

# Sovereign Debt Surveillance: An Analysis of Sovereign Debt Twitter Discussions During The COVID-19 Pandemic

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## BACKGROUND

**Sovereign debt** refers to the amount of money that a country's government has borrowed and is typically issued as bonds in the form of a reserve currency.

The global **COVID-19** pandemic caused additional expenditures within countries to fund health responses. Its social and economic impacts have severely damaged public balance sheets and public borrowing has increased significantly.

## RESEARCH PURPOSE

Due to this novel relationship, this research aims to investigate the general discussions about **sovereign debt** online and which actors and countries are most prominent in leading these discussions.

A set of hypotheses and research questions were formed and modeled after the **World Systems Theory** and **Two-step Flow Theory**.

## HYPOTHESES

**H1:** The attributes of a country (**population, size of its land, education, and age of population**) will predict the country's mention in Sovereign Debt related Tweets.

**H2:** The economic resources of a country (**gross domestic product per capita, GINI Index, population below poverty, and unemployment**) will predict the country's mention in Sovereign Debt related Tweets.

**H3:** **Core countries** are *more* likely to be mentioned in tweets about sovereign debt *than peripheral countries*.

**RQ4:** Who are **opinion leaders** of sovereign debt on Twitter?

## THEORIES

### World Systems Theory

**WST** has been referenced by communications scholars in order to analyze international information flow through news flow on Twitter (Golan & Himelboim, 2016; Guo & Vargo, 2017; Guo & Vargo, 2020). Additionally, this research builds upon Wu et. al (2016) examining country presence on Twitter.

### Opinion Leaders

The idea of opinion leadership originates from the **Two-Step Flow Model**, introduced by Lazarsfeld et. al (1968). This research further examines international information flow on the topic of sovereign debt with a more thorough comprehension of top opinion leaders and their country of origin on **Twitter**.

## METHOD

**Timeline:** Jan. 1, 2020 - Mar. 16, 2021  
**Media:** Twitter  
**Sample size** 62, 706 tweets;  
 49, 011 profiles;

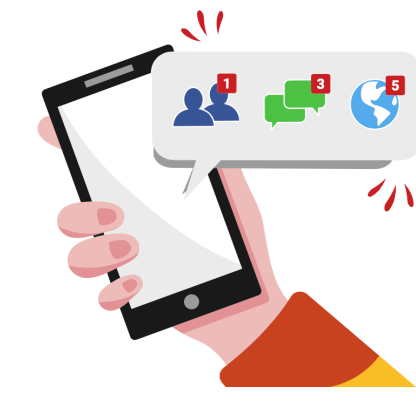
**Methods**

- Dictionary-based analysis
- Manual content analysis
- Social network analysis



**Dictionary-based analysis** on 79, 604 tweets were conducted for the analysis of the country mentioned.

**Social network analysis** on 49, 011 accounts was conducted to calculate the in-degree of each account. After that, a **manual content analysis** on 500 accounts (top1%) was conducted by two coders for accounts' countries and types.



## KEY FINDINGS

### International Information Flow

#### Country Mentions

**H1:** Among all 4 country attributes, population ( $\beta = .431, p < .005$ ) can positively predict the country mentions, and youth population ( $\beta = -.233, p < .01$ ) can negatively predict the **country mentions**.

✓ H1 is partially supported, 1 of 4 are supported, and 1 is in the opposite direction.

