Crime and COVID-19: Effect of changes in routine activities in Mexico City

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Background

COVID-19 represents the largest disruption to public life in our lifetimes.

Flurry of interest into the effects of reduced mobility and changing patterns on crime.

No research to date outside US, Australia, UK.

Initial evidence on the relationship between the coronavirus pandemic and crime in the United States

Matthew P. J. Ashby

Exploring the Effect of 2019-nCoV Containment Policies on Crime: The Case of Los Angeles

Gian Maria Campedelli[†]   Alberto Aziani[1,2]   Serena Favarin[1,2]

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Crime Rates in a Pandemic: the Largest Criminological Experiment in History

Ben Stickle[1] · Marcus Felson[2]

Crime and coronavirus: social distancing, lockdown, and the mobility elasticity of crime

Eric Halford[1], Anthony Dixon[2], Graham Farrell[2*], Nicolas Malleson[2] and Nick Tilley[3]

Staying home saves lives, really!

Soheil Shayegh[*1] and Maurizio Malpede[†2]

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Impact of social distancing during COVID-19 pandemic on crime in Los Angeles and Indianapolis

George Mohler[a], Andrea L. Bertozzi[b], Jeremy Carter[a], Martin B. Short[c], Daniel Sledge[d], George E. Tita[e], Craig D. Uchida[f], P. Jeffrey Brantingham[b,*]

Coronavirus: Domestic violence 'increases globally during lockdown'

The UN has described the worldwide increase in domestic abuse as a "shadow pandemic" alongside Covid-19.

It's thought cases have increased by 20% during the lockdown, as many people are trapped at home with their abuser.

The BBC's Gender and Identity Correspondent, Megha Mohan, has been finding out how women in four countries have come up with solutions to help vulnerable women in their communities.

Reporter: Megha Mohan, video journalist: Olivia Le Poidevin, BBC Minute

covid domestic violence

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About 28,800,000 results (0.21 seconds)

Amnesty International
While tackling COVID-19 Europe is being stalked by a shadow ...
Last month, the UN warned of a "shadow pandemic" alongside COVID-19: a global rise in domestic violence. Around the world, there has been ...
5 days ago

Chatham House
Domestic Violence in Russia: The Impact of the COVID-19 Pandemic
The COVID-19 pandemic has made Russia's domestic violence problem more visible, with shifting public opinion potentially incentivizing the ...
2 weeks ago

Relevance

Practical importance
- *Has crime changed?*

Theoretical importance
- *Why?*

Secretaría de Seguridad y Protección Ciudadana
@SSPCMexico

En el primer semestre del año alcanzamos una disminución en el delito de robo a negocios. Trabajamos día con día para conseguir estos y otros resultados. #PazYSeguridad

Translate Tweet

ROBO A NEGOCIO

Enero – junio de 2019:
61,006 delitos

Enero – junio de 2020:
47,467 delitos
Disminuyó 22.2 %
(13,539 delitos)

Fuente: SESNSP-CNI con información reportada por las Procuradurías o Fiscalías de las 32 entidades federativas.

