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Impact of Mask Mandates on COVID-19 Outcomes

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Mask Mandate Effectiveness on Covid-19 Cases

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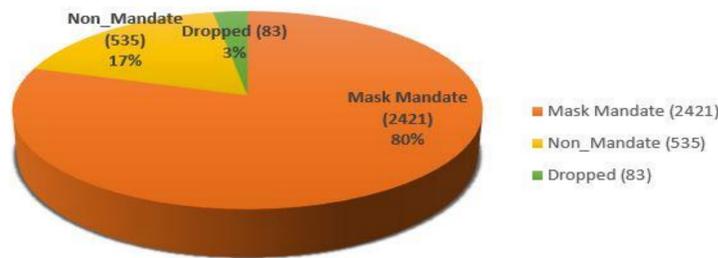
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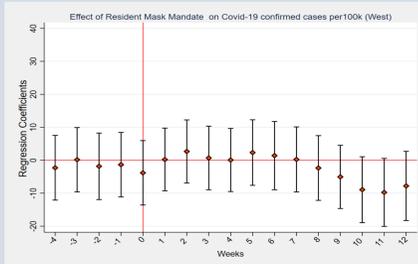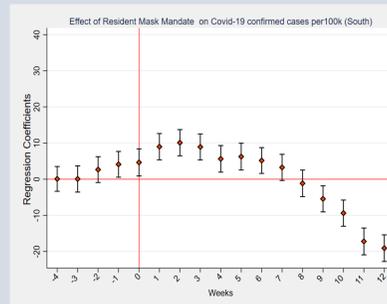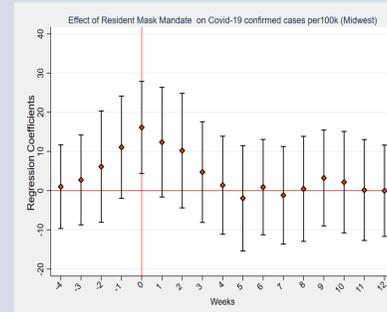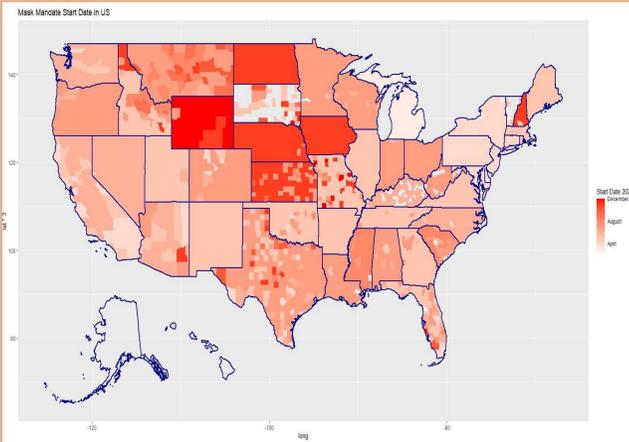
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Different Risk Levels differently behave with Mask Mandate Policy
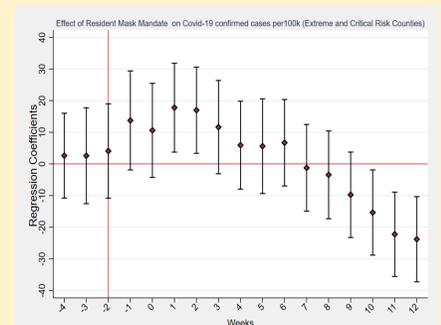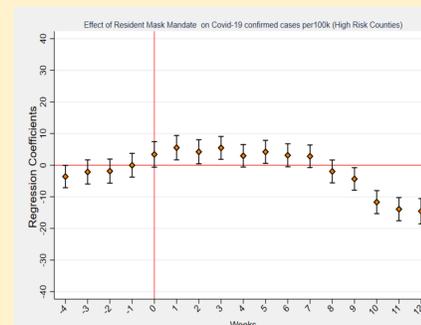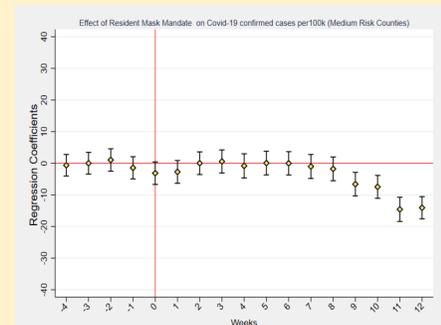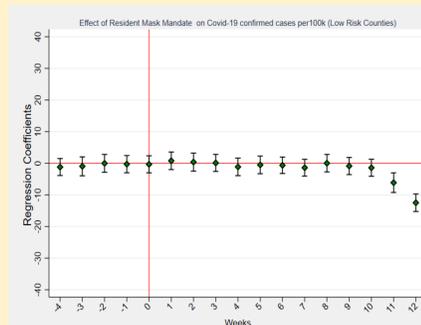
US Counties with Mask Policy

- Mask Mandate (2421)
- Non_Mandate (535)
- Dropped (83)

Non_Mandate (535) 17%
Dropped (83) 3%
Mask Mandate (2421) 80%

Who cares?
Decision-makers need information about policies' effectiveness to decide which policies should be adopted while restarting economic activity.

METHOD:

Data — Five different time series dataset are collected (Covid-19 cases, Risk Levels, Google Mobility, Policies , Vaccination)

Model — Build an Event-based model for counties with Mask Mandates and counties without Mask Mandate

Methodology — Use counties' cases without Mask Mandate as a *baseline model*

Results — Compare changes in Covid-19 cases in both models and plot the results.

Mask Mandate Start Date

RESULTS:

❑ In the Midwest region, Mandate and Non-Mandate mask counties have statistically indistinguishable differences in Covid-19 confirmed cases 12 weeks after the start of the mask mandates.

❑ In the South region, Mask Mandate counties have a statistically distinguishable increment in Covid-19 confirmed cases 4 weeks after the start of mask mandate policy

❑ In the West region, Mandate and Non-Mandate mask counties have statistically indistinguishable differences in Covid-19 confirmed cases 12 weeks after the start of mask mandate policy

The overall Risk level is based on:
- Cases density   Test Positive ratio   Infection rate

❑ In Low, Medium, High and (Critical&Extreme) Risk levels Mandate and Non-Mandate mask counties have statistically indistinguishable differences in Covid-19 confirmed cases 8 weeks after the start of the mask mandates.

❑ In Medium, High and (Critical&Extreme) Risk levels significantly distinguishable decrement in Covid-19 confirmed cases with Mask Mandate counties compared to Non-Mandate counties from weeks 9-12 after the start of the mask mandates.

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REFERENCES
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