



COVID-19 ANALYSIS

BY: WOMEN OF MATH DESTRUCTION

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PRESENTATION

Our Story

Data from Jan-Oct 2020



1. Motivation
2. Datasets used
3. Government responses
4. Women vs. Men led countries

FOCUS

Our Motivation



Were there any differences in response between countries led by women vs countries led by men?



COUNCIL*on*
**FOREIGN
RELATIONS**



The Datasets

In addition to the original Covid-19 Dataset, we used 3 additional ones in our analysis.

01

POLICY DATASET 1

CoronaNet Research Project dataset that listed the various policies enacted by different countries.

02

POLICY DATASET 2

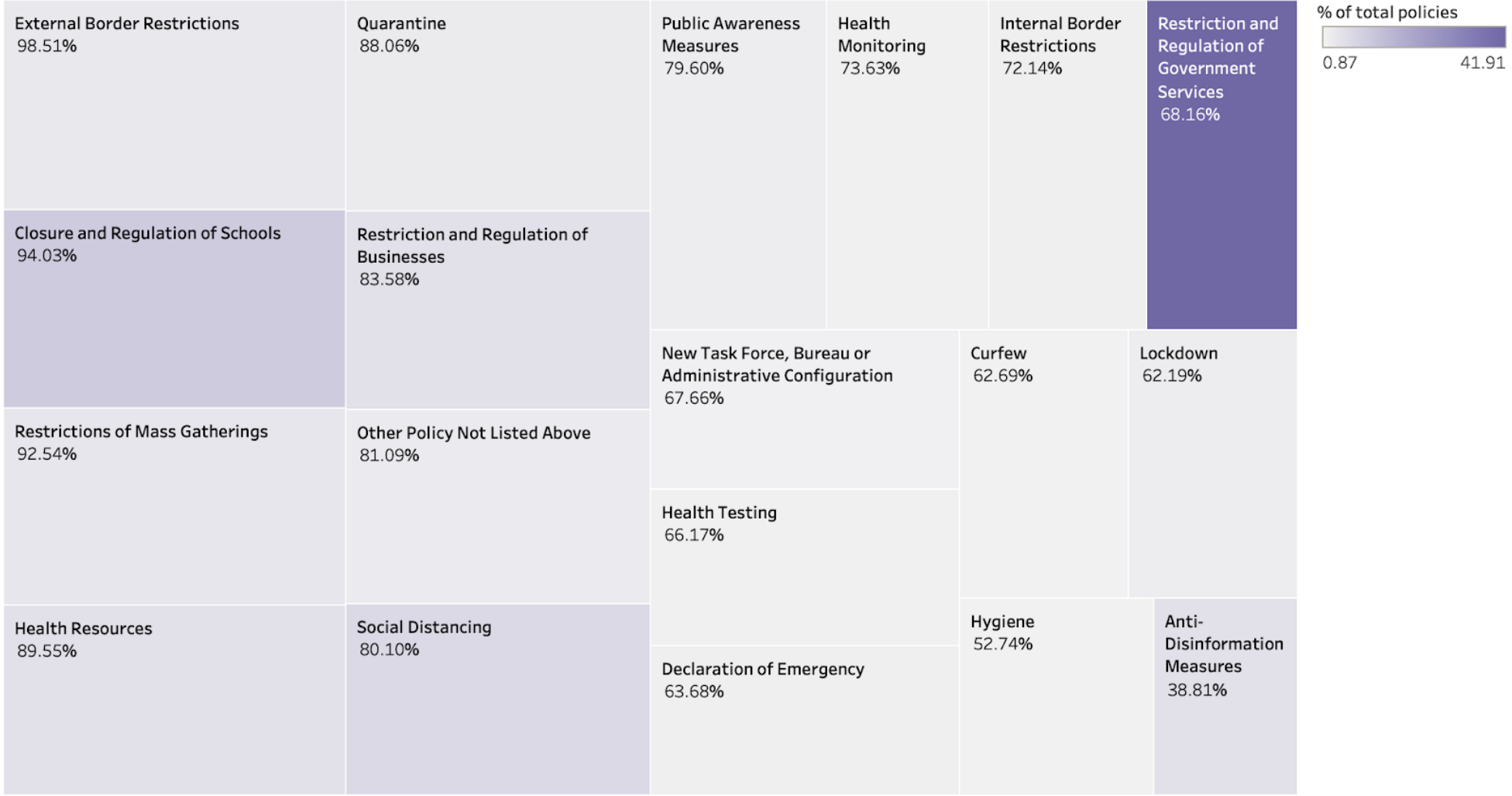
Oxford Covid-19 Government Response Tracker dataset that listed more specific policies per country and their level of strictness.

03

WOMEN LEADERS

CFR women in charge dataset that indicated if a woman was leading the country.

Policy Overview



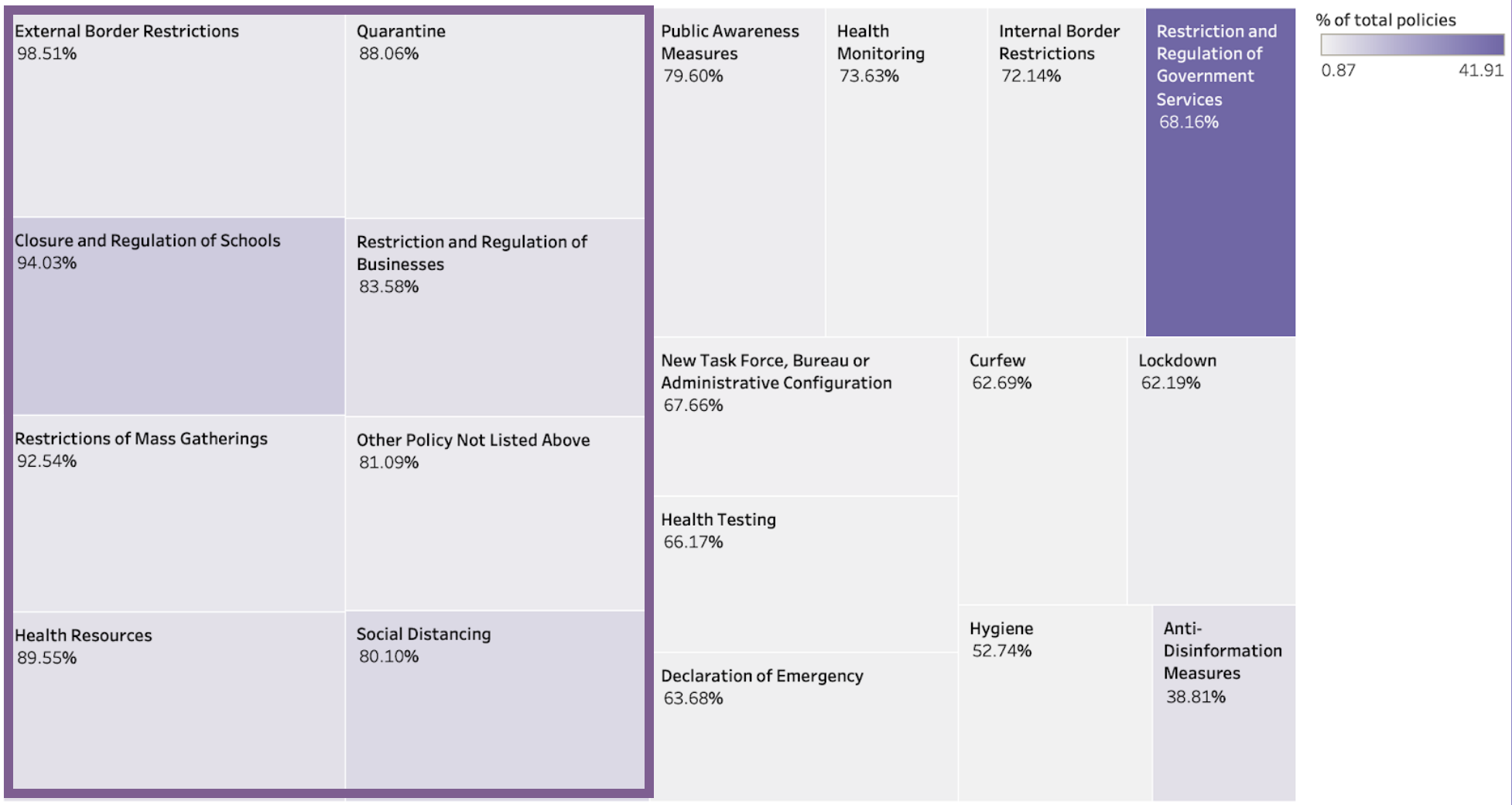
GLOBAL POLICIES

As of the 7th of October, 71,764 government policies have been made in 201 countries in response to the COVID-19 pandemic.

