

Table A21. The Impact of Certainty of Punishment on Crime Rates – Macro-level Longitudinal Studies

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
Tittle (1969)	50 states, 1958-1963	Tau-c	Lags	Pooled	CE	Prison Ad. /Crime	Index	1	No	-, p> .05
							Rape			-, p< .001
							Battery			-, p< .001
							Theft			-, p< .001
							Robbery			-, p< .001
							Burglary			-, p< .01
							Murder			-, p> .05
Auto Theft	-, p> .05									
Chiricos & Waldo (1970)	50 U.S. states 1950 -1960	Phi-Coeff.	Lags	% Change	CE	Prison Ad. /Crime	Murder	1	No	+, p> .05
							Robbery			+, p> .05
							Assault			-, p> .05
							Burglary			+,p> .05
							Larceny			+, p> .05
	Auto Theft						+, p> .05			
	50 U.S. states, 1950-1963						Murder			+, p< .05
							Robbery			+, p> .05
							Assault			-, p> .05
							Burglary			-, p> .05
							Larceny			+, p> .05
	50 U.S. states, 1960-1963						Auto Theft			-, p> .05
							Murder			+,p> .05
							Robbery			+, p> .05
							Assault			+, p> .05
Burglary		-, p> .05								
Logan (1972)	50 states, 1958-1963	Correl.	Lags	Pooled	CE	Prison Ad. /Crime	Index	1	No	-, p< .05
							Murder			-, p> .05
							Robbery			-, p< .001
							Rape			-, p< .01
							Battery			-, p> .05
							Burglary			-, p< .01
							Larceny			-, p< .05
							Auto Theft			+, p> .05

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
Teevan (1972)	Canada, 1964-1969	Descriptive	None	Time Series	CE	Arrests/Crimes Conv./Crime	Auto Theft	1	No	- , p < .05
							Murder			+ , p = ?
							Murder			+ , p = ?
							Rape			- , p = ?
							Robbery			- , p = ?
Bowers & Pierce (1975)	U.S., 1933-1969	OLS	Lags	Time Series	CE	Conv./Charged Arrests/Crime	Burglary	3	No	- , p > .05
							Homicide			- , p > .05
Danzinger & Wheeler (1975)	U.S., 1949-1970	OLS	Lags	Time Series	CE	Charges/Crime	Burglary	7	No	- , p > .05
							Battery			- , p > .05
							Robbery			- , p > .05
							Guilty/Charges			Burglary
						Battery	- , p > .05			
						Robbery	- , p < .05			
						Prison/Guilty	Burglary			- , p < .05
						Battery	- , p < .05			
Robbery	- , p < .05									
Ehrlich (1975)	U.S., 1933-1969	2SLS	Lags	Time Series	CE	Arrests/Crime Conv./Charged	Murder	12	No	- , p < .05
Logan (1975)	50 states, 1964-68	Correl.	Lags	Panel	CE	Arrests/Crime	Index	1	No	- , p > .05
							Murder			+ , p > .05
							Rape			- , p < .01
						Robbery	- , p < .001			
						Battery	- , p > .05			
						Burglary	- , p < .05			
						Larceny	- , p < .05			
						Auto Theft	- , p < .001			
						Prison Ad. /Crime	Index			- , p < .001
						Murder	- , p > .05			
						Rape	- , p < .001			
						Robbery	- , p < .001			
						Battery	- , p < .001			
						Burglary	- , p < .001			
						Larceny	- , p < .01			
						Auto Theft	- , p > .05			
						Pogue (1975)	163 SMSAs, 1962/1967			2SLS
Murder	- , p < .05									

