Crime Science

CORRECTION

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Correction: Offline crime bounces back to pre-COVID levels, cyber stays high: interrupted time-series analysis in Northern Ireland

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There was an error in the calculation of the 95% Confidence Intervals of the coefficients included in Table A1, in the Appendix. We therefore publish the revised Table A1 and Notes 4 to 8 below. We would like to thank Amy Nivette for identifying this error in the earlier version of the article (Buil-Gil et al., 2021).

All data and revised analytical codes are available from a Github repository (https://github.com/davidbuilgil/covid_crime_NI).

The original article can be found online at https://doi.org/10.1186/s40163-021-00162-9.

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Corrections:

Table A1 Multivariate linear regressions with ARIMA errors (coefficients and 95% confidence intervals)

	Violence with injury	Violence without injury	Sexual offences	Robbery	Possession of drugs	Drug trafficking
First lockdown	−113.8 [−319.6, 92.0]	−157.2 [−338.0, 23.6]	**−77.0** [−144.2, −9.9]	**−28.2** [−47.1, −9.3]	−53.3 [−145.2, 38.7]	**−30.2** [−56.4, −4.1]
Time since first lockdown	41.9 [−17.3, 101.1]	24.9 [−15.2, 65.0]	7.4 [−13.4, 28.2]	1.9 [−3.6, 7.4]	9.1 [−11.1, 29.4]	5.2 [−2.7, 13.1]
Second lockdown	−134.5 [−566.8, 297.7]	−53.1 [−294.5, 188.4]	−68.8 [−218.1, 80.5]	−22.5 [−62.6, 17.6]	−17.6 [−180.1, 144.8]	8.6 [−49.0, 66.2]
Time since second lockdown	40.4 [−78.0, 158.9]	27.4 [−71.0, 125.7]	4.6 [−34.7, 43.8]	7.0 [−3.9, 17.9]	40.5 [−24.3, 105.3]	4.1 [−11.3, 19.4]
Third lockdown	−321.2 [−797.8, 155.5]	**−453.0** [−685.3, −220.7]	−54.4 [−211.9, 113.2]	−24.6 [−68.9, 19.8]	−12.0 [−150.1, 126.1]	−14.2 [−78.6, 50.1]
Time since third lockdown	**106.5** [31.3, 181.6]	**152.8** [87.0, 218.5]	13.3 [−12.7, 39.2]	0.5 [−6.5, 7.4]	21.9 [−9.5, 53.2]	8.0 [−2.0, 18.0]
Model components	(1, 1, 0)	(0, 0, 2)	(1, 1, 0)	(1, 1, 0)	(1, 1, 2)	(1, 1, 0)

	Public order and possession of weapons	Criminal damage	Residential burglary	Non-residential burglary	Theft from person	Bicycle theft
First lockdown	−40.6 [−90.1, 8.8]	−241.2 [−529.9, 47.4]	−67.3 [−171.5, 36.8]	12.1 [−30.6, 54.8]	−14.5 [−41.1, 12.2]	−4.8 [−40.3, 30.8]
Time since first lockdown	17.2 [−22.2, 56.8]	52.8 [−14.9, 120.5]	0.2 [−30.9, 31.3]	8.0 [−26.6, 42.7]	0.4 [−24.7, 25.6]	2.0 [−6.3, 10.3]
Second lockdown	60.0 [−206.1, 326.2]	369.4 [−141.4, 880.3]	2.4 [−222.8, 227.6]	84.1 [−148.7, 317.0]	−27.4 [−194.5, 139.7]	41.9 [−15.1, 98.9]
Time since second lockdown	7.2 [−49.3, 63.6]	**−186.0** [−355.7, −16.4]	−15.0 [−74.2, 44.2]	2.6 [−46.8, 52.0]	13.1 [−25.9, 52.1]	**−27.5**[−51.6, −3.5]
Third lockdown	50.8 [−345.7, 447.3]	−295.4 [−803.5, 212.7]	−109.4 [−361.9, 143.1]	65.5 [−281.9, 412.8]	−7.7 [−258.3, 243.0]	−40.9 [−92.0, 10.1]
Time since third lockdown	17.0 [−50.4, 84.4]	73.5 [−18.3, 165.4]	0.4 [−38.6, 39.3]	14.2 [−44.9, 73.2]	9.8 [−48.5, 68.2]	3.3 [−10.9, 17.5]
Model components	(2, 2, 0)	(0, 1, 1)	(1, 1, 0)	(2, 2, 0)	(4, 3, 0)	(1, 0, 1)

