Understanding Sovereign Risk

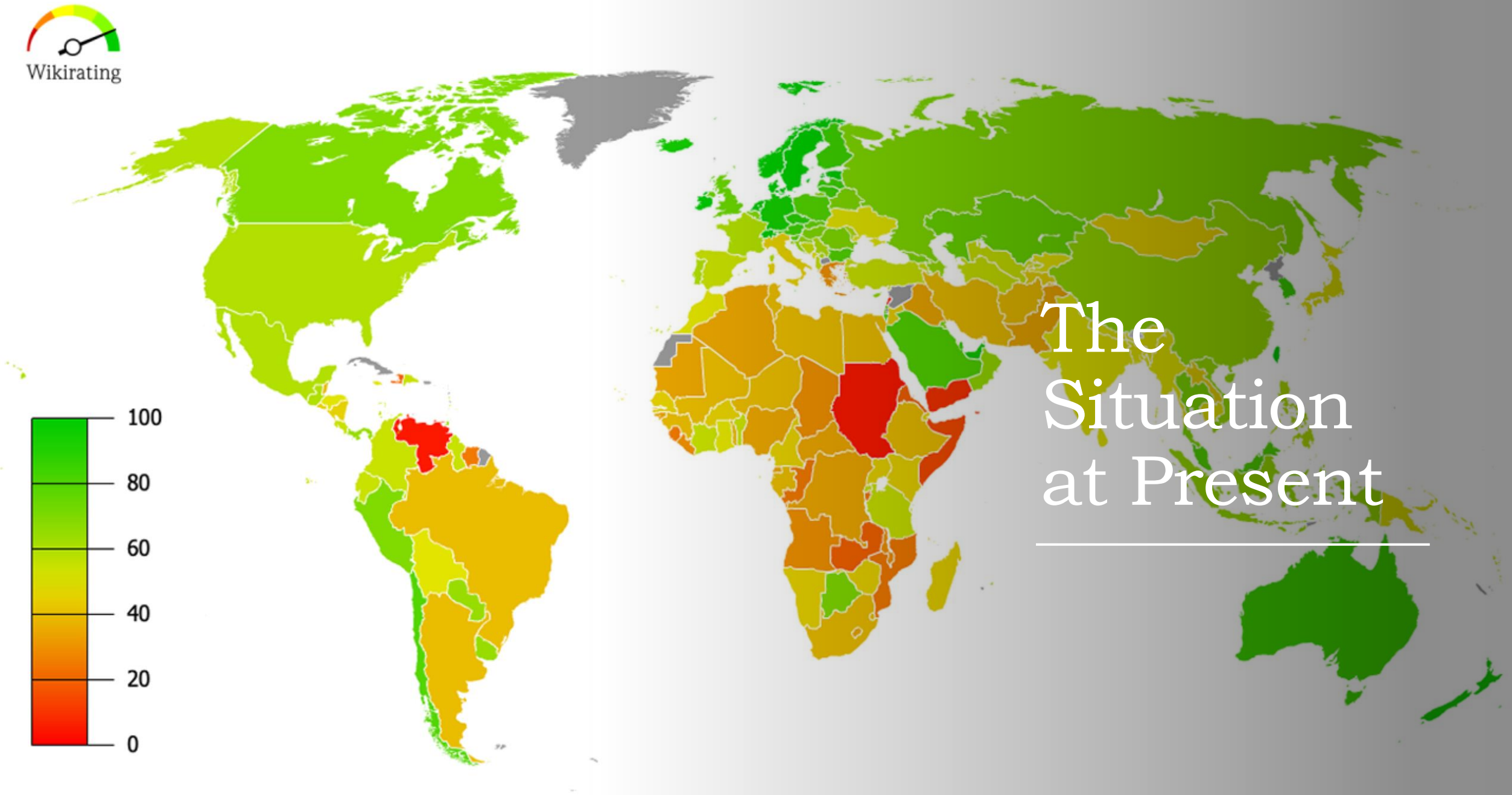
BY: ANASTASIA ULIANOVA

Analysis Objectives

The objective of this analysis is to identify key variables affecting a sovereign risk & rating to use as indicators to predict the future direction of a country's credit worthiness.

