

# Ratemaking 101

... plus Mitigation Rating

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# Rate Analysis

premium vs.  
**EXPECTED**  
Annual Costs



# Basic Ratemaking Formula

$$\begin{aligned} & \text{Average Non-Cat Loss} \\ & + \\ & \text{Average Non-Hurricane Cat Loss} \\ & + \\ & \text{Modeled Hurricane Loss} \\ & + \\ & \text{Reinsurance Cost} \\ & + \\ & \text{Fixed Expense} \end{aligned}$$

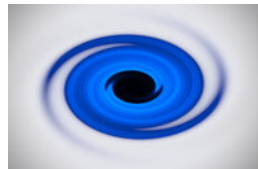
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$$\left[ 1 - \text{Variable Expense} - \text{profit/Contingency} \right]$$

# Rate Variation

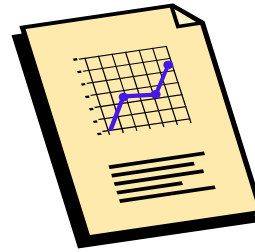


perils



Risk  
Characteristics

# Rate Filing



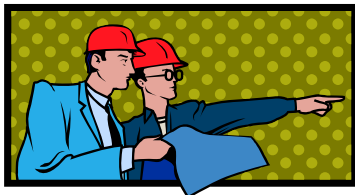
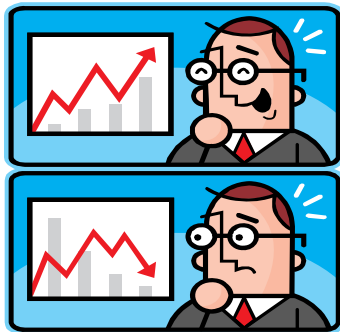
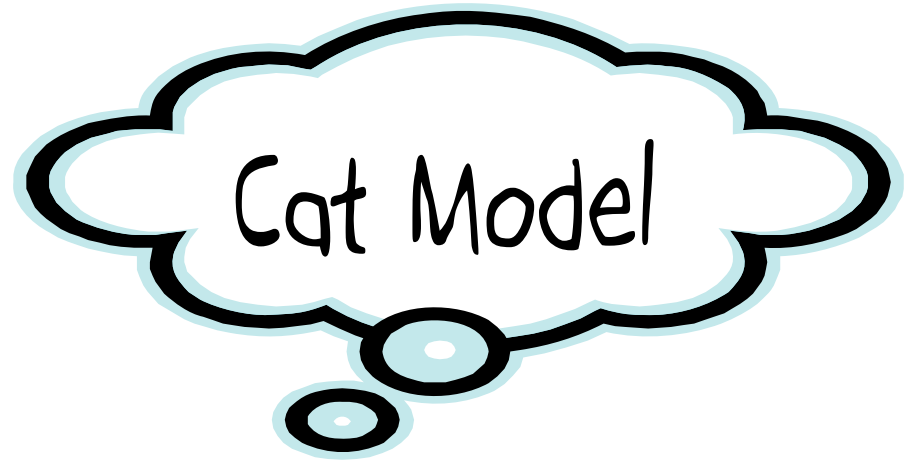
- ✓ Statewide + Territorial Rate Indications
- ✓ Cat Model Support — survey, import/export data, validations
- ✓ Reinsurance Support — survey, PML, contracts
- ✓ Rating Variable Support (deductibles, mitigation, BCEGS, etc)
- ✓ Manual pages
- ✓ Rate Collection System — rating examples, rate impacts
- ✓ Sworn Statement — CEO or CFO and Chief Actuary

Along came 627.0629 . . .