Note:

- The darker the colour the more policies on that topic.
- Rectangle sizes are proportional to the percentage of countries that have implemented the policies on that topic.

Policy Overview



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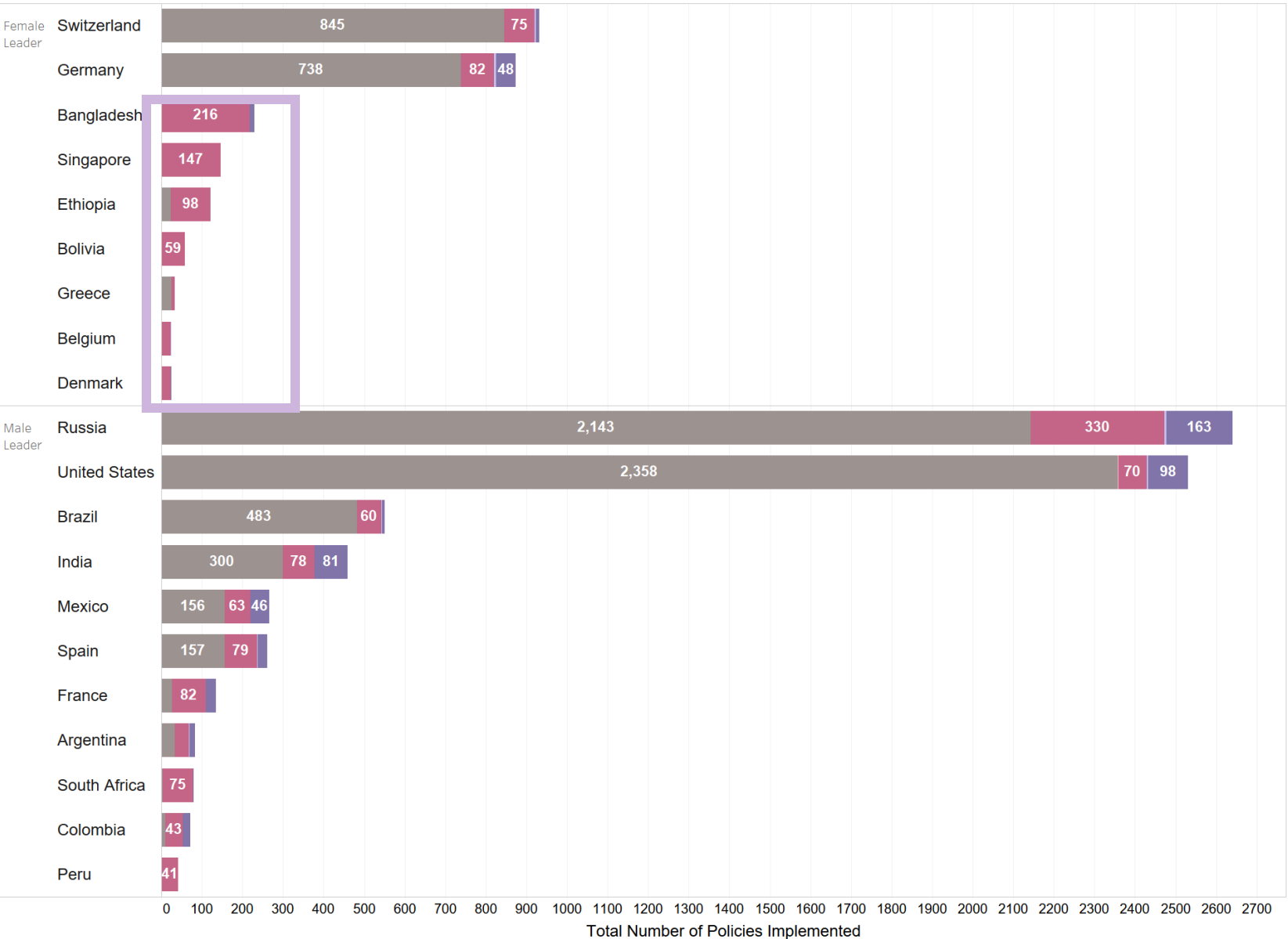
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Total Policies Implemented

