

# CAS Ratemaking, Product and Modeling Seminar

## Ratemaking for InsurTechs – Homeowners to Cryptocurrency Mining

March 14, 2023

The session will use case studies to demonstrate innovative ratemaking techniques to develop insurtech products. The first case study will focus on using innovative ratemaking techniques to develop new product features that better match rates to risk and allow for product differentiation in a heavily saturated and competitive homeowners marketplace. The second case study will focus on how an insurance product for cryptocurrency mining operations was built with no historical loss experience data, and the third will focus on a new digital insurtech motorsports program (e-bikes, motorcycles, etc) that introduced a safety driving program. The session will show how to develop rates for new coverages or emerging risks with limited historical loss experience data.



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## Antitrust Notice

- The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.
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## Ratemaking for InsurTechs – Homeowners to Cryptocurrency Mining

Blair Baldwin  
Christine O'Brien  
Nickolas Alvarado  
Sheri Scott

March 14, 2023 | 12:15PM – 1:30PM PDT



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### Meet the Presenters

			
<b>Blair Baldwin</b>	<b>Christine Perkovich O'Brien</b>	<b>Nickolas Alvarado</b>	<b>Sheri Scott</b>
Co-Founder / CEO Boundless Rider	<b>SBWCP</b> Compliance Consultant Milliman	<b>FCAS, MAAA</b> Actuary Milliman	<b>FCAS, MAAA, CSPA</b> Principal, Consulting Actuary Milliman

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### Agenda

- Emerging Risks & Challenges
- Case Study #1: Homeowner Insurance Products
- Case Study #2: Cryptocurrency Mining Operations
- Case Study #3: Risk-Based Motorcycle & Powersports Program
- Questions

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





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### Emerging Risks

- Embedded Insurance (i.e., OEM) 
- Cyber Products  CyberFortress 
- Supply Chain Disruption Insurance 
- Lease Guarantee Rhino 
- Plane, Boats, Truck, and Cars driving behavior models    
- Wildfire 
- Digital Homeowners   
- Cryptocurrency Mining Operations 
- Motorcycles & Powersports, including E-bikes 

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### Emerging Risk Challenges

- Difficult to Get Relevant Insurance Coverage – Legacy Program Inertia
- Difficult to Get Reasonable Price – Conservative Pricing
- Difficult to Find Experts to Underwrite, Adjust, Service
- Loss Data – Limited to None
- Manuscript Policy Wording Forms – No Existing Language

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### Questions?

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### Homeowners Case Study



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### Case Study #1: Homeowner Insurance Products

How Do You Want To Stand Out From the Crowd?

**1. Understand and Meet Policyholder Demands**

- a. Easy to understand policy wording, limits, exclusions.
- b. Online explanations during policy quoting and purchase workflow.
- c. Recognize modern needs (home office, tablets and smart phones, e-bikes, not silverware).
- d. Third party data prefill (risk scoring models, embedded pre-fill).
- e. Flexible payment methods.
- f. Smooth, intuitive, and speedy user experiences – quoting, buying, claims handling, etc.

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### Case Study #1: Homeowner Insurance Products

How Do You Want To Stand Out From the Crowd?

**2. Develop Coverages Relevant to Today's Consumer**

- a. Remote Work Coverage
- b. Home-Sharing Coverage
- c. Short-Term Rental Theft Coverage
- d. Home Day Care Coverage
- e. ID Theft & Cyber Protection Coverage
- f. Unique Property - E-bikes / Drones
- g. Pet Damage Exclusion
- h. Roof Limitation / Exclusion for Older Roofs
- i. Communicable Disease Exclusion (where allowed)

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### Case Study #1: Homeowner Insurance Products

How Do You Want To Stand Out From the Crowd?

**3. Develop Modern Rate Plan**

- a. Split by-peril to be able to easily handle different exposure by peril between and within states. This modular approach facilitates introduction of risk models specific to a peril.
- b. Split perils into catastrophe (Wildfire, Hurricane, Earthquakes/FFEQ, Tornado/Hail, Winter Storm) and non-catastrophe (Fire, Weather, Water, Non-Weather Water, Theft, Liability, Other) to maximize use of models in ratemaking.
- c. Account for correlation between risk models and other rating variables.

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**Case Study #1: Homeowner Insurance Products**  
 How Do You Want To Stand Out From the Crowd?

4. **Competitive Analysis**

- a. Actuarially indicated rate vs. competitively positioned rate.
- b. Address embedded mono-line insurance products.
- c. Difficulty competing with competitors that bundle home & auto.
- d. Competitive impact of quoting with adequate Coverage A limit.
- e. Market basket need for new entrants.
- f. Accurate competitive intelligence.

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**Case Study #1: Homeowner Insurance Products**  
 Regulatory Approval

<p><input checked="" type="checkbox"/> <b>Step 1: Innovate</b></p> <ul style="list-style-type: none"> <li>• Competitive and market analysis.</li> <li>• Determine pros and cons of introducing new ideas.</li> <li>• Discuss how to differentiate product.</li> <li>• Determine state rollout based on regulatory environment.</li> </ul>	<p><input checked="" type="checkbox"/> <b>Step 2: Develop</b></p> <ul style="list-style-type: none"> <li>• Align/develop program rates, forms, underwriting, and rules with decisions from Step 1.</li> <li>• Create template of program to be used in state rollout.</li> <li>• Develop subsequent state programs while addressing regulatory requirements.</li> </ul>	<p><input type="checkbox"/> <b>Step 3: File</b></p> <ul style="list-style-type: none"> <li>• Create filing and testing schedule by state based on desired state launch dates and expected approval times.</li> <li>• Create state filing packets making necessary adjustments to address state regulatory requirements.</li> <li>• Submit and maintain filing throughout approval process.</li> <li>• Implement program.</li> </ul>
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**Questions?**

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**Case Study #2: Cryptocurrency Mining Operations**



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**Case Study #2: Cryptocurrency Mining Operations**  
**Emerging Risk**

1. As the world of cryptocurrency continues to expand, there is a growing need for insurance in the cryptocurrency industry.
2. According to recent data, the global cryptocurrency mining equipment market is predicted to increase by \$2.82 billion from 2020 to 2025.
3. The type of insurance coverage needed depends largely on the miner's business model and assets for which they are responsible.

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**Case Study #2: Cryptocurrency Mining Operations**  
**Emerging Need For Insurance**

1. Cryptocurrency miners have found it difficult to obtain insurance.
2. Many insurers consider cryptocurrency to be high-risk:
  - a. Volatility of Bitcoin and the perception it is correlated to the market value of assets such as mining computers and property.
  - b. Potential for large loss exposure with a concentration of mining assets stored at a single location.
  - c. How do we provide necessary coverage without creating excessive loss potential?

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### Case Study #2: Cryptocurrency Mining Operations

Insurance Lines of Business: Commercial Property, Commercial Liability, Income Interruption

- Companies that own datacenters need **Commercial Property** coverage for the building itself. Those leasing a co-location only need coverage for their machines. Co-locations also need coverage for the storage containers or pods that house the mining equipment.
- **Commercial Liability** coverage may also be needed. For example, in a situation where a machine catches fire and the miner becomes liable for damage to equipment belonging to another business.
- **Income Interruption Coverage** may be needed for landlords leasing out space to cryptocurrency miners for their rigs.



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### Case Study #2: Cryptocurrency Mining Operations

Program Design

1. Start with existing products and adapt them to this new industry: Advisory or similar rates, rules, and forms.
  - a. **Property** – Protection for mining rigs, computers, buildings, and shipping containers and pods in a co-location facility.
  - b. **Income Interruption** – Protection from business income interruption to help miners pay expenses for a limited amount of time while their equipment has been damaged by a covered peril.
  - c. **Liability** – Protection for the mining operation financially if they are responsible for someone else's injuries or property damage.

*The value of cryptocurrency itself is not insured.*

2. Develop underwriting guidelines tailored to the unique risks.

*Insurers entering in this new market have the advantage of being selective about which customers they insure and going to market with the indicated rate level without competitive rate pressures.*

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## Questions?

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**Case Study #3: Risk-Based Motorcycle & Powersports Program**

**Purpose**

Boundless exists because traditional P&C carriers have largely underinvested in product design and the customer experience for specialty vehicles and their riders, including ...

1. New technology (i.e., telematics)
2. New vehicle types (e-bikes & e-scooters)
3. Product enhancements
4. Claims experience
5. Digital experience & distribution

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**Case Study #3: Risk-Based Motorcycle & Powersports Program**

**Product Overview**

<p><b>Core Coverages &amp; Limits</b></p> <ol style="list-style-type: none"> <li>1. Limits of Liability             <ol style="list-style-type: none"> <li>a. 15/30/5 - 250/500/100 (varies by state)</li> </ol> </li> <li>2. Guest Passenger Liability</li> <li>3. Pedestrian PIP</li> <li>4. Physical Damage Coverage             <ol style="list-style-type: none"> <li>a. Agent Binding Authority up to 60k</li> <li>b. Built-in Optional Equipment Coverage</li> </ol> </li> </ol>	<p><b>Optional Coverages</b></p> <ol style="list-style-type: none"> <li>1. Uninsured/Underinsured Motorist Coverage</li> <li>2. Med Pay</li> <li>3. Roadside Assistance</li> <li>4. Trailer Transport</li> <li>5. Agreed Value</li> <li>6. And More!</li> </ol>
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### Case Study #3: Risk-Based Motorcycle & Powersports Program

#### Safe Rider Program

The optional Safe Rider Program bundles together a number of features and benefits for riders of on-road vehicles who opt-in to use the Boundless Rider smartphone app.

These features & benefits were developed through extensive customer research, with an eye toward the following:

1. Encourage safe riding
2. Reduce coverage gaps due to high seasonal cancellations
3. Reduce the severity of motorcycle accidents
4. Provide beneficiaries with meaningful financial support in the event of a fatal motorcycle accident

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### Case Study #3: Risk-Based Motorcycle & Powersports Program

#### Safe Rider Program Features

Safe Rider Program Features

1. 5% Safe Rider Program discount
2. Automatic crash detection & emergency response coordination
3. \$100,000 Death Benefit Coverage
4. Eligible for low mileage discount

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## Questions?

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**Thank you for Joining Us!**

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