Hurricanes and Homeowner Decision Making: A Survey of Southeast N.C. Homeowners

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Survey

• Conducted between 2001-2002.
• 336 Homeowners in Brunswick, New Hanover and Pender Counties

Information Collected:
• Demographic and current mitigation activities
• Expectations of strike probabilities and damages
• Willingness to pay for further mitigation devices
Demographics

• Income ~ $50,000
• Home Value ~ $150,000
• 60% of respondents are female
• Average education is 2 years of college.

Mitigation Measures

• Roof ~ 50%
• Windows ~30%
• Doors and Garage Doors ~ 20%
Perceptions of Hurricane Strikes

• Category 3 ~ 35% probability of a strike per year
• Category 4 ~ 15%
• Category 5 ~ 7.5%

Perceptions of Hurricane Damages

• Category 3 ~ 11% of home value lost ($16,500)
• Category 4 ~ 22% ($33,000)
• Category 5 ~ 62% ($93,000)
Perceptions of Expected Damages

- Category 3 ~ $5,775
- Category 4 ~ $4,950
- Category 5 ~ $6,975
- Total ~ $17,750

Big Annual Damages Expected
Key Empirical Findings

1) Determinants of mitigation:
   Income
   Size of insurance deductible
   Expected damages from a category 3 storm.

Owners seem to dismiss low-probability events. Most well know devices on rated to Cat. 3 Category 4 and 5 damages well above deductible levels.
Key Empirical Findings (cont.)

2) Willingness to Pay for Category 3 Mitigation:
   Income
   Size of insurance deductible or lack of insurance
   Probability of a category 3 strike
   Price

   WTP is negative and requires a subsidy perhaps in excess of $14,000. WTP is positive only when no insurance is available
3) Calculation of Risk Aversion using WTP data:
   ~ 0.00412

   This compares to the risk aversion demonstrated by people making auto insurance decisions. (~0.0032) (Cohan and Einav, 2004)

   Higher than game show participants.

   Willing to take a lottery paying out $250 with a 50% probability and resulting in a $100 loss with a 50% probability.
Concluding Comments

Income, price, current insurance and category 3 expected damages are important in mitigation purchases.
Most homeowners don’t seem to be willing to purchase extensive mitigation even though expected annual perceived damages are quite high and owners demonstrate a reasonable level of risk aversion. Mitigation and insurance appear to be substitutes.