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
							Rape			-, p< .05
							Robbery			-, p< .05
							Battery			-, p< .05
							Burglary			-, p< .05
							Theft			-, p< .05
							Auto Theft			-, p< .05
				% Change			Index	13	No	-, p< .05
							Murder			-, p< .05
							Rape			-, p< .05
							Robbery			-, p< .05
							Battery			-, p< .05
							Burglary			-, p< .05
							Theft			-, p< .05
							Auto Theft			-, p< .05
Chapman (1976)	147 cities, CA, 1960 & 1970	2SLS	I.V.	Pooled	CE	Arrests / Crime	Property	6	No	-, p< .05
							Violent			-, p> .05
Bailey (1977)	50 states, 1946-1950	OLS	Lags	Pooled	CE	Prison Ad. /Crime	Rape	4	No	-, p< .001
	50 states, 1956-1960									-, p< .001
Ehrlich (1977a)	20 states with DP, 1940/1950	GLS	Lags	Pooled	Non Prob.	Prison Ad. /Crime	Murder	7	No	-, p< .05
Forst (1977)	32 states, 1960/1970	2SLS	I.V.	Pooled	Non Prob.	Prison Ad. /Crime	Homicide	15	No	-, p< .05
Passel & Taylor (1977)	U.S. from 1933-1969	GLS	I.V.	Time Series	CE	Arrests/Crime	Murder	8	No	-, p> .05
						Conv./Charged				-, p> .05
Landes (1978)	U.S., Quarterly, 1961-1976	OLS	Lags	Time Series	CE	Arrests / Crime	U.S. Hijackings	14	No	-, p< .05
							World Hijackings			+, p> .05
							Time Bet. Hij.			-, p< .05
							Flights Bet. Hij.			-, p< .05
						Prison / Arrests	U.S. Hijackings			-, p> .05
							World Hijackings			+, p> .05
							Time Bet. Hij.			-, p< .05
							Flights Bet. Hij.			-, p< .05
Votey (1978)	Norway, 1954-1973	OLS	Lags	Time Series	CE	Conv./Crime	DUI Accidents	4	No	-, p> .05
Wolpin (1978)	England & Wales, 1894-1967	OLS	I.V.	Time Series	CE	Arrests/Crime	Theft	15	No	-, p< .01
							Burglary			-, p< .01
							Robbery			-, p< .01
							Auto Theft			-, p< .01
							Battery			-, p> .05
							Agg. Battery			-, p< .025

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
							Personal			-, p> .05
							Multiple			-, p< .01
						Conv./Arrests	Theft			-, p> .05
							Burglary			-, p> .05
							Robbery			-, p> .05
							Auto Theft			-, p> .05
							Battery			-, p> .05
							Agg. Battery			-, p< .025
							Personal			-, p> .05
						% Fined	Multiple			-, p> .05
							Theft			-, p> .05
							Burglary			-, p< .01
							Battery			-, p> .05
							Personal			-, p> .05
							Multiple			-, p< .05
						Prison Ad. /Conv.	Theft			-, p< .01
							Burglary			-, p< .01
							Robbery			-, p> .05
							Auto Theft			-, p> .05
							Battery			-, p< .025
							Agg. Battery			-, p> .05
							Personal			-, p< .01
							Multiple			-, p< .01
						Arrests/Crime	Homicide	15	No	-, p< .05
	England & Wales, 1929-1968	OLS	None	Time Series	CE	Conv./Arrests				-, p< .05
Avio (1979)	Canada, 1926-1960	2SLS	I.V.	Time Series	CE	Arrests/Homicide	Homicide	14	No	-, p> .05
Clonginger & Sartorius (1979)	Houston, TX, 1960-1975	3SLS	I.V.	Time-Series	CE	Arrests/Crime	Murder	1	No	-, p< .01
						Conv./Crime				-, p> .05
						Arrests/Crime	Auto Theft			-, p< .05
						Conv./Crime				-, p> .05
Greenberg et al (1979)	98 cities, U.S. 1964-1970	MLE	Lags	Panel	Non Prob.	Arrests / Crime	Murder	1	No	-, p> .05
							Rape			+, p> .05
							Battery			-, p> .05
							Robbery			-, p> .05
							Burglary			-, p> .05
							Larceny			+, p> .05
							Auto Theft			-, p> .05