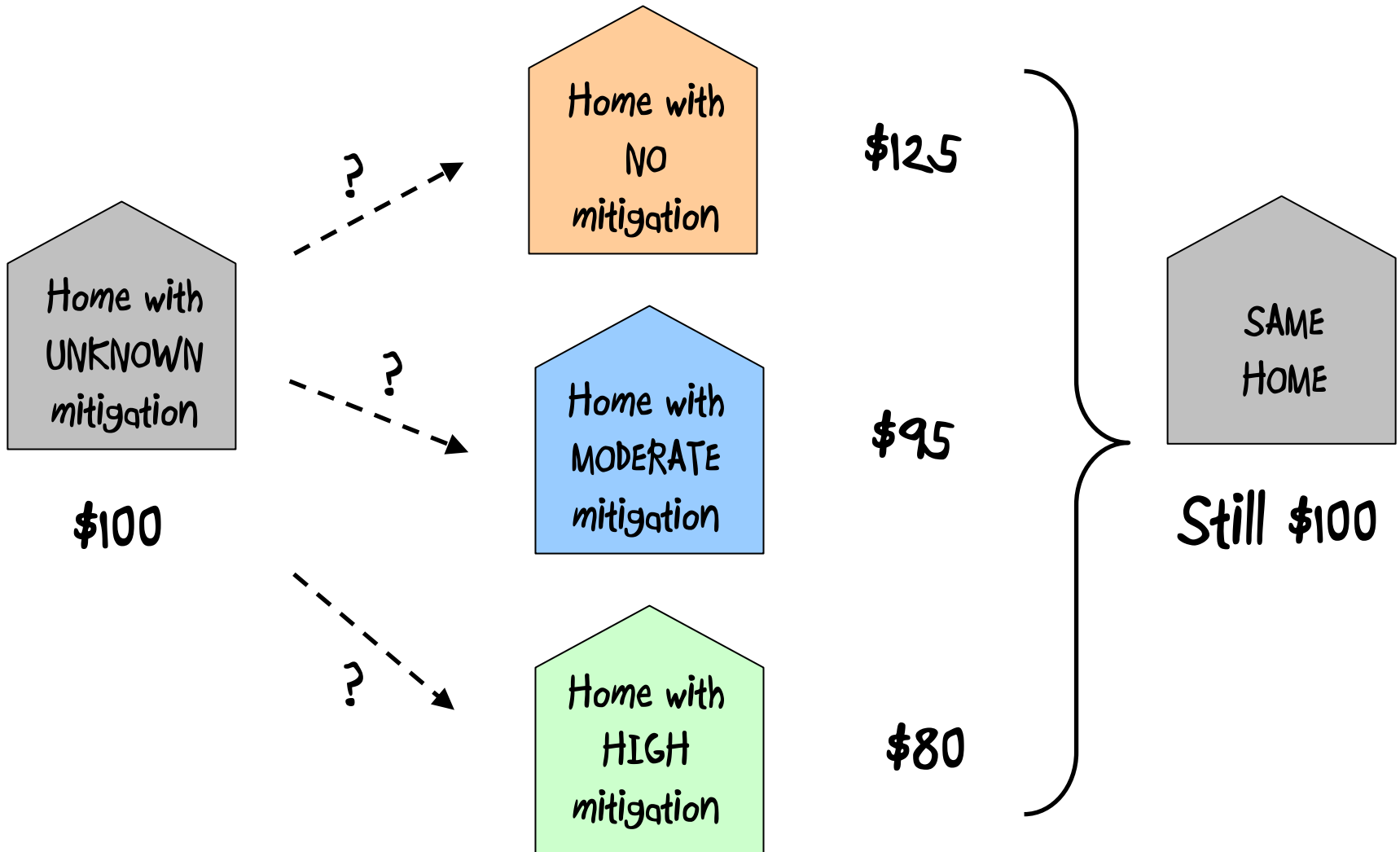
"insurers must provide savings to consumers who install or implement windstorm damage mitigation techniques, alterations, or solutions. . .

. . . actuarially reasonable discounts, credits, or other rate differentials"