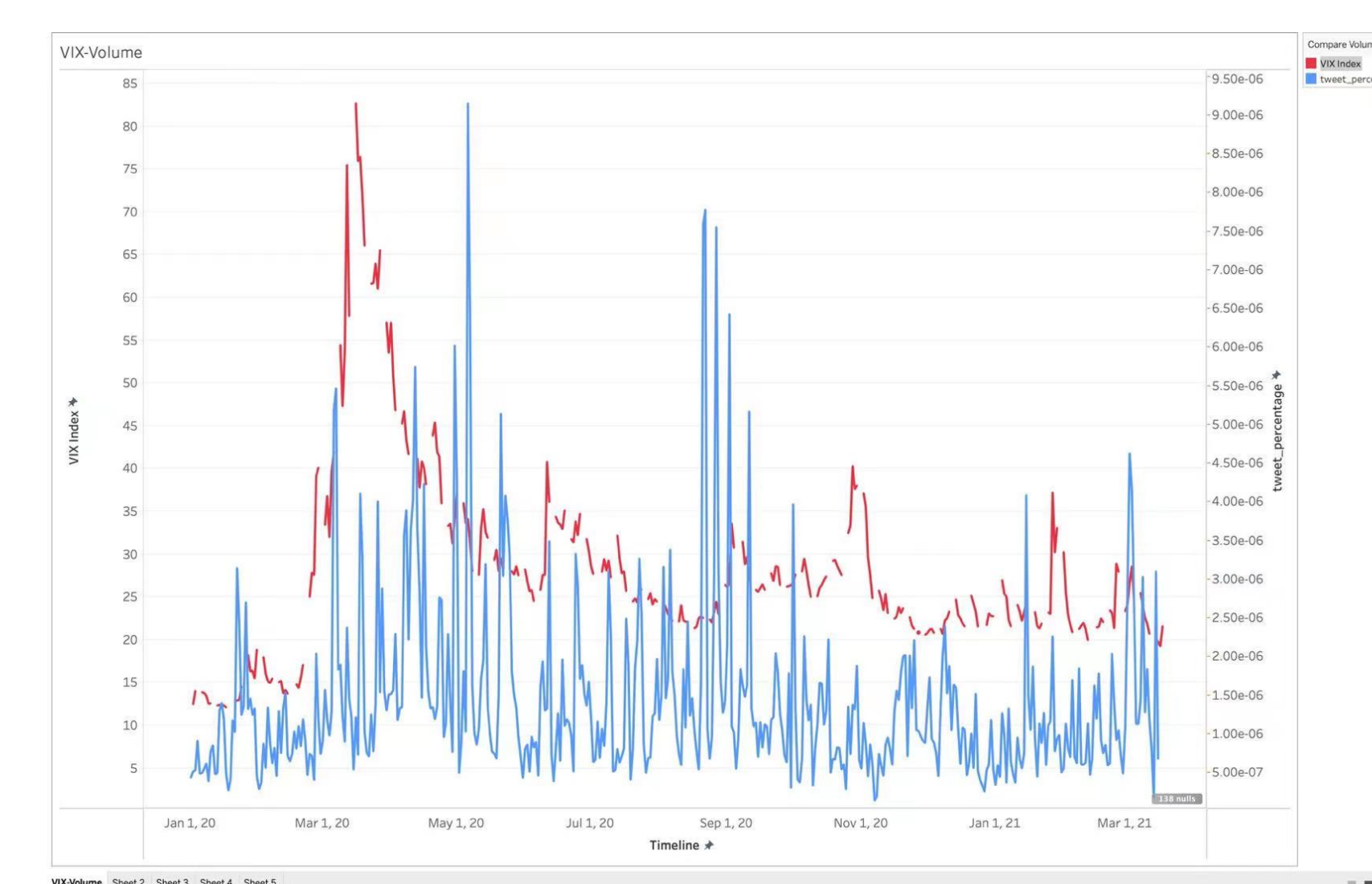
**H2:** GDP among all the 4 economic factors positively predicts **country mention** ( $\beta = .441, p < .01$ ).

✓ H2 is partially supported, 1 of 4 is supported.

**H3:** Core countries have significantly more **country mentions** ( $M = 2.107, SD = .887$ ) than non-core (peripheral, semi-peripheral) ( $M = 1.575, SD = .877$ ) countries,  $t(61) = 2.287, p < .05$ .

✓ H3 is supported.

