

The Effect of the Covid-19 Lockdown on Crime Rates in South Africa

Josefina Holze, Master's Graduate, International Economics, The Graduate Institute

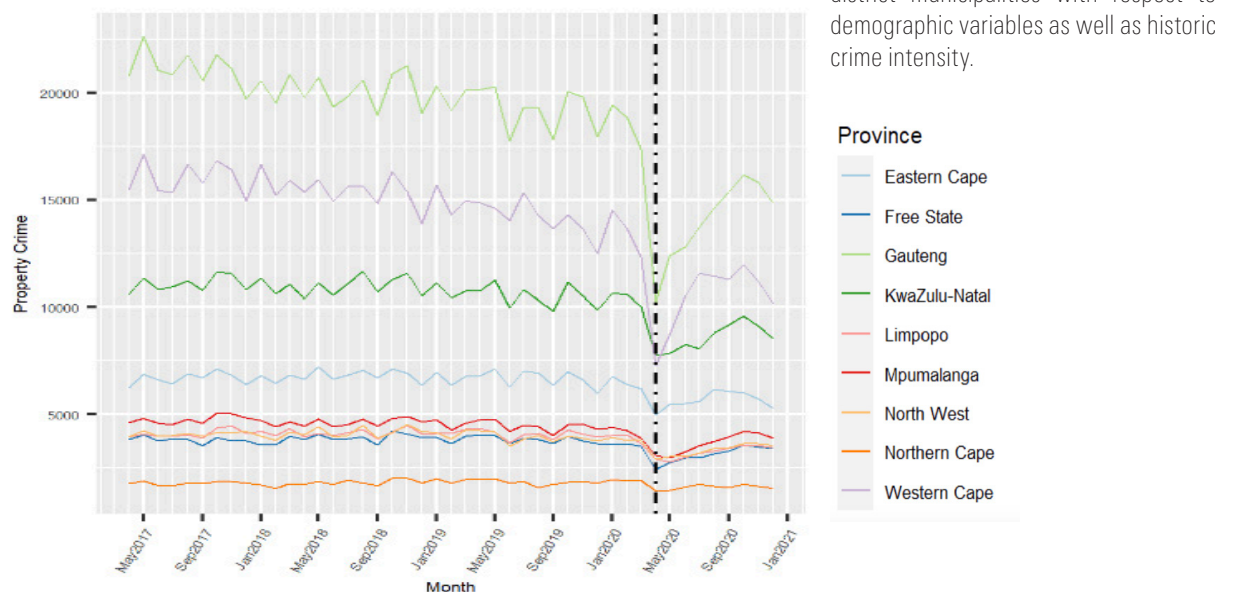
The lockdown policies put in place in many countries to fight the spread of the Coronavirus offer a natural experiment to assess how drastic changes in people's routines affect different areas of society. Crime being an interesting field to study in this context, it is expected to be affected by lockdowns due to various reasons. Contact crimes, such as robberies and violent crime, require a direct interaction between people, the thing that lockdown measures are aimed at preventing. Also other types of crime, as for example residential burglaries, are expected to change, as with people spending more time at home opportunities for criminals are drastically reduced. There are different theories originating from criminology but also the economic theory of crime which can help predict and explain observed changes in crime. The economic theory of crime (Becker, 1968) for example takes into account search costs, which are likely to increase during a lockdown, especially for contact crimes, as victims are sparser. The routine activity theory of crime (Cohen & Felson, 1979) offers a similar prediction, as due to changes in people's everyday routines, a convergence of offender and target is less likely to happen.

There is an emerging literature investigating the effect of Covid-19 lockdowns on crime rates in different countries, though a majority is concentrating on developing countries. Results are mixed, but the predominant finding is a decrease in most crime rates. However, it is highly interesting to also investigate this relationship in less developed countries, as the effect of the lockdown is likely to differ. Especially for people with more limited economic means and without access to social welfare, leaving their house everyday to work

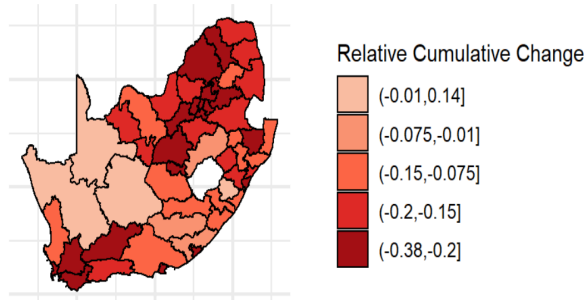
is necessary to secure an income. Therefore, lockdown rules might have a lesser effect on decreasing people's interactions. One interesting result from existing studies is the relationship between crime and mobility. Changes in mobility can be useful to predict changes in crime occurrences, especially contact crimes, as if people move around less, there is a lower chance of a convergence of offender and victim.

