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Analysing the predictive power of political and social factors in determining country risk

- Vishwanath Kolar Bhaskara
- Bhuvaneswari Yallabandi

USERS PROGRAM

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ABSTRACT

Sovereign risk rating and country risk rating are conceptually distinct in that the former captures the risk of a country defaulting on its commercial debt obligations using economic variables while the latter covers the downside of country's business environment including political and social variables alongside economic variables[1][2].Through this poster we would like to understand the differences between these risk approaches in assessing a country's credit worthiness by statistically examining predictive power of political and social variables in determining country risk. To do this, we wish to build two models, first model with economic variables as regressors (sovereign risk model) and the second model with economic, political and social variables as regressors (country risk model) to compare the predictive power of regressors and model performance metrics between both the models. This will be an OLS regression model with country risk rating obtained from S&P as the target variable. With a general assumption that economic variables are driven by political processes and social factors, we would like to see if the second model has better predictive power. Upon initial research, we plan to use GDP, Inflation Rate, Trade balance, Export's growth rate, International Reserves, Fiscal Balance, Debt to GDP as our independent economic variables, Political Stability, Accountability, Government Effectiveness, Regulatory Burden, Corruption as independent political variables, Unemployment rate, labour force population rate as the independent social variables. This data is obtained from World bank open data. We anticipate minor changes in independent variables based on our further research on how economic, political and social variables impact country risk.

DATA DESCRIPTION

Sources:

World bank data bank for economic, political and social variables for the year 2015

S&P Ratings for target variable country risk.

VARIABLE SELECTION CRITERIA

Variables were selected on basis of 3 criteria:

- Based on extensive literature review few variables which played an important role in estimating country risk were considered.
- Availability of complete and reliable data as we wanted to avoid the problem with missing data
- Thirdly uniformity of the data across countries

Based on the above criteria, we used following variables in our model

- Gross Domestic Product
- Inflation Rate
- Trade Balance
- Exports Growth Rate
- Fiscal Balance
- Debt to GDP
- Political Stability
- Government Effectiveness
- Corruption

Overall, our data consisted of 127 records of different countries, 6 economic variables and 3 political variables.

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Results

Multiple Regression model was fit with S&P country risk rating as target variable and Economic variables as predictor variables and the R-Square was found to be 88.4% while the adjusted R-Square was found to be 86.4%.

But when the same predictor was regressed after adding political variables to the predictors, it was evident that the R-Square had gone up to a value of 94% and Adjusted R- Square to 92% proving that political variables together with economic variables have better predictive power

CONCLUSIONS

It is statistically proved that political variables explain the total variation a lot better than economic variables alone.

REFERENCES

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