The produced model can then be used as a basis for:

- **Investors in bond markets** to determine the risk of their investment, particularly as it pertains to the emerging bonds market.
- **Policymakers** to create a framework/strategy of targeted areas to focus development in order to raise a country's credit rating, and by extent boost investor confidence and attract foreign investments, leading to an economic boost.



The Situation at Present

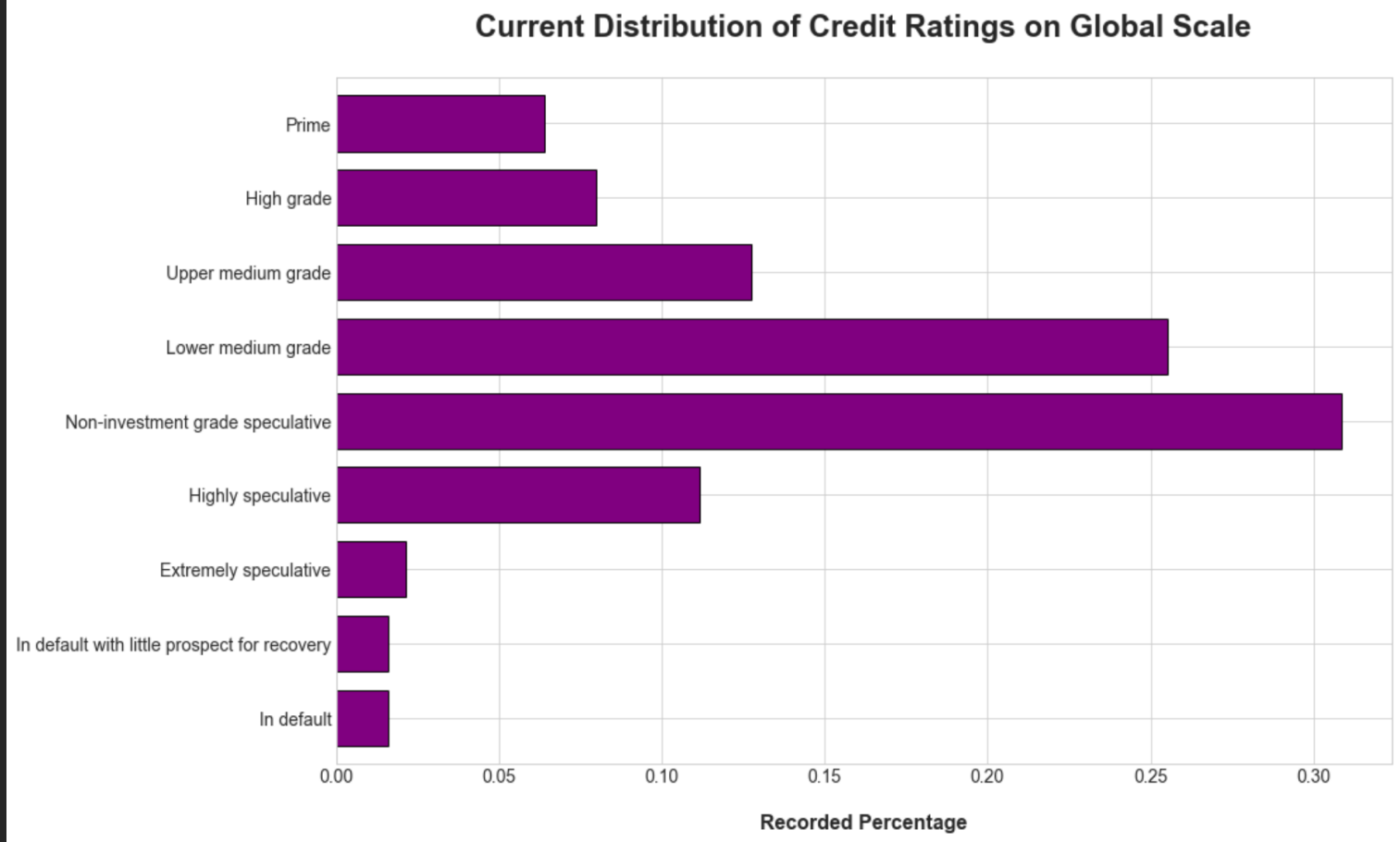
Data Used in Model

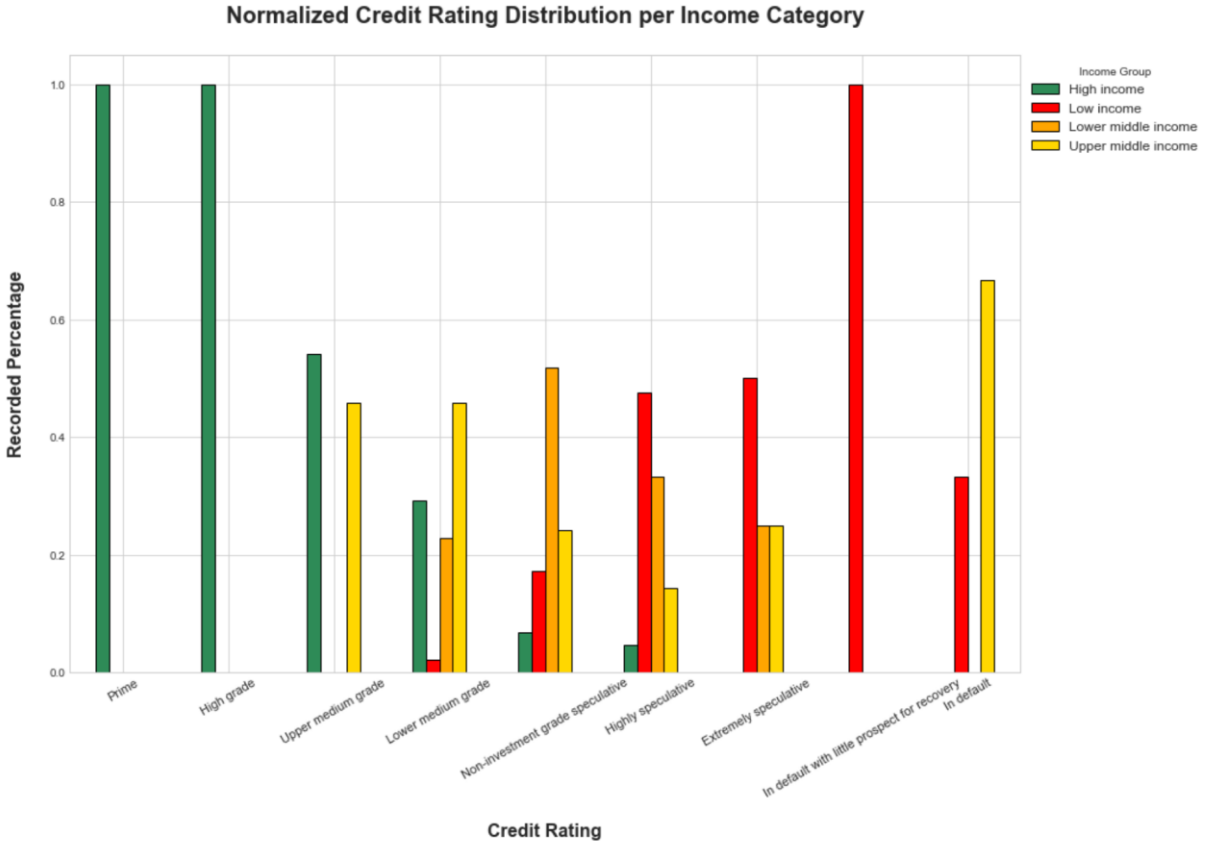
The data was collected from multiple sources, with the primary one being the **World Bank Data Bank.**

