Key Factors in Arrest Trends and Differences in California's Counties

Technical Appendices

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Appendix A. Additional Tables and Analyses

Statewide trends in arrest rates are largely driven by crime rates
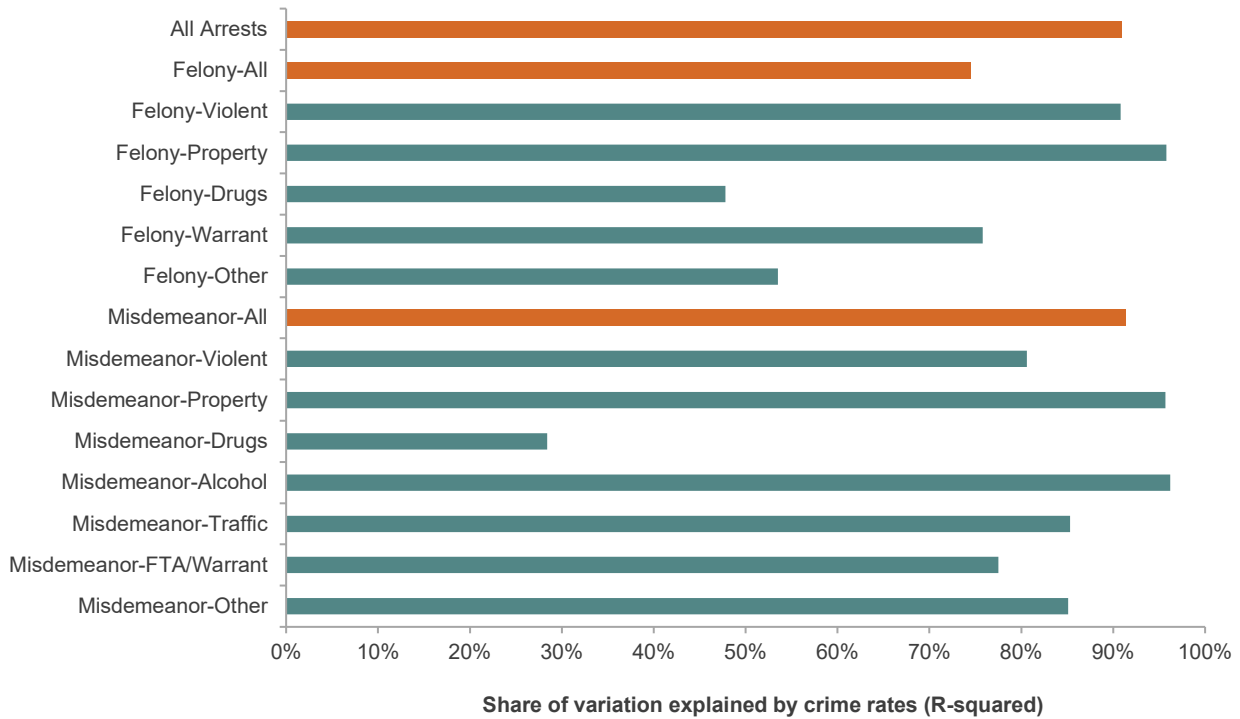
Share of variation explained by crime rates (R-squared)

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, 1980–2016.

NOTES: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents, while crime rates are the number of reported crimes per 100,000 residents. The figure shows R-squared values for each model of monthly arrest rates, controlling for current and one-year lagged monthly violent and property crime rates.

OLS Regressions, County Level Total Arrest Rate.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Police/Jail Capacity	Demographics /Population Density	Economic Factors	Immigration /Education*	All Factors w/o Crime	All Factors w/ Crime	All*
Violent Crime Rate						0.45	0.99
SE						1.47	1.94
Property Crime Rate						0.27	0.51
SE						0.37	0.39
Officer Rate	-2.51				2.93	2.63	1.11
SE	2.49				3.95	4.04	4.55
ADP/Rated Capacity	1,662.85**				94.68	1,085.57	2,198.43*
SE	735.74				809.21	896.14	1,224.86
Rated Capacity/Population	11.41***				5.48*	6.49***	9.86***
SE	2.22				2.78	2.36	3.43
Proportion African American		-5,214.95			3,752.75	-9,864.50*	-9,709.87
SE		3,246.33			3,222.31	5,062.73	6,057.12
Proportion Latino		-1,773.04*			-5,484.57	-2,258.53*	-3,327.81
SE		1,004.12			7,605.08	1,294.55	2,630.69
Proportion Other		-3,830.87**			1,350.23	-4,881.65	-9,053.83*
SE		1,469.28			2,635.94	3,710.00	4,976.49
Share 18-29 Year Olds		17,501.86***			9,181.57	7,526.88	2,228.67
SE		6,334.90			6,872.37	6,843.10	6,977.19
Proportion Male		26,992.31			1,918.97	843.34	19,257.49
SE		16,817.29			12,596.34	12,260.74	16,904.47
Population Density		-0.18**			-0.15*	-0.21*	-0.33**
SE		0.07			0.08	0.13	0.14
Average Annual Earnings			-0.01		0.01	0.01	0.00
SE			0.01		0.02	0.02	0.02
Poverty Rate			3,408.24		7,026.93	4,164.61	2,901.45
SE			5,613.95		4,414.25	3,956.76	5,318.93
Unemployment Rate			13,693.49**		7,154.61*	5,221.60	618.03
SE			6,593.83		3,680.49	5,559.87	7,946.07
Share Foreign Born#				-7,422.08***			5,282.51
SE				1,787.81			5,997.18
Dropout Rate#				14,852.61			1,737.06
SE				12,692.66			5,565.31
College Graduates Rate#				-681.85			2,691.47
SE				2,441.53			3,264.26
2015 Dummy							-23.66
SE							162.36
2016 Dummy							-160.97
SE							179.12
Constant	-30.11	-14,759.34*	2,958.19**	5,119.11***	-4,079.66	-5,775.18	-20,582.50*
	1,097.90	8,730.08	1,111.82	1,351.33	7,308.79	7,155.62	11,333.95

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Police/Jail Capacity	Demographics /Population Density	Economic Factors	Immigration /Education*	All Factors w/o Crime	All Factors w/ Crime	All*
Observations	170	170	170	102	170	170	102
R-squared	0.42	0.48	0.34	0.45	0.72	0.73	0.75

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data, Board of State and Community Corrections' Jail Profile Survey, California Department of Justice's Law Enforcement Personnel Survey, American Community Survey, California State Controller, California Employment Development Department, and the U.S. Census Bureau's Small Area Income and Poverty Estimates Program, 2014–16.

NOTE: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents. # Data available only for the 41 largest counties. Robust standard errors in rows beneath coefficients, *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Figure 2 Regression Output

Crime Rate	Total	Felony						Misdemeanor							
		All	Violent	Property	Drugs	Warrant	Other	All	Violent	Property	Drugs	Alcohol	Traffic	FTA/Warrant	Other
Violent Current	2.84***	0.49***	0.43***	0.05	-0.03	0.04*	-0.01	2.32***	0.16***	0.03	-0.09	0.17***	1.30***	0.30***	0.45***
SE	0.52	0.18	0.03	0.04	0.09	0.03	0.02	0.42	0.02	0.03	0.08	0.07	0.25	0.05	0.09
Property Current	0.10	0.01	-0.06***	0.09***	0.02	-0.03***	-0.01	0.13	-0.01	0.06***	0.003	-0.05**	0.19***	-0.02	-0.07***
SE	0.13	0.04	0.01	0.01	0.02	0.01	0.01	0.10	0.01	0.01	0.02	0.02	0.06	0.01	0.02
Violent Lagged	-2.52***	0.61***	0.19***	0.02	0.27***	0.07***	0.05**	-3.19***	-0.07***	-0.08***	-0.07	-1.06***	-2.02***	0.25***	-0.14*
SE	0.47	0.16	0.03	0.04	0.08	0.02	0.02	0.38	0.02	0.03	0.07	0.06	0.23	0.04	0.08
Property Lagged	0.19	-0.13***	-0.03***	-0.01	-0.07***	-0.03***	0.01**	0.34***	-0.01	0.04***	0.002	0.17***	0.14**	-0.02	0.01
SE	0.12	0.04	0.01	0.01	0.02	0.01	0.01	0.09	0.004	0.01	0.02	0.02	0.06	0.01	0.02
Observations	408	408	408	408	408	408	408	408	408	408	408	408	408	408	408
R-squared	0.91	0.75	0.91	0.96	0.48	0.76	0.54	0.91	0.81	0.96	0.28	0.96	0.85	0.78	0.85

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, 1980–2016.

NOTE: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents while crime rates are the number of reported crimes per 100,000 residents. Robust standard errors in rows beneath coefficients, *** p<0.01, ** p<0.05, * p<0.1.

Estimated change in annual arrest rates due to AB 109 and Proposition 47
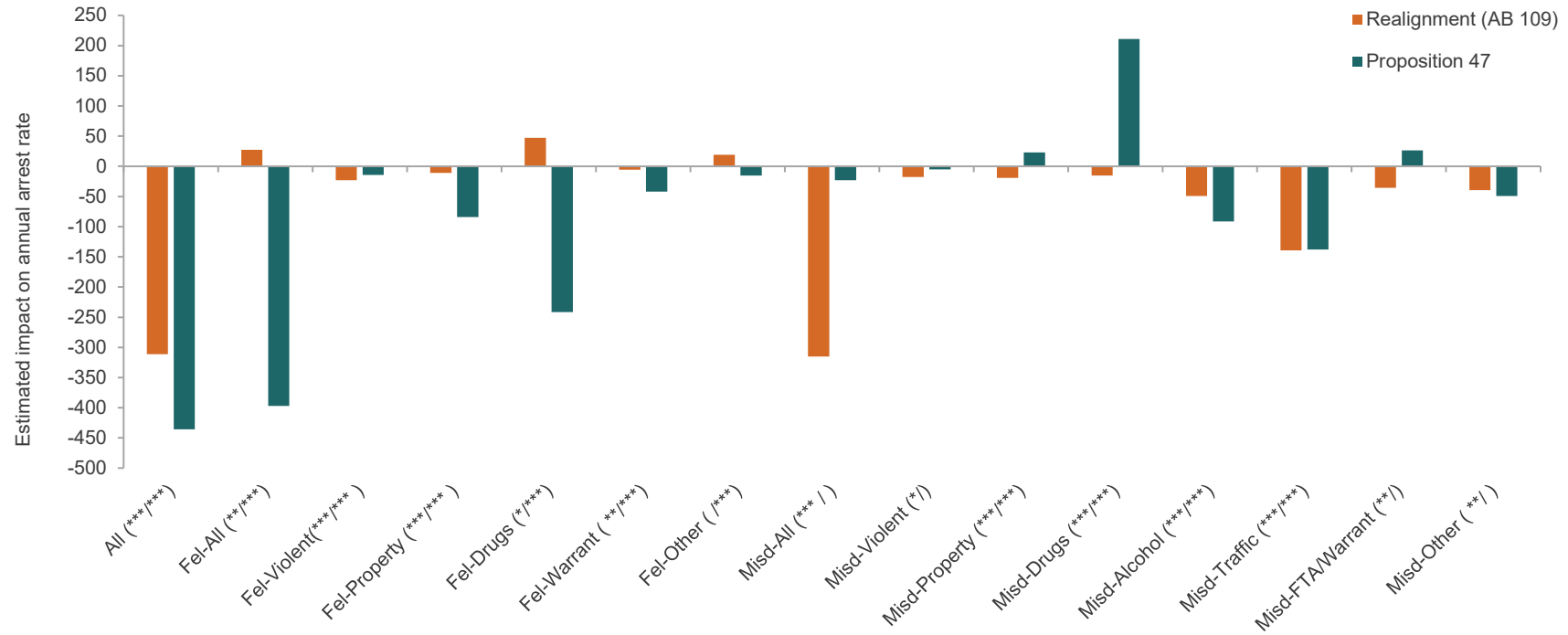
SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, 1980–2016.

NOTES: Estimates based on linear regression models using monthly county level arrest rates by offense group, controlling for current and one-year lagged monthly crime rates, and county fixed effects. The figure shows the estimated impacts of realignment (AB 109) and Prop 47 on annual arrest rates, by arrest offense group (the sum of the two columns would represent the combined effects of the two reforms). Statistical significance is shown with asterisks (*) in parentheses, with the first entry representing realignment and the second Prop 47. Specifically, *** indicates that the estimate is statistically significant at the 99 percent confidence level, ** is significance at the 95 percent confidence level, and * is significance at the 90 percent confidence level.

Figure 3 Regression Output

	Total	Felony						Misdemeanor							
		All	Violent	Property	Drugs	Warrant	Other	All	Violent	Property	Drugs	Alcohol	Traffic	FTA/ Warrant	Other
AB 109	-66.63***	-10.34**	-4.22***	-4.50***	-0.20	-1.75**	0.33	-51.07***	-1.51**	-1.18	-12.62***	-11.25***	-12.33***	-4.04**	-8.15**
SE	13.72	3.91	1.04	1.43	1.81	0.74	1.03	11.62	0.58	0.91	1.39	2.51	4.61	1.97	3.55
Prop 47	-42.37***	-37.36***	-2.94***	-7.17***	-21.48***	-3.38***	-2.39***	-3.44	-1.08***	2.19***	16.11***	-6.42***	-9.12	0.07	-5.19
SE	14.56	2.75	0.80	0.80	1.44	0.62	0.74	12.72	0.36	0.59	2.08	1.97	5.64	2.04	4.57
Observations	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660
R-squared	0.78	0.78	0.81	0.86	0.62	0.65	0.65	0.76	0.73	0.79	0.56	0.68	0.65	0.59	0.57

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, 1980–2016.

NOTES: Estimates based on linear regression models using monthly county level arrest rates by offense group, controlling for current and one-year lagged monthly crime rates, and county fixed effects. Robust standard errors in rows beneath coefficients, *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Proportion of county variance in arrests explained by crime rates
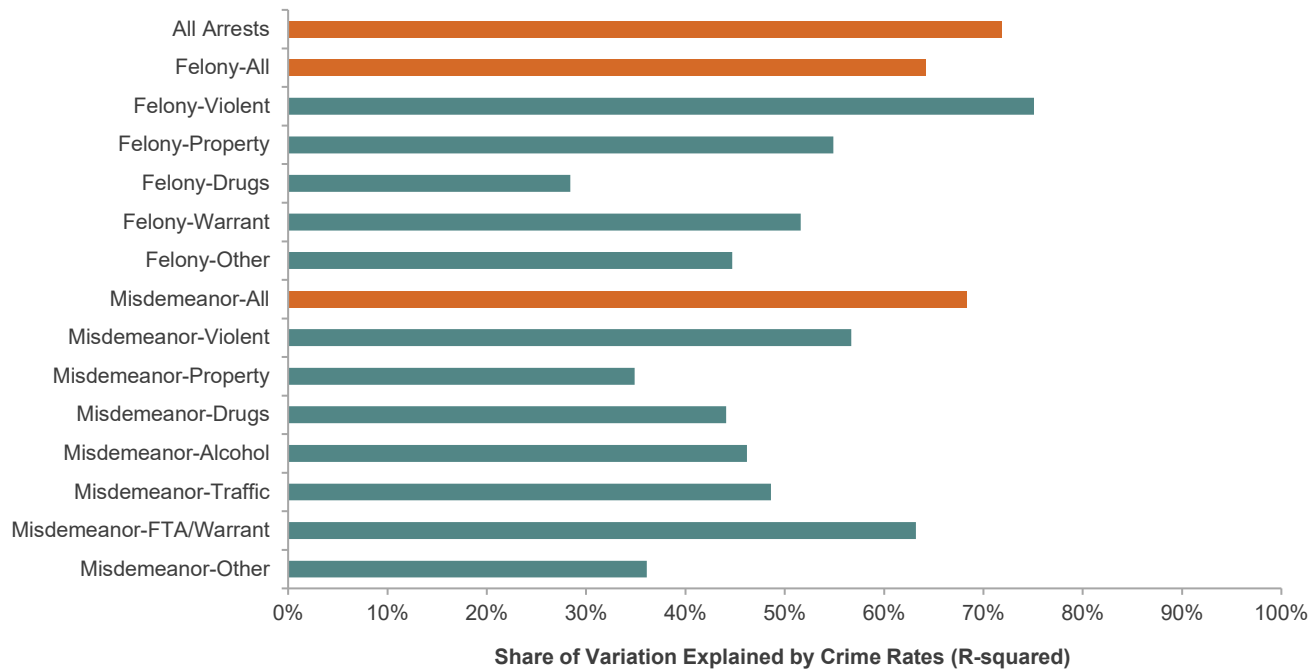
Share of Variation Explained by Crime Rates (R-squared)

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, November 2014-December 2016.

NOTES: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents, while crime rates are the number of reported crimes per 100,000 residents. The figure shows R-squared for each model of post–Prop 47 county average monthly arrest rates, controlling for post–Prop 47 county average monthly crime rates (homicide, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft).

TABLE A4
Figure A3 Regression Output

Crime Rate	Total	Felony						Misdemeanor							
		All	Violent	Property	Drugs	Warrant	Other	All	Violent	Property	Drugs	Alcohol	Traffic	FTA/ Warrant	Other
Aggravated Assault	0.71	0.64	0.39***	-0.04	-0.02	0.12	0.19	0.07	0.16	0.07	-0.65*	0.12	0.30	-0.004	0.07
SE	1.39	0.42	0.12	0.10	0.13	0.13	0.16	1.18	0.14	0.09	0.37	0.28	0.46	0.30	0.35
Robbery	-11.95***	-2.01**	-0.35	0.03	-0.36	-0.78***	-0.55*	-9.80***	-1.03***	-0.37**	-1.94***	-1.83***	-2.72***	-1.45***	-0.46
SE	2.48	0.75	0.22	0.17	0.23	0.22	0.28	2.11	0.26	0.16	0.66	0.50	0.81	0.54	0.62
Rape	45.84***	2.14	-0.04	-0.18	0.97	0.52	0.88	43.80***	1.99*	0.67	5.53**	6.51***	8.45**	12.15***	8.49***
SE	10.14	3.08	0.90	0.70	0.94	0.92	1.14	8.60	1.04	0.67	2.70	2.03	3.32	2.20	2.53
Murder	114.85*	28.76	14.84**	3.16	9.70	-5.81	6.86	83.52	7.48	2.00	25.01	8.56	29.65	-10.39	21.21
SE	65.98	20.01	5.87	4.56	6.08	5.95	7.44	55.98	6.77	4.36	17.55	13.19	21.61	14.31	16.48
Larceny	0.58**	0.11	-0.03	-0.04**	0.02	0.05**	0.12***	0.47**	0.06**	0.003	0.08	0.11**	0.16**	0.02	0.03
SE	0.24	0.07	0.02	0.02	0.02	0.02	0.03	0.21	0.03	0.02	0.06	0.05	0.08	0.05	0.06
Burglary	3.53***	1.02***	0.34***	0.27***	0.14	0.18*	0.10	2.47***	0.20*	0.10	0.48*	0.16	0.49	0.74***	0.30
SE	1.00	0.30	0.09	0.07	0.09	0.09	0.11	0.85	0.10	0.07	0.27	0.20	0.33	0.22	0.25
Auto Theft	-0.38	-0.01	-0.07	0.07	-0.02	0.19*	-0.18	-0.36	0.10	0.05	-0.24	-0.01	-0.26	0.32	-0.33
SE	1.08	0.33	0.10	0.07	0.10	0.10	0.12	0.91	0.11	0.07	0.29	0.22	0.35	0.23	0.27
Constant	31.67	11.47	11.07***	7.76***	-0.32	-3.49	-3.55	18.79	-1.98	10.64***	24.61**	-3.85	13.56	-21.15**	-3.04
SE	36.86	11.18	3.28	2.55	3.40	3.33	4.16	31.27	3.78	2.436	9.801	7.37	12.07	8.00	9.20
Observations	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
R-Squared	0.72	0.64	0.75	0.55	0.28	0.52	0.45	0.68	0.57	0.35	0.44	0.46	0.49	0.63	0.36

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Crimes and Clearances Files, and California Department of Finance Population Data, November 2014–December 2016.

NOTE: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents while crime rates are the number of reported crimes per 100,000 residents. Robust standard errors in rows beneath coefficients, *** p<0.01, ** p<0.05, * p<0.1.

TABLE A5
Figure 8 Regression Output

	Crime Rates	Police/ Jail	Demographics	Economic Factors	All Factors No Crime	All Factors with Crime	Immigration & Education	All
Violent Crime Rate	-0.028					-1.029*		-0.955
SE	0.894					0.613		0.783
Property Crime Rate	0.932***					0.428***		0.257
SE	0.221					0.129		0.202
Officer Rate		38.80***			17.6***	15.04***		16.66***
SE		-5.35			3.69	4.35		4.68
ADP/Rated Capacity		1,914.5***			1,089.1***	1,217.2***		843.97
SE		-451.43			400.3	389.3		608.1
Rated Capacity/Population		8.47***			3.88	4.53*		4.37
SE		-2.32			2.80	2.612		3.26
Proportion White			9,357.44**		2,661.1	-689.5		-5,410.4
SE			-4,295.32		4,081.2	4,537.8		8,214.1
Proportion African American			9,059.50		22,886.1**	23,916.8		16,593.1
SE			-20,164.70		9,349.3	15,341.6		21,358.7
Proportion Latino			-6,552.40		-5,840.1	-6,512.6		-16,272.7**
SE			-6,308.30		5,285.9	5,751.7		7,903.4
Share 18-29 Year Olds			15,273.8*		4,580.5	5,310.2		13,508.7*
SE			-8,943.90		10,242.3	8,389.1		6,909.9
Proportion Male			-39,197.80		-5,875.3	10,197.2		-44,371.8
SE			-32,769.70		28,002.3	32,490.7		35,735.4
Population Density			-2.18***		-1.69***	-2.18***		-0.113
SE			-0.69		0.44	0.44		0.702
Average Annual Earnings				-0.043***	0.008	0.005		0.015**
SE				-0.01	0.007	0.008		0.007
Poverty Rate				-22,469.5***	-12,165.8***	-11,580.8***		590.1
SE				2,532.9	2,522.6	2,533.6		2,837.8
Unemployment Rate				6,336.1**	3,760.9**	3,936.0***		-3638.4
SE				2,686.9	1,442.2	1,137.4		3,817.3
Share Foreign Born[#]							-9,404.3**	197.2
SE							3,792.1	2,166.1
Dropout Rate[#]							17,511.8***	2,994.6**
SE							2,346.9	1,410.6
College Graduates Rate[#]							-11,031.8***	-537.6
SE							2,541.3	2,018.8
Constant	1,426.9***	-8,078.6***	25,331.4	9,332.6***	5,733.1	-159.5	9,090.8***	25,571.1
SE	-478.7	-1006.2	15,814.3	372.9	13,235.7	17,094.7	1,603.7	19,592.1

PPIC.ORG	Crime Rates	Police/ Jail	Demographics	Economic Factors	All Factors No Crime	All Factors with Crime	Immigration & Education	All
Observations	965	965	965	965	965	965	408	408
R-squared	0.764	0.827	0.852	0.858	0.895	0.904	0.875	0.954

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data, Board of State and Community Corrections' Jail Profile Survey, California Department of Justice's Law Enforcement Personnel Survey, American Community Survey, California State Controller, California Employment Development Department, and the U.S. Census Bureau's Small Area Income and Poverty Estimates Program, 2014–16.

NOTE: Models use county level annual data for the most recent period, 2014–16. # indicates that the data available are limited to the 41 largest counties. Robust standard errors in rows beneath coefficients, *** p<0.01, ** p<0.05, * p<0.1.

TABLE A6
Mean descriptive statistics of county factors by arrest rate quintiles

	Arrest Quintile				
	Bottom	2nd	3rd	4th	Top
Total Arrest Rate	2,929	3,695	4,508	5,334	6,609
Jail Incarceration Rate	169.7	215.2	234.6	290.0	302.8
Cap Releases/ADP	1.26	3.79	2.15	4.52	7.48
ADP/Capacity	0.87	0.87	0.77	0.87	0.95
Capacity/Pop Rate	209	257	320	347	320
Officer Rate	155.1	138.4	169.5	148.3	201.4
Proportion White	45.3%	56.4%	57.4%	52.5%	66.2%
Proportion African American	5.2%	2.5%	2.6%	2.7%	1.4%
Proportion Latino	28.9%	32.3%	30.3%	36.6%	24.3%
Share Foreign Born#	28.67	22.22	21.49	21.49	13.06
Share 18-29 Year Olds	15.5%	16.7%	16.3%	17.3%	15.9%
Population Density	2,027	232	162	122	46
Unemployment Rate	5.0%	6.5%	7.7%	9.3%	8.4%
Average Annual Earnings	$67,384	$47,435	$42,671	$41,833	$38,920
Poverty Rate	11.6%	13.7%	15.8%	17.8%	19.2%
Dropout Rate#	4.5%	5.0%	5.3%	5.8%	5.8%
College Graduates Rate#	42.0%	34.3%	28.9%	23.2%	23.4%

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data, Board of State and Community Corrections' Jail Profile Survey, California Department of Justice's Law Enforcement Personnel Survey, American Community Survey, California State Controller, California Employment Development Department, and the U.S. Census Bureau's Small Area Income and Poverty Estimates Program 2014–16.

NOTES: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents, # Data available only for the 41 largest counties. Each column represents county averages for the respective quintile. Population density is the ratio of residents in a county in a given year to the total square mileage of the county.

TABLE A7
Counties by Average Arrest Rate Quintile

Counties by Arrest Rate Quintile				
Bottom	2nd	3rd	4th	Top
Alameda	Calaveras	Amador	Alpine	Butte
Contra Costa	El Dorado	Glenn	Del Norte	Colusa
Los Angeles	Lassen	Inyo	Fresno	Humboldt
Madera	Mariposa	Merced	Imperial	Kern
Marin	Monterey	Napa	Kings	Lake
Mono	Nevada	San Bernardino	Modoc	Mendocino
Orange	San Benito	Santa Cruz	Plumas	Santa Barbara
Placer	San Diego	Sierra	San Luis Obispo	Shasta
Riverside	San Joaquin	Solano	Stanislaus	Siskiyou
Sacramento	San Mateo	Sonoma	Tulare	Tehama
San Francisco	Ventura	Sutter	Tuolumne	Trinity
Santa Clara	Yolo		Yuba	

SOURCES: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data 2014–16.

NOTES: Calculations are quintiles based on each county's average arrest rate over the three year period.

Mean descriptive statistics of county factors by African American/White arrest rate quintiles

	African American/White Arrest Rate Ratio Quintiles				
	Bottom	2nd	3rd	4th	Top
Arrest Rate Ratio	1.66	2.82	3.60	4.41	6.26
Arrest Rate Gap	2,599	9,002	11,597	16,374	18,457
Overall Arrest Rate	4,652	4,963	4,735	4,843	3,897
Violent Crime Rate	461	455	383	420	377
Property Crime Rate	2,459	2,636	2,552	2,378	2,425
Officer Rate	128.1	126.4	130.2	140.9	152.2
ADP/Capacity	0.90	0.94	0.94	0.91	0.83
Capacity/Pop Rate	326	287	266	241	234
Proportion White	48.7%	46.1%	49.6%	60.3%	57.0%
Proportion African America	4.5%	4.5%	3.4%	2.6%	1.9%
Proportion Latino	38.3%	38.8%	34.9%	25.5%	24.6%
Share Foreign Born[#]	23.7%	22.2%	22.2%	20.5%	26.3%
Share 18-29 Year Olds	17.5%	17.6%	17.3%	16.8%	15.1%
Population Density	129	278	667	678	1,413
Poverty Rate	18.7%	17.9%	16.9%	15.6%	11.6%
Median Household Income	$ 51,143	$ 53,857	$ 59,167	$ 59,547	$ 76,701
Unemployment Rate	9.7%	8.7%	7.5%	6.6%	5.3%
Dropout Rate[#]	7.3%	6.5%	5.8%	4.4%	3.8%
College Graduates Rate[#]	20.5%	22.4%	32.2%	35.6%	47.4%

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data, Board of State and Community Corrections' Jail Profile Survey, California Department of Justice's Law Enforcement Personnel Survey, American Community Survey, California State Controller, California Employment Development Department, and the U.S. Census Bureau's Small Area Income and Poverty Estimates Program 2014–16.

NOTE: Arrest rates are the number of arrests made by law enforcement agencies per 100,000 residents, # Data available only for the 41 largest counties. Each column represents county averages for the respective quintile. Population density is the ratio of residents in a county in a given year to the total square mileage of the county.

Counties by African American/White Arrest Rate Ratio

Counties by African American/White Arrest Rate Ratio Quintiles				
Bottom	**2nd**	**3rd**	**4th**	**Top**
Del Norte	Amador	Butte	Alameda	Glenn
Imperial	Kern	Calaveras	El Dorado	Marin
Kings	Merced	Contra Costa	Humboldt	Napa
Lassen	Monterey	Fresno	Los Angeles	Nevada
Madera	Sacramento	Lake	Mendocino	Placer
Riverside	San Luis Obispo	Orange	San Benito	San Francisco
San Bernardino	Santa Barbara	San Diego	Shasta	San Mateo
San Joaquin	Solano	Siskiyou	Sonoma	Santa Clara
Tuolumne	Stanislaus	Tulare	Tehama	Santa Cruz
Yuba	Sutter	Ventura	Yolo	

SOURCES: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data 2014–16.

NOTES: Calculations are quintiles based on each county's average arrest rate ratio (African American Arrest Rate divided by White Arrest Rate) over the three year period.

TABLE A10

OLS Regressions, Arrest Rate Ratio, African American/White.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Crime Rates	Police/ Jail	Demographics/ Pop Density	Economic Factors	Immigration/ Education	All/Full Sample	All/34 Counties
Overall Arrest Rate	0.010	0.011	0.014**	0.013**	0.012	0.008	0.007
SE	0.007	0.008	0.007	0.006	0.008	0.007	0.008
Proportion African America			-20.622			-10.408	-12.430
SE			14.223			14.632	15.302
Proportion Latino			-0.340			2.275	2.821
SE			5.008			4.289	4.281
Proportion Other			5.008			0.423	24.473
SE			43.960			35.063	45.174
Share 18-29 Year			-7.505			-3.011	-3.972
SE			4.677			4.748	5.337
Proportion Male			-7.668			-4.721	6.669
SE			17.021			20.470	25.438
Population Density			0.000			-0.000	-0.000
SE			0.001			0.001	0.001
Officer Rate		0.004				0.003	0.005*
SE		0.004				0.003	0.003
ADP/Rated Capacity		-0.223				0.345	0.319
SE		0.296				0.266	0.292
Rated Capacity/Pop		0.001				0.003**	0.003**
SE		0.002				0.001	0.001
Violent Crime Rate	-0.079*					-0.046	-0.020
SE	0.043					0.057	0.063
Property Crime Rate	0.028***					0.016*	0.012
SE	0.010					0.009	0.009
Median Household Income				0.027***		0.028***	0.028**
SE				0.009		0.009	0.011
Poverty Rate				-5.371**		-4.800*	-4.218*
SE				2.444		2.486	2.801
Unemployment Rate				3.536		0.700	1.021
SE				3.401		3.482	3.323
Share Foreign Born					0.088		-0.638
SE					2.250		2.803
Dropout Rate					0.457		0.288
SE					1.267		1.167
College Graduates Rate					6.046***		0.311
SE					1.850		1.990
Constant	2.882***	2.756***	10.516	1.674**	0.655	3.971	-2.676
SE	0.501	1.012	8.841	0.807	0.926	10.598	13.366

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Crime Rates	Police/ Jail	Demographics/ Pop Density	Economic Factors	Immigration/ Education	All/Full Sample	All/34 Counties
Observations	490	490	490	490	340	490	340
R-squared	0.961	0.960	0.963	0.965	0.965	0.968	0.972

SOURCE: Author calculation based on California Department of Justice's Monthly Arrest and Citation Register, California Department of Finance Population Data, Board of State and Community Corrections' Jail Profile Survey, California Department of Justice's Law Enforcement Personnel Survey, American Community Survey, California State Controller, California Employment Development Department, and the U.S. Census Bureau's Small Area Income and Poverty Estimates Program, 2007-2016.

NOTE: Robust standard errors in rows beneath coefficients *** p<0.01, ** p<0.05, * p<0.1. All models include county and year fixed effects. Annual county level data for educational attainment and the share of foreign born is available only for the 34 largest counties. Population density is the ratio of residents in a county in a given year to the total square mileage of the county.

Appendix B. Information on Contextual Variables

Crime data were obtained from the California Department of Justice (CA DOJ). California crime and clearance files with monthly data obtained from CA DOJ under an MOU that does not allow for public release. However, yearly crime data and crime reports can be obtained from CA DOJ's Open Justice Data Portal (https://openjustice.doj.ca.gov/data).

Jail capacity, average daily population, and incarceration data were gleaned from the Board of State and Community Corrections' (BSCC) Jail Profile Survey (JPS) data tool (https://app.bscc.ca.gov/joq//jps/QuerySelection.asp). Though the JPS contains data as early as 1995, rated capacity data are not available prior to 2007. To maximize the amount of usable data, we obtained rated capacity data through request of what was then the Corrections Standard Authority (CSA), giving us capacity data as early as 1997 and merged this with the overall JPS dataset. We then aggregated those data from the individual jail facility level to the county and state levels by averaging or summing the figures where appropriate. Incarceration rates were obtained by dividing the average daily population by the county or state population using demographic data from California Department of Finance, discussed below.

Law enforcement staffing data were obtained through California Department of Justice's (DOJ) Open Justice Data Portal (https://openjustice.doj.ca.gov/data). The DOJ Criminal Justice Statistics Center (CJSC) collects information on the number of funded and not-funded, full-time sworn and non-sworn, male and female law enforcement personnel (LEP) employed by law enforcement agencies (LEAs). The CJSC collects the Law Enforcement Personnel data through a one-day survey taken on October 31st of each reporting year.

The California Department of Finance (CA DOF), Demographics and Research Unit, is tasked with publishing the state's official **annual population estimates** at the state, county and city levels. These estimates are benchmarked on the decennial census' population statistics, and then utilize a variety of state administrative sources to estimate changes during the intercensal years. For the years 1980-2010, we make use of the E-7 Annual Intercensal Population Estimates by Race/Ethnicity with Age and Gender Detail estimate tables, available for download on the DOF website (http://www.dof.ca.gov/Forecasting/Demographics/Estimates/). For the years 2011-2016, we utilize DOF's demographic projections from the P-3 State and County Projections Dataset (http://www.dof.ca.gov/Forecasting /Demographics/Projections/). In their standard formats, these datasets contain the year of observation, the long form of

the county of observation's geographically identifying FIPS code, and the number of people within a county by gender, race/ethnicity, and age. The available race/ethnicity categories available for all years of the data are White, African American, American Indian, Asian/Pacific Islander, and Hispanic.

The **population density variable is a proxy for ruralness**, created by dividing the county's total population by the county's total square mileage reported by the California State Controller in their County Fiscal Year dataset (https://bythenumbers.sco.ca.gov/Raw-Data/Counties-Raw-Data-for-Fiscal-Years-2003-2016/esdm-5xr2).

Employment and wage data were gathered from the California Employment Development Department's data portal (https://www.labormarketinfo.edd.ca.gov/data/labor-market-data-library.html#LIB). Data were aggregated from the industry and monthly level to the county and yearly level to allow these data to be merged with the arrest data. Poverty data were gathered from the Small Area Income and Poverty Estimates Program of the U.S. Census Bureau (https://www.census.gov/programs-surveys/saipe/data/datasets.html).

Data on the **share of foreign born residents**, the school dropout rate, and the college graduation rate were gathered from the American Community Survey (ACS) of the U.S. Census Bureau using the IPUMS tool run by the University of Minnesota (https://usa.ipums.org/usa/). The ACS, though accurate is unable to reliably estimate certain statistics for California's smallest counties and thus these variables only contain data for the state's 41 largest counties.