BY COUNTRY LEVEL

Total Policies by Compliance



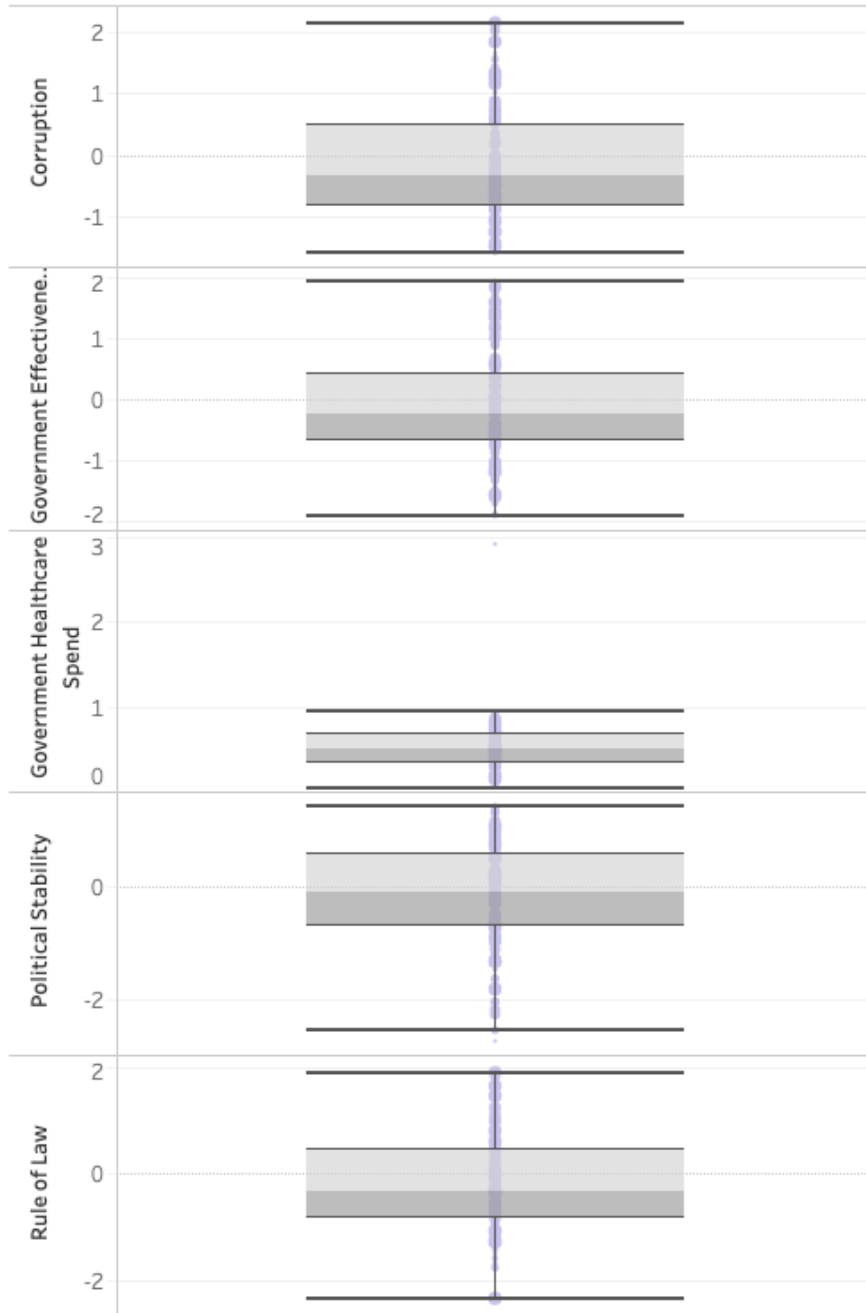
Female
Leader

Male Leader

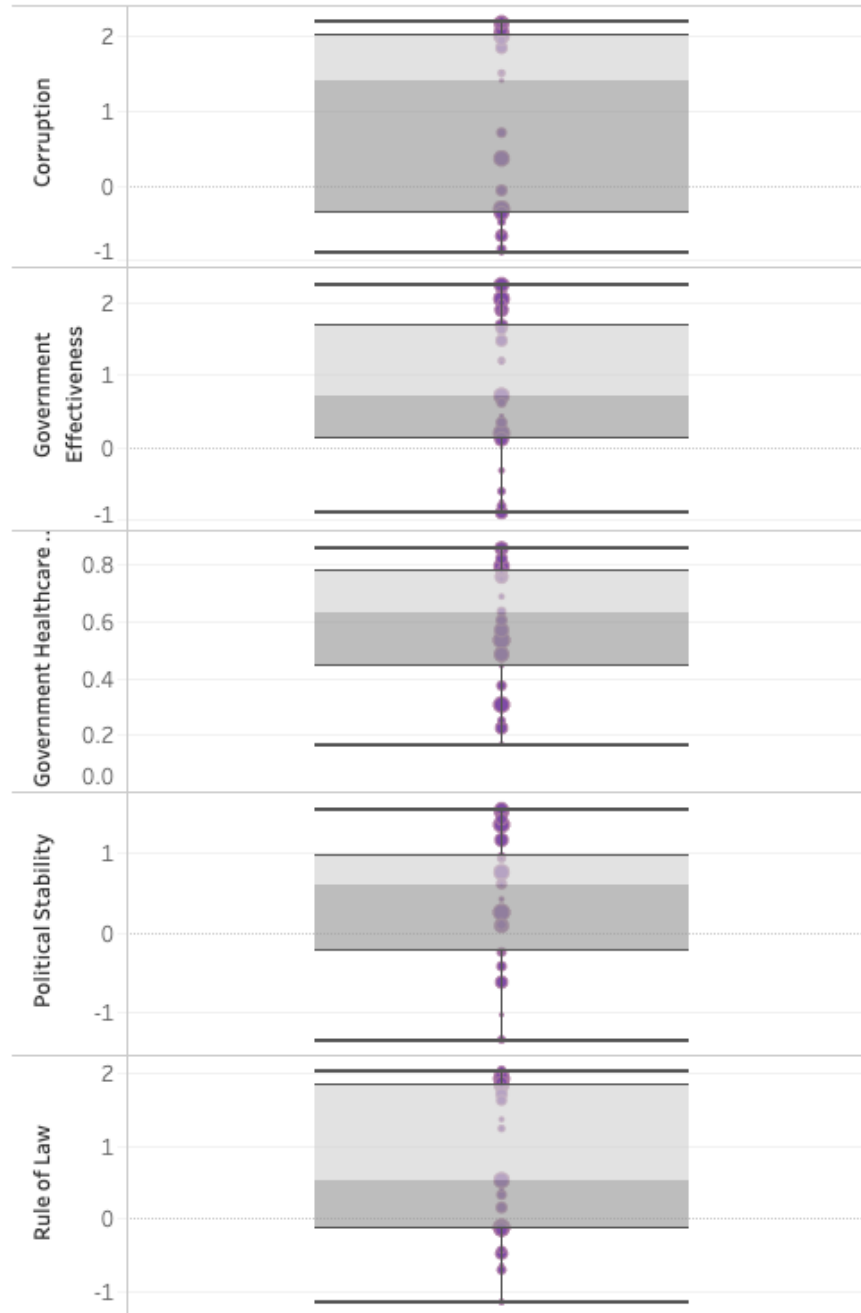
Country Level

- Municipal
- NA
- National
- Other (e.g., county)
- Provincial

Men lead countries



Women led countries



COMPARING

GOVT STATISTICS

Comparing levels of corruption, government effectiveness, government spend on healthcare, political stability, and rule of law.

The background is a dark blue-grey color. It features several stylized virus particles of varying sizes, each with a spherical core and radiating, cone-like spikes. In the top-left and top-right corners, there are white L-shaped brackets, suggesting a frame or a corner of a screen.

PREDICTIVE ANALYSIS

GROWTH OF INFECTIONS

Will the Curves Flatten in the Near Future?

PREDICTING COVID GROWTH TO EARLY 2021

Model: Three-parameter logistic growth (sigmoid function)

$$\mathbb{E}(Y_t) = \frac{M}{(1 + \exp(-\beta(t - \alpha)))}$$

01

M:

maximum number
of cases

02

α :