GOBIERNO DE MÉXICO | SEGURIDAD

American Journal of Criminal Justice
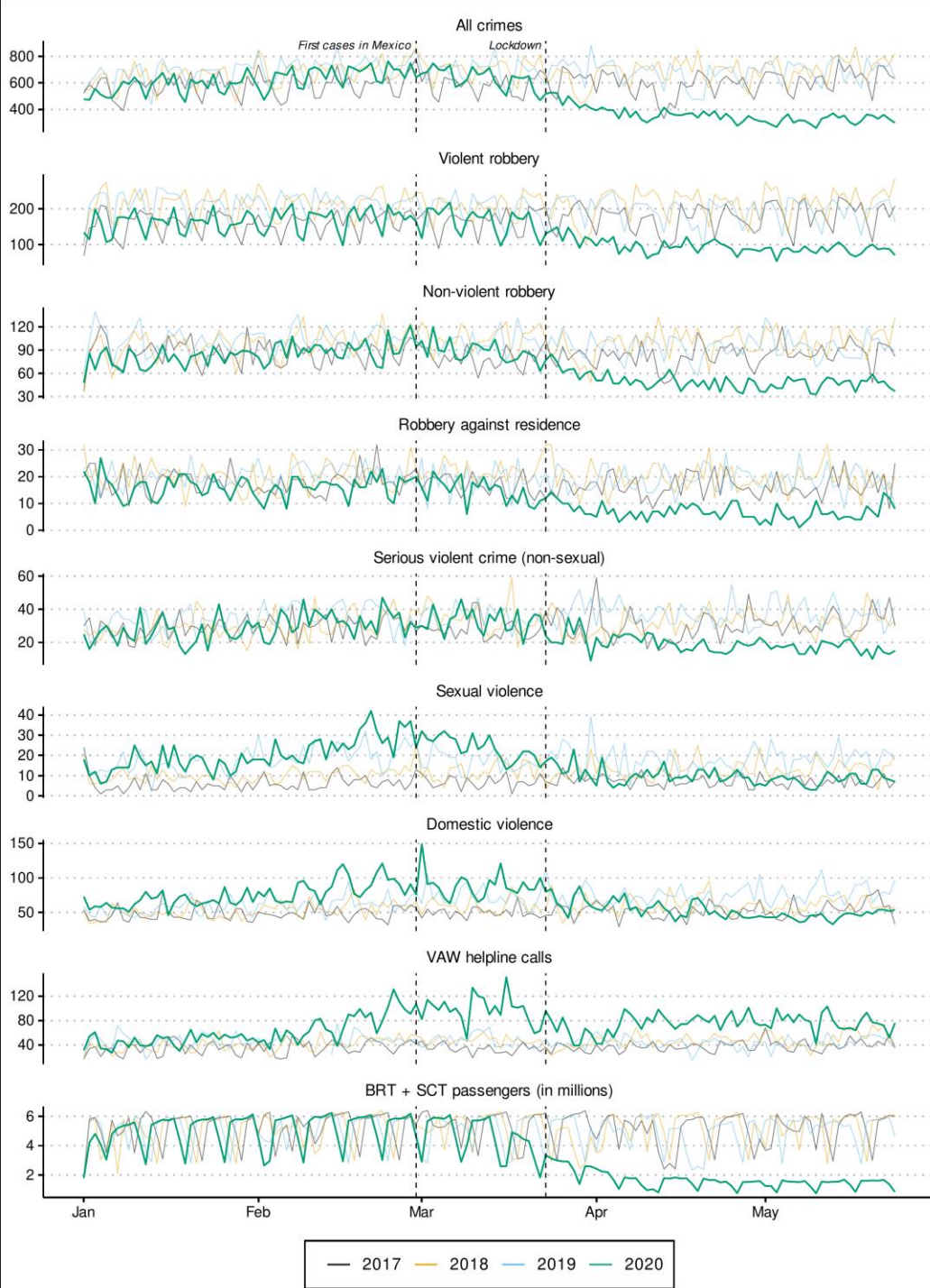https://doi.org/10.1007/s12103-020-09546-0

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Ben Stickle[1] · Marcus Felson[2]

Received: 29 May 2020 / Accepted: 11 June 2020 / Published online: 16 June 2020
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Data and methods

Data:

- *All crimes*
- *Violent robbery*
- *Non-violent robbery*
- *Robbery against residence*
- *Serious violent crime (non-sexual)*
- *Sexual violence*
- *Domestic violence*
- *VAW helpline calls*
- *BRT + SCT Passengers*

All from datos.cdmx.gob.mx

Metods

1. ARIMA forecasts

Estimate the effect of the pandemic by comapring the observed counts to those forecast by ARIMA models using pre-pandemic data (2017-2020).