# Measuring Mitigation Impacts



# Comparative Analysis



# Mitigation Credits (\$125 base)

Home with  
UNKNOWN  
mitigation

=

Home with  
NO  
mitigation

$$\$125 = 125/125 = 1.0 \text{ (no credit)}$$

Home with  
MODERATE  
mitigation

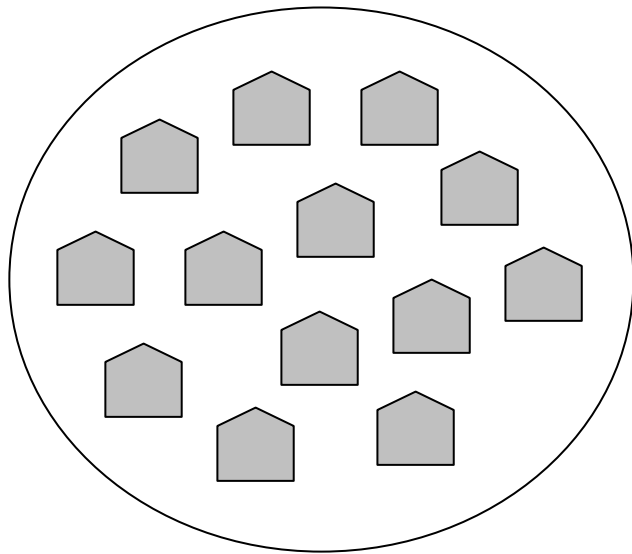
$$\$95 = 95/125 = 0.76 \text{ (-24\%)}$$

Home with  
HIGH  
mitigation

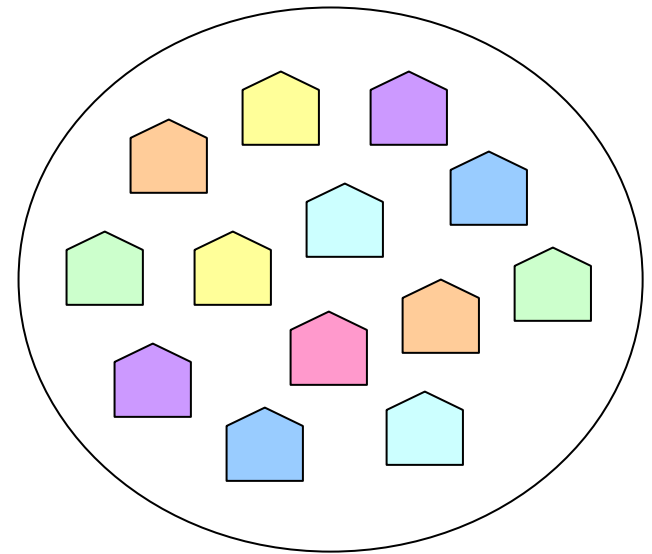
$$\$80 = 80/125 = 0.64 \text{ (-36\%)}$$

# How do we implement?

"revenue neutral" or "off-balance" or "offset"



\$100M Before



\$100M After

# To consider in the rating plan

- Insurance cost savings  $\neq$  Cost of Mitigation Feature

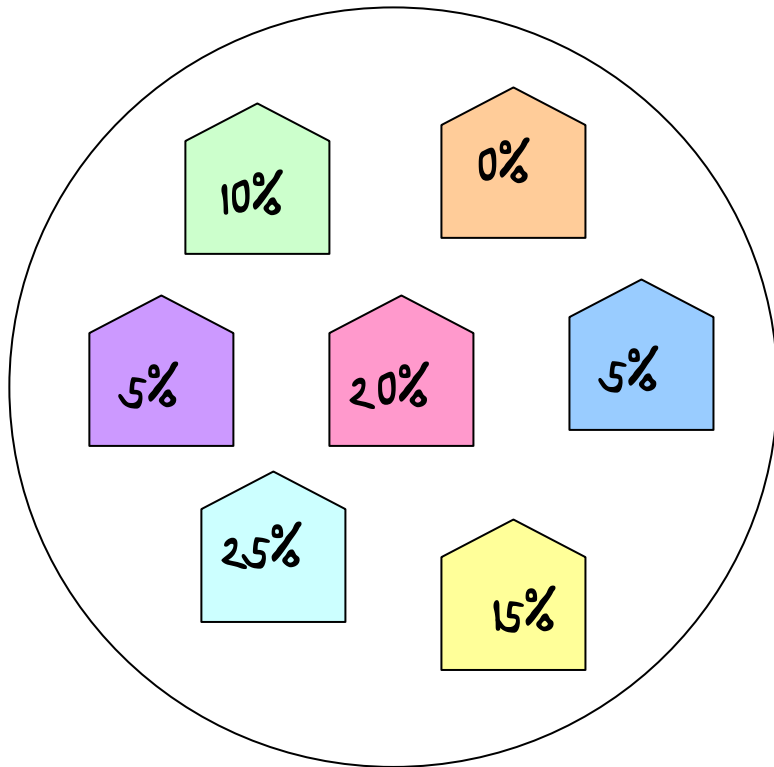
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- Insurance cost savings  $\neq$  Cost of Mitigation Feature
- Proper incentives vs. subsidies