number of days at
which the expected
number of counts is
half-way to the
maximum

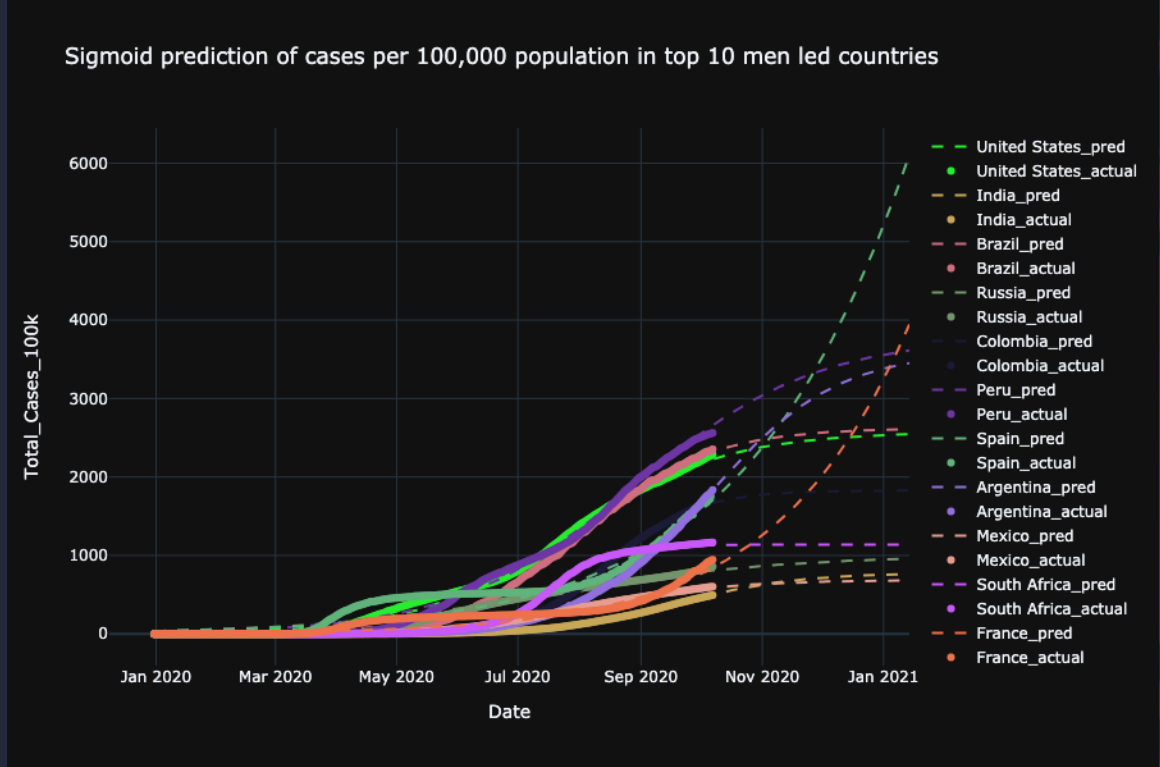
03

$\beta > 0$

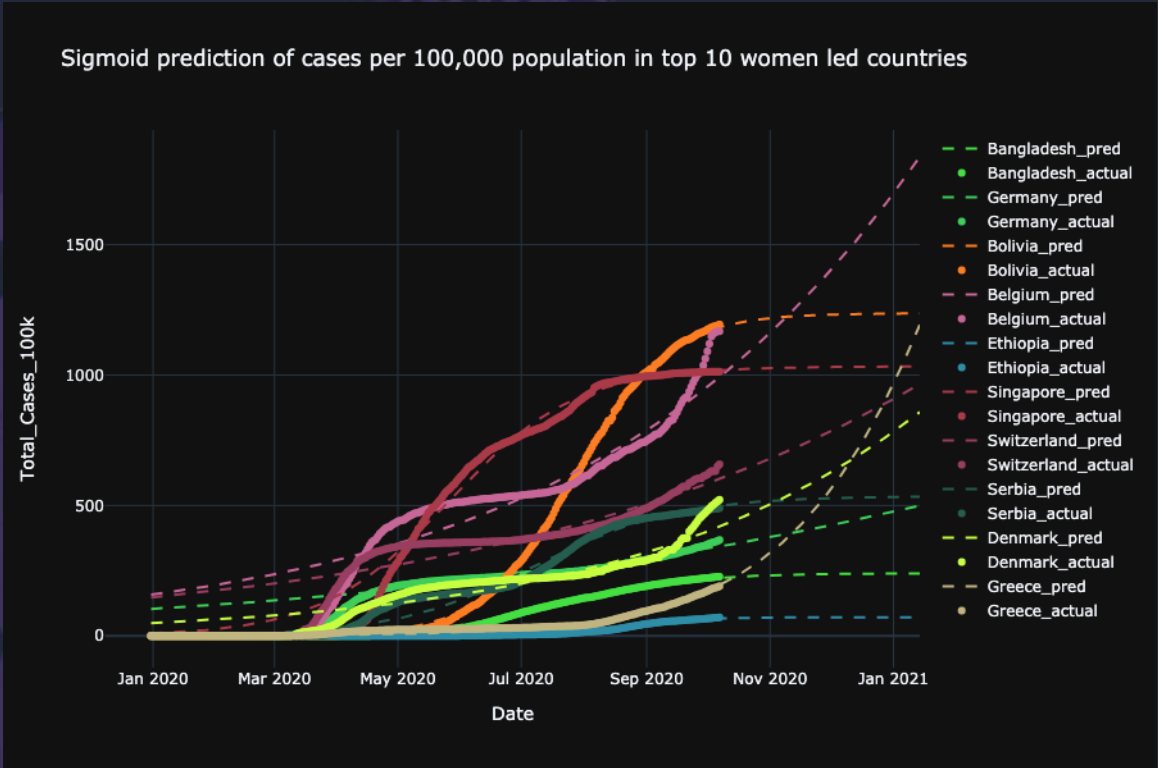
the growth parameter

SIGMOID PREDICTIVE ANALYSIS

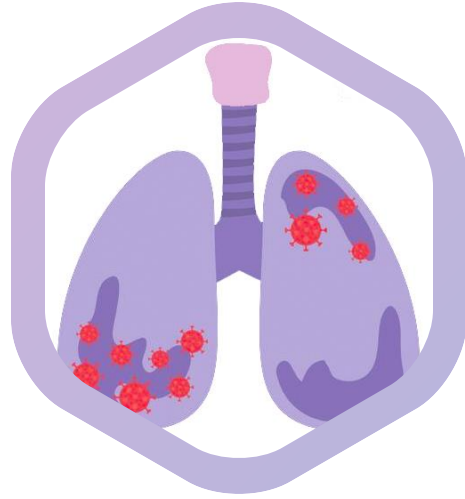
PREDICTING COVID CASES PER 100,000 POPULATION



TOP 10 MEN LED COUNTRIES



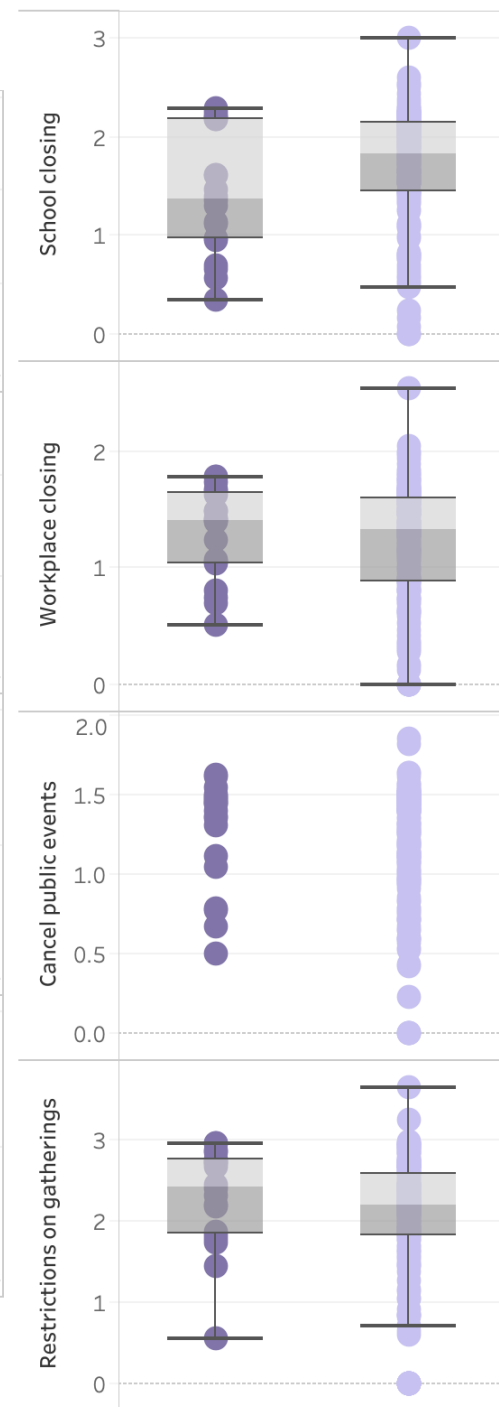
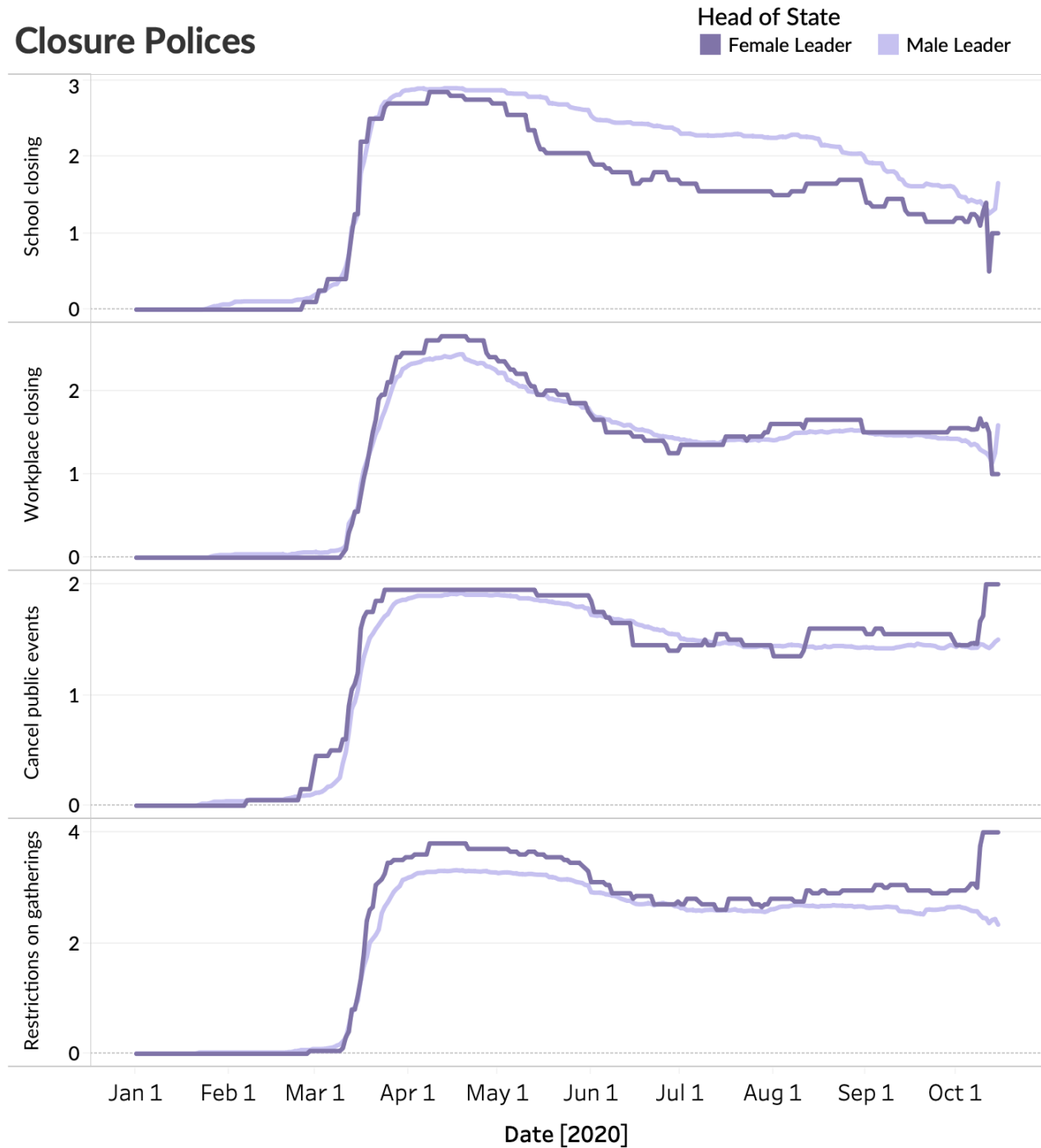
TOP 10 WOMEN LED COUNTRIES



