“We Feel Fine”: Big Data Observations of Citizen Sentiment About State Institutions and Social Inclusion

OVERVIEW
This project studied the relationship between citizen trust in state institutions and social protest. Using visual analysis of approximately 11 million sentiment classified Tweets from the period of the 2014 Brazilian World Cup, the study explored 1) how Brazilian citizens felt about their state institutions at the time, 2) how these feelings connected to their sentiments about Brazilian Federal and State government and politicians and 3) how such sentiments translated into collective behaviors. The results of the study reveal that the 2014 World Cup protests in Brazil sprang from a wide range of grievances coupled with a relative sense of deprivation compared with emergent comparative ‘standards’. This sense of grievance gave rise to sentiments that activated online protest and that may have led to other forms of social protest, such as demonstrations.

BACKGROUND
The 2014 FIFA World Cup was the largest sporting event of its kind ever hosted in Brazil. In addition to this, it was also the most expensive, with an estimated cost of as much as US$14 billion according to some reports.1 During and in the immediate aftermath of the 2014 World Cup there were public protests in several Brazilian cities. Various reasons for the protested were cited in media reports at the time and in subsequent studies. These reports point to discontent with the level of spending on the Cup in contrast to spending on public services and the community.2 The lack of debate in Brazilian Society about the competition and its objectives has also been cited as a contributing factor.3 Also a factor according to some sources was the threat of increased taxation and a higher cost of living.4 News reports at the time also highlighted corruption.5 Aside from the immediate causes of the 2014 World Cup protests, this research project sought to explore...
whether the protests related to citizens’ trust in state institutions and social inclusion. In particular, the study sought answers to three questions: 1) how Brazilian citizens’ felt about their state institutions at the time, 2) how these feelings connected to their sentiments about Brazilian Federal and State government and politicians and 3) how such sentiments translated into collective behaviors.

METHODOLOGY
This study used a novel ‘big data analytics’ methodology that incorporated the following elements:

- Operationalizing citizen trust as a measure of sentiment in the content of Twitter data
- Choice of SentiStrength\(^6\) to instrumentalize trust as sentiment
- An initial ‘big picture’ harvest of approximately 11 million Tweets
- Visual iterative exploratory analysis and text analysis using Natural Language Processing of ‘big picture’ Tweets to extract search terms representing key concepts underlying the study i.e., state institutions, government, etc.
- Use of the search terms to harvest historical Tweets for the period of interest i.e., 2014 World Cup
- Sentiment classification of harvested Tweets
- Development and use of a visual social media analytics\(^7\) tool to explore sentiment classified historical Tweets
- Pair analysis\(^8\) using the visual social media analytics tool
- Analysis of competing hypotheses\(^9\) using visual social media analytics tool

FINDINGS
Using this methodology, the research uncovered that Brazilian citizens were expressing negative sentiment about the national government’s low level of investment in education, health and water, and to a lesser extent security and electricity, relative to spending on the World Cup. Much of this negative sentiment was directed at the President of Brazil and the ruling party, who protest Tweeters viewed as dishonest and corrupt. At the state level, water emerged as a key issue, and Tweeters expressed negative sentiment and were critical of lack of administrative effectiveness and levels of investment relative to politicians’ spending on other priorities, such as campaign financing. The negative Tweets were forms of social protest that may have led to other forms of protest (possibly including street demonstrations).

The analysis expanded upon media reports and subsequent studies of the 2014 World Cup protests, which generally focused on single immediate causes, to understand that the protests sprang from a wide range of long-standing grievances coupled with a relative sense of deprivation triggered by emergent comparative standards (i.e., at the national level, spending on the World Cup and at the state level, campaign financing). The relative sense of deprivation contributed to sentiments that activated protest.

![Figure 1: Screenshot of "We Feel Fine" Visual Social Media Analytics Tool showing sentiment analysis](image-url)

CONTACT
Victoria Lemieux, Senior Public Sector Specialist, Integrated Digital Solutions Group, vlemieux@worldbank.org
CONCLUSION
The approach taken in this study provided novel insights into issues of concern to Brazilian citizens and their feelings about the quality of service delivery, state institutions, politicians, political parties and policy choices around the time of the 2014 World Cup. By connecting the analysis to various explanatory hypotheses on the relationship between citizen trust and social protest, the study also found support for theories of relative deprivation as a cause of protest and for theories of digitally-mediated modes of contestation.

The use of big data analytics made it possible to observe the protests from a distance, both in terms of space (i.e., the research team did not travel to Brazil) and time (i.e., the study used historical Tweets). As such, the study provided insight into the lived experiences of a subset of Brazilian citizens as expressed naturalistically in their own Tweets at a specific point in time. This approach differs from the collection of survey data, which is not naturalistic and may prime citizens with questions that frame their experiences in ways that are not revealing of their own thoughts and attitudes. On the other hand, this type of big data analytics does not offer a representative sample of views. The approach also differs from ethnographic field studies, which require the researcher to spend time in the field collecting detailed observational data. As such, big data analytics serves to complement these other approaches to understanding development issues in context.

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2 Associated Press, 2014
4 Ibid
6 http://sentistrength.wlv.ac.uk/#About
7 Visual Analytics is often defined as “The science of analytical reasoning facilitated by interactive visual interfaces” and is an analytical approach that accounts for the need of a human-in-the-loop in the analytic sense-making process. See J.J. Thomas and K.A. Cook, (eds.) 2005, Illuminating the Path: the Research and Development Agenda for Visual Analytics. Los Alamitos: IEEE.
8 Pair Analysis “is a research method in which visual analytic reasoning, collaboration in analytical work and analytic discourse, can be captured and analyzed.” See ScienceLab (2015), http://interaction-science.sfu.ca/projects/pair-analytics
9 Analysis of competing hypotheses a proven process that helps analysts avoid common analytic pitfalls. Because of its thoroughness, it is particularly appropriate for controversial issues when analysts want to leave an audit trail to show what they considered and how they arrived at their judgment.” See Psychology of intelligence analysis, https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/art11.html