation and inspection requirements to ensure the technical standards are properly implemented, resulting in the designation of a home as meeting the FORTIFIED Home requirements.

COVERAGE
If the amount of a “covered loss” to the roof covering of the dwelling on the “residence premises” shown on the declarations is greater than 50% of the replacement cost value of the entire roof covering and the roof sheathing on the dwelling is (or was immediately prior to the loss) a minimum of 7/16-inch OSB or plywood, then this endorsement may apply at the option of the insured.

When the coverage provided by this endorsement applies and the insured opts to invoke the coverage provided by this endorsement, the Association will pay the costs of the materials and labor, the costs of the initial inspection and assessment, and the costs of the verification inspection(s) necessary to obtain the IBHS designation “FORTIFIED Home™ Hurricane Bronze with new roof cover.” The insured will be responsible for arranging and coordinating the roof replacement work, as well as the inspections, assessments and verifications required by IBHS.

DEFINITIONS
With respect to the coverage provided by this endorsement, “covered loss” means a loss occurring between January 1, 2017 and June 30, 2017 that is caused by a Peril Insured Against named under “SECTION I – PERILS INSURED AGAINST, A. Coverage A – Dwelling And Coverage B – Other Structures” that is not excluded by “SECTION I – EXCLUSIONS” or otherwise excluded by any other provision or condition of this policy.

RETURN PERIOD (YEARS)
Cost And Savings (Millions)

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<th>Expected Loss Savings</th>
<th>Reinsurance Savings</th>
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15% OF BEACH RISKS (8,084 LOCATIONS)
BRONZE LEVEL – OPTION 2
COST AND SAVINGS

Notes:
Beach Area Only; Single Family Homes Only; Locations (8,084) selected based on reinsurance cost allocation; Assumes 15% of all risks have IBHS status at the same time.

HOMEOWNER'S
PF 01 09 11 16

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.
INVITED TO THE WHITE HOUSE FOR AN OMB PRESENTATION – DECEMBER 2016 (OBAMA ADMINISTRATION)
FIRST HOME TO RECEIVE A FORTIFIED BRONZE ROOF
“Just wanted to say thanks again for your quick response and coordination on the roof damage and upgrade. You and your team handled every aspect with true professionalism and made the whole process totally stress free.”
CERTIFICATION

FORTIFIED HOME Bronze

This designates that the residence located at
709 Columbia Ave
Carolina Beach, North Carolina 28428

Has been awarded a
FORTIFIED Home™-Hurricane
designation on: 03/29/2017

NEW ROOF
A program of the Insurance Institute for Business & Home Safety

Fortified ID: FEH28428020170000738
Expires On: 03/31/2022

Fred Malik, FORTIFIED Program Director
Hurricane Florence and the NCIUA “Build-Back-Better” Endorsement

• The NCIUA has paid out over $1 billion in covered losses, the largest pay-out in NCIUA history

• In addition, over 150 other properties took advantage of the 2017/2018 endorsement in the aftermath of Florence – bringing our “wartime” total of super-roofs to 200 properties

• The Endorsement remains in effect for the 2019 storm season
The NCIUA’s new 2019 $10 million grant program on the Outer Banks/Barrier Islands

... launched April 2019. Two weeks old. 600 applications submitted so far.
Strengthen Your Roof Program

NCIUA is offering up to $6,000 in grant funding to install FORTIFIED roofs that will better protect homes during storms.

Check Eligibility and Apply »
STRENGTHEN YOUR HOME ANALYTICS
STRENGTHEN YOUR HOME  BY THE NUMBERS

- Number of visitors to the site – 2,792
- Average session duration – 8:29
- Number of applications started – 623
- Number of applications completed – 434
- Number of applications approved – 326
- Number of applicants that have selected a contractor – 188

Note: Data as of April 23, 2019
FIRST HOME TO RECEIVE GRANT APPROVAL

Emerald Isle
SECOND HOME TO RECEIVE GRANT APPROVAL

Pine Knoll Shores
THIRD HOME TO RECEIVE GRANT APPROVAL

Ocean Isle Beach
Examples of other insurers moving into affirmative mitigation programs

- South Carolina and Alabama DOI wind-roof-retrofit programs
- California Earthquake Authority “brace-and-bolt” grant program
- NFIP CRS programs
- Municipal liability insurers and community/police programs
- Cyber-insurance and data-breach “coaches”/SWAT teams
Second thoughts about the quest for “resilience bonds”

• The importance of not overlooking the role of regular insurance and a municipality’s credit risk/creditworthiness to the municipal debt market

• The importance of not underestimating the importance of public funding for resiliency infrastructure

• The importance of not forgetting about municipal liability for torts and/or takings, not forgetting about the Chicago subrogation scare
Lessons in transaction engineering

• Modeling data is necessary but not sufficient
• Expertise in project design and experience with implementation are each essential for overall success
• Lawyers are both friend and foe
• Resiliency has characteristics of a public good, and comes with risks of strategic gaming by others, shirking, opportunism
• Premium is on transaction engineering, not just engineering