Women vs Men

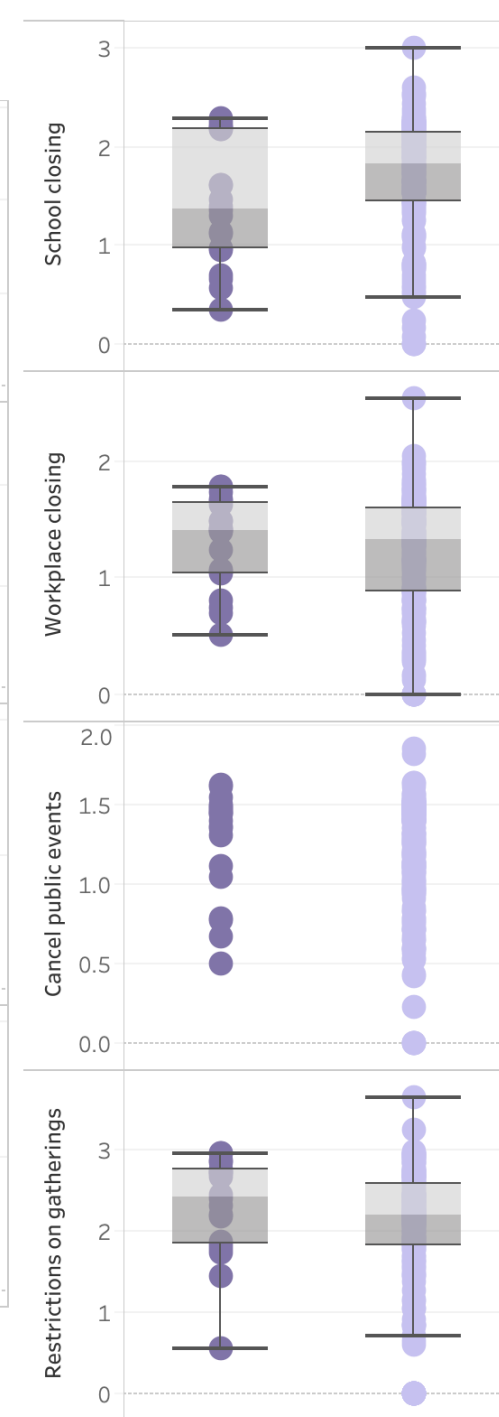
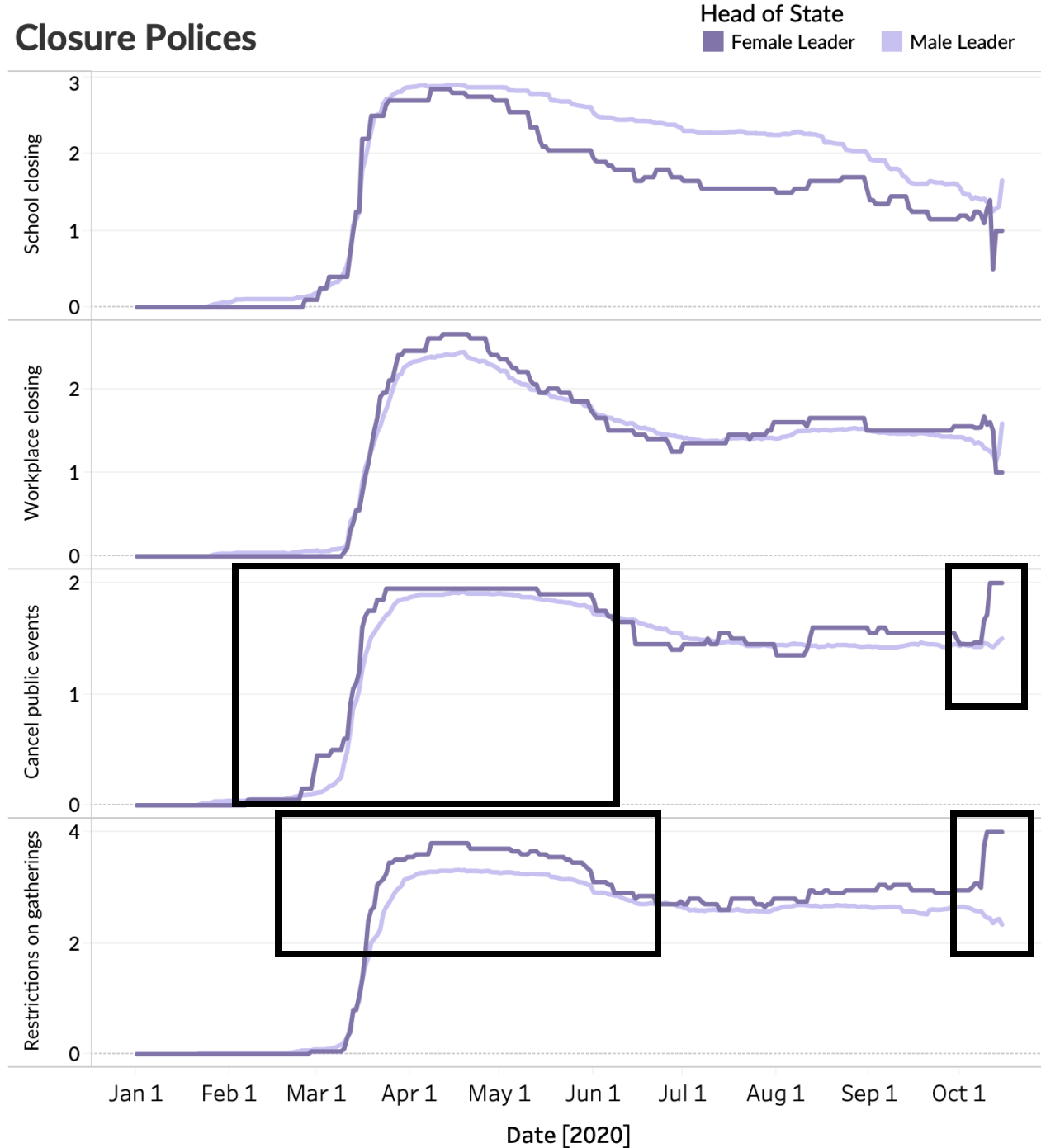
LEADERS

Was there a difference in their handling of the pandemic?



Closure POLICIES

From these graphs, we can see that women led countries enacted restrictions on public gatherings and public events quicker than men led countries. We are also starting to see this trend happening in October as well.



