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Sovereign Climate Risk Model

Model Summary Document (MSD)

1. Model Purpose and Description

The Sovereign Climate Risk Model (SCRM) is designed to assist in the production of Climate Vulnerability Signals (Climate.VS). Climate.VS are used as a screening tool to enhance Fitch's ability to identify sovereigns with higher potential exposure to climate-related risks and subject those ratings to additional analysis and consideration.

The model comprises two main modules:

- The Relative Climate Risk Module (RCRM) produces measures of each sovereign's relative exposure for each of physical risks, fossil fuel dependence, and green energy costs. These provide a starting point for generating Climate Vulnerability Signals (Climate.VS), which also incorporate materiality. The RCRM has two parts: the main quantitative section, which draws on available data and climate projections, and a Qualitative Filter (QF), which incorporates adjustments based on analyst judgement.
- A materiality mapping exercise is conducted to map the RCRM outputs (1-5) to the VS scale (0-100). The VS Derivation module then produces final outputs, including the full Climate.VS curve for physical risks, transition risks and the combination.

2. Model Assumptions

Where applicable, the assumptions in the model are described in Fitch's criteria

- Sovereign Rating Criteria

3. Model Inputs

The Relative Climate Risk Module uses the following main inputs:

- Historical/current data and future projections for indicators set across seven risk types:
    - Within Physical Risk: heatwaves and wildfires, drought, storms, floods and landslides, and sea level rise.
    - Within Transition Risk: fossil fuel dependence and green energy costs.
- Historical/current data for GDP and land area
- QF adjustments

The VS derivation module uses the output of the materiality mapping exercise, which is:

- 2050, 2035 and 2025 Climate.VS for physical risks, fossil fuel dependence, and green energy costs.

4. Model Development Data

This rating model does not directly use historical data for its development and calibration, and it only uses issuer specific data and other related data as described in the relevant criteria and/or RAC.

5. Model Limitations

Limitations include, but are not limited to, the following: The model is intended only to analyse sovereign issuers within the scope of Fitch's "Sovereign Rating Criteria".

6. Material Changes

The current model version is 1.0.0. Any future material changes will be disclosed in this section.

Contact Information

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