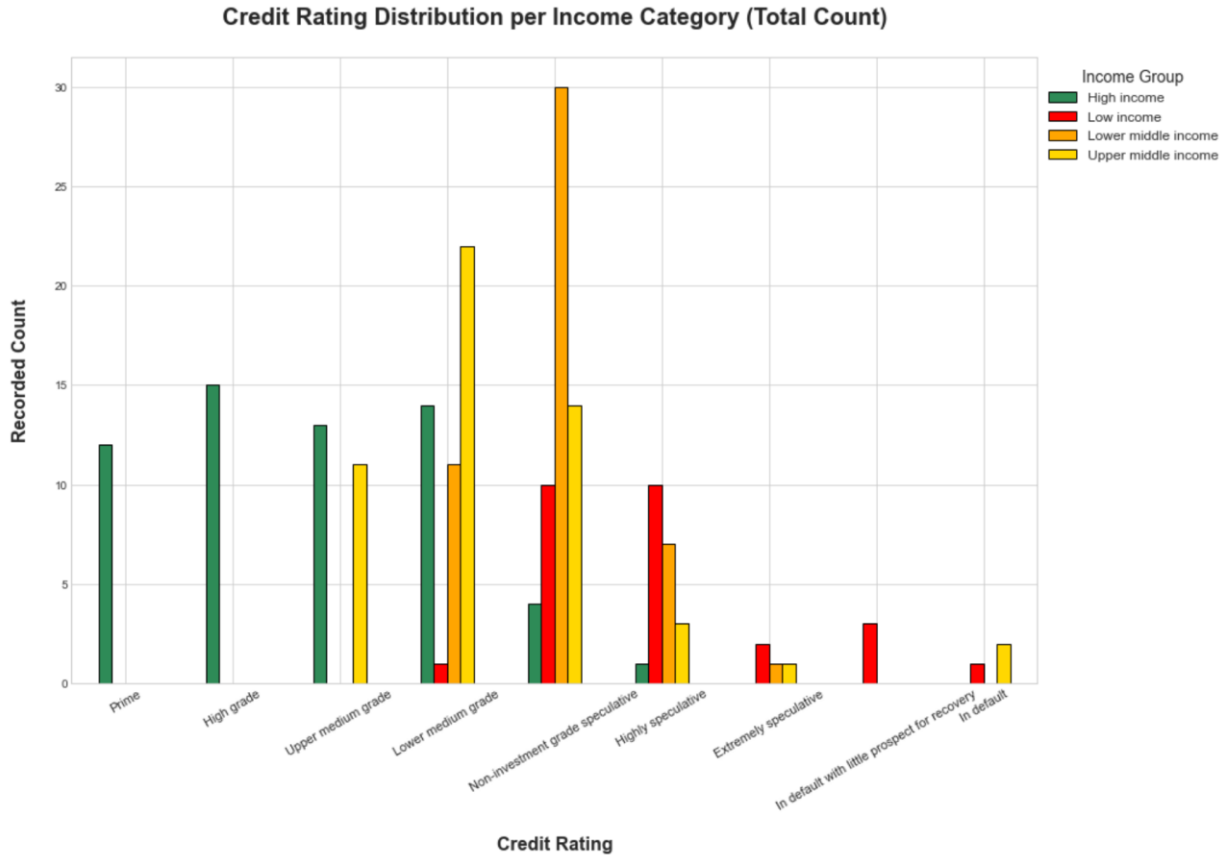
Other sources included **UN Trade Statistics**, **Transparency International**, **Trading Economics** and **Wikirating.**