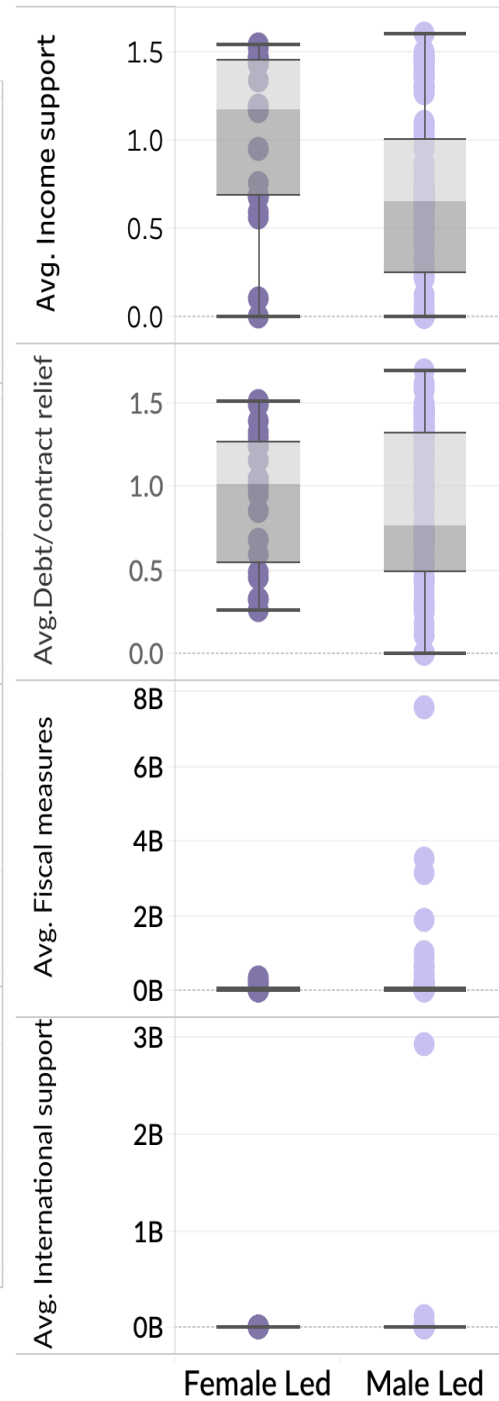
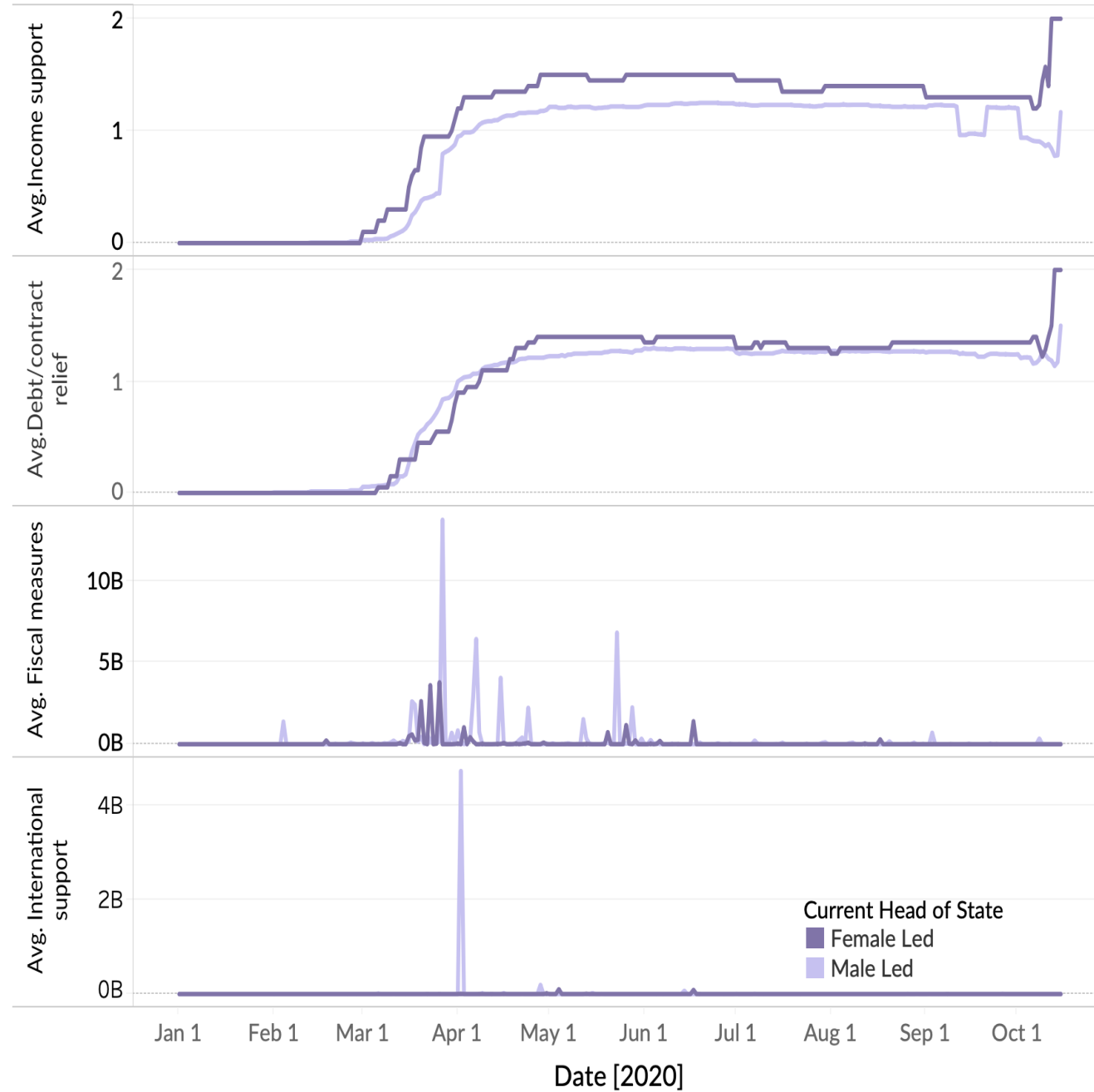
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Economic POLICIES

Women led countries were also quicker to provide a higher amount of income support.

