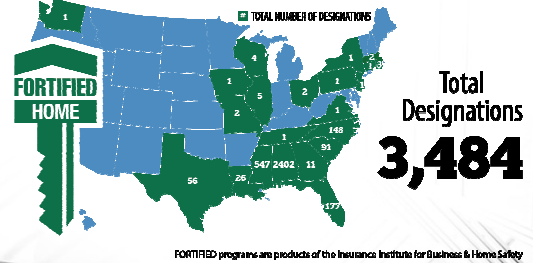


Estimating the Effect of FORTIFIED Home™ Construction on Home Resale Value

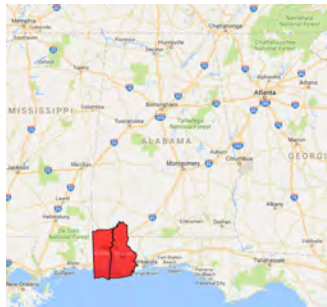
Sebastian Awondo, PhD – Univ. of Alabama
 Harris Hollans, PhD MAI MRICS – Auburn Univ.
 Lars Powell, PhD – Univ. of Alabama
 Chip Wade, PhD – Univ. of Mississippi

FORTIFIED Designations



FORTIFIED Home™ in Alabama

- Alabama leads the nation in number of FORTIFIED homes.
 - More than 2,402 designations in Mobile & Baldwin counties
- AL law mandates wind insurance premium discounts for FORTIFIED homes.



Methodology – simulate appraisals



Methods

- 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 Explanatory 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 Loss
- Policy Implications
 - Federal lenders should enable appraisers to use FORTIFIED Designation in valuation