Estimating the Effect of FORTIFIED Home™ Construction on Home Resale Value

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FORTIFIED Designations

- Alabama leads the nation in number of FORTIFIED homes.
- More than 2,452 designations in Mobile & Baldwin counties.
- AL law mandates wind insurance premium discounts for FORTIFIED homes.

Methodology – simulate appraisals

- Begin with the Standard Hedonic Regression Model
- Dependent Variable = Natural Log of Sale Price
- Set of Explanatory Variables
  - House Characteristics: Square Feet, Age, Bedroom & Bathroom Count, Fireplace
  - Site: Lot Size, Subdivision, Distance to Coast
- Tests performed for Spatial Dependence
  - Moran’s I
  - Geary’s C
- Final Run uses Spatial Error Model (SEM)
  - Correcting for Heteroscedasticity in Standard Errors
  - Allowed by the use of Extensive Hedonic Parameters
Data

- Transactional Data on Home Sales
  - Obtained from CoreLogic
  - Between 2004 and Q1 2016
  - Extensive Hedonic Variables Included
  - Alabama Counties of Mobile and Baldwin
  - Geocoded at the Block Level using ESRI ArcGIS
- IBHS Provided FORTIFIED Home™ Data
  - Address and Date Designated
- Total Sample Size = 321 Properties
  - 22% of Sample FORTIFIED

Results

- Results of the SEM
  - Null Hypothesis = No Difference in Sale Price between FORTIFIED & Conventionally Constructed Housing
  - Coefficient on FORTIFIED (Fixed Effects) Indicates
    - 6.8% Positive Price Differential
  - Statistically Significant at the 5% Level on a two tailed test
    - Allowing Rejection of the Null Hypothesis at this Level
  - Further Exploratory Variables Show Conventional Signs and Significance
  - Data Showed Spatial Correlation Validating the Use of the SEM

Conclusions & Policy Implications

- The Cost of FORTIFIED is Generally < 2% of Total Construction Cost
  - With near 7% Resale Premium very likely outweighs the Cost
- Benefits of FORTIFIED
  - Reduced Insurance Premiums (25-30% Savings on Home Owners)
  - Potential to Reduce Uninsured Loss (Often a Social Cost)
  - Temporary Housing Cost Reduction due to Less
- Policy Implications
  - Federal lenders should enable appraisers to use FORTIFIED Designation in valuation