Economic Policies

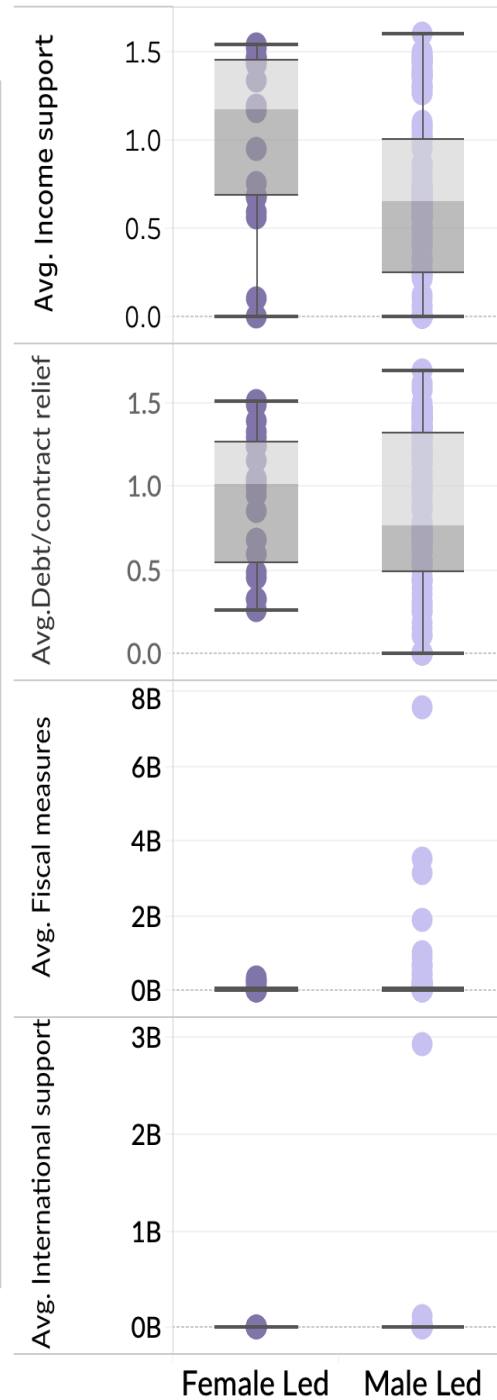
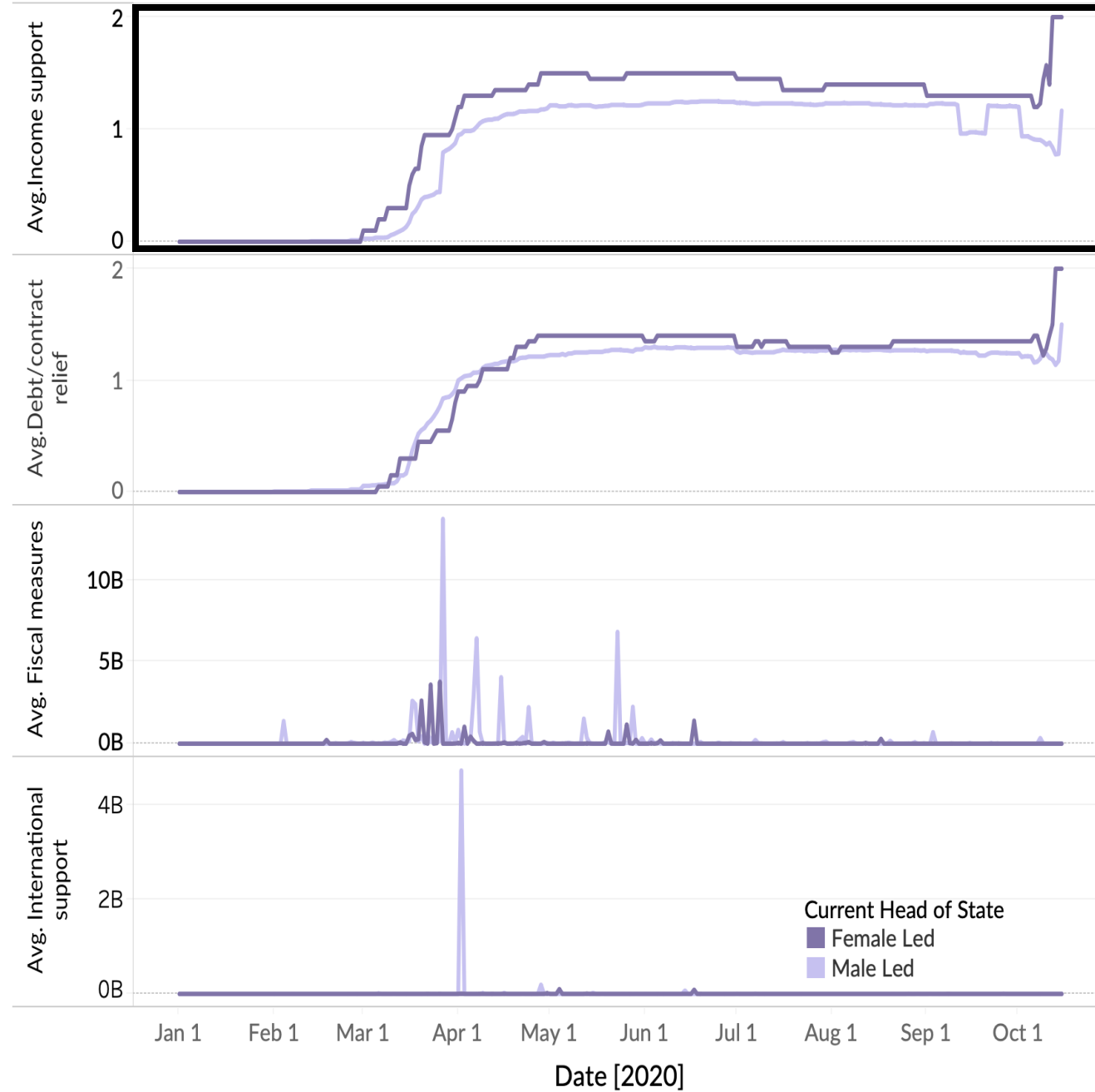




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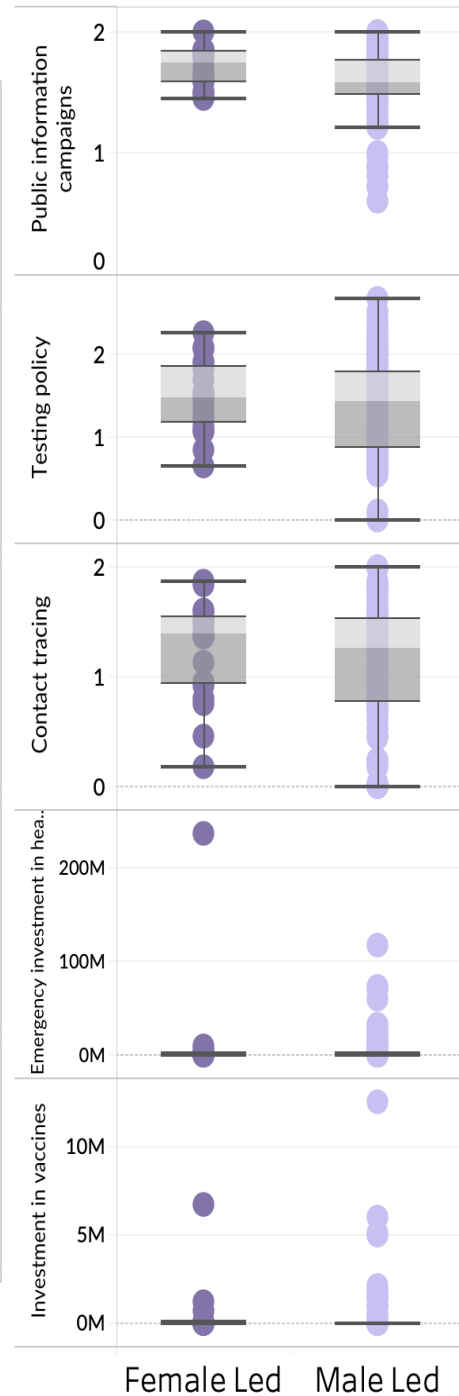
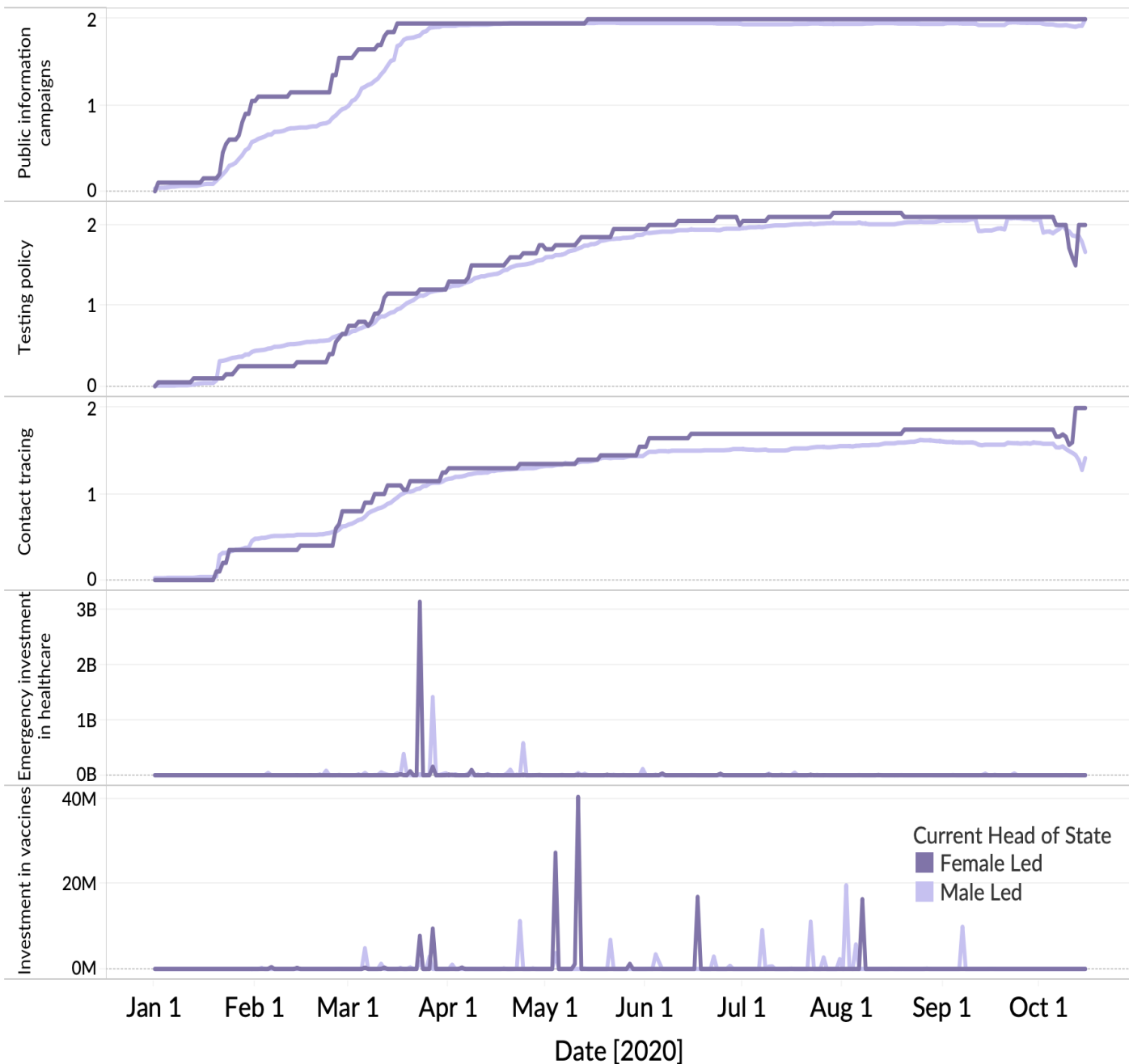