	Theft of/from vehicle	Shoplifting	Investment and advance fee fraud	Consumer fraud offline	Consumer fraud online	Other fraud	Cyber-dependent crime
First lockdown	−34.0 [−109.4, 41.4]	**−265.5** [−345.4, −185.7]	−22.5 [−54.5, 7.6]	**−24.2** [−38.0, −10.4]	**−127.2** [−172.6, −81.8]	−6.4 [−67.6, 54.8]	11.4 [−3.1, 25.9]
Time since first lockdown	−4.3 [−21.8, 13.2]	12.6 [−5.9, 31.2]	**7.8** [1.1, 14.5]	−6.1 [−21.8, 9.5]	**60.0** [5.5, 114.4]	21.6 [−47.5, 90.6]	−0.1 [−3.4, 3.2]
Second lockdown	−19.1 [−146.3, 108.2]	90.6 [−108.3, 289.5]	33.5 [−14.3, 81.4]	−53.3 [−155.2, 48.6]	313.6 [−43.0, 670.3]	85.9 [−371.3, 543.1]	−0.6 [−26.2, 25.0]
Time since second lockdown	−13.1 [−58.3, 32.1]	**−103.6** [−175.4, −31.7]	−4.9 [−23.8, 14.0]	−28.2 [−59.6, 3.2]	−3.8 [−106.6, 99.0]	10.2 [−85.2, 105.6]	**13.5** [4.2, 22.9]

	Theft of/ from vehicle	Shoplifting	Investment and advance fee fraud	Consumer fraud offline	Consumer fraud online	Other fraud	Cyber-dependent crime
Third lockdown	−80.5 [−200.1, 39.1]	**−407.3** [−580.4, −234.2]	19.8 [−22.1, 61.7]	−158.4 [−324.0, 7.2]	204.7 [−381.1, 790.5]	5.3 [−631.2, 641.9]	6.5 [−17.3, 30.4]
Time since third lockdown	0.7 [−25.0, 26.4]	36.2 [−0.2, 72.6]	0.6 [−9.7, 10.8]	−19.1 [−75.3, 37.0]	7.3 [−153.7, 168.3]	100.5 [−57.7, 258.7]	1.8 [−2.9, 6.6]
Model components	(1, 1, 1)	(1, 2, 8)	(1, 1, 1)	(4, 5, 0)	(4, 5, 0)	(5, 4, 0)	(0, 1, 1)

Notes

4. The results of the multivariate models with ARIMA errors show similar results (see Appendix), but the effect of the first lockdown and time since first lockdown on violence with and without injury become non-significant. The effect of the third lockdown on violence with injury is also non-significant in our ARIMA model.

5. The results of the segmented linear regression models (Table 2) are similar to the multivariate ARIMA error regressions (Appendix), but there are some notable differences regarding the statistical significance of some temporal variables. For instance, the ARIMA error models show that the negative effect of the first lockdown on crime is not statistically significant in the case of criminal damage, the positive effect of time since first lockdown is not statistically significant in the case of drug trafficking, public order and criminal damage, and the positive effect of the second lockdown is not statistically significant for criminal damage.

6. The ARIMA error models (Appendix) indicate that lockdowns did not have statistically significant effects on burglary.

7. The results of our ARIMA error models show similar results on the statistical significance of the changes in bicycle theft, theft of/from vehicle and shoplifting, whereas some differences are found in theft from person (see Appendix). The drops in theft from person after each lockdown are not statistically significant in the ARIMA error model.

8. There are some differences between the results obtained from the ITS analysis and the ARIMA error models (see Appendix). While the ARIMA error models for investment and advance fee fraud and cyber-dependent crime are highly similar to that of the ITS models, we identify some differences in the cases of consumer fraud offline and online, and other fraud. The results of the ARIMA error model show that the first lockdown had statistically significant negative effects on reported consumer fraud offline and online, while reports of consumer fraud online increased immediately after the first lockdown. The ARIMA models show that the positive effect of the third lockdown on consumer fraud online is not statistically significant. Lastly, the ARIMA error models show that lockdown restrictions did not have statistically significant effects on other fraud.

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