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
Kleck (1979)	U.S., 1947-1973	2SLS	I.V.	Time Series	CE	Arrests/Crime Conv./Charged	Index Homicide	8	Yes	+, p> .05 -, p< .05
Knorr (1979)	45 states, 1950-1960	OLS	Lags	Panel	CE	Arrests/Crime Conv./Charged	Homicide	13	No	-, p> .05 +, p> .05
Votey (1979)	Santa Barbara, 1970-1974	OLS	Lags	Time Series	CE	Arrests/Crime	Property	5	No	-, p> .10
Bailey (1980b)	31 states, 1956-1960	OLS	Lags	Pooled	CE	Prison Ad. /Crime	Homicide	8	No	-, p> .05
Cantor & Cohen (1980)	U.S., 1933-1975	2SLS	I.V.	Time Series	CE	Arrests/Crime Conv./Crime	Homicide	6	No	-, p= ? -, p= ?
Hoernack & Weiler (1980)	U.S., 1935-1969	2SLS	Lags	Time Series	CE	Arrests/Crime Conv./Arrests	Murder	26	No	-, p> .05 -, p> .05
Jacob & Rich (1980)	Atlanta, 1965-1978 Boston, 1958-1978 Houston, 1966-1978 Minneapolis, 1947-1978 Newark, 1955-1978 Oakland, 1969-1978 Philadelphia, 1957-1978 Phoenix, 1956-1978 San Jose, 1965-1970	Correl.	Lags	Time Series	CE	Arrests/Crime	Robbery	1	No	-, p= ? -, p= ? -, p= ? +, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ?
Wolpin (1980)	England/Japan/CA, 1955-71 England & Japan, 1955-71 England, 1955-1971	OLS	I.V.	Panel	CE	Arrests/Crime Conv./Arrests Prob. Ad./Conv. Prison Ad. /Conv. Arrests/Crime Conv./Arrests Prob. Ad./Conv. Prison Ad. /Conv. Arrests/Crime Conv./Arrests Prob. Ad./Conv. Prison Ad. /Conv.	Robbery	11	Yes	-, p< .01 -, p< .01 -, p< .01 -, p< .01 -, p< .01 -, p< .01 -, p< .01 -, p< .01 -, p= ? -, p= ? -, p= ? +, p= ?

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
	Japan, 1955-1971					Arrests/Crime				-, p= ?
						Conv./Arrests				-, p= ?
						Prob. Ad./Conv.				+, p= ?
						Prison Ad. /Conv.				+, p= ?
Wahlroos (1981)	Finland, 1948-1975	2SLS	I.V.	Time Series	CE	Conviction /Crime	Larceny	7	No	-, p< .05
							Robbery			-, p< .05
Greenberg & Kessler (1982)	98 cities > 25,000, 1964-1970	Path	Lags	Panel	CE	Arrests/Crime	Murder	12	No	-, p> .05
							Rape			?, p> .05
							Burglary			?, p> .05
							Larceny			?, p> .05
							Agg. Assault			-, p< .05
							Robbery			?, p> .05
							Auto Theft			?, p> .05
							Index			?, p> .05
Stack (1982)	Sweden, 1950-1976	GLS	Lags	Time Series	CE	Arrests/Crime	Serious Prop.	5	No	-, p> .05
							Theft			-, p> .05
Bailey (1983a)	Chicago, 1915-1921	OLS	None	Time Series	CE	Arrests/Crime	First Degree	6	No	-, p> .05
						Prison Ad. /Crime				-, p> .05
						Arrests/Crime	Homicide			-, p< .05
						Prison Ad. /Crime				-, p< .01
						Arrests/Crime				-, p< .05
						Prison Ad. /Crime				-, p< .05
Bailey (1983b)	35 states, 1950-1960	OLS	Lags	Panel	Non Prob.	Prison Ad. /Crime	Homicide	13	No	-, p= ?
Layson (1983)	Canada, 1927-1977	2SLS	Lags	Time Series	CE	Conv./Arrests	Homicide	10	No	-, p< .05
Liu & Bee (1983)	Youngst.-Warren OH, 1969-1980	OLS	Lags	Time Series	CE	Arrests/Crime	Property	9	No	-, p< .05
Selke (1983)	Midwestern town, 1970-1976	Correl.	Lags	Tme-Series	Non prob.	Arrests/Crime	Burglary	1	No	+, p>.05
						Conv./Arrests				-, p>.05
Withers (1984)	8 Australian territories, 1964-76	2SLS	I.V.	Panel	Non Prob.	Prison Pop./Pros.	Index	11	No	-, p< .05
Decker & Kohfeld (1985)	St. Louis, 1948- 1978	GLS	Lags	Time Series	Non Prob.	Arrests/Crime	Robbery	5	No	-, p> .05
							Burglary			-, p> .05
							Murder			+, p> .05
Layson (1985)	U.S., 1933-1977	2SLS	I.V.	Time Series	CE	Arrests/Crime	Homicide	12	No	-, p< .05
						Conv./Arrests				-, p< .05
Layson (1986)	U.S., 1934-1984	OLS	Lags	Time Series	CE	Arrests/Crime	Homicide	12	No	-, p< .05
						Conv./Arrests				-, p< .05
Dubin, et al (1987)	50 states, 1977-1985	GLS	Lags	Panel	CE	Audits>Returns	Tax Cheating	12	No	-, p< .05

