Complaints About Police Misconduct Have Adverse Effects for Black Civilians

Supplementary Material

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Contents

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Appendix A Background Information

A.1 Contemporaneous Relationship

As an initial validation of our procedure to aggregate and merge monthly statistics of CCRB complaints and SQF incidents, we first explore the contemporaneous relationship between both series—that is, whether an increase in police stops is associated with concomitant increases in civilian complaint in the same month. In Figure A.1, we regress monthly changes in CCRB complaints on monthly changes in three different types of SQF incidents: all incidents, incidents involving the use of force, and incidents involving the use of force without resulting in arrests.

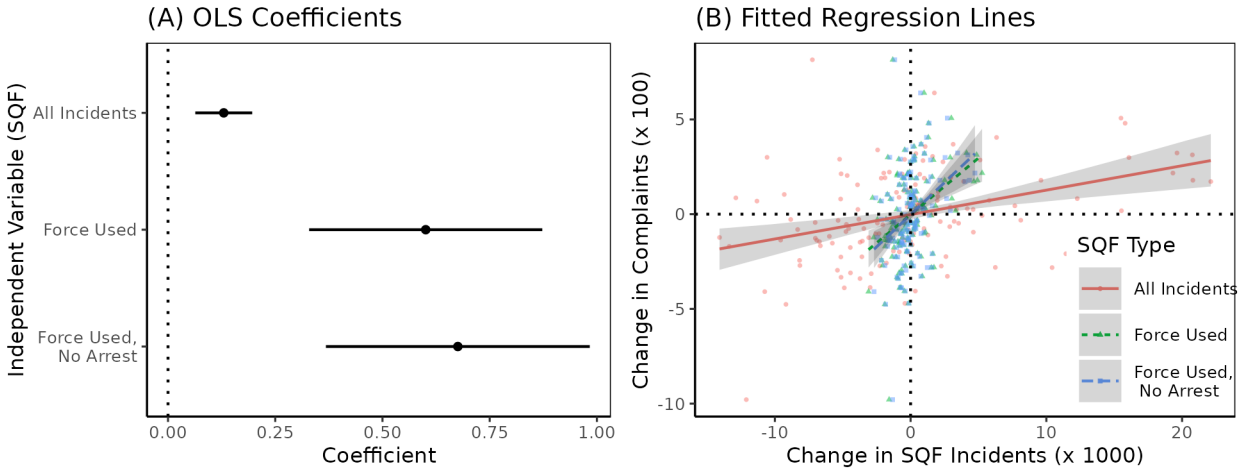


Figure A.1: Contemporaneous relationships between monthly change in different types of SQF incidents (in 1000s) and monthly change in CCRB complaints (in 100s). 95% CIs based on Newey-West standard errors.

During the heyday of the SQF program in New York City, increases in police activity in a given month tend to coincide with increasing complaints against potential misconduct. For example, given an increase in the number of SQF incidents by 5,000 from the previous month, we predict an average increase in the number of complaints by 60 over the same time period. The expected increase in complaints is even larger when restricting the SQF time series to incidents where force was used by the police office (+300 complaints predicted for 5,000 additional SQF incidents with use of force). This strong contemporaneous association lends some first validity to our method of merging CCRB and SQF data to investigate the relationship between police activity and protest. Despite the high level of aggregation, we find that intensified policing is associated with an increase in the number of complaints among New York City residents. Our goal for the subsequent analyses will be to disentangle the temporal dynamics in this relationship while at the same time accounting for potential confounding factors.

A.2 Interviews with CCRB Administrators

We complement the administrative complaint dataset provided by the CCRB with telephone and email interviews with 5 CCRB senior administrators, 1 CCRB legal analyst, and 1 CCRB investigator. We interviewed the following 5 CCRB Division Directors: (1) Marcos Soler, PhD, Deputy Executive Director for Policy and Strategic Initiatives, (2) Robia Charles, PhD, Deputy Executive Director for Policy and Strategic Initiatives, (3) Conner Maher, Deputy Direct of Policy and Advocacy, (4) Nicole Napolitano, PhD, Director of Policy and Advocacy, and (5) Sean M. M. McMahon, Senior Data and Policy Analyst. We obtained information and data from Judith Le, Esq., Policy and Legal Analyst. Finally, we interviewed a CCRB investigator named "Investigator Taylor." The purpose of these interviews was to gain information about CCRB procedures and protocols, especially as they pertain to interviewing complainants, contacting subject officers receiving complaints, and rendering case dispositions. Transcripts from email correspondences with CCRB staff are available upon request.

A.3 Granger Causality Results

The substantive focus of our paper is not the contemporaneous effects of Stop, Question, and Frisk incidents on Civil Complaint Review Board allegations, but rather the reciprocal relationship between both variables over time. As discussed in the manuscript, such temporal dynamics between two time series are examined in terms of their Granger causality (e.g., Freeman 1983). This framework allows for a first assessment of the temporal ordering of the relationship between SQF incidents and CCRB complaints. In other words, do changes in CCRB complaints predict subsequent changes in SQF incidents after controlling for its own history, or vice versa?

First, we examine whether previous changes in SQF incidents affect subsequent changes in CCRB complaints. Table A.1 displays the result of Granger tests for up to 5 lags (P). The non-significant results for all lags indicate that changes in SQF incidents does not Granger cause changes in CCRB complaints. Including the history of prior SQF incidents does not improve our prediction of current CCRB complaints above and beyond the effect of the previous history of CCRB complaints.

Lags	F-Statistic	Pr(>F)
1	0.059	0.809
2	1.514	0.224
3	1.104	0.35
4	0.603	0.661
5	1.275	0.279

Table A.1: Granger causality tests of change in SQF incidents predicting subsequent change in CCRB complaints (up to 5 lags).

Next, we consider the reverse relationship by testing whether previous changes in CCRB complaints influence subsequent changes in SQF incidents. The results of the respective Granger tests are displayed in Table A.2. We observe that CCRB complaints Granger cause SQF incidents when considering more than two lags. In other words, our prediction of current changes in SQF incidents based on the past history of changes in SQF incidents is significantly improved by including the past history of changes in CCRB complaints.

Lags	F-Statistic	Pr(>F)
1	1.833	0.178
2	2.717	0.07
3	4.12	0.008
4	3.249	0.014
5	2.584	0.029

Table A.2: Granger causality tests of change in CCRB complaints predicting subsequent change in SQF incidents (up to 5 lags).

The evidence thus far indicates that changes in CCRB complaints about potential police misconduct are predictive of SQF incidents in subsequent months, but not the reverse. However, we need to be cautious in interpreting these findings since the Granger causality framework outlined above does not control for potential confounding factors. It could be the case that there are additional variables (e.g. crime) that affect both, changes in the CCRB and SQF, which might lead to biased estimates and therefore spurious results. In the main text, we extend the logic of the Granger causality framework in a way that allows us assess the dynamic relationship between CCRB complaints and SQF incidents while including multiple control variables.

A.4 Equation Balance

Any time series model such as the vector autoregression described in the article requires balanced equations to allow for valid statistical inferences (Pickup, 2022; Pickup and Kellstedt, 2023). A model is balanced "if and only if the regressand and the regressors (either individually or collectively, as a co-integrated set) are

of the same order of integration" (Banerjee et al., 1993, 166). Based on our theoretical argument outlined in the article, we examine the relationship between monthly *changes* in CCRB complaints and SQF incidents—because we are interested in short-term dynamics between both series rather than modeling their potential long-run equilibria. In this section, we present evidence that (1) our focus on *changes* in CCRB complaints and SQF incidents results in a balanced equation, and (2) alternative specifications focusing on monthly *totals* would not be balanced and therefore not allow us to make valid statistical inferences.

First, we show that the differenced time series under consideration (i.e., monthly *change* in CCRB complaints and SQF incidents) are stationary, while monthly *totals* are unit roots (i.e., $I(1)$ order of integration). In general, non-stationary variables that can be described as

$$y_t = y_{t-1} + \varepsilon_t, \tag{1}$$

are said to contain a unit root: The current value y_t is a function of its previous value y_{t-1} and some random error ε_t. A common example for such a variable is the market value of a publicly-traded company. The stock price on a given day is strongly determined by its own past. The market value over time is not reverting to some constant mean but rather follows a random walk. Modeling relationships between such non-stationary series can be prone to bias and spurious relationships. According to the Box-Jenkins approach (e.g., Dickey and Fuller 1979; Enders 1995), variables that contain unit roots should be differenced before conducting further analyses, such that

$$\Delta y_t = y_t - y_{t-1}, \tag{2}$$

where Δy_t denotes the change between one time point and the previous time point. Table A.3 displays two different unit root tests for our three main time series under consideration (SQF, CCRB, and arrests). Note that the Dickey-Fuller test has a null hypothesis of a unit root process while the KPSS test considers a null of a stationary process. The tests indicate that the time series of monthly totals contain a unit root, while the differenced time series are stationary. To reiterate, all analyses in the article as well as the SOM rely on these stationary differenced series—the monthly change in SQF incidents and CCRB complaints—rather than the non-stationary monthly totals.

Series	Test	H_0	Lags	Statistic	p-Value
SQF (Total)	Dickey-Fuller	Unit Root	5	-1.182	0.906
	KPSS	Stationary	2	0.888	< 0.01
SQF (Differenced)	Dickey-Fuller	Unit Root	5	-6.16	< 0.01
	KPSS	Stationary	2	0.233	> 0.1
CCRB (Total)	Dickey-Fuller	Unit Root	5	-2.089	0.539
	KPSS	Stationary	2	1.512	< 0.01
CCRB (Differenced)	Dickey-Fuller	Unit Root	5	-7.062	< 0.01
	KPSS	Stationary	2	0.131	> 0.1
Arrests (Total)	Dickey-Fuller	Unit Root	5	-2.071	0.547
	KPSS	Stationary	2	1.681	< 0.01
Arrests (Differenced)	Dickey-Fuller	Unit Root	5	-6.623	< 0.01
	KPSS	Stationary	2	0.165	> 0.1

Table A.3: Tests for unit roots vs. stationarity in monthly SQF incidents, CCRB complaints, and arrest time series.

We follow the same procedure for our remaining control variables. Again, we check for unit-roots using the Dickey-Fuller and KPSS statistic. The results are presented in Table A.4. The following variables were differenced (since KPSS tests suggested unit roots): media coverage, unemployment, and overseas arrivals.

Together, these results imply that the model specifications used throughout the article as well as in this SOM are $I(0)$ balanced in the sense that all regressands and regressors included in the vector autoregressions are stationary (Pickup and Kellstedt, 2023). Thus, our models should exhibit well-behaved error terms and we can rely on standard test statistics for inference.

In order to further demonstrate that our model specification is indeed balanced, Figure A.2 presents the time series of residuals for the main results presented in Figure 2 of the main text. Balanced equations should

Series	Test	H_0	Lags	Statistic	p-Value
Media coverage (Total)	Dickey-Fuller	Unit Root	5	-1.287	0.873
	KPSS	Stationary	2	1.854	< 0.01
Media coverage (Differenced)	Dickey-Fuller	Unit Root	5	-5.172	< 0.01
	KPSS	Stationary	2	0.224	> 0.1
Unemployment Rate (%)	Dickey-Fuller	Unit Root	5	-2.488	0.373
	KPSS	Stationary	2	1.716	< 0.01
Unemployment Rate (Differenced)	Dickey-Fuller	Unit Root	5	-2.713	0.279
	KPSS	Stationary	2	0.464	0.05
Overseas Arrivals (x 100,000)	Dickey-Fuller	Unit Root	5	-11.711	< 0.01
	KPSS	Stationary	2	3.313	< 0.01
Overseas Arrivals (Differenced)	Dickey-Fuller	Unit Root	5	-10.476	< 0.01
	KPSS	Stationary	2	0.016	> 0.1
Mean Temperature (F)	Dickey-Fuller	Unit Root	5	-12.616	< 0.01
	KPSS	Stationary	2	0.026	> 0.1
Monthly Precipitation (in)	Dickey-Fuller	Unit Root	5	-6.002	< 0.01
	KPSS	Stationary	2	0.095	> 0.1

Table A.4: Tests for unit roots vs. stationarity in time series used as exogenous control variables.

result in white noise residuals (Pickup and Kellstedt, 2023) and Figure A.2 confirms that the residuals of each autoregression equation are stationary.