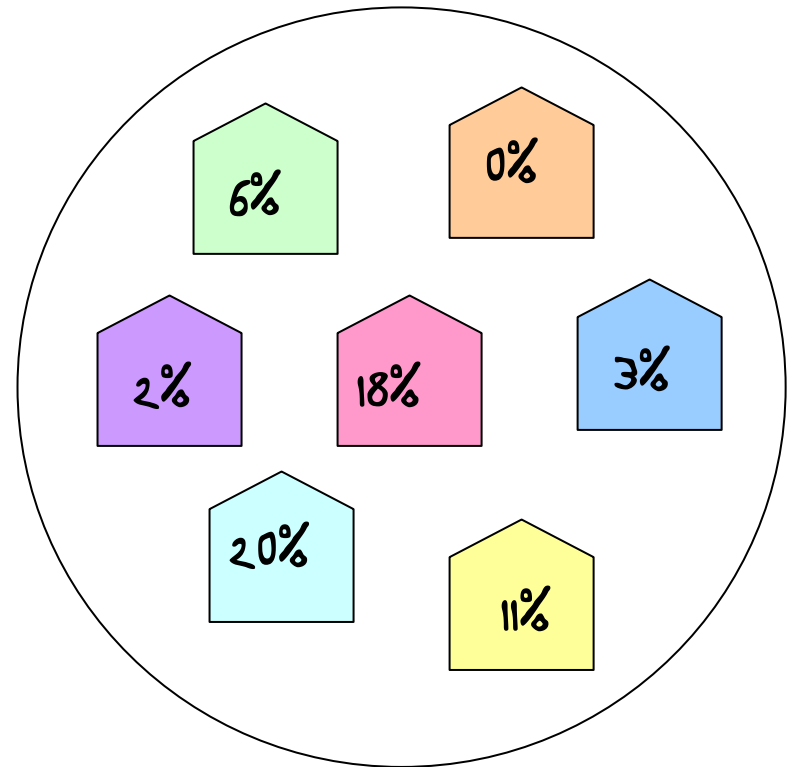
# To consider in the rating plan

- Insurance cost savings  $\neq$  Cost of Mitigation Feature
- Proper incentives vs. subsidies
- Primary insurer and reinsurer credits/charges