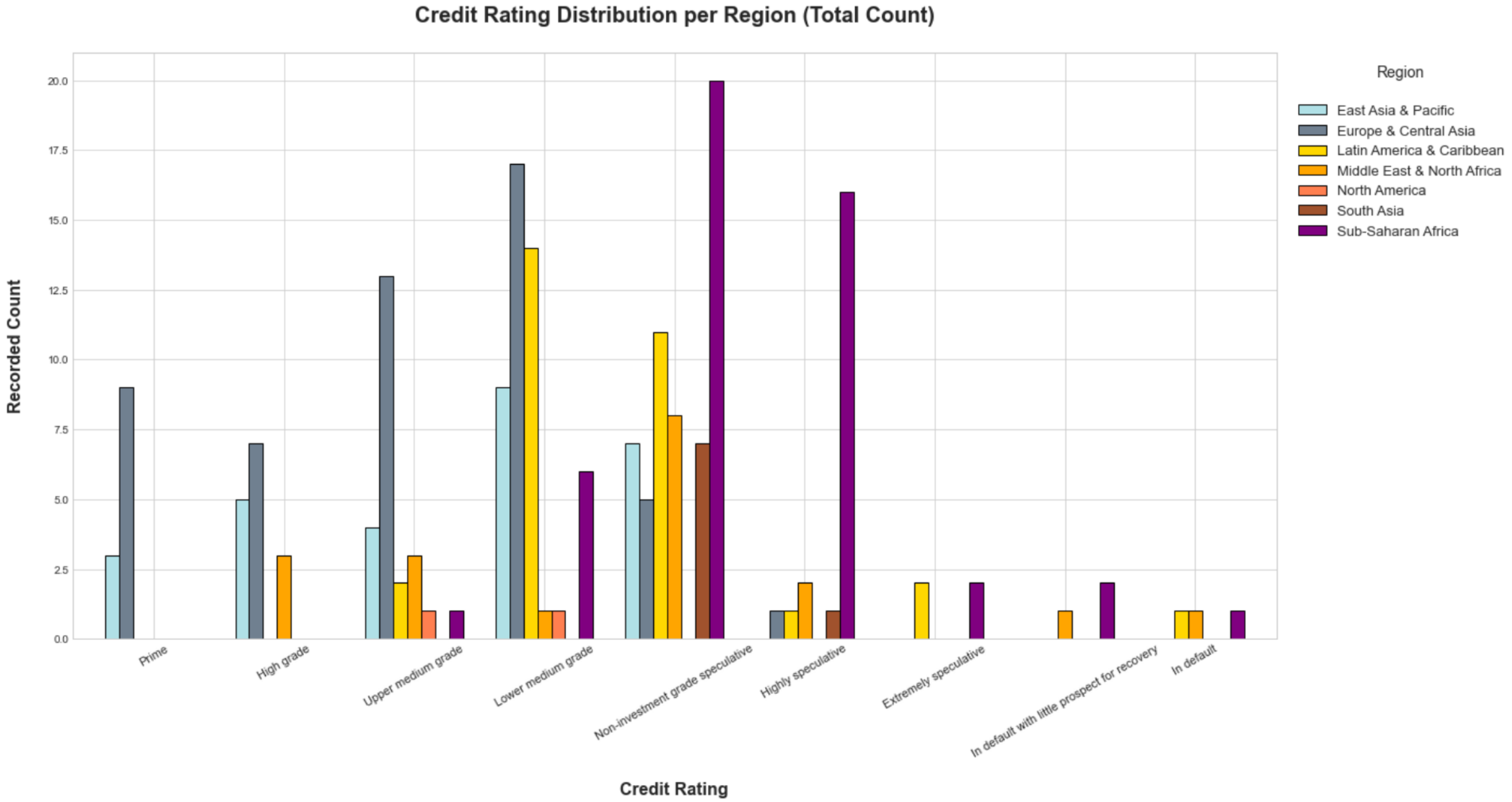
A large part of the analysis involved gathering and sourcing various indicator data to include in the model.