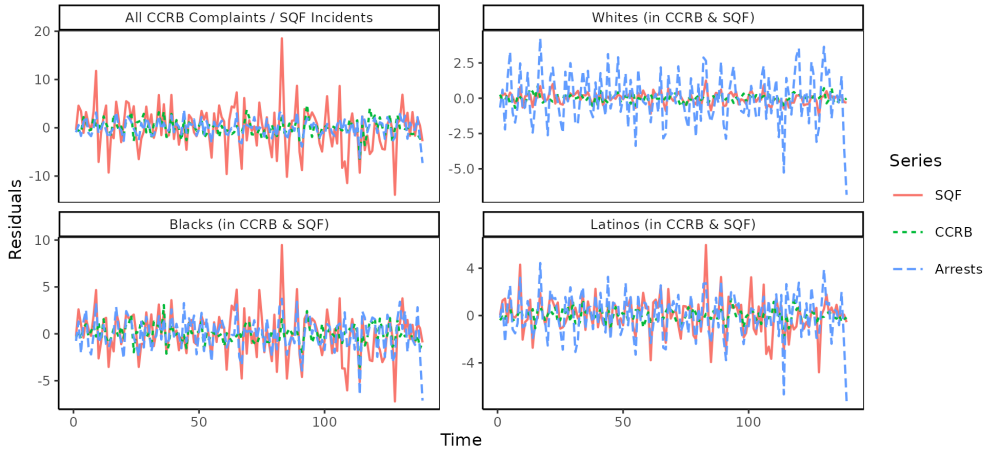
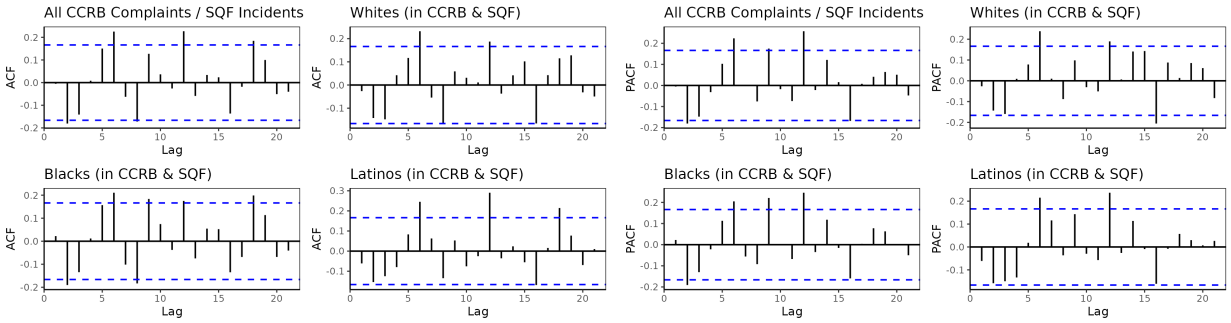


Figure A.2: Time series of vector autoregression residuals for monthly changes in SQF incidents, CCRB complaints, and fingerprintable arrests based on the main models presented in Figure 2 of the main text.

Focusing on the residuals for monthly changes in SQF incidents in each model (i.e., the main dependent variable throughout our analyses), Figure A.3 further shows that no significant (partial) autocorrelation is present and the residuals can therefore be characterized as white noise. In sum, these results establish that our estimation strategy is based on balanced equations that allow for valid inferences regarding the short-term relationship between monthly changes in CCRB complaints and SQF incidents.

As a last step, we show that alternative modeling strategies focusing on potential long-run equilibria between monthly totals of of CCRB complaints and SQF incidents do not result in balanced equations. We have already established that monthly totals of SQF incidents and CCRB complaints can be described as unit root processes. Two non-stationary series are cointegrated if their linear combination is itself stationary (Engle and Granger, 1987), which implies that they share a common long-run equilibrium. A standard approach to model these types of dynamic relationships is the Generalized Error Correction Model specified



(a) Autocorrelation (ACF)

(b) Partial Autocorrelation (PACF)

Figure A.3: Autocorrelations of vector autoregression residuals for monthly changes in SQF incidents based on the main models presented in Figure 2 of the main text.

as follows (DeBoef and Keele, 2008):

$$\Delta y_t = \alpha_0 + \alpha_1^* y_{t-1} + \beta_0^* \Delta x_t + \beta_1^* x_{t-1} + \varepsilon_t \tag{3}$$

where α_1^* is called the error correction coefficient. This coefficient can be used to test a null of no cointegration against an alternative hypothesis that y_t and x_t are cointegrated. Note, however, that this hypothesis test relies on non-standard "MacKinnon values" (Ericsson and MacKinnon, 2002) and that false positives (i.e., incorrectly rejecting the null of no cointegration) can be more common than previously suggested in the literature (Lebo and Kraft, 2017; Kraft, Key, and Lebo, 2022).

Table A.5 displays the error correction coefficient and the corresponding test statistic for cointegration based on three different model specifications varying the set of control variables included in the GECM specification. Across all three alternatives, we find no evidence for cointegration between monthly SQF incidents and CCRB complaints.

Model	Error Correction	t Value	MacKinnon Value	Cointegration
SQF & CCRB	-0.08	-2.21	-3.24	No
+ Arrests	-0.05	-1.97	-3.53	No
+ Arrests & Controls	-0.05	-2.09	-4.72	No

Table A.5: Test for cointegration based on Generalized Error Correction Models (GECMs).

Together, these analyses show that monthly totals SQF incidents and CCRB complaints are not cointegrated, which implies that there is no long-run equilibrium between both time series that we can analyze. Instead, our focus on short-term dynamics results in a balanced equation that allows for valid statistical inferences regarding the short-term impact of shocks in CCRB complaints on subsequent changes in SQF incidents.

Appendix B Robustness Checks for Main Vector Autoregression Model (by Race)

B.1 Replication Using Alternative Matching of Complaints

As we discuss in the main text, the CCRB database consists of two separate parts: one containing information about the complaint itself, and the other providing additional demographic information about every complainant, victim, and witness involved in each complaint. For our analyses, we linked both parts based on the unique complaint IDs and selected the first victim on record in the complainant data to matched their demographic characteristics (i.e. ignoring demographic characteristics of witnesses or individuals who filed a complaint on behalf of someone else). In Figure B.1, we replicate the analysis from Figure 2 using an alternative procedure where we use the second victim on record for each complaint involving multiple victims. While the overall results remain unchanged, it is worth pointing out that we now see evidence for a similar (although insignificant) increase in SQF incidents for additional complaints by Latinos ($p = 0.105$).

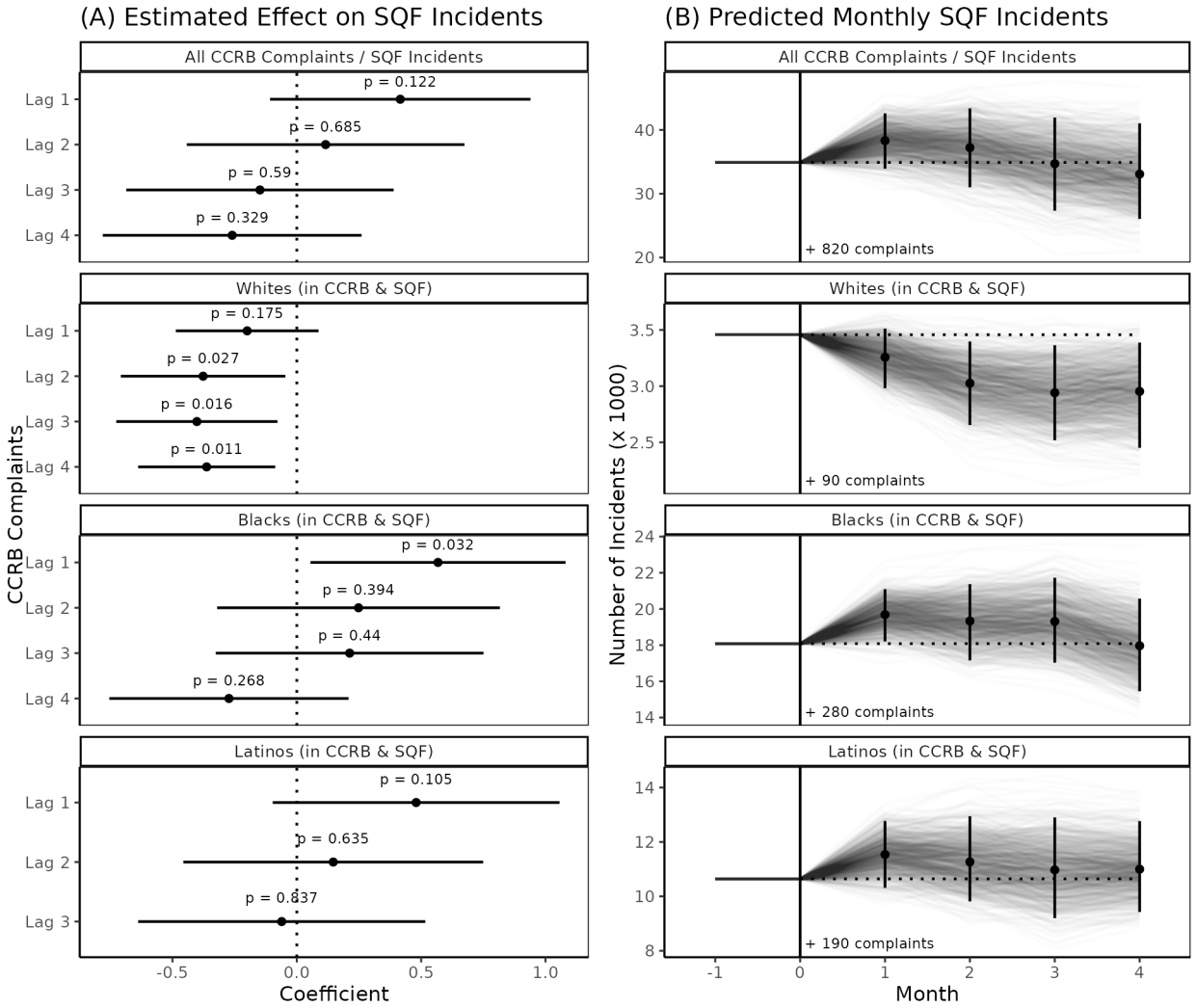


Figure B.1: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) using alternative matching of complaint data. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals.

B.2 Replication Using Constant Lag Order of 3

The lag order of the vector autoregression models presented in the main text was determined by minimizing the AIC (and thereby maximizing relative model fit) for specifications including up to five lags. In Figure 2, this procedure resulted in four lags for all models. In Figure B.2, we display the same estimates for a constant setting of 3 lags in order to examine their robustness for varying lag specifications. The results are consistent with the evidence reported in the paper, although noticeably weaker for Whites.

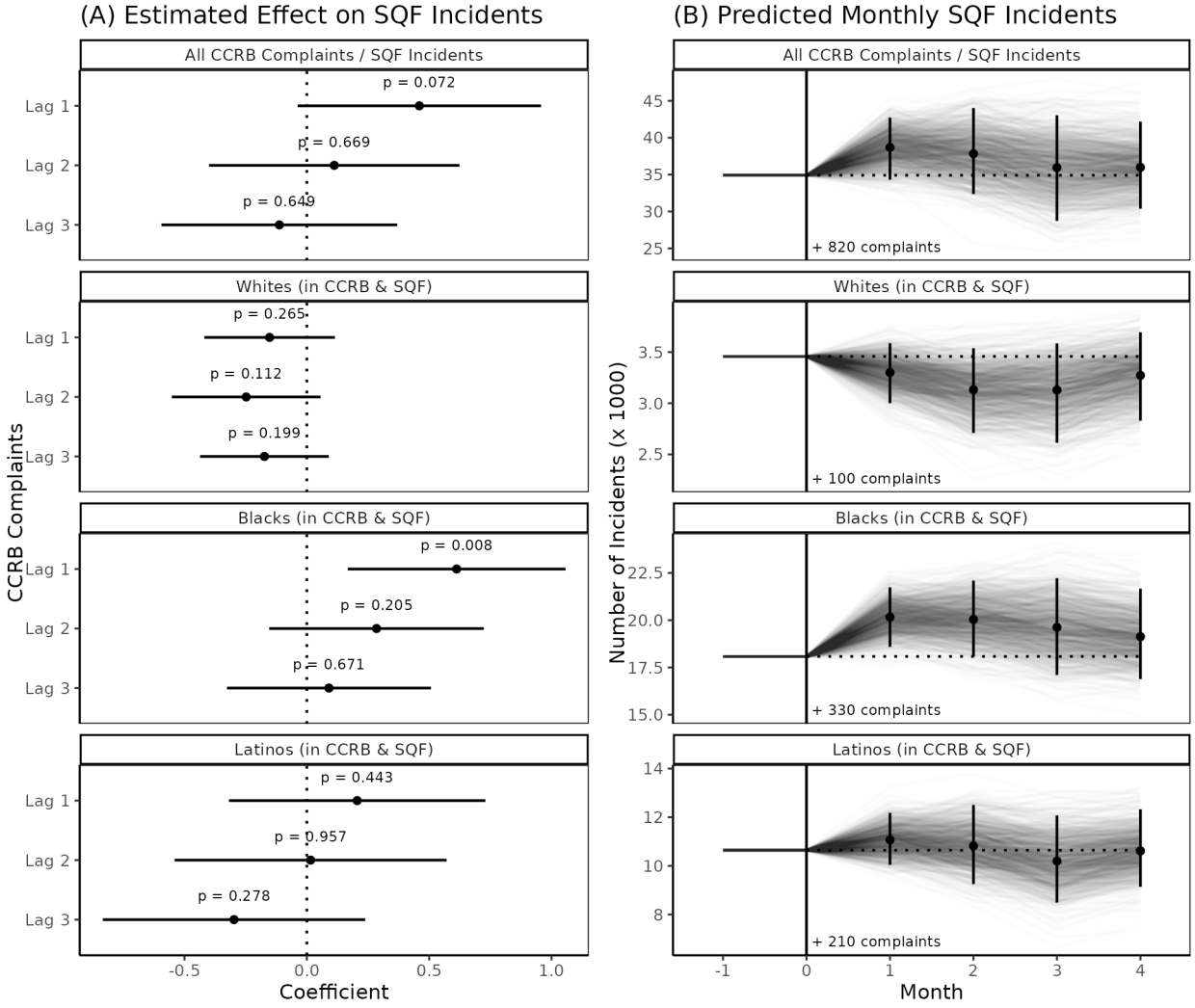


Figure B.2: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) using 3 lags. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series). Each line represents a single iteration of the simulation scenario. The plot additionally displays expected average levels along with 95% confidence intervals. Total number of time points T = 143 for each series.

