

The effects of COVID-19 outbreak on Italy country reputation and stock exchange index

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Abstract

One of the first Western countries to be critically affected by the COVID-19 outbreak in spring 2020 was Italy. Users on Twitter immediately started to express their opinions, feelings or support towards Italy. To analyze the impact that such an event had on Italy, we collected more than four million tweets before and after the outbreak to assess if a substantial change in the sentiment expressed on Twitter occurred.

In the first part of the analysis, we evaluated all the tweets posted in English from October 1, 2019 to May 31, 2020 using a lexicon-based approach. We performed this analysis with six lexicons from three different R packages. We computed a day-by-day mean of the scores computed with the lexicons evaluations to obtain a representative value for each day and we performed a structural change analysis in order to verify the existence of breakpoints. For all six lexicons we identified two breakpoints: the date of the first breakpoint, common to all lexicons, was February 21 (the day the first coronavirus case was reported in Italy), while the date of the second breakpoint showed a small variability between the six lexicons, varying between 11 and 20 April.

To evaluate the impact of such event on Italian economy we also collected the stock exchange values of the main Italian index (FTSE-MIB). We compared textual and financial data to assess whether or not some association can be found.

Keywords: sentiment analysis, Twitter, COVID-19, stock market, country reputation