# Different Views



Average 11.4% credit  
\$100M book  
\$600M PML

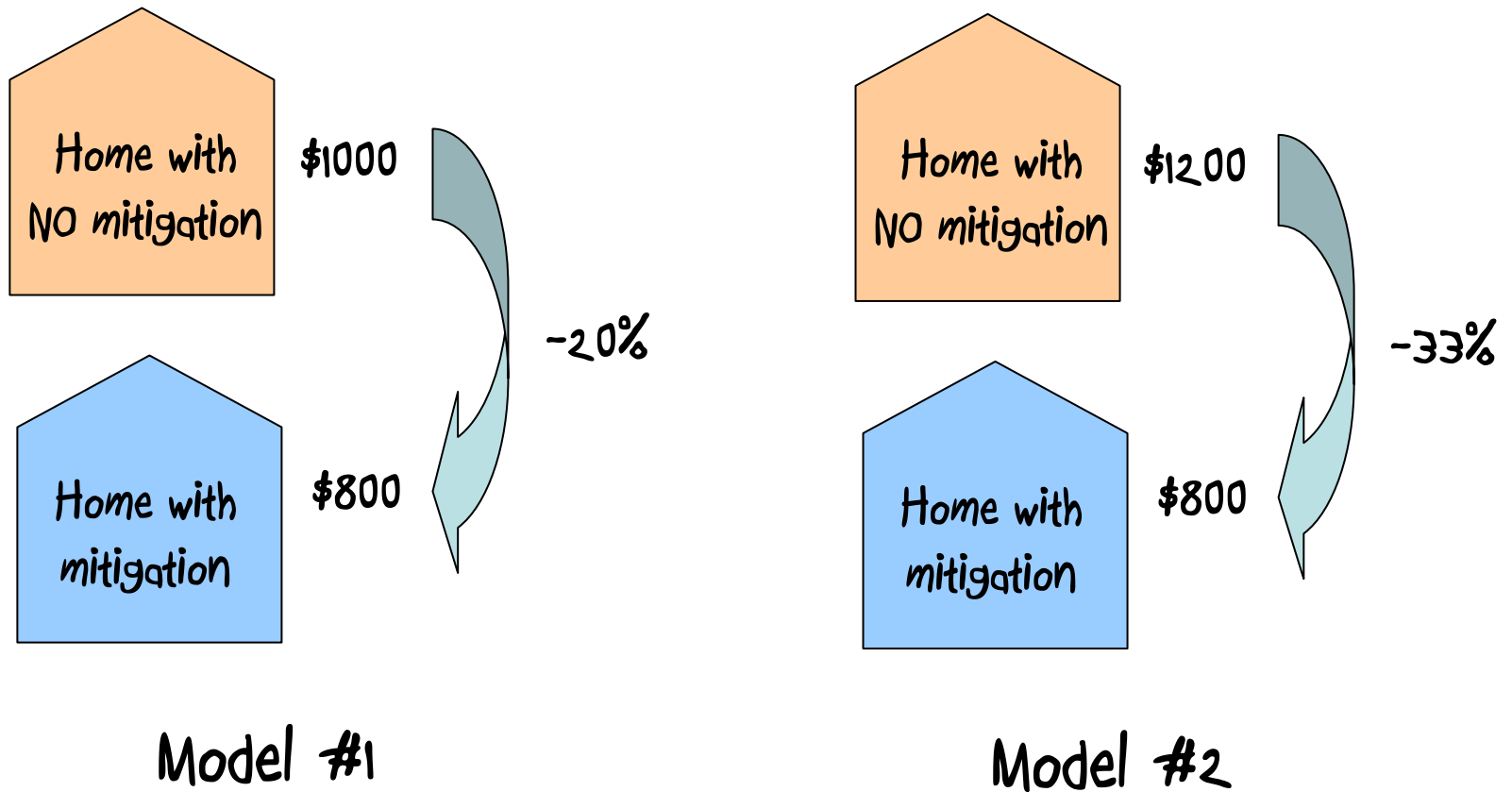


Average 8.6% credit  
\$100M book  
\$650M PML

# To consider in the rating plan

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- Primary insurer and reinsurer credits/charges
- AIR vs. RMS vs. ARA vs. EQE vs. FPM

# Range from Model Results



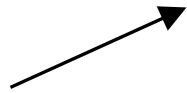
# To consider in the rating plan

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- Proper incentives vs. subsidies
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- AIR vs. RMS vs. ARA vs. EQE vs. FPM
- Building vs. Structures vs. Contents vs. Living Expenses
- HO vs. Dwelling vs. Condos vs. Renters

# Typical HO policy Coverages



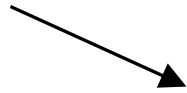
Cov A



Cov B = 10%



Cov C = 50%



Cov D = 20%

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- Hurricane vs. Storm vs. Tornado vs. Hail

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- Hurricane vs. Storm vs. Tornado vs. Hail
- Remove overlapping credits (BCEGS, New Home, Shutters)

# Actual Implementation

2003 Original Filings via OIR Memo 03-001M:

- EXISTING and NEW construction credits
- Based to "worst" risk – only credits implemented
- Credits tempered by 50% due to premium impact
- Applied to all wind premium
- Applied to all forms
- BCEGS tempered by 25%
- Remove New Home Discount on Wind
- Shutter credit removed; included in mitigation matrix

# Actual Implementation

In 2007, Updated via Rule 690.170.017 + OIR Memo 07-03M:

- Filings by March 1, 2007
- Complicated by HBIA presumed Factor filings due March 15, 2007
- Removed 50% tempering modification in rating factors
- Can account for impact if actual policy information is available
- Complicated by memo that disallows the offset of revenue

# What next?

Expand Analysis to include:

- Loss results from multiple models
- Loss results by coverage
  - Application to Other Structures, Contents, ALE
  - Application to Condos and Renters forms
- Clarify statute and rules regarding "windstorm" or "hurricane"
- Consider rebasing to allow credits and surcharges.
  - Keep the percentages manageable
  - Require less offset to revenue
  - Incent more mitigation.