B.3 Replication Using Constant Lag Order of 5

We repeat the same estimation for a constant specification of 5 lags in the model (Figure B.3). Again, we observe a negative effect of CCRB allegations on SQF incidents for Whites, and a reverse pattern for Blacks.

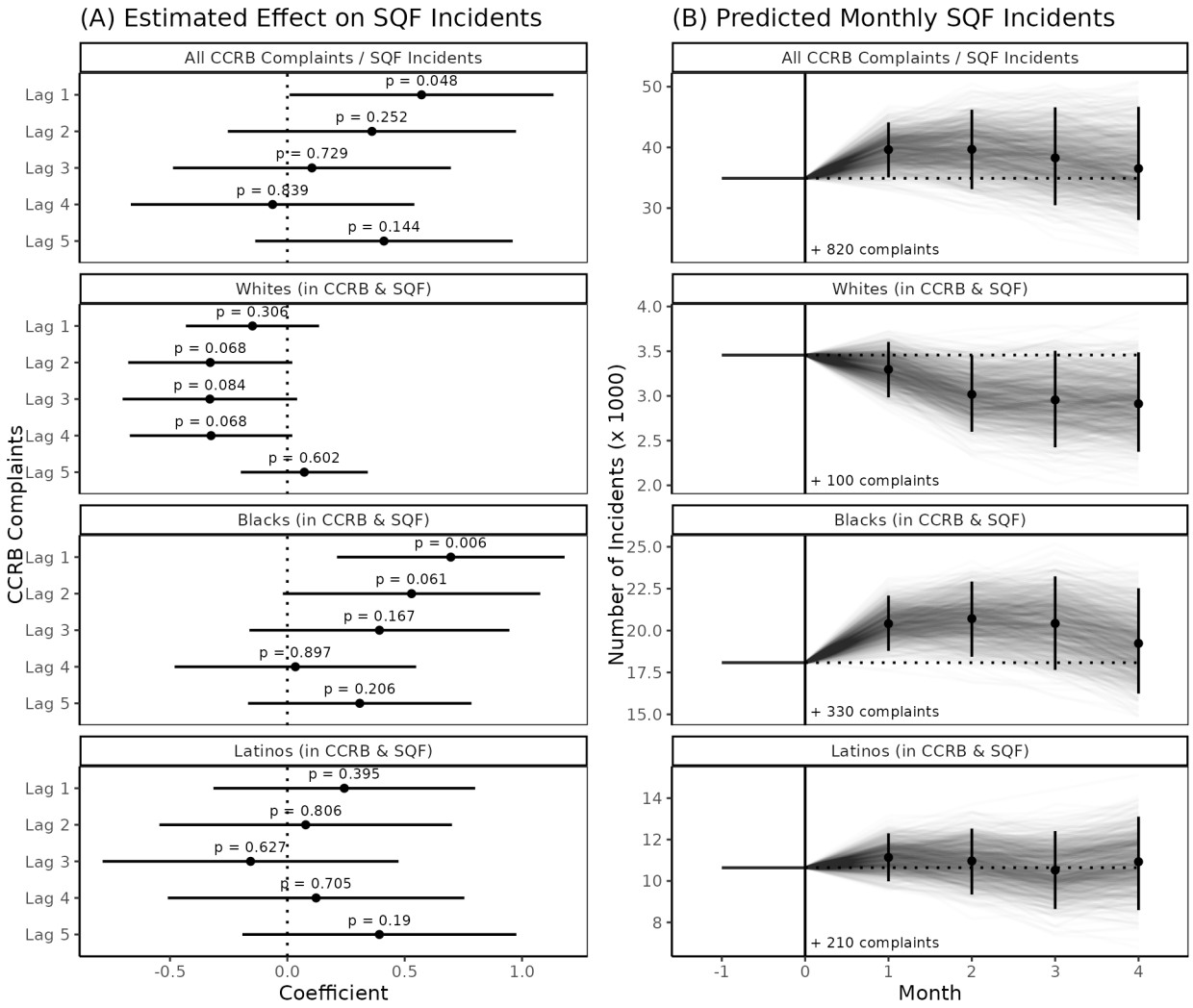


Figure B.3: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) using 5 lags. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series). Each line represents a single iteration of the simulation scenario. The plot additionally displays expected average levels along with 95% confidence intervals. Total number of time points T = 143 for each series.

B.4 Replication Controlling for Crime (Reported Felonies)

In our main analysis, we rely on monthly changes in fingerprintable arrests as a proxy for crime. However, the NYPD has recently released historic reported crime data that provides information by month on all felonies reported to the New York City Police Department (NYPD) from 2006 to the end of 2017.[1] Here, we use this newly released data to perform a robustness check on our results reported in Figure 2. Given that our analysis ranges from 2003-2014, using the reported felony data renders missing data for three years and would therefore imply losing $N = 36$ observations. Since our time series are too short to simply omit such a large number of cases, we used multiple imputation to impute the three years of missing data (King et al., 2001). Specifically, we create 10 data sets where felonies prior to 2006 are imputed based on all remaining time series included in the model. Figure B.4a displays the resulting series of change in the monthly number of reported felonies. In Figure B.4b, we show the results of our main vector autoregression models, now additionally controlling for felonies. The confidence intervals visualize the uncertainty within and across imputed data sets by combining the estimated coefficients of all 10 imputations following the procedures described in (King et al., 2001). Even though there is more uncertainty around the coefficients due to the imputation, the results reported in Figure 2 remain unchanged.

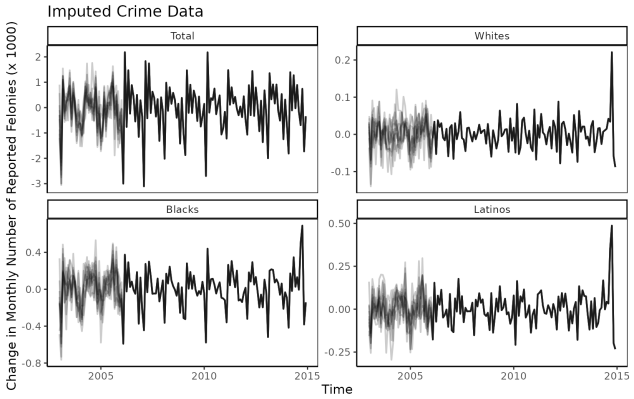


Figure B.4a: Monthly change in felonies reported to the NYPD over time. Data prior to 2006 imputed using Amelia II (King et al., 2001). Each line represents a single imputation scenario.

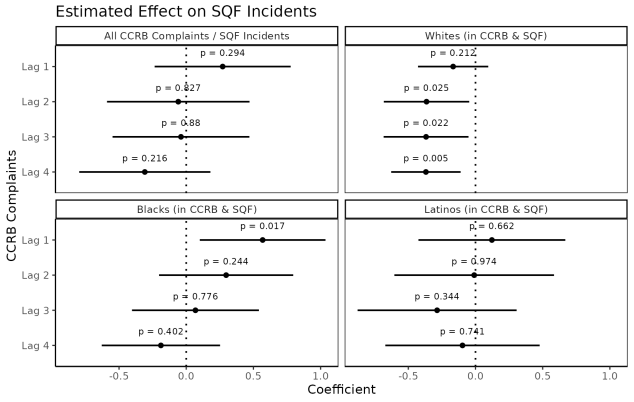


Figure B.4b: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) controlling for monthly change in reported felonies (data imputed prior to 2006). Vector autoregression coefficients with 95% confidence intervals (incorporating imputation uncertainty). Total number of time points T = 143 for each series.

[1] https://data.cityofnewyork.us/Public-Safety/NYPD-Complaint-Data-Historic/qgea-i56i

B.5 Replication Controlling for Endogenous Media Coverage

Throughout our analyses we consider CCRB complaints, SQF incidents, and arrests as endogenous time series withing the vector autoregression framework. This implies that we model the dynamic relationship between these three variables by taking into account the effect of each variable's history on future outcomes. The remaining control variables are treated as exogenous predictors that have instantaneous effects on all three endogenous time series. However, one could argue that media coverage focused on the NYPD itself should be considered as an endogenous time series that is influenced by the history of the remaining three variables. Here, we replicate our main results while incorporating media coverage as an additional endogenous time series in the vector autoregression.

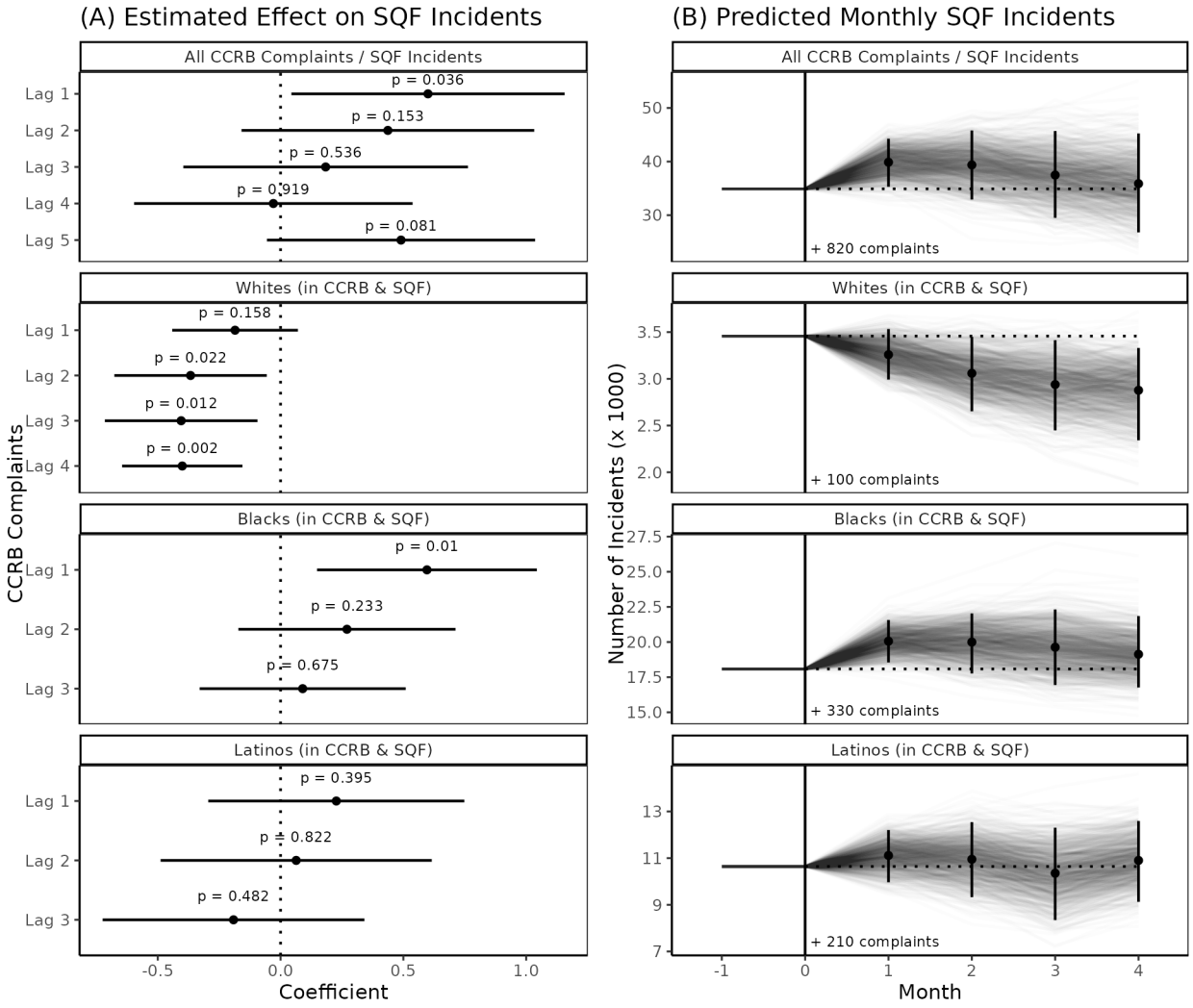


Figure B.5: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) controlling for endogenous media coverage. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series). Each line represents a single iteration of the simulation scenario. The plot additionally displays expected average levels along with 95% confidence intervals. Total number of time points T = 143 for each series.