2. Linear models with ARIMA errors

Robustly estimate the relationship between crime and urban mobility after accounting for time series properties; avoiding spurious regression problem.
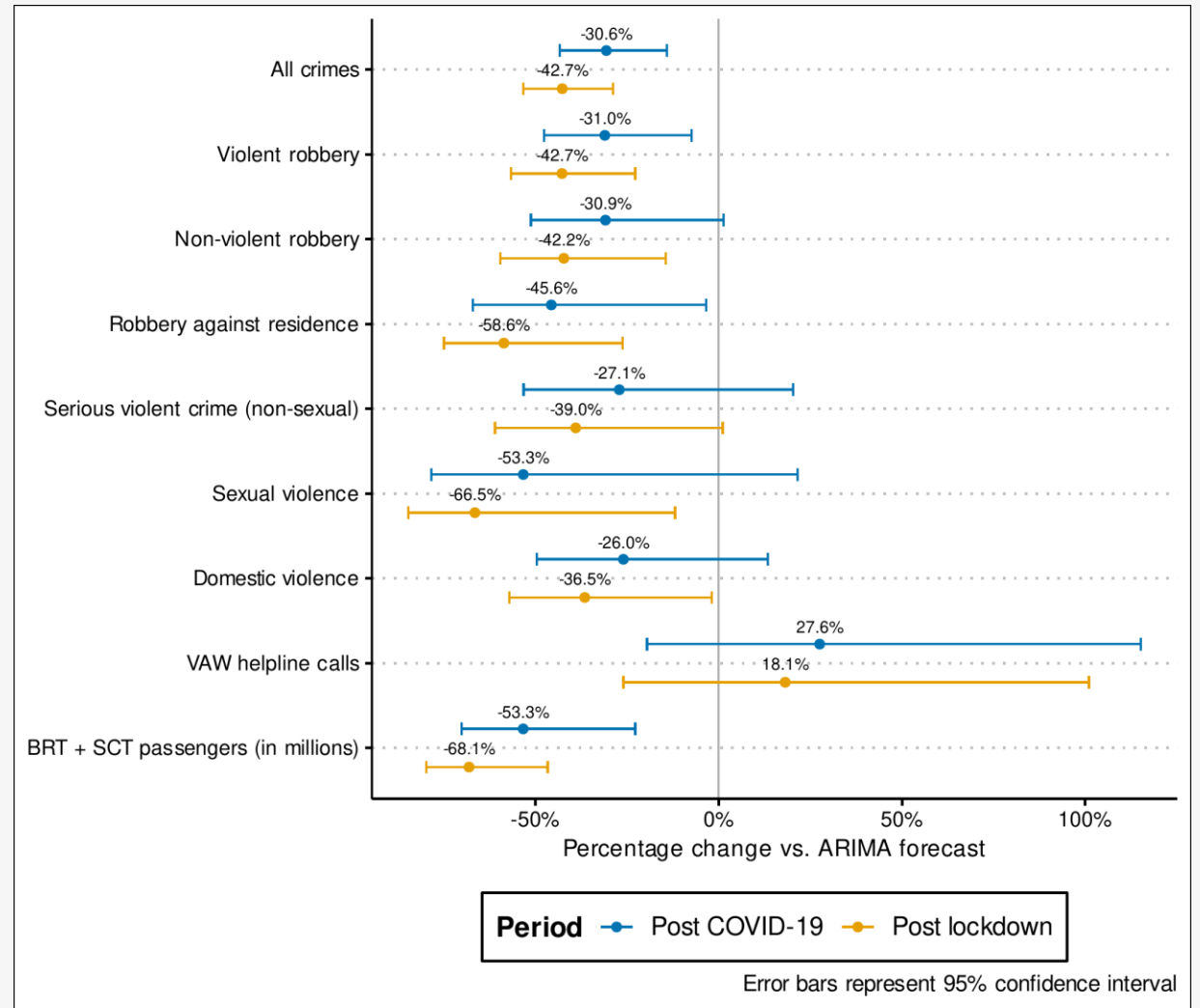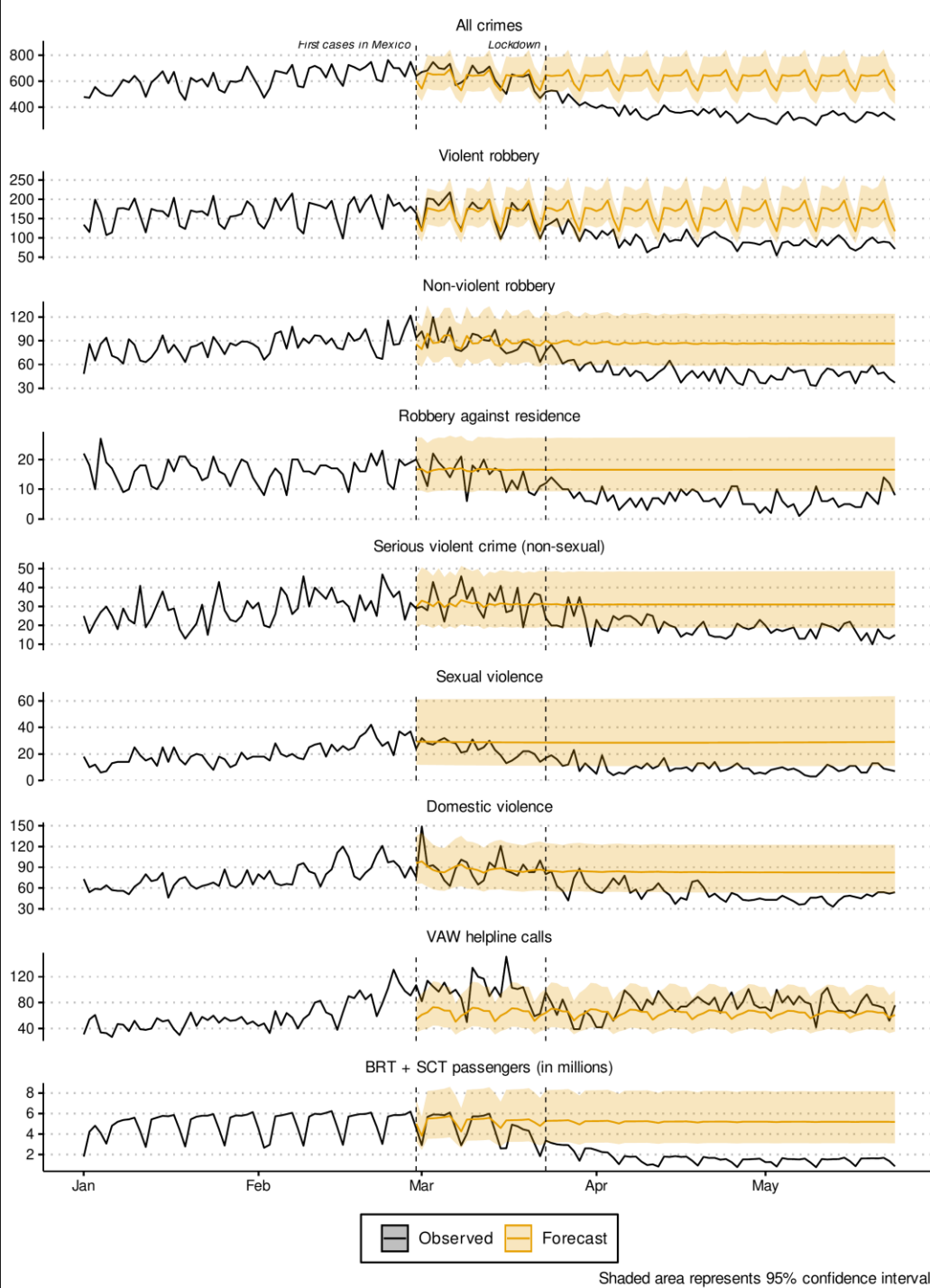
$$log(y_t) = \beta log(x_t) + \frac{\theta(B)\Theta(B^7)}{\phi(B)\Phi(B^7)} z_t$$
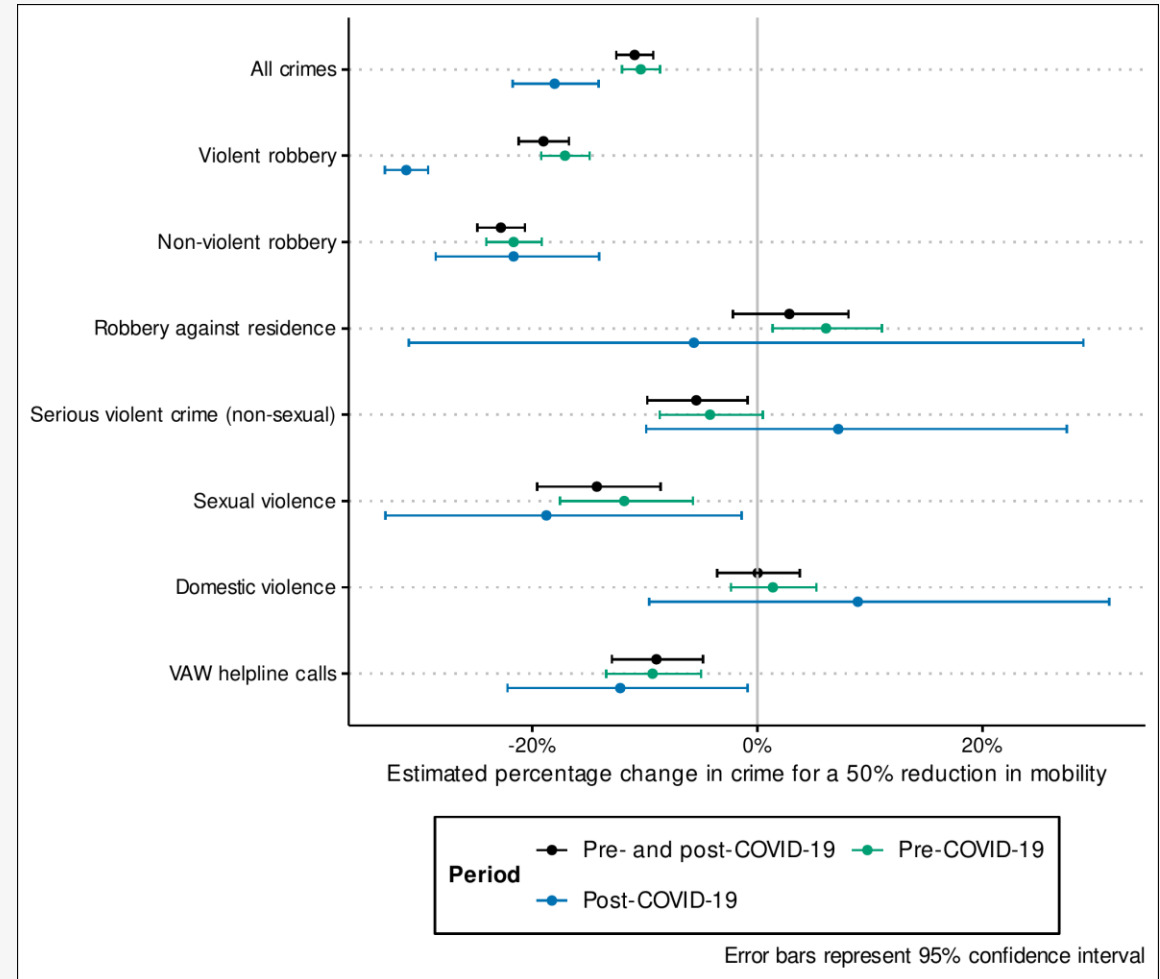
Results

