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Uptake of Earthquake/Disaster Insurance: Consumer Experience

• Market Size

• Potential Consumer Oriented Factors Driving the Protection Gap
EQ* premium is roughly 5% of total Homeowner premiums written

* EQ includes both residential and commercial premiums; source NAIC data
New Madrid States Homeowners, Earthquake, & Flood Market (2021)

* EQ & Flood includes both residential and commercial premiums and Flood includes Federal and Private markets; source NAIC data

EQ & Flood* premiums combined are not greater than 6.3% of homeowner premium in any one state
7.7 magnitude earthquake “worst-case” state by state scenarios

<table>
<thead>
<tr>
<th>New Madrid State</th>
<th>2021 Earthquake Premium</th>
<th>2008 Estimated Economic Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>$11.5 million</td>
<td>$1.1 billion</td>
</tr>
<tr>
<td>AR</td>
<td>$46.1 million</td>
<td>$18.9 billion</td>
</tr>
<tr>
<td>IL</td>
<td>$106.8 million</td>
<td>$34.1 billion</td>
</tr>
<tr>
<td>IN</td>
<td>$52.3 million</td>
<td>$1.4 billion</td>
</tr>
<tr>
<td>KY</td>
<td>$62.1 million</td>
<td>$46.0 billion</td>
</tr>
<tr>
<td>MO</td>
<td>$128.4 million</td>
<td>$38.7 billion</td>
</tr>
<tr>
<td>MS</td>
<td>$25.3 million</td>
<td>$9.5 billion</td>
</tr>
<tr>
<td>TN</td>
<td>$120.3 million</td>
<td>$56.6 billion</td>
</tr>
</tbody>
</table>

What factors drive the New Madrid EQ protection gap?

- Availability & Affordability of Coverage
- Cognitive biases associated with low-probability high impact events
- Product Knowledge & Complexity
- Competing Disaster Priorities
Evidence from New Madrid - Online survey of 1,200+ adults (with Lori Croy, Brian Houston, & Lisa Groshong)

*The Ostrich Paradox: Why We Underprepare for Disasters (Meyer & Kunreuther; 2017)*

- **Optimism**: Likelihood of quake-related damage is **below their threshold level of concern**
- **Inertia**: Why change from their current behavior **given their unconcern with future damage from earthquakes**
- **Simplification**: No attention paid to damage from a severe earthquake because their **perceived likelihood of a quake affecting their house is so low**

*We do not see strong initial evidence for low levels of concern in the study area*
Earthquake Susceptibility

<table>
<thead>
<tr>
<th>The chance of an earthquake striking my home is high.</th>
<th>I am concerned about an earthquake affecting my home.</th>
<th>I feel vulnerable to earthquakes.</th>
<th>Earthquakes pose a threat to my household.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>14%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Somewhat agree</td>
<td>27%</td>
<td>31%</td>
<td>28%</td>
</tr>
<tr>
<td>Neither agree nor disagree</td>
<td>20%</td>
<td>16%</td>
<td>20%</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>22%</td>
<td>19%</td>
<td>18%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>18%</td>
<td>19%</td>
<td>19%</td>
</tr>
</tbody>
</table>

N = 1,258
Earthquake Severity

An earthquake could cause major damage and destruction in my community.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>38%</th>
<th>42%</th>
<th>45%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somewhat agree</td>
<td>35%</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>Neither agree nor disagree</td>
<td>12%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>8%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

An earthquake could injure or kill people in my community.

An earthquake could cause loss of power, water, phone, and other basic services in my community.

N = 1,258
Earthquake Emotion

When thinking about an earthquake occurring in your community:

<table>
<thead>
<tr>
<th></th>
<th>how afraid are you?</th>
<th>how anxious are you?</th>
<th>how overwhelmed do you feel?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely</td>
<td>15%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Very</td>
<td>16%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>Moderately</td>
<td>23%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Slightly</td>
<td>24%</td>
<td>24%</td>
<td>22%</td>
</tr>
<tr>
<td>Not at all</td>
<td>22%</td>
<td>28%</td>
<td>33%</td>
</tr>
</tbody>
</table>

N = 1,258
Product Knowledge & Decision Complexity
Earthquake Coverage – *Not Covered* Under Standard Homeowner’s (Renters & Commercial) Policy

**Assuming they know it is not covered, what else does a homeowner need to know when purchasing coverage?**

- **Does an insurer write it?**
  - No - not offering
  - Renewal-only
  - New Policies – possible restrictions for some construction types (Frame, Masonry Veneer, Solid Masonry)

- **If an insurer does write it**
  - Endorsement to policy or a Separate Stand-alone Policy
  - Policy Coverage Limits
  - Deductible levels usually 10-20% of the coverage limit; may be separate deductibles for different covered structures and contents

- **What is not covered (amongst other items)**
  - Land
  - Vehicles
  - External Water Damage
Source: Zhang et al., “Assessing the Drivers of Intrinsically Complex Hurricane Insurance Purchases”, 2021
For Homeowners Surveyed in New Madrid that indicate they have earthquake coverage

- 67% obtain coverage from an endorsement to existing homeowner’s policy
- Nearly 25% do not know their deductible level & more than 10% have a deductible greater than 20 percent of coverage limit

![Earthquake Deductible Percent Bar Chart]

- Percentage of Homeowners with Earthquake Coverage
  - 1-5%
  - 6-10%
  - 11-15%
  - 16-20%
  - 21% or more
  - Not sure
Competing Disaster Priorities
Cape Girardeau, MO

- 2011
- 1973
- 2013
- 2015
- 2017
Region VIII, IX, & X State DOI peril priority survey results (12 of 16 respondents)

<table>
<thead>
<tr>
<th>Peril</th>
<th>#1 Priority</th>
<th>#2 Priority</th>
<th>#3 Priority</th>
<th>#4 Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildfire</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Wind/Hurricane/Tornado</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>
Role of Building Codes to address multiple perils

Do you believe implementing earthquake-oriented building codes where you live is important?

- Extremely important
- Very important
- Moderately important
- Slightly important
- Not at all important

Do you feel the building codes in your community are sufficient to address the earthquake risk?

- Yes
- No
- Not sure

N = 1,258
Concluding Thoughts

The market for earthquake insurance in the New Madrid area indicates a substantial protection gap

New Madrid residents in general appear to be concerned with the earthquake risk

What role does product knowledge and decision complexity play in the choice to purchase coverage for earthquake and other disaster insurance?

Can solutions address multiple hazards simultaneously?