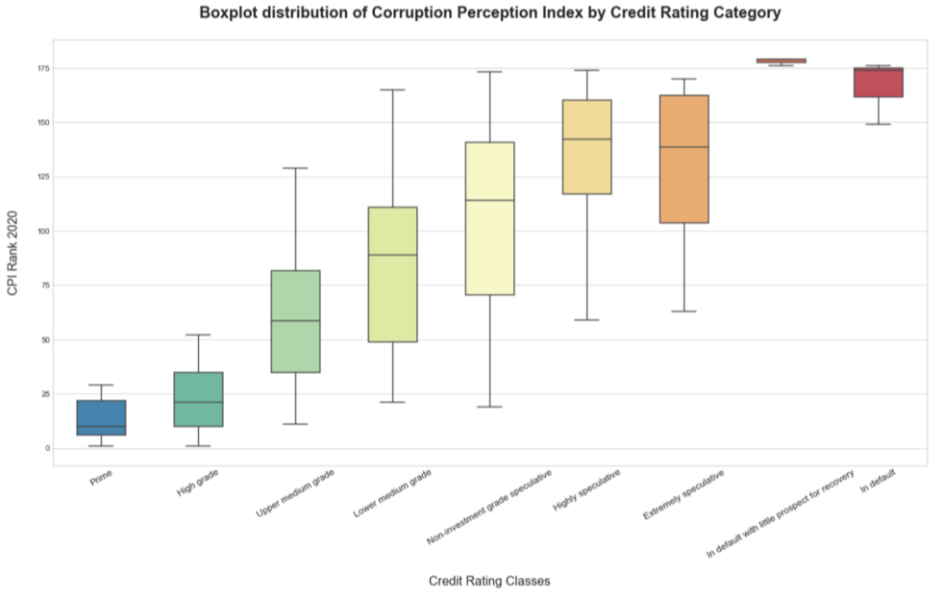
Findings from the Data

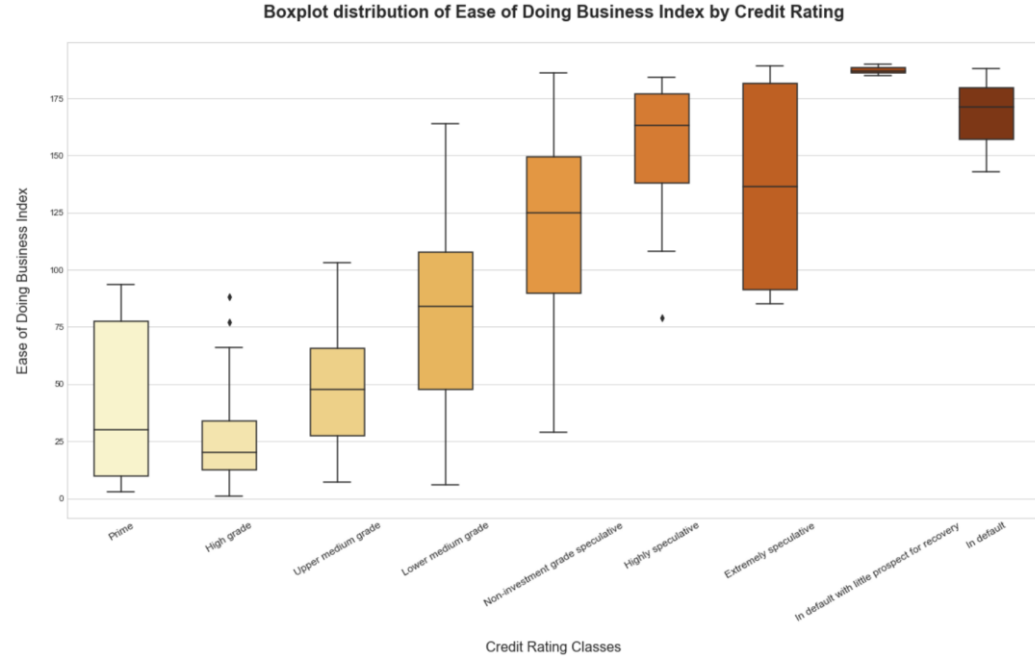


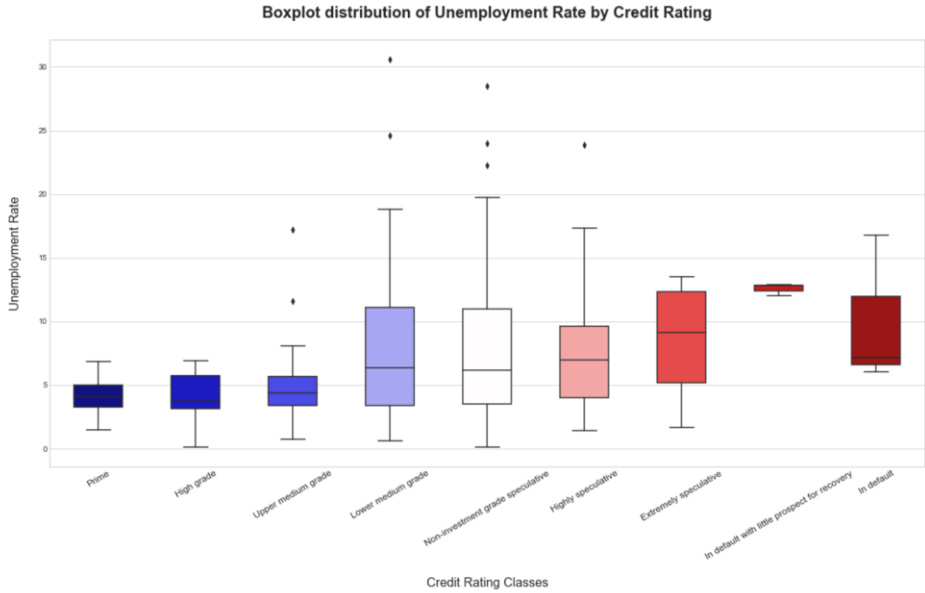

Normalized Credit Rating Distribution per Income Category
Recorded Percentage
1.0
0.8
0.6
0.4
0.2
0.0
Income Group
High income
Low income
Lower middle income
Upper middle income
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default
Credit Rating