B.6 Replication Using Reduced Data (Prior to 2013)

A key concern regarding the robustness of our results is driven by a potential structural break in the time series of Stop, Question, Frisk incidents after 2012. During that time, SQF activity was substantially reduced, especially with the ruling by District Court Judge Shira Scheindlin in August 2013. While it can be argued that the reduction in overall SQF activity by the police does not necessarily imply a shift in the racial disparities in the police department's reaction to complaints, we want to ensure that the results are not an artifact due to this structural change. As such, we estimate the main models for a reduced time series that only considers cases prior to 2013. The results are displayed in Figure B.6 and they lead to the same substantive conclusions as the main findings presented in the paper.

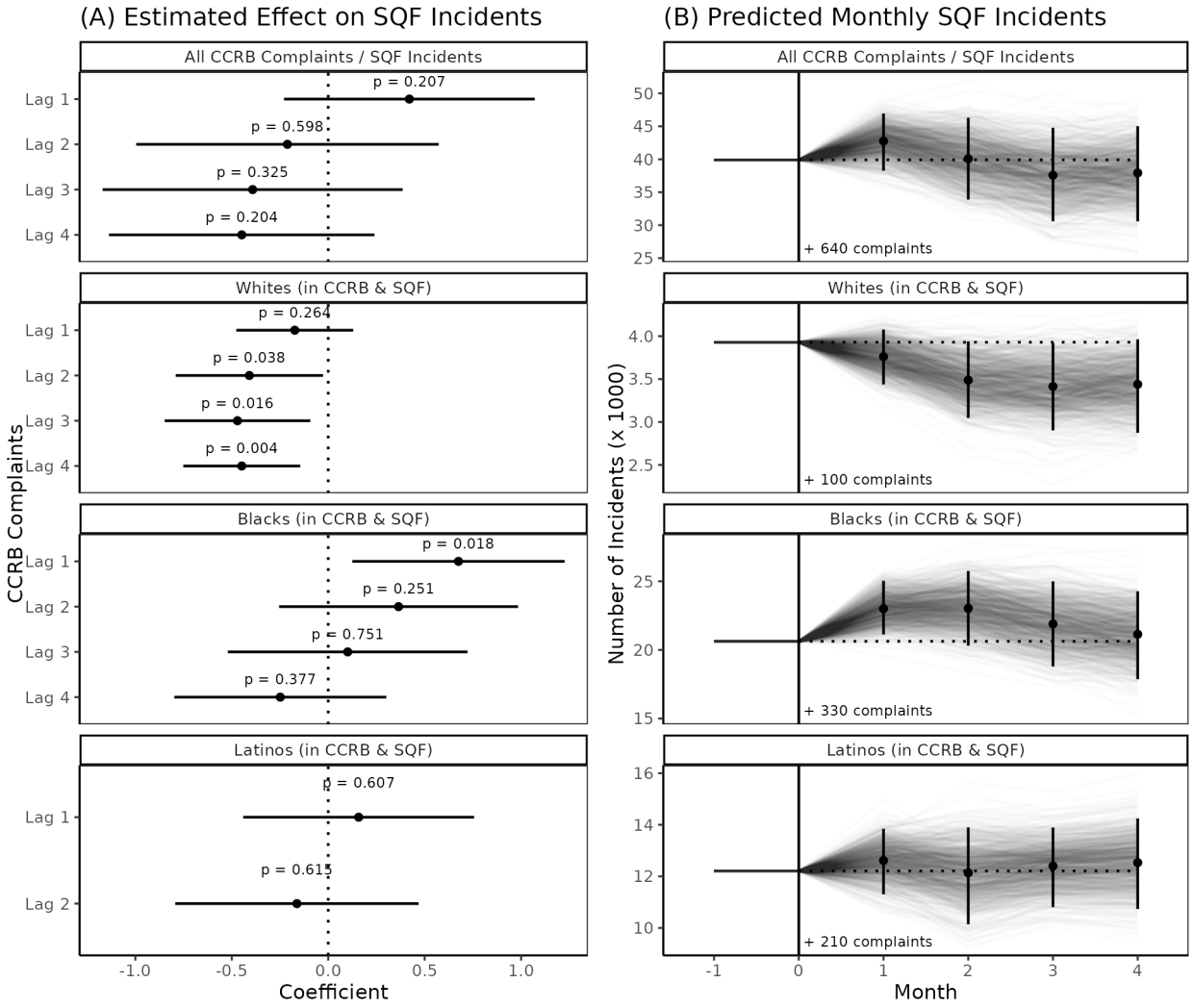


Figure B.6: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) using only data prior to 2013. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals. Total number of time points T = 120 for each series.

B.7 Replication Focusing on SQF Incidents Involving Use of Force

The total count of SQF incidents subsumes a broad range of interactions between civilians and the police. In order to make sure that the relationships between complaints and subsequent stops reported in Figure 2 of the main text are not only driven by minor interactions (i.e., short stops without further consequences for the civilian involved), we replicate the main analysis focusing on SQF incidents involving the use of force by police officers. The results are displayed in Figure B.7 and they are consistent with the patterns described in the main text. A rise in complaints by Blacks is associated with a subsequent increase in stops involving Blacks where the police engaged in use of force. Again, we find the reverse relationship for complaints by white civilians.

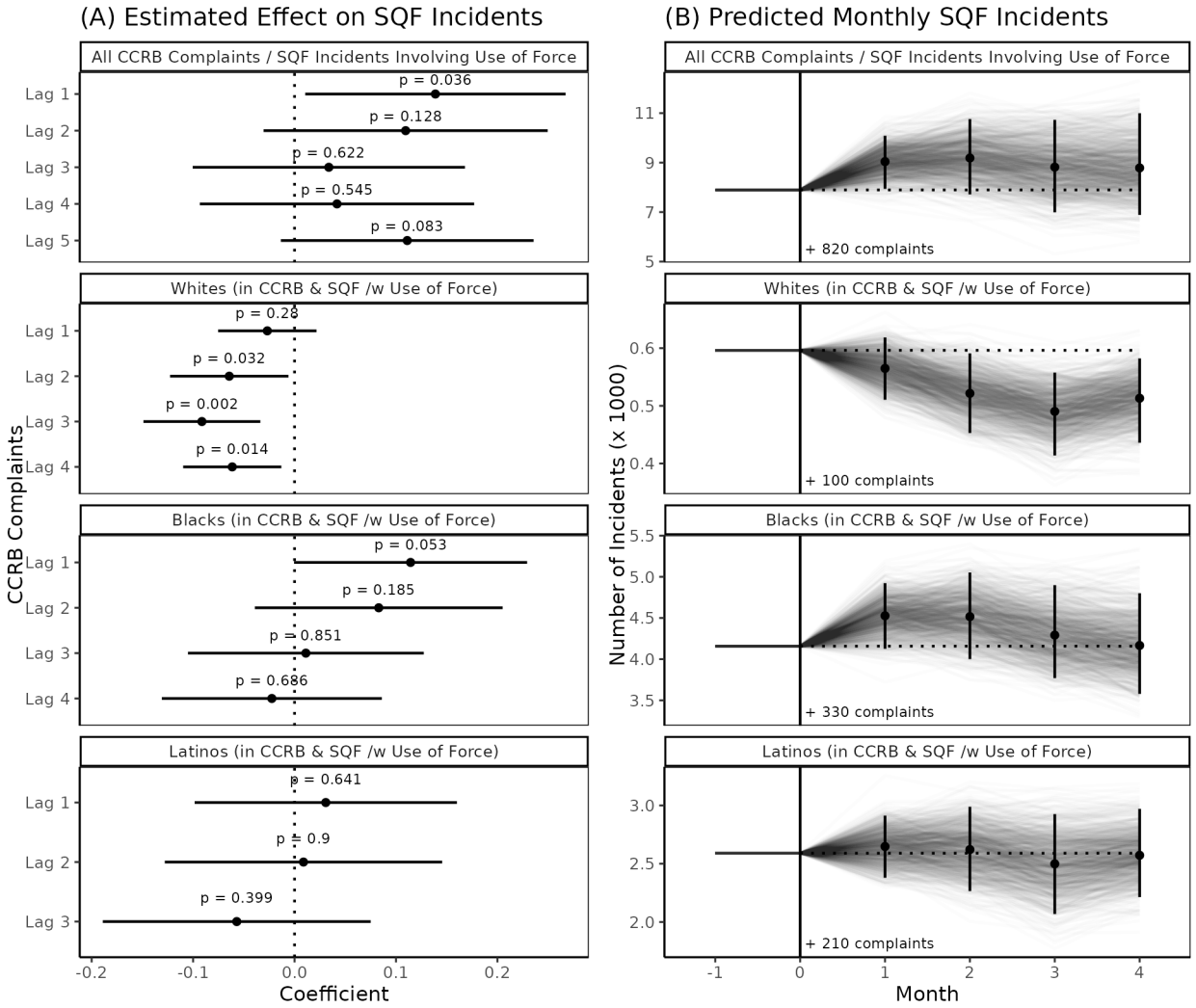


Figure B.7: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents involving use of force (monthly change in 1000s). (A) Vector autoregression coefficients with 95% confidence intervals. (B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals. Total number of time points T = 143 for each series.

B.8 Temporal Placebo Test (Using Leads Instead of Lags)

In order for our interpretation of our main findings (i.e., police retaliation) to be plausible, there needs to be evidence concerning the theorized temporal ordering of the data. Here, we assess whether we find similar results if we rely on a reversed temporal ordering in our data. Specifically, we repeat the main analysis reported in Figure 2 while examining the effect of *leads* of CCRB complaints on *previous* SQF incidents. Finding patterns similar to Figure 2 would cast doubt on our interpretation of the results, since it would suggest that the relationships are not unique to the assumed temporal ordering (i.e., complaints predicting subsequent stops). Figure B.8 shows that this is not the case; leads in complaints by Black civilians have no significant effect on previous stops involving Black suspects. Across all four temporal placebo tests, only a single coefficient reaches statistical significance—suggesting a negative association between complaints by White civilians and SQF incidents involving White suspects that occurred four months prior to the complaints. This finding underscores that we have to be particularly cautious when evaluating the effects of complaints for larger lag orders—particularly in the cases involving Whites. With regard to the main findings about potential adverse consequences for Black complainants, the results from this placebo test demonstrates that the patterns suggesting police retaliation are unique to the temporal ordering that is consistent with the hypothesized data generating process. In other words, only prior (rather than subsequent) changes in complaint by Black civilians impact subsequent (rather than prior) changes in police stops involving Black suspects.

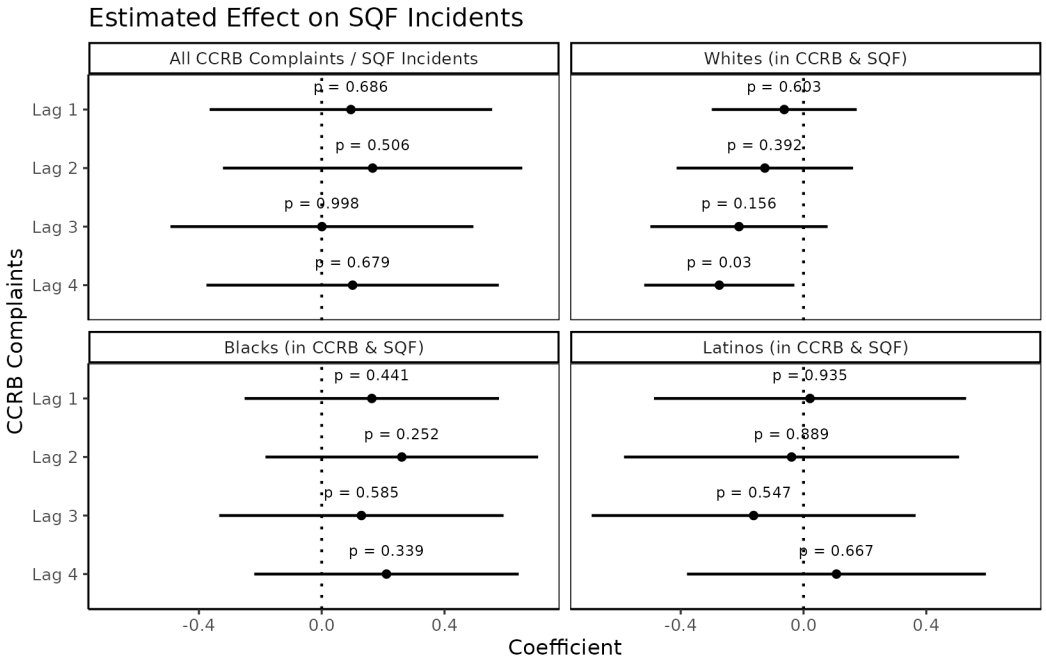


Figure B.8: Effect of CCRB complaints (monthly change in 100s) on previous SQF incidents (monthly change in 1000s). Vector autoregression coefficients with 95% confidence intervals. Total number of time points T = 143 for each series.

Appendix C Additional Analyses of SQF Incidents Involving Black Suspects

C.1 Racial Placebo Test (Complaints by Whites against White Officers)

We further corroborate the findings regarding officer race (Figure 3 in main text) by considering a racial placebo test, which examines the relationship between complaints by Whites against White vs. non-white police officers on subsequent SQF incidents involving Black suspects. Complaints by Whites do not result in an increase in SQF incidents involving Black suspects, whether they involve a White or non-white police officer. If anything, complaints by Whites against White officers appear to have spillover effects in the sense that they not only reduce subsequent stops involving White suspects, but also those involving Blacks:

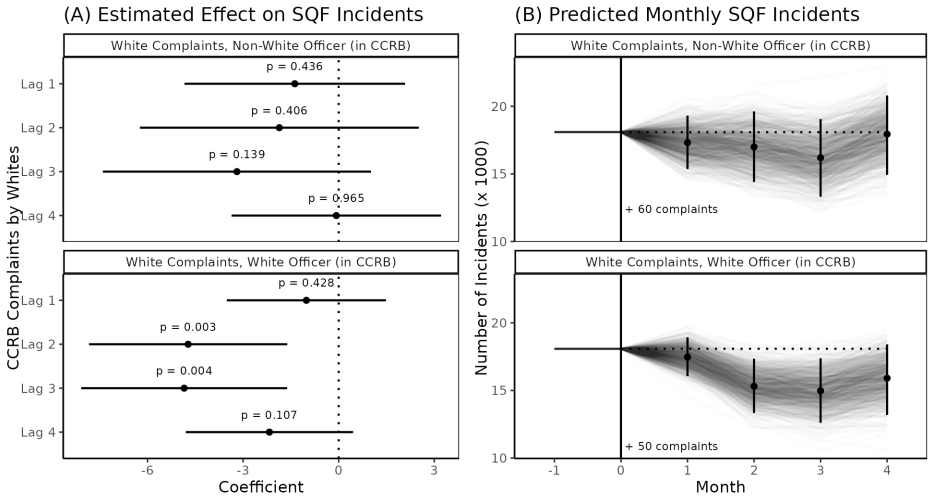


Figure C.1: Effect of lagged CCRB complaints by Black or White complainants (monthly change in 100s) on subsequent SQF incidents involving Black suspects (monthly change in 1000s) by officer race and complainant race. (A) Vector autoregression coefficients with 95% confidence intervals. (B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals. Total number of time points T = 143 for each series.

C.2 Contraband/Weapon Found and Arrests (in SQF)

One of the analyses in the paper (Figure 5) showed that complaints are only predictive of highly discretionary Stop, Question, Frisk activity. Here, we examine the nature of these SQF incidents in more detail. In particular, we investigate how the dynamics differ when focusing on SQF incidents involving Black suspects where a contraband/weapon was found during the search (vs. not), or SQF incidents that resulted in arrests (vs. not). The underlying reasoning is that police officers are only able to arrest an individual the officer has probable cause that the suspect committed a crime. To the extent that increased SQF activity can be interpreted as retaliatory rather than due to potential criminal activity, it should only be associated with stops that do not result in arrests (or finding a contraband/weapon). The model estimates are presented in Figure C.2a and Figure C.2b.

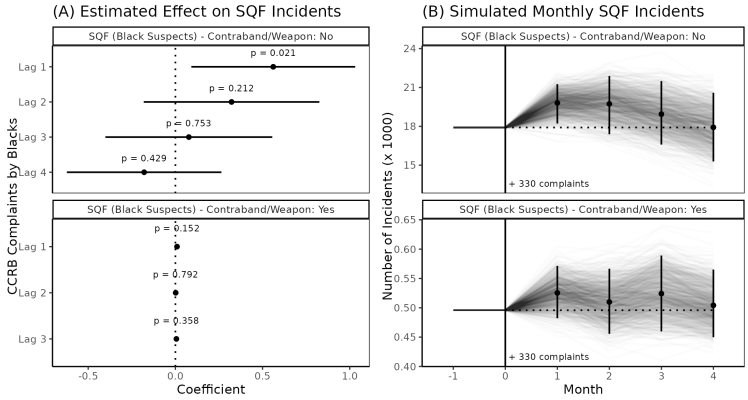


Figure C.2a: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) for SQF incidents involving where a contraband/weapon was found vs. not. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals. Total number of time points T = 143 for each series.

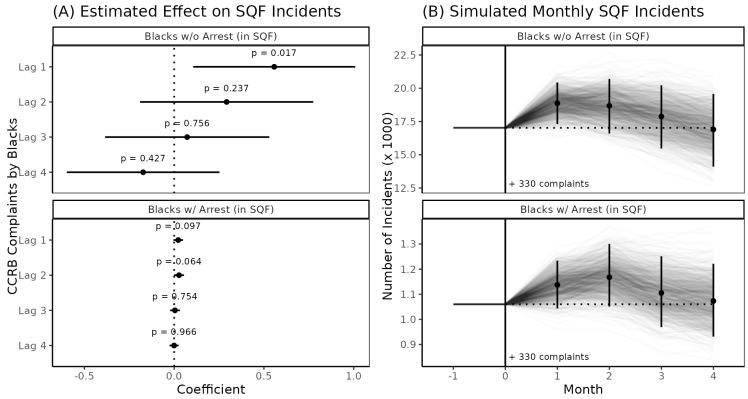


Figure C.2b: Effect of lagged CCRB complaints (monthly change in 100s) on subsequent SQF incidents (monthly change in 1000s) for SQF incidents involving arrest vs. no arrest. A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals.Total number of time points T = 143 for each series.

Again, the empirical evidence is consistent with the interpretation of retaliatory policing. Increasing CCRB complaints is associated with an expansion of Stop, Question, Frisk activity that ultimately does not result in arrests or the discovery of a contraband/weapon.

C.3 Spatial Placebo Test (in Brooklyn)

Figure 6 showed that Brooklyn provides the strongest evidence that complaints by Blacks are followed by an expansion of police activity. Furthermore, the relationship between complaints and policing should only emerge *within* a given borough and not spill over between boroughs. To further test whether the relationship observed in Brooklyn is spatially bounded, we additionally examine the effects of complaints in neighboring boroughs (Manhattan and Queens) on the same outcome (SQF incidents involving Black suspects in Brooklyn). Complaints by Blacks in Manhattan or Queens have no effect on police stops involving Black suspects in Brooklyn: Intensification of policing therefore only occurs after increased complaints by Blacks in the same borough, and not after increased complaints by Blacks in neighboring boroughs—casting doubt on alternative explanations that are based on unobserved confounding variables operating on the city-level as a whole.

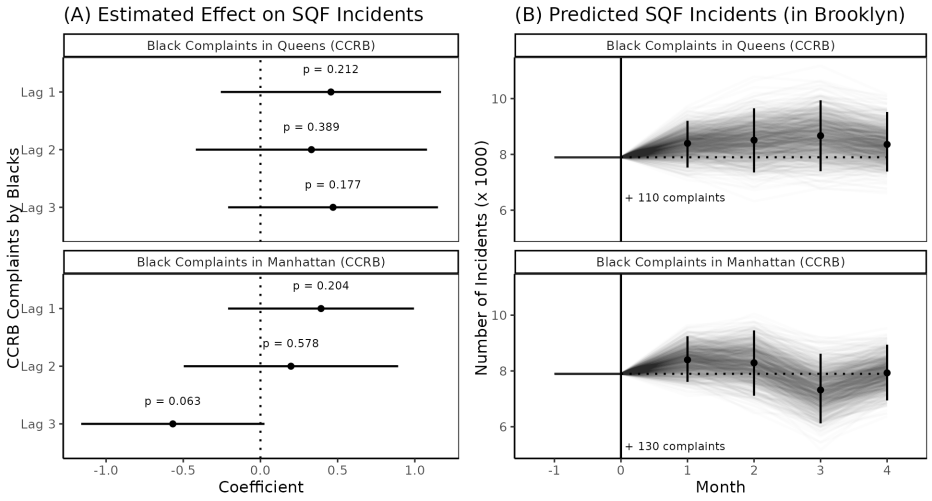


Figure C.3: Effect of lagged CCRB complaints by Black complainants by borough (monthly change in 100s) on subsequent SQF incidents involving Black suspects in Brooklyn (monthly change in 1000s). A) Vector autoregression coefficients with 95% confidence intervals. B) Predicted Stop, Question, Frisk incidents after CCRB shock in month 0 (increasing average allegations by the maximum monthly change observed in the original series) with 95% confidence intervals. Total number of time points T = 143 for each series.

C.4 Controlling for Precinct Median Household Income

Figure 7 in the main text shows that increases in precinct-level Black complaint are only associated with subsequent increases in SQF incidents in heavily Black communities. However, the racial composition of precincts is correlated with potential confounding factors such as socioeconomic status. In order to asses whether the patterns may be explained by economic conditions rather than the percentage of Black residents, we replicate the same precinct-level analysis as in Figure 7—but now differentiating precincts with regard to their median household income levels instead of their racial composition. The results in Figure C.4 deviate substantially from our analysis reported in the main text. While evidence for adverse effects of precinct-level complaints was clearly concentrated on heavily Black communities, no such differentiation manifests when comparing high and low income precincts. Indeed, when looking at the results for NYC as a whole, we find evidence for retaliatory policing in *both* high and low income precincts. This finding strongly suggests that the precinct-level results by racial composition are not driven by socioeconomic status.

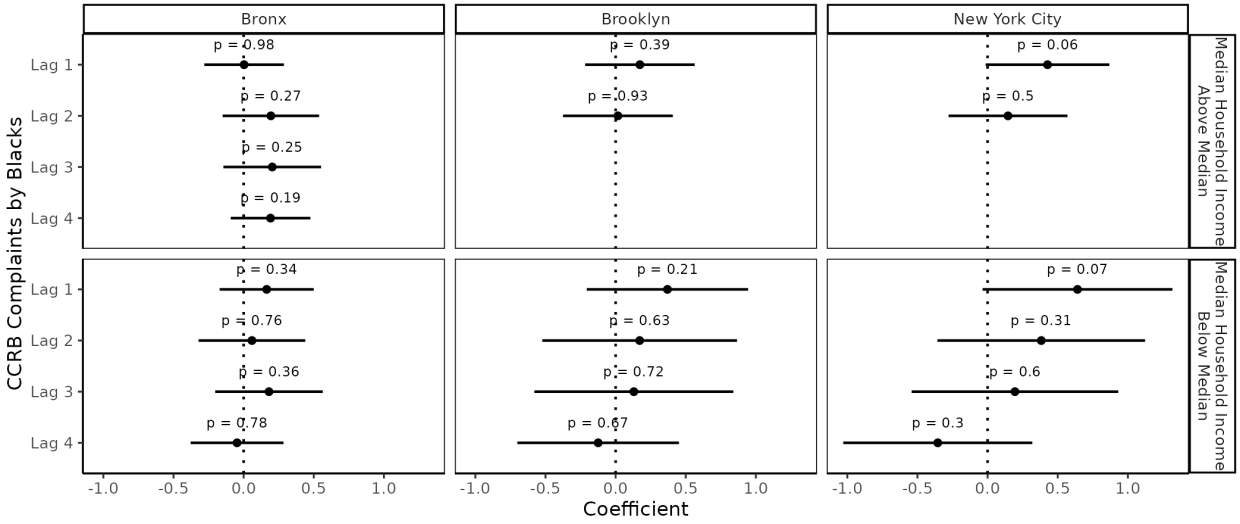


Figure C.4: Association between lagged CCRB complaints by Blacks (monthly change in 100s) and subsequent SQF incidents involving Black suspects (monthly change in 1000s) by borough and precinct. Vector autoregression coefficients with 95% confidence intervals. Total number of time points T = 143 for each series.

Appendix D Full Tables of Model Estimates

D.1 Figure 2: CCRB Complaints and SQF Incidents by Race

Table D.1: Vector autoregression of monthly changes in total SQF incidents, monthly changes in total CCRB complaints, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 2 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.416	-0.441	0.143
	(0.267)	(0.099)	(0.107)
CCRB Lag 2	0.116	-0.271	0.152
	(0.285)	(0.105)	(0.114)
CCRB Lag 3	-0.148	-0.486	-0.183
	(0.274)	(0.101)	(0.109)
CCRB Lag 4	-0.260	-0.360	-0.117
	(0.265)	(0.098)	(0.106)
SQF Lag 1	0.073	0.050	0.017
	(0.107)	(0.04)	(0.043)
SQF Lag 2	-0.047	-0.014	0.053
	(0.11)	(0.041)	(0.044)
SQF Lag 3	0.060	-0.053	-0.026
	(0.107)	(0.039)	(0.043)
SQF Lag 4	-0.123	0.011	0.034
	(0.101)	(0.037)	(0.04)
Arrests Lag 1	-0.723	0.141	-0.388
	(0.341)	(0.126)	(0.136)
Arrests Lag 2	-0.194	0.605	-0.214
	(0.432)	(0.16)	(0.172)
Arrests Lag 3	-0.740	0.463	-0.116
	(0.419)	(0.155)	(0.167)
Arrests Lag 4	0.147	0.109	-0.210
	(0.359)	(0.133)	(0.143)
Media Coverage	0.004	0.002	-0.004
	(0.01)	(0.004)	(0.004)
Unemplyment	0.245	0.647	0.715
	(2.764)	(1.021)	(1.103)
Overseas Arrivals	-0.242	-0.023	0.131
	(0.192)	(0.071)	(0.077)
Mean Temperature	0.050	0.049	0.040
	(0.041)	(0.015)	(0.016)
Precipitation	0.046	-0.053	-0.014
	(0.166)	(0.061)	(0.066)
January	18.401	4.196	6.963
	(2.612)	(0.965)	(1.042)
Intercept	-4.507	-2.915	-2.735
	(2.541)	(0.939)	(1.014)
N	139	139	139
R-squared	0.551	0.485	0.548

Table D.2: Vector autoregression of monthly changes in SQF incidents involving whites, monthly changes in CCRB complaints by whites, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 2 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	-0.180	-0.766	0.018
	(0.135)	(0.089)	(0.587)
CCRB Lag 2	-0.382	-0.637	-0.966
	(0.164)	(0.108)	(0.711)
CCRB Lag 3	-0.395	-0.405	-1.891
	(0.163)	(0.108)	(0.711)
CCRB Lag 4	-0.364	-0.334	-1.458
	(0.134)	(0.088)	(0.582)
SQF Lag 1	0.100	0.142	0.485
	(0.11)	(0.073)	(0.479)
SQF Lag 2	0.059	0.104	0.615
	(0.112)	(0.074)	(0.488)
SQF Lag 3	-0.047	-0.014	0.185
	(0.108)	(0.071)	(0.47)
SQF Lag 4	-0.128	-0.034	-0.102
	(0.102)	(0.067)	(0.444)
Arrests Lag 1	-0.048	-0.019	-0.439
	(0.03)	(0.02)	(0.129)
Arrests Lag 2	-0.023	0.048	-0.160
	(0.037)	(0.024)	(0.159)
Arrests Lag 3	-0.061	0.044	-0.259
	(0.034)	(0.023)	(0.149)
Arrests Lag 4	0.018	0.022	-0.146
	(0.028)	(0.018)	(0.122)
Media Coverage	0.000	-0.001	-0.007
	(0.001)	(0.001)	(0.004)
Unemplyment	-0.141	0.038	1.083
	(0.251)	(0.166)	(1.092)
Overseas Arrivals	0.003	-0.011	0.119
	(0.018)	(0.012)	(0.076)
Mean Temperature	0.005	0.011	0.057
	(0.004)	(0.002)	(0.016)
Precipitation	0.002	0.003	-0.033
	(0.015)	(0.01)	(0.064)
January	1.562	0.136	6.999
	(0.242)	(0.16)	(1.052)
Intercept	-0.445	-0.638	-3.634
	(0.228)	(0.15)	(0.99)
N	139	139	139
R-squared	0.55	0.522	0.561

Table D.3: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 2 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.582	-0.455	0.294
	(0.24)	(0.1)	(0.19)
CCRB Lag 2	0.320	-0.352	0.397
	(0.256)	(0.106)	(0.203)
CCRB Lag 3	0.078	-0.395	0.035
	(0.243)	(0.101)	(0.193)
CCRB Lag 4	-0.174	-0.254	-0.121
	(0.226)	(0.094)	(0.179)
SQF Lag 1	0.021	0.034	-0.014
	(0.103)	(0.043)	(0.082)
SQF Lag 2	-0.052	-0.016	0.080
	(0.107)	(0.044)	(0.085)
SQF Lag 3	0.094	-0.024	-0.035
	(0.103)	(0.043)	(0.082)
SQF Lag 4	-0.099	0.017	0.073
	(0.098)	(0.041)	(0.078)
Arrests Lag 1	-0.380	0.154	-0.344
	(0.169)	(0.07)	(0.134)
Arrests Lag 2	-0.178	0.382	-0.215
	(0.212)	(0.088)	(0.168)
Arrests Lag 3	-0.499	0.177	-0.256
	(0.209)	(0.087)	(0.166)
Arrests Lag 4	-0.012	0.041	-0.267
	(0.172)	(0.071)	(0.136)
Media Coverage	0.002	0.001	-0.004
	(0.005)	(0.002)	(0.004)
Unemplyment	0.293	0.140	0.681
	(1.412)	(0.586)	(1.118)
Overseas Arrivals	-0.136	-0.019	0.119
	(0.097)	(0.04)	(0.077)
Mean Temperature	0.034	0.020	0.036
	(0.02)	(0.008)	(0.016)
Precipitation	0.020	-0.021	-0.049
	(0.083)	(0.034)	(0.065)
January	9.397	2.248	6.786
	(1.31)	(0.543)	(1.037)
Intercept	-2.748	-1.223	-2.335
	(1.242)	(0.515)	(0.984)
N	139	139	139
R-squared	0.563	0.401	0.538

Table D.4: Vector autoregression of monthly changes in SQF incidents involving Latinos, monthly changes in CCRB complaints by Latinos, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 2 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.206	-0.460	0.317
	(0.267)	(0.097)	(0.325)
CCRB Lag 2	0.015	-0.311	-0.020
	(0.284)	(0.103)	(0.345)
CCRB Lag 3	-0.298	-0.287	-0.771
	(0.274)	(0.099)	(0.333)
SQF Lag 1	0.042	0.018	0.104
	(0.104)	(0.038)	(0.126)
SQF Lag 2	0.007	-0.019	0.204
	(0.104)	(0.038)	(0.127)
SQF Lag 3	0.001	-0.055	-0.083
	(0.097)	(0.035)	(0.118)
Arrests Lag 1	-0.157	0.058	-0.328
	(0.106)	(0.038)	(0.129)
Arrests Lag 2	-0.086	0.117	-0.073
	(0.129)	(0.047)	(0.157)
Arrests Lag 3	-0.134	0.083	0.055
	(0.101)	(0.037)	(0.123)
Media Coverage	0.002	0.000	-0.002
	(0.003)	(0.001)	(0.004)
Unemplyment	-0.151	0.200	0.628
	(0.9)	(0.326)	(1.095)
Overseas Arrivals	-0.078	0.001	0.122
	(0.063)	(0.023)	(0.076)
Mean Temperature	0.007	0.007	0.037
	(0.013)	(0.005)	(0.016)
Precipitation	0.045	-0.031	0.020
	(0.054)	(0.019)	(0.066)
January	5.562	0.889	7.139
	(0.843)	(0.305)	(1.024)
Intercept	-1.027	-0.345	-2.774
	(0.833)	(0.301)	(1.012)
N	140	140	140
R-squared	0.535	0.325	0.531

D.2 Figure 3: Results by Officer Race

Table D.5: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in CCRB complaints by blacks about non-white officers, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 3 in the main text as well as Figure C.1 in the appendix.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.872	-0.353	1.085
	(0.554)	(0.091)	(0.432)
CCRB Lag 2	0.267	-0.377	0.294
	(0.537)	(0.089)	(0.419)
CCRB Lag 3	0.341	-0.318	0.428
	(0.543)	(0.09)	(0.424)
SQF Lag 1	0.033	0.019	0.015
	(0.103)	(0.017)	(0.081)
SQF Lag 2	-0.017	-0.015	0.094
	(0.104)	(0.017)	(0.081)
SQF Lag 3	0.042	-0.005	-0.072
	(0.101)	(0.017)	(0.079)
Arrests Lag 1	-0.280	0.037	-0.342
	(0.163)	(0.027)	(0.127)
Arrests Lag 2	-0.141	0.113	-0.104
	(0.195)	(0.032)	(0.152)
Arrests Lag 3	-0.319	0.027	-0.098
	(0.156)	(0.026)	(0.122)
Media Coverage	0.001	0.000	-0.005
	(0.005)	(0.001)	(0.004)
Unemplyment	0.072	0.070	0.661
	(1.419)	(0.234)	(1.107)
Overseas Arrivals	-0.091	0.002	0.137
	(0.099)	(0.016)	(0.077)
Mean Temperature	0.028	0.003	0.029
	(0.02)	(0.003)	(0.015)
Precipitation	0.032	-0.004	-0.027
	(0.082)	(0.014)	(0.064)
January	9.175	0.504	6.976
	(1.308)	(0.216)	(1.021)
Intercept	-2.455	-0.209	-2.061
	(1.233)	(0.204)	(0.962)
N	140	140	140
R-squared	0.533	0.285	0.52

Table D.6: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in CCRB complaints by blacks about white officers, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 3 in the main text as well as Figure C.1 in the appendix.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	1.553	-0.571	0.660
	(0.517)	(0.096)	(0.422)
CCRB Lag 2	0.601	-0.399	0.764
	(0.575)	(0.106)	(0.469)
CCRB Lag 3	-0.109	-0.411	0.001
	(0.569)	(0.105)	(0.464)
CCRB Lag 4	-0.626	-0.132	-0.233
	(0.502)	(0.093)	(0.41)
SQF Lag 1	0.018	0.020	-0.021
	(0.102)	(0.019)	(0.083)
SQF Lag 2	-0.056	-0.007	0.081
	(0.106)	(0.02)	(0.086)
SQF Lag 3	0.126	-0.008	-0.028
	(0.102)	(0.019)	(0.083)
SQF Lag 4	-0.111	0.012	0.073
	(0.096)	(0.018)	(0.078)
Arrests Lag 1	-0.336	0.055	-0.316
	(0.157)	(0.029)	(0.128)
Arrests Lag 2	-0.097	0.130	-0.156
	(0.198)	(0.037)	(0.161)
Arrests Lag 3	-0.441	0.087	-0.211
	(0.191)	(0.035)	(0.156)
Arrests Lag 4	0.010	0.024	-0.252
	(0.156)	(0.029)	(0.127)
Media Coverage	0.004	0.001	-0.004
	(0.005)	(0.001)	(0.004)
Unemplyment	0.267	0.032	0.712
	(1.376)	(0.255)	(1.123)
Overseas Arrivals	-0.170	-0.011	0.110
	(0.096)	(0.018)	(0.078)
Mean Temperature	0.037	0.005	0.035
	(0.019)	(0.004)	(0.016)
Precipitation	0.014	-0.007	-0.052
	(0.081)	(0.015)	(0.066)
January	9.213	0.658	6.580
	(1.286)	(0.238)	(1.049)
Intercept	-2.872	-0.321	-2.254
	(1.212)	(0.225)	(0.989)
N	139	139	139
R-squared	0.584	0.379	0.533

D.3 Figure 4: Results by CCRB Disposition

Table D.7: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in CCRB complaints by blacks that did not involve officer contact, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 4 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.411	-0.570	0.046
	(0.424)	(0.099)	(0.337)
CCRB Lag 2	0.467	-0.303	0.261
	(0.436)	(0.102)	(0.346)
CCRB Lag 3	0.147	-0.169	0.043
	(0.398)	(0.093)	(0.316)
SQF Lag 1	0.046	0.003	0.028
	(0.103)	(0.024)	(0.082)
SQF Lag 2	0.010	0.012	0.115
	(0.105)	(0.025)	(0.083)
SQF Lag 3	0.029	-0.016	-0.086
	(0.1)	(0.023)	(0.08)
Arrests Lag 1	-0.275	0.123	-0.266
	(0.173)	(0.04)	(0.137)
Arrests Lag 2	-0.179	0.188	-0.081
	(0.205)	(0.048)	(0.163)
Arrests Lag 3	-0.293	0.076	-0.005
	(0.166)	(0.039)	(0.132)
Media Coverage	0.002	0.000	-0.004
	(0.005)	(0.001)	(0.004)
Unemplyment	0.029	-0.078	0.646
	(1.426)	(0.333)	(1.133)
Overseas Arrivals	-0.106	0.002	0.126
	(0.098)	(0.023)	(0.078)
Mean Temperature	0.029	0.010	0.030
	(0.02)	(0.005)	(0.016)
Precipitation	0.032	-0.012	-0.031
	(0.083)	(0.019)	(0.066)
January	9.294	1.268	7.008
	(1.326)	(0.31)	(1.053)
Intercept	-2.519	-0.643	-2.147
	(1.236)	(0.289)	(0.982)
N	140	140	140
R-squared	0.529	0.398	0.499

Table D.8: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in unsubstantiated CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 4 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	1.355	-0.361	0.914
	(0.472)	(0.09)	(0.377)
CCRB Lag 2	0.304	-0.376	0.537
	(0.47)	(0.089)	(0.376)
CCRB Lag 3	-0.003	-0.347	0.214
	(0.46)	(0.087)	(0.368)
SQF Lag 1	0.028	0.028	0.015
	(0.101)	(0.019)	(0.08)
SQF Lag 2	-0.028	-0.017	0.087
	(0.102)	(0.019)	(0.082)
SQF Lag 3	0.084	0.009	-0.062
	(0.099)	(0.019)	(0.079)
Arrests Lag 1	-0.320	0.020	-0.345
	(0.159)	(0.03)	(0.127)
Arrests Lag 2	-0.086	0.143	-0.068
	(0.188)	(0.036)	(0.15)
Arrests Lag 3	-0.352	0.040	-0.075
	(0.155)	(0.029)	(0.124)
Media Coverage	0.003	0.000	-0.004
	(0.005)	(0.001)	(0.004)
Unemplyment	-0.042	0.049	0.649
	(1.386)	(0.263)	(1.109)
Overseas Arrivals	-0.128	-0.010	0.108
	(0.096)	(0.018)	(0.077)
Mean Temperature	0.034	0.005	0.032
	(0.019)	(0.004)	(0.015)
Precipitation	0.034	-0.007	-0.032
	(0.081)	(0.015)	(0.065)
January	9.257	0.716	7.079
	(1.278)	(0.243)	(1.023)
Intercept	-2.763	-0.301	-2.230
	(1.203)	(0.229)	(0.963)
N	140	140	140
R-squared	0.556	0.353	0.521

Table D.9: Vector autoregression of monthly changes in SQF incidents involving blacks, monthly changes in substantiated CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 4 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	3.657	-0.832	2.199
	(1.558)	(0.084)	(1.229)
CCRB Lag 2	3.614	-0.600	4.049
	(1.83)	(0.099)	(1.444)
CCRB Lag 3	3.259	-0.308	2.621
	(1.626)	(0.088)	(1.283)
SQF Lag 1	0.018	0.003	-0.003
	(0.102)	(0.006)	(0.081)
SQF Lag 2	-0.034	-0.002	0.083
	(0.103)	(0.006)	(0.081)
SQF Lag 3	0.064	-0.003	-0.068
	(0.098)	(0.005)	(0.077)
Arrests Lag 1	-0.263	0.013	-0.295
	(0.156)	(0.008)	(0.123)
Arrests Lag 2	-0.130	0.013	-0.078
	(0.187)	(0.01)	(0.147)
Arrests Lag 3	-0.311	-0.004	-0.046
	(0.147)	(0.008)	(0.116)
Media Coverage	0.002	0.000	-0.004
	(0.005)	(0)	(0.004)
Unemplyment	-0.220	0.088	0.442
	(1.399)	(0.076)	(1.104)
Overseas Arrivals	-0.096	0.005	0.132
	(0.096)	(0.005)	(0.076)
Mean Temperature	0.027	0.002	0.028
	(0.019)	(0.001)	(0.015)
Precipitation	0.033	-0.006	-0.036
	(0.081)	(0.004)	(0.064)
January	8.902	0.210	6.758
	(1.295)	(0.07)	(1.022)
Intercept	-2.372	-0.082	-1.967
	(1.21)	(0.066)	(0.955)
N	140	140	140
R-squared	0.549	0.475	0.526

D.4 Figure 5: Results by Documented Reason for Performing SQF

Table D.10: Vector autoregression of monthly changes in SQF incidents involving blacks without an ongoing investigation, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.512	-0.478	0.248
	(0.212)	(0.1)	(0.192)
CCRB Lag 2	0.305	-0.378	0.337
	(0.227)	(0.107)	(0.206)
CCRB Lag 3	0.059	-0.426	-0.042
	(0.216)	(0.102)	(0.196)
CCRB Lag 4	-0.153	-0.274	-0.268
	(0.2)	(0.094)	(0.181)
SQF Lag 1	0.038	0.050	0.018
	(0.104)	(0.049)	(0.094)
SQF Lag 2	-0.057	-0.009	0.088
	(0.109)	(0.051)	(0.099)
SQF Lag 3	0.075	-0.020	-0.017
	(0.105)	(0.049)	(0.095)
SQF Lag 4	-0.099	0.019	0.060
	(0.099)	(0.047)	(0.09)
Arrests Lag 1	-0.329	0.145	-0.361
	(0.149)	(0.07)	(0.135)
Arrests Lag 2	-0.144	0.382	-0.156
	(0.191)	(0.09)	(0.173)
Arrests Lag 3	-0.410	0.182	-0.233
	(0.186)	(0.087)	(0.169)
Arrests Lag 4	0.001	0.050	-0.196
	(0.152)	(0.072)	(0.138)
Media Coverage	0.001	0.001	-0.004
	(0.004)	(0.002)	(0.004)
Unemplyment	0.307	0.032	0.679
	(1.254)	(0.589)	(1.136)
Overseas Arrivals	-0.104	-0.037	0.095
	(0.089)	(0.042)	(0.08)
Mean Temperature	0.028	0.021	0.040
	(0.018)	(0.008)	(0.016)
Precipitation	0.010	-0.023	-0.049
	(0.073)	(0.034)	(0.066)
January	8.320	2.117	6.879
	(1.155)	(0.543)	(1.047)
Intercept	-2.257	-1.241	-2.558
	(1.088)	(0.511)	(0.986)
N	136	136	136
R-squared	0.567	0.419	0.546

Table D.11: Vector autoregression of monthly changes in SQF incidents involving blacks in the context of an ongoing investigation, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.056	-0.479	0.263
	(0.038)	(0.099)	(0.19)
CCRB Lag 2	0.019	-0.358	0.362
	(0.04)	(0.106)	(0.202)
CCRB Lag 3	0.016	-0.430	-0.049
	(0.038)	(0.1)	(0.192)
CCRB Lag 4	-0.028	-0.283	-0.243
	(0.035)	(0.093)	(0.178)
SQF Lag 1	-0.161	-0.319	-1.054
	(0.103)	(0.27)	(0.517)
SQF Lag 2	-0.126	-0.335	0.259
	(0.106)	(0.279)	(0.533)
SQF Lag 3	0.142	-0.115	-0.057
	(0.102)	(0.27)	(0.515)
SQF Lag 4	-0.067	0.185	0.471
	(0.099)	(0.262)	(0.5)
Arrests Lag 1	-0.038	0.205	-0.226
	(0.025)	(0.065)	(0.125)
Arrests Lag 2	-0.012	0.388	-0.136
	(0.031)	(0.081)	(0.155)
Arrests Lag 3	-0.076	0.144	-0.281
	(0.029)	(0.077)	(0.148)
Arrests Lag 4	-0.018	0.019	-0.228
	(0.024)	(0.064)	(0.122)
Media Coverage	0.001	0.001	-0.004
	(0.001)	(0.002)	(0.004)
Unemplyment	0.021	0.035	0.685
	(0.22)	(0.579)	(1.107)
Overseas Arrivals	-0.043	-0.048	0.055
	(0.016)	(0.042)	(0.08)
Mean Temperature	0.005	0.016	0.033
	(0.003)	(0.008)	(0.015)
Precipitation	0.009	-0.026	-0.048
	(0.013)	(0.034)	(0.065)
January	1.011	1.888	6.371
	(0.207)	(0.545)	(1.041)
Intercept	-0.421	-0.938	-2.140
	(0.191)	(0.502)	(0.96)
N	136	136	136
R-squared	0.502	0.428	0.56

Table D.12: Vector autoregression of monthly changes in SQF incidents involving blacks without a report by a witness/victim, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.530	-0.477	0.250
	(0.225)	(0.1)	(0.192)
CCRB Lag 2	0.290	-0.373	0.348
	(0.241)	(0.107)	(0.206)
CCRB Lag 3	0.073	-0.423	-0.043
	(0.229)	(0.102)	(0.196)
CCRB Lag 4	-0.172	-0.274	-0.265
	(0.212)	(0.094)	(0.181)
SQF Lag 1	0.008	0.038	-0.011
	(0.103)	(0.046)	(0.088)
SQF Lag 2	-0.045	-0.016	0.091
	(0.107)	(0.048)	(0.091)
SQF Lag 3	0.082	-0.016	-0.008
	(0.103)	(0.046)	(0.088)
SQF Lag 4	-0.102	0.022	0.068
	(0.097)	(0.043)	(0.083)
Arrests Lag 1	-0.336	0.153	-0.336
	(0.155)	(0.069)	(0.133)
Arrests Lag 2	-0.181	0.386	-0.173
	(0.2)	(0.089)	(0.171)
Arrests Lag 3	-0.457	0.176	-0.255
	(0.197)	(0.087)	(0.168)
Arrests Lag 4	-0.006	0.042	-0.209
	(0.16)	(0.071)	(0.137)
Media Coverage	0.001	0.001	-0.004
	(0.005)	(0.002)	(0.004)
Unemplyment	0.326	0.035	0.662
	(1.328)	(0.589)	(1.133)
Overseas Arrivals	-0.142	-0.038	0.095
	(0.094)	(0.042)	(0.08)
Mean Temperature	0.031	0.020	0.040
	(0.019)	(0.008)	(0.016)
Precipitation	0.017	-0.024	-0.047
	(0.078)	(0.034)	(0.066)
January	8.719	2.107	6.838
	(1.228)	(0.545)	(1.048)
Intercept	-2.477	-1.213	-2.575
	(1.172)	(0.52)	(1)
N	136	136	136
R-squared	0.574	0.418	0.547

Table D.13: Vector autoregression of monthly changes in SQF incidents involving blacks due to a report by a victim/witness, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.029	-0.479	0.233
	(0.025)	(0.1)	(0.191)
CCRB Lag 2	0.032	-0.376	0.322
	(0.027)	(0.106)	(0.203)
CCRB Lag 3	0.005	-0.417	-0.012
	(0.025)	(0.1)	(0.193)
CCRB Lag 4	-0.013	-0.282	-0.268
	(0.024)	(0.094)	(0.18)
SQF Lag 1	-0.031	-0.425	-0.040
	(0.115)	(0.459)	(0.881)
SQF Lag 2	-0.266	-0.133	-0.860
	(0.116)	(0.462)	(0.887)
SQF Lag 3	0.050	-0.368	-0.755
	(0.118)	(0.469)	(0.9)
SQF Lag 4	-0.165	0.032	-0.671
	(0.118)	(0.468)	(0.898)
Arrests Lag 1	-0.017	0.217	-0.344
	(0.018)	(0.071)	(0.136)
Arrests Lag 2	0.026	0.386	0.004
	(0.021)	(0.085)	(0.163)
Arrests Lag 3	-0.024	0.180	-0.179
	(0.019)	(0.077)	(0.148)
Arrests Lag 4	0.007	0.059	-0.099
	(0.016)	(0.066)	(0.126)
Media Coverage	0.001	0.001	-0.005
	(0.001)	(0.002)	(0.004)
Unemplyment	0.037	0.086	1.003
	(0.147)	(0.585)	(1.123)
Overseas Arrivals	0.001	-0.044	0.100
	(0.011)	(0.042)	(0.081)
Mean Temperature	0.003	0.020	0.036
	(0.002)	(0.007)	(0.014)
Precipitation	0.002	-0.023	-0.067
	(0.009)	(0.034)	(0.066)
January	0.669	2.093	6.951
	(0.135)	(0.537)	(1.031)
Intercept	-0.229	-1.182	-2.287
	(0.115)	(0.457)	(0.877)
N	136	136	136
R-squared	0.391	0.418	0.548