South Africa is a particularly interesting setting to study the effect of the Covid-19 lockdown on crime due to various reasons. The country has been hit particularly hard by the pandemic and has implemented very strict lockdown rules, especially during April and May 2020, largely restricting people's movements. Furthermore, the country has one of the highest crime rates in the world, especially in larger cities, and with high poverty rates, it is an interesting case to compare to studies of this kind done in high-income countries.

In order to establish a causal effect of lockdown rules on crime, I employ two econometric methods. The main challenge in this is to establish the counterfactual, i.e. what would have happened to crime in the absence of the lockdown. In an event study, observed crime rates during the treatment period are compared to historical crime rates, which is a basic but popular and easily interpretable approach. A more evolved method estimates a synthetic control of crime numbers based on historic values but giving higher importance to more recent numbers, which makes it possible to take into account long-term trends in crime. For both these methods, I explore the heterogeneity in results across different South African district municipalities with respect to demographic variables as well as historic crime intensity.



Property Crime

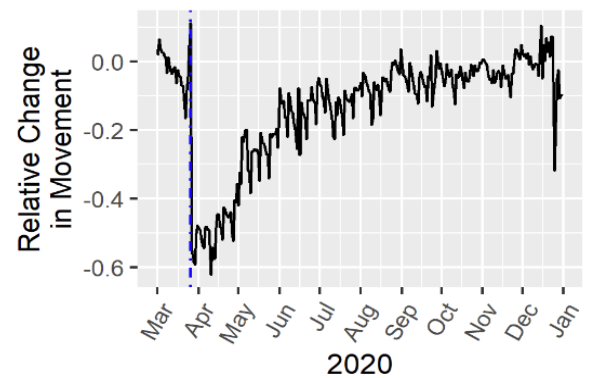


I find that property crime decreased on average by 14.8%, though this effect ranges between a drop of 37.6% and no change at all when looking at different district municipalities. Overall, the decrease in property crimes is larger in densely populated and metropolitan areas, and those which had historically high crime rates. However, property crime decreased by a lesser amount in areas with high poverty rates, indicating that due to the economic impact of the crisis people might have resorted to criminal activities out of economic need. I find that robberies decreased nation-wide by 19.2% though again varying between 36% and no change depending on the district. Again, the effect is larger for metropolitan municipalities and those where robbery rates were high before the pandemic. Being an economically motivated crime, the lower drop of incidents in areas with high poverty can be explained along the same lines as for property crimes. Finally, violent crime decreased by on average 15.6%, this drop ranging between zero and 29.6%. Again, high crime areas experience a larger drop in violent crime but unlike for other crime categories I find no relationship with population density.

Overall, my results indicate that the change in crime rates has been only temporary showing that the decrease in crime has indeed been caused by the stay-at-home restrictions and the resulting higher search costs for criminals. The easing of

restrictions implies that as life goes back to normal, crime also rebounds to its previous levels. In comparison with empirical studies in developed countries, for nearly all crime categories my findings are smaller in magnitude. This can be explained by the fact that due to people's dependence on a daily income from work that requires leaving their house, stay-at-home orders have less of a bite than in developed countries where many jobs can be done from home and there is a stronger social security system for those who are unable to earn a living as a consequence of the restrictions.

Looking at the links between crime rates and mobility, I find that decreases in crime rates are at least partially explained by reduced mobility, which shows this being an important channel of crime reduction that can be well explained by both the economic and routine activity theory of crime. This link also has important policy implications as areas with increased mobility are more likely to experience a higher crime incidence and should therefore receive higher attention from police forces. This shows how recent advances in technology and data collection on mobility could play a vital role in fighting crime in the future.



References

Becker, G. S. 1968. «Crime and Punishment: An Economic Approach.» *Journal of Political Economy* 76(2):169–217. www.jstor.org/stable/1830482.

Cohen, L. E., and Felson, M. 1979. «Social Change and Crime Rate Trends: A Routine Activity Approach.» *American Sociological Review* 44: 588-608. DOI:10.2307/2094589.

About the Centre for International Environmental Studies

Established in 2010, the Centre for International Environmental Studies (CIES) is the Graduate Institute's focal point for research on environmental issues. The centre is dedicated to the better understanding of the social, legal, economic and political facets of global problems related to the environment, with an emphasis on the international dimension and the North-South relations. The centre addresses complex problems such as climate change, biodiversity, food security, energy, natural resources and development. CIES's mission is to conduct high level academic research to improve the quality of decision making in public and private spheres. This goal is achieved by creating a platform for researchers to conduct interdisciplinary research on the environment, by providing training to PhD students in specialized areas of research and by disseminating research results through outreach activities targeted to academic experts and policymakers. CIES is part of a number of academic networks and partners with academic institutions and stake-holders throughout the world. Located in the heart of International Geneva, CIES regularly hosts workshops and conferences that bring together researchers and policy-makers.



CENTRE FOR INTERNATIONAL ENVIRONMENTAL STUDIES

GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES

Case postale 1672, 1211 Genève 1

T +41 22 908 44 61

cies@graduateinstitute.ch

www.graduateinstitute.ch/cies