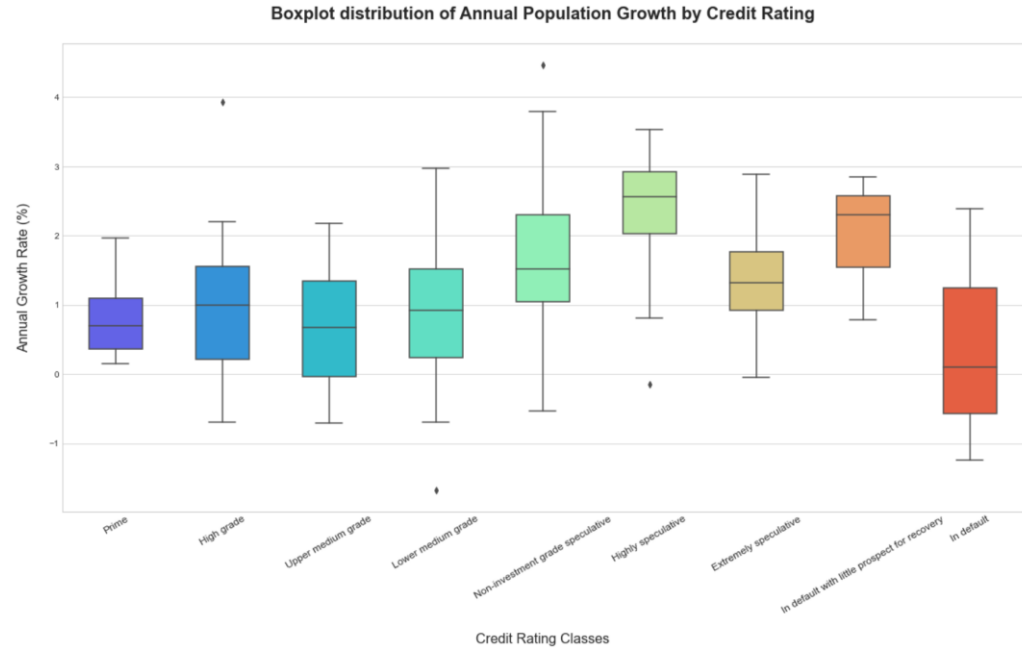

Credit Rating Distribution per Income Category (Total Count)
Recorded Count
30
25
20
15
10
5
0
Income Group
High income
Low income
Lower middle income
Upper middle income
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default
Credit Rating


Credit Rating Distribution per Region (Total Count)
Recorded Count
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default
Credit Rating
Region
East Asia & Pacific
Europe & Central Asia
Latin America & Caribbean
Middle East & North Africa
North America
South Asia
Sub-Saharan Africa


Boxplot distribution of Corruption Perception Index by Credit Rating Category
CPI Rank 2020
Credit Rating Classes
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default


Boxplot distribution of Ease of Doing Business Index by Credit Rating
Ease of Doing Business Index
Credit Rating Classes
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default


Boxplot distribution of Unemployment Rate by Credit Rating
Unemployment Rate
Credit Rating Classes
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default


Boxplot distribution of Annual Population Growth by Credit Rating
Annual Growth Rate (%)
Credit Rating Classes
Prime
High grade
Upper medium grade
Lower medium grade
Non-investment grade speculative
Highly speculative
Extremely speculative
In default with little prospect for recovery
In default

A Few Recommendations

- Though the model still lacks data to make a conclusive prediction across the board, when tackling higher risk markets, investors should focus on the following:
  - Looking at the strong relationship between Credit Rating and such variables as Income Group and Ease of Doing Business Index, investors should monitor the business environment in emerging markets, specifically focusing on the presence of a growing number of entrepreneurship and small & medium businesses. Such factors could provide early indicators of an improving economy.
  - Monitor news cycles of the country, specifically focusing on the presence of any corruption scandals, given the strong positive relationship between corruption and poor credit rating.
  - Consider the region of interest alongside considerations for risk appetite.

Future Research

- Continue to test features to add to the model including:
  - Freedom Scores
  - Presence of internal or regional conflict
  - Primary national industries
  - Level of natural resources & type

- Incorporate Time Series aspect to increase the length of the dataset & explore the time variable's effect on different countries' sovereign risk

- Zoom in on historic cases where countries have defaulted on their debt to identify common patterns leading up.

Thank You for Your Time!

FIND OUT MORE AT: