New York Domestic Insurers’ Management of the Financial Risks from Climate Change
Climate Models May Have Underestimated Impact of Extreme Weather Events

By Andrea Januta | July 28, 2021
Portland Streetcar @PDXStreetcar · Jun 27
In case you’re wondering why we’re canceling service for the day, here’s what the heat is doing to our power cables.

Trooper Rocky Oliphant @wspd7pio
State Route 544 milepost 7 near Everson, Wa is currently closed. The asphalt roadway is buckling and unsafe for travel. WSDOT is advised and detours are currently being set up.

BL

11:31 PM · Jun 27, 2021
Physical risk drivers
- Extreme weather events
- Gradual changes in climate

Direct transmission channels
- Lower residential property values
- Lower commercial property values
- Lower household wealth
- Lower corporate profitability and increased litigation

Indirect transmission channels
Wider economic deterioration (lower demand, productivity and output) impacting financial conditions

Financial contagion (market losses, credit tightening) feeding back to the economy

Financial system
- Financial market losses (equities, bonds and commodities)
- Credit market losses (residential and corporate loans)
- Underwriting losses
- Operational risk (including liability risk)
Financial contagion (market losses, credit tightening) feeding back to the economy

Direct transmission channels

Economy
- Stranded Assets (fossil fuels, real estate, infrastructure, vehicles)
- Reinvestment and replacement
- Increase in energy prices

Corporate Assets Devaluation
- Lower corporate profitability and increased litigation
- Lower residential property values
- Lower household wealth

Financial System
- Financial market losses (equities, bonds, and commodities)
- Credit market losses (residential and corporate loans)

Indirect transmission channels

Wider economic deterioration (lower demand and output) impacting financial conditions

Transition risk drivers
- Climate policy
- Technology
- Consumer preferences
Introduction

• NAIC Climate Risk Disclosure Survey (“Survey”)
  • 8 questions → 5 themes

• Analysis coverage: 121 insurer Survey responses and 8 Taskforce for Climate-related Financial Disclosure (“TCFD”) reports submitted in 2020

• Insurers were rated as “Yet to Start (= 1),” “Early Stage,” “Making Progress,” or “Good Progress (= 4).”
## Analysis Framework

<table>
<thead>
<tr>
<th>Question</th>
<th>Yet to Start</th>
<th>Early Stage</th>
<th>Making Progress</th>
<th>Good Progress</th>
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<tbody>
<tr>
<td>Q3: Process for identifying climate risks and impacts on your business</td>
<td>No process in place to identify or assess climate risks. Identification done ad hoc, or responsibility assigned to a third-party.</td>
<td>Process of risk identification and assessment is in place but unclear whether the process addresses climate risks, and details on the process are insufficient. Risk identification and management cover only physical risks or only liabilities for P&amp;C insurers.</td>
<td>Process of climate risk identification and assessment is in place and imbedded in ERM. Some information provided on the process, data, and models used, and which business areas or product lines are considered. Risk identification and management cover only physical risks or only liabilities for P&amp;C insurers. Broad recognition of physical and/or transition risks without linking them to its business.</td>
<td>Process of climate risk identification and assessment is in place and imbedded in ERM and the risk appetite framework. Details on organizational structure, processes, data, and models are provided. Describes how assessment of climate risks informs business strategies and risk mitigation strategies. Impacts of climate risks on branded risk factors beyond operational and reputational risks analyzed. Risk identification and management cover both physical and transition risks, and both assets and liabilities.</td>
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Application of Disclosure Materials

1. Understand insurers’ status in managing climate risks,

2. Identify good practices to share with the industry, and

3. Support risk-based supervision

Insurers’ ratings will be used only for DFS’s supervisory purposes and will not be publicly disclosed.
Overall Status of Insurers’ Management of Climate Risks

Premium-Weighted Ratings for Insurers Across the Five Themes

GHG: greenhouse gas
Composite Ratings Across Insurance Lines

Percentage of Groups/Unaffiliated Companies by Number

Percentage of Groups/Unaffiliated Companies’ Aggregate Countrywide Premiums
More advanced insurers have already taken actions that are aligned with DFS’s expectations as set forth in the proposed Guidance.
Good Practices in Risk Culture and Governance

- Designated appropriate committee(s) of the board and senior management function as responsible for climate risks
- Established internal cross-functional climate risk committees
- Brought climate expertise to the board
- Used remuneration policies to align incentives.
**DFS Expectation** – The board’s oversight of management of climate risks

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**Example 1 – Board Governance on Climate Risks and Opportunities**

One group charged its **Nominating and Corporate Governance Committee** ("NCGC") of the Board for oversight of climate-related risks and opportunities.

Another group’s NCGC is chiefly responsible for sustainability and climate issues. Its **Risk and Capital Committee** may be informed of climate risks.
Good Practices in Business Models and Strategies

• Viewed the understanding, management, and disclosure of climate risks as an important for long-term profitability.

• Responsible investments were viewed as part of the strategy.
Good Practices in Risk Management

• Developed frameworks for managing climate risks as part of ERM

• Regularly evaluated impact of climate change on existing risk factors

• Considered both physical and transition risks on current and future investments
**DFS Expectation** – *Address climate risks through existing ERM functions*

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**Example 7 – Climate-Related Risk Management Process**

One group disclosed that

- Consideration of climate change risk is built into its risk management process.
- The Climate Change Working Group met quarterly to evaluate climate risks.
- The Working Group developed a mitigation plan for material risks.
Good Practices on Investments

• Applied ESG scoring in investment decision-making

• Required third-party asset managers to consider climate risks

• Made meaningful investments in climate solutions

• Offered responsible investment funds to its customers

• Set emission reduction targets for proprietary investment portfolios

• Actively engaged with investee companies
Help Customers and Investee Companies Decarbonize

Example 12 – Management of Transition Risks by Helping Investee Companies Decarbonize

Several groups are members of Climate Action 100+, works with the world’s largest corporate greenhouse gas emitters to

• curb emissions
• strengthen climate-related financial disclosures
• improve governance
Good Practices on Modeling and Scenario Analysis

• Used sophisticated models and a broad range of data

• P&C insurers customized commercial catastrophe models to be more forward-looking and analyze their underwriting scenarios over several decades.

• Conducted scenario analysis that considered the impact of physical and transition risks under various scenarios using both short- and long-term time horizons.
**DFS Expectation** – Scenario analysis should be used with time horizons in the short-, medium-, and long-term.

Example 14 – Transition Scenario Analysis, Using Multiple Climate Scenarios and Long Time Horizon, on Both Investments and Underwriting

One group conducted scenario analysis:

- **Time horizon**: 2030 and 2050
- **Scenarios used**: Orderly, disorderly, and the most likely policy responses for transition scenarios.
- **Focused sectors**: the most material sectors for underwriting and investment
- **Mitigation method**:
  - progressing its policy positions
  - engaging with its customers
  - undertaking due diligence.
Good Practices on Metrics and Targets

Set time-bound targets for investments and disclosed metrics:

- $ invested in climate solutions,
- carbon footprint of investment portfolio (in tons of CO$_2$/$),
- transition risk cost as % of revenue affected under certain temperature scenarios,
- loss in real asset portfolio due to physical risks (in % or $)
- ...


Good Practices on Stakeholder Engagement

- Engaged employees and third parties on climate issues
- Educated stakeholders through disclosure
- Raised awareness through industry networks
- Offered discounts for fortified homes
- Helped policyholders with disaster preparedness
Composite Ratings of P&C Groups/Companies by Size

- ≥ 10 billion
- < 10 billion to ≥ 1 billion
- < 1 billion to ≥ 450 million
- < 450 million

- Yet to Start
- Early Stage
- Making Progress
- Good Progress
P&C Insurers – Climate-Related Opportunities

Many saw climate change as a source of opportunities and provided:

- insurance for commercial and residential renewable energy projects
- climate resilience advisory
- parametric insurance for climate-related risks
P&C Insurers – Climate Risk Management

- Only 20% of groups/companies (47% by premium) in “Good Progress” or “Making Progress.”

- Good practices:
  - Analyzed transition and physical risks on various lines
  - Included climate risk in ORSAs
  - Considered correlation between their assets and liabilities.
  - Clear policy and timeline in managing transition risks in underwriting
P&C Insurers – Underwriting Metrics and Targets

**DFS Expectation** – Apply appropriate quantitative tools and metrics and qualitative statements to establish risk boundaries

Example metrics and targets

- Maximum threshold of revenue generated from underwriting coal-based businesses,
- Revenue generated from sustainable solution products, and
- Number of sustainable solution products.
Composite Ratings of Life Groups/Companies by Size

- Yet to Start
- Early Stage
- Making Progress
- Good Progress

- ≥ 20 billion
- < 20 billion to ≥ 6 billion
- < 6 billion to ≥ 1 billion
- < 1 billion
Climate Change and Human Health

Climate change affects human health by:

(1) Changing the severity or frequency of existing health problems,
(2) Creating new health problems in new places.

-- 2016 U.S. Climate and Health Assessment
Climate Change and Health

Source: 2016 U.S. Climate and Health Assessment
Composite Ratings of Health Groups/Companies by Size

- ≥ 20 billion
- < 20 billion to ≥ 2 billion
- < 2 billion

- Yet to Start
- Early Stage
- Making Progress
- Good Progress
Good Practices of Health Insurers’ Risk Management

Example 31 – Health Insurers’ Assessment of Climate Change’s Impact on Their Liabilities

- One group recognized climate change could impact its cost structure in the long term.
- Another group disclosed that:
  - Climate change could influence disease vectors, the spread of infectious diseases, and frequency and severity of chronic illnesses.
  - If not prepared, it could lose market share and increase operational costs with more claims.
  - Climate risks could affect its premium pricing.
Conclusion

Insurers had a wide range of sophistication in their understanding, assessment, and management of climate risks:

• Most insurers were “Making Progress”
• Actions of more advanced insurers are aligned with the proposed Guidance.
• P&C and Life insurers were more aware of climate risks than Health insurers.

DFS will continue to evaluate and support insurers’ disclosure and progress on climate risk management.
Questions?
Feedback?
Contact: climate@dfs.ny.gov