Health System

POLICIES

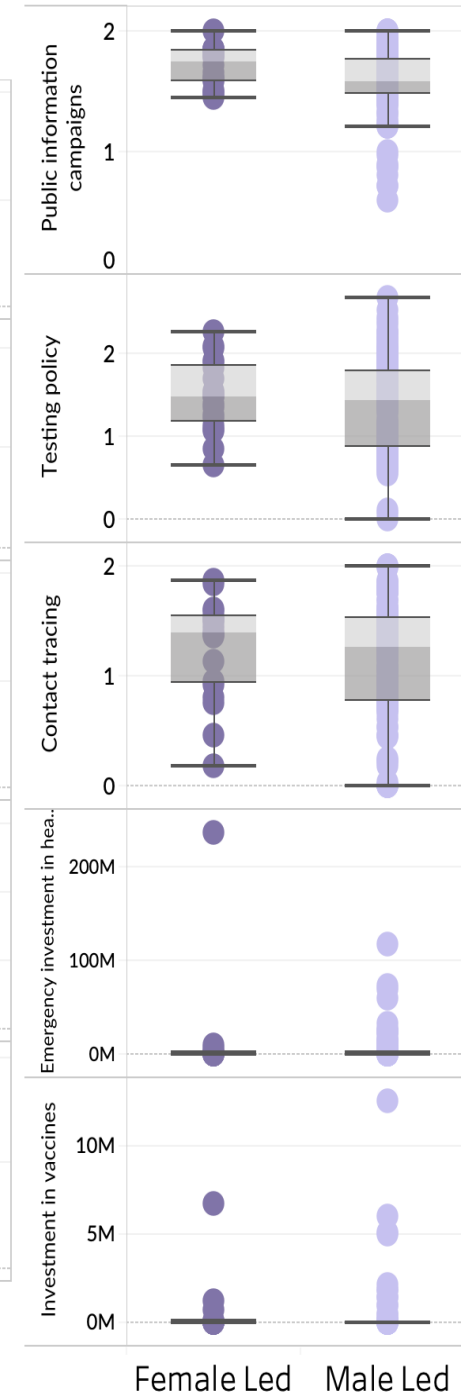
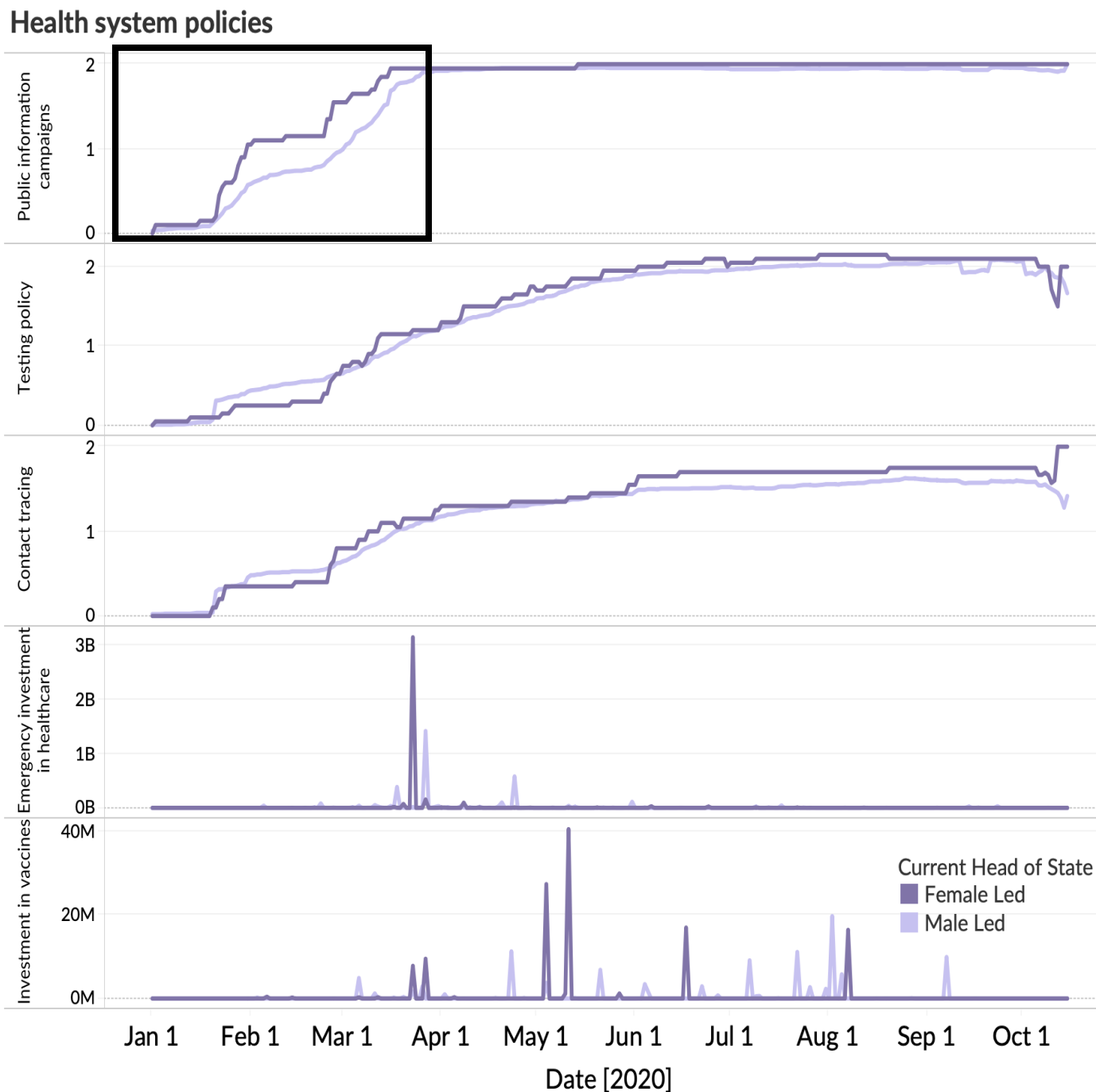
Overall trend shows that women led countries were quicker to implement public information campaigns.

Health system policies



Health System POLICIES

Overall trend shows that women led countries were quicker to implement public information campaigns.





WHAT NEXT?

Conclusions & Recommendations

- A **possible relationship** between early intervention policies and reduced cases and deaths but more research needs to be done
- Further investigate **Germany's government structure**. How were they able to handle the pandemic better than other EU countries?
- Study **the diversity of the ministers** in each country and its impact on the government's response.
- Look into the **effects of better economic policies and earlier interventions**.
- Explore the **role that misinformation has played** in trying to contain the virus. From the previous graph we saw that women led countries were quicker to implement general information campaigns.

Thank You



Thank You



And please wear a mask!