ARIMA Forecasts

LM with ARIMA errors

	Mobility coefficient (SE)
All crimes	0.167 (0.014)***
Violent robbery	0.304 (0.020)***
Non-violent robbery	0.373 (0.020)***
Robbery against residence	-0.040 (0.037)
Serious violent crime (non-sexual)	0.080 (0.035)*
Sexual violence	0.222 (0.047)***
Domestic violence	0.000 (0.027)
VAW helpline calls	0.136 (0.033)***

Estimated percentage change in crime for a 50% reduction in mobility

Period: Pre- and post-COVID-19 · Pre-COVID-19 · Post-COVID-19

Error bars represent 95% confidence interval

Discussion and conclusion

- Clear reduction in crime* due to the pandemic for most common crimes.

- Serious crime, sexual and domestic violence less clear effect.

- Crime-mobility models suggest part of the decline in some crime categories was likely due to the change in routine activities.

- For *all crimes* reduction predicted by 50% reduction in mobility was 74% smaller than that estimated by ARIMA forecast.

- Other factors not accounted for: changes to willingness and/or ability to report crimes during lockdown.

- Relationship with mobility helps clarify which reductions are more likely to be related to opportunity factors,

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Creating future leaders in evidence-driven crime prevention

Open evening: **Wednesday 24th February 2021, 5.30pm-7pm (GMT)**