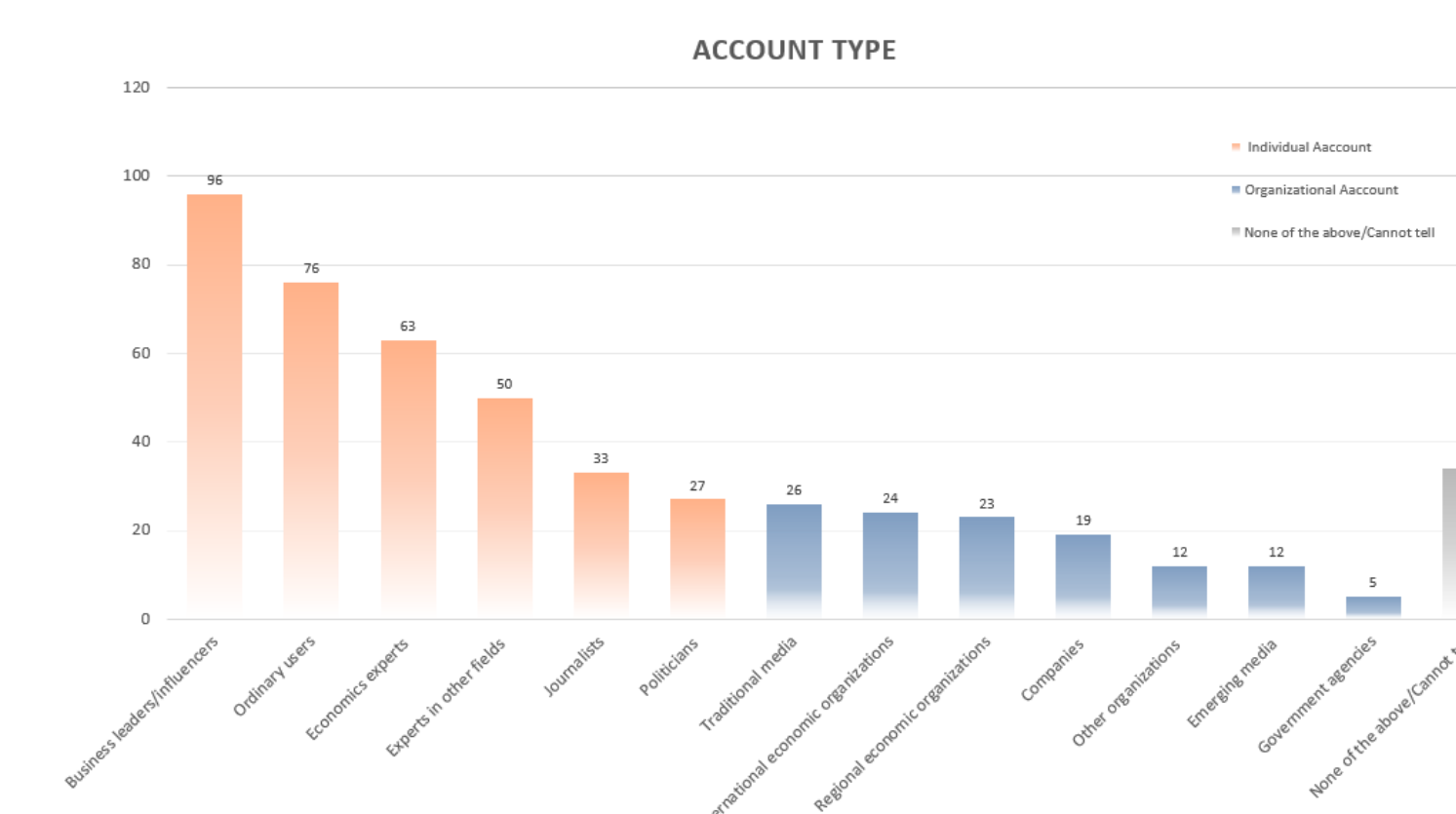
VIX index & tweets volume by time



### Opinion leaders

**RQ4:** There are more **individual** opinion leaders than organizations. Most of them are **experts** in the field of economics/business. Most of the opinion leaders come from **the US**.

Type of opinion leaders getting attentions:



## DISCUSSION

### Contributions

- ❖ Further explore the relationship between country attributes and country mention under specific topics, thus contributing to the literature of WST and international information flow
- ❖ Further investigate opinion leaders who lead the discussion on Twitter, including opinion leaders' general account type, specific account type, country origin

### Limitation

- ❖ The only language that we have covered in the current research is English, thus the analysis nearly only focused on the opinions of people from English speaking countries

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