Table D.14: Vector autoregression of monthly changes in SQF incidents involving blacks not in the proximity of a scene of offense, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.478	-0.477	0.252
	(0.192)	(0.099)	(0.192)
CCRB Lag 2	0.275	-0.377	0.342
	(0.206)	(0.107)	(0.206)
CCRB Lag 3	0.095	-0.427	-0.043
	(0.197)	(0.102)	(0.196)
CCRB Lag 4	-0.118	-0.275	-0.265
	(0.182)	(0.094)	(0.181)
SQF Lag 1	0.020	0.053	0.016
	(0.103)	(0.053)	(0.102)
SQF Lag 2	-0.079	-0.007	0.092
	(0.107)	(0.055)	(0.107)
SQF Lag 3	0.107	-0.012	-0.003
	(0.103)	(0.053)	(0.102)
SQF Lag 4	-0.102	0.026	0.082
	(0.096)	(0.05)	(0.096)
Arrests Lag 1	-0.293	0.146	-0.360
	(0.134)	(0.069)	(0.133)
Arrests Lag 2	-0.131	0.378	-0.159
	(0.172)	(0.089)	(0.172)
Arrests Lag 3	-0.407	0.171	-0.253
	(0.168)	(0.087)	(0.168)
Arrests Lag 4	-0.003	0.043	-0.213
	(0.137)	(0.071)	(0.137)
Media Coverage	0.002	0.001	-0.004
	(0.004)	(0.002)	(0.004)
Unemplyment	0.203	0.021	0.658
	(1.136)	(0.588)	(1.133)
Overseas Arrivals	-0.111	-0.037	0.093
	(0.081)	(0.042)	(0.08)
Mean Temperature	0.022	0.021	0.041
	(0.016)	(0.008)	(0.016)
Precipitation	0.012	-0.023	-0.048
	(0.067)	(0.034)	(0.066)
January	7.578	2.122	6.853
	(1.048)	(0.543)	(1.045)
Intercept	-1.911	-1.280	-2.603
	(1.004)	(0.52)	(1.001)
N	136	136	136
R-squared	0.578	0.419	0.546

Table D.15: Vector autoregression of monthly changes in SQF incidents involving blacks in the proximity of a scene of offense, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.091	-0.485	0.244
	(0.057)	(0.1)	(0.192)
CCRB Lag 2	0.052	-0.366	0.340
	(0.061)	(0.107)	(0.205)
CCRB Lag 3	-0.009	-0.417	-0.029
	(0.057)	(0.1)	(0.193)
CCRB Lag 4	-0.065	-0.281	-0.271
	(0.053)	(0.094)	(0.18)
SQF Lag 1	-0.074	-0.078	-0.453
	(0.109)	(0.192)	(0.369)
SQF Lag 2	-0.011	-0.196	0.283
	(0.112)	(0.197)	(0.379)
SQF Lag 3	0.037	-0.177	-0.195
	(0.112)	(0.197)	(0.379)
SQF Lag 4	-0.096	0.024	-0.002
	(0.11)	(0.194)	(0.373)
Arrests Lag 1	-0.056	0.193	-0.244
	(0.039)	(0.069)	(0.132)
Arrests Lag 2	-0.025	0.406	-0.133
	(0.048)	(0.085)	(0.164)
Arrests Lag 3	-0.095	0.184	-0.225
	(0.047)	(0.082)	(0.158)
Arrests Lag 4	-0.015	0.051	-0.155
	(0.039)	(0.069)	(0.133)
Media Coverage	0.001	0.001	-0.004
	(0.001)	(0.002)	(0.004)
Unemplyment	0.154	0.124	0.860
	(0.333)	(0.587)	(1.128)
Overseas Arrivals	-0.037	-0.046	0.078
	(0.024)	(0.042)	(0.08)
Mean Temperature	0.011	0.017	0.034
	(0.004)	(0.008)	(0.015)
Precipitation	0.004	-0.027	-0.051
	(0.019)	(0.034)	(0.065)
January	1.789	1.971	6.703
	(0.31)	(0.546)	(1.049)
Intercept	-0.779	-0.985	-2.219
	(0.274)	(0.483)	(0.928)
N	136	136	136
R-squared	0.488	0.42	0.55

Table D.16: Vector autoregression of monthly changes in SQF incidents involving blacks where no violent crime was observed, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.541	-0.477	0.252
	(0.223)	(0.1)	(0.192)
CCRB Lag 2	0.319	-0.373	0.347
	(0.239)	(0.107)	(0.206)
CCRB Lag 3	0.072	-0.423	-0.038
	(0.228)	(0.102)	(0.196)
CCRB Lag 4	-0.163	-0.274	-0.266
	(0.211)	(0.094)	(0.181)
SQF Lag 1	0.006	0.036	-0.006
	(0.105)	(0.047)	(0.09)
SQF Lag 2	-0.054	-0.015	0.079
	(0.109)	(0.049)	(0.094)
SQF Lag 3	0.103	-0.014	-0.008
	(0.105)	(0.047)	(0.09)
SQF Lag 4	-0.095	0.023	0.065
	(0.099)	(0.044)	(0.085)
Arrests Lag 1	-0.339	0.154	-0.340
	(0.156)	(0.07)	(0.134)
Arrests Lag 2	-0.169	0.385	-0.157
	(0.2)	(0.089)	(0.172)
Arrests Lag 3	-0.473	0.172	-0.250
	(0.196)	(0.088)	(0.169)
Arrests Lag 4	-0.011	0.039	-0.210
	(0.161)	(0.072)	(0.138)
Media Coverage	0.002	0.001	-0.004
	(0.005)	(0.002)	(0.004)
Unemplyment	0.229	0.034	0.693
	(1.316)	(0.588)	(1.132)
Overseas Arrivals	-0.127	-0.038	0.093
	(0.093)	(0.042)	(0.08)
Mean Temperature	0.032	0.020	0.039
	(0.019)	(0.008)	(0.016)
Precipitation	0.018	-0.024	-0.049
	(0.077)	(0.034)	(0.066)
January	8.728	2.105	6.847
	(1.218)	(0.544)	(1.048)
Intercept	-2.536	-1.214	-2.528
	(1.153)	(0.515)	(0.992)
N	136	136	136
R-squared	0.573	0.418	0.546

Table D.17: Vector autoregression of monthly changes in SQF incidents involving blacks where a violent crime was observed, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.028	-0.486	0.245
	(0.025)	(0.1)	(0.192)
CCRB Lag 2	0.011	-0.371	0.343
	(0.027)	(0.106)	(0.204)
CCRB Lag 3	0.012	-0.416	-0.020
	(0.026)	(0.101)	(0.194)
CCRB Lag 4	-0.021	-0.282	-0.253
	(0.024)	(0.094)	(0.181)
SQF Lag 1	0.028	-0.074	-0.642
	(0.102)	(0.402)	(0.774)
SQF Lag 2	-0.081	-0.162	0.610
	(0.105)	(0.414)	(0.796)
SQF Lag 3	-0.050	-0.419	-0.452
	(0.105)	(0.413)	(0.794)
SQF Lag 4	-0.101	-0.121	0.014
	(0.103)	(0.407)	(0.784)
Arrests Lag 1	-0.019	0.193	-0.286
	(0.017)	(0.066)	(0.128)
Arrests Lag 2	0.001	0.386	-0.109
	(0.021)	(0.083)	(0.159)
Arrests Lag 3	-0.028	0.183	-0.225
	(0.019)	(0.075)	(0.145)
Arrests Lag 4	-0.007	0.076	-0.157
	(0.016)	(0.062)	(0.12)
Media Coverage	0.000	0.001	-0.004
	(0.001)	(0.002)	(0.004)
Unemplyment	0.121	0.179	0.842
	(0.152)	(0.598)	(1.15)
Overseas Arrivals	-0.016	-0.036	0.084
	(0.011)	(0.042)	(0.081)
Mean Temperature	0.002	0.017	0.035
	(0.002)	(0.008)	(0.015)
Precipitation	-0.001	-0.024	-0.054
	(0.009)	(0.034)	(0.066)
January	0.672	2.121	6.874
	(0.139)	(0.546)	(1.05)
Intercept	-0.175	-1.053	-2.258
	(0.124)	(0.487)	(0.936)
N	136	136	136
R-squared	0.397	0.418	0.547

Table D.18: Vector autoregression of monthly changes in SQF incidents involving blacks without signs or sounds of a criminal activity, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.565	-0.477	0.252
	(0.241)	(0.1)	(0.192)
CCRB Lag 2	0.325	-0.372	0.348
	(0.258)	(0.107)	(0.206)
CCRB Lag 3	0.091	-0.423	-0.036
	(0.246)	(0.102)	(0.196)
CCRB Lag 4	-0.176	-0.274	-0.265
	(0.227)	(0.094)	(0.181)
SQF Lag 1	0.019	0.030	-0.012
	(0.105)	(0.043)	(0.083)
SQF Lag 2	-0.065	-0.015	0.070
	(0.109)	(0.045)	(0.087)
SQF Lag 3	0.095	-0.018	-0.014
	(0.105)	(0.044)	(0.084)
SQF Lag 4	-0.103	0.019	0.055
	(0.1)	(0.041)	(0.079)
Arrests Lag 1	-0.365	0.157	-0.334
	(0.168)	(0.07)	(0.134)
Arrests Lag 2	-0.159	0.386	-0.153
	(0.215)	(0.089)	(0.171)
Arrests Lag 3	-0.497	0.176	-0.245
	(0.21)	(0.087)	(0.167)
Arrests Lag 4	-0.016	0.043	-0.204
	(0.172)	(0.071)	(0.137)
Media Coverage	0.002	0.001	-0.004
	(0.005)	(0.002)	(0.004)
Unemplyment	0.353	0.044	0.698
	(1.424)	(0.589)	(1.135)
Overseas Arrivals	-0.144	-0.038	0.092
	(0.101)	(0.042)	(0.08)
Mean Temperature	0.034	0.020	0.039
	(0.02)	(0.008)	(0.016)
Precipitation	0.015	-0.024	-0.050
	(0.083)	(0.034)	(0.066)
January	9.252	2.096	6.835
	(1.317)	(0.545)	(1.05)
Intercept	-2.677	-1.186	-2.486
	(1.243)	(0.514)	(0.99)
N	136	136	136
R-squared	0.565	0.417	0.545

Table D.19: Vector autoregression of monthly changes in SQF incidents involving blacks due to signs or sounds of a criminal activity, monthly changes in total CCRB complaints by blacks, and monthly changes in total arrests (standard errors in parentheses). Estimates are used for Figure 5 in the main text.

Variable	SQF (1000s)	CCRB (100s)	Arrests (1000s)
CCRB Lag 1	0.004	-0.472	0.253
	(0.005)	(0.101)	(0.193)
CCRB Lag 2	0.002	-0.354	0.340
	(0.006)	(0.108)	(0.207)
CCRB Lag 3	-0.005	-0.412	-0.025
	(0.005)	(0.101)	(0.192)
CCRB Lag 4	-0.010	-0.276	-0.287
	(0.005)	(0.094)	(0.179)
SQF Lag 1	-0.366	0.428	0.033
	(0.098)	(1.855)	(3.535)
SQF Lag 2	-0.010	-1.188	5.446
	(0.102)	(1.928)	(3.674)
SQF Lag 3	0.037	-0.062	1.721
	(0.105)	(1.982)	(3.778)
SQF Lag 4	0.093	0.936	3.207
	(0.1)	(1.892)	(3.606)
Arrests Lag 1	0.003	0.177	-0.353
	(0.003)	(0.066)	(0.125)
Arrests Lag 2	0.003	0.379	-0.176
	(0.004)	(0.081)	(0.155)
Arrests Lag 3	-0.002	0.139	-0.283
	(0.004)	(0.075)	(0.143)
Arrests Lag 4	0.002	0.040	-0.211
	(0.003)	(0.063)	(0.12)
Media Coverage	0.000	0.001	-0.004
	(0)	(0.002)	(0.004)
Unemplyment	-0.005	0.048	0.658
	(0.031)	(0.587)	(1.12)
Overseas Arrivals	-0.001	-0.036	0.076
	(0.002)	(0.042)	(0.081)
Mean Temperature	0.000	0.020	0.036
	(0)	(0.007)	(0.014)
Precipitation	0.002	-0.027	-0.053
	(0.002)	(0.034)	(0.066)
January	0.154	2.138	6.719
	(0.028)	(0.533)	(1.017)
Intercept	-0.037	-1.178	-2.325
	(0.024)	(0.461)	(0.878)
N	136	136	136
R-squared	0.451	0.415	0.553

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