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Avio (1988)	Canada, 1926-1960	2SLS	I.V.	Time Series	CE	Conv./Homicides	Homicide	6	No	-, p< .05
Cover & Thistle (1988)	U.S., 1936-1977	OLS	None	Time Series	CE	Arrests/Crime	Homicide	12	No	-, p< .05
						Conv./Crime				-, p< .05
Merriman (1988)	Japan, 1957-1982	OLS	None	Time Series	CE	Conv./Crime	Homicide	8	No	-, p> .05
Stevens (1988)	NYC, 1930-1984	3SLS	I.V.	Time Series	CE	Conv./Crime	Property	7	No	-, p< .05
Bailey & Peterson (1989)	U.S., 1950-1980	YW	Lags	Time Series	CE	Arrests/Crime	HR, pop 16 & up	15	No	-, p> .05
							Homicide			-, p> .05
	U.S., 1940-1986							14	No	-, p< .05
Chressanthis (1989)	U.S., 1965-1985	OLS	Lags	Time Series	CE	Arrests/Crime	Homicide	12	Yes	+, p> .10
Von Hoffer and Tham (1989)	Sweden, 1869-1985	OLS	Lags	Time Series	Non Prob.	Prison Ad. /Conv.	Theft	3	No	-, p> .05
						Arrests/Crime				-, p< .05
	Sweden, 1907-1985					Prison Ad. /Conv.		12	Yes	-, p> .05
						Arrests/Crime				-, p< .05
	Sweden, 1907-1942					Prison Ad. /Conv.				-, p> .05
Fox & Radelet (1990)	U.S., 1933-1977	OLS	Lags	Time Series	CE	Arrests/Crime	Homicide	15	No	-, p< .05
						Conv./Arrests				-, p< .05
Chamlin (1991)	Jenkintown, PA, 1967-1980	ARIMA	Lags	Time Series	Non Prob.	Arrests/Crime	Robbery	1	No	?, p> .05
							Burglary			?, p> .05
							Larceny			?, p> .05
							Auto Theft			?, p> .05
	Carlisle, PA, 1967-1980						Robbery			-, p< .05
							Burglary			?, p> .05
							Larceny			?, p> .05
							Auto Theft			?, p> .05
	Easton, PA, 1967-1980						Robbery			?, p> .05
							Burglary			-, p< .05
							Larceny			?, p> .05
							Auto Theft			?, p> .05
	Reading, PA, 1967-1980						Robbery			?, p> .05
							Burglary			?, p> .05
							Larceny			?, p> .05
							Auto Theft			?, p> .05
	Erie, PA, 1967-1980						Robbery			?, p> .05
							Burglary			?, p> .05
							Larceny			?, p> .05
							Auto Theft			+, p< .05
	Pittsburgh, PA, 1967-1980						Robbery			?, p> .05

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	Philadelphia, PA, 1967-1980						Burglary			?, p> .05
							Larceny			?, p> .05
							Auto Theft			?, p> .05
							Robbery			?, p> .05
							Burglary			?, p> .05
							Larceny			-, p< .05
							Auto Theft			-, p< .05
Yu & Liska (1993)	26 cities, 1972-74-Whites	OLS	Lags	Pooled	Non Prob.	Arrests/Rapes	Multiple	1	No	-, p< .05
						Arrests/Rob.				-, p< .05
						Arrests/Assaults				-, p< .05
	26 cities, 1972-74- Blacks					Arrests/Rapes				-, p< .05
						Arrests/Rob.				-, p< .05
						Arrests/Assaults				-, p< .05
Cloninger (1994)	57 cities in 32 states, 1980-85	2SLS	I.V.	Pooled	Non Prob.	Prison Ad./Arrests	Violent	6	No	-, p> .05
						Arrests/Crime				-, p> .05
Farrington, et al (1994)	U.S./England/Sweden, 1981-91	Correl.	None	Panel	CE	Arrests/Crime	Multiple	10	No	-, p< .05
						Conv./Arrests				-, p> .05
						Conv./Crime				-, p< .01
						Prison Ad./ Conv.				-, p> .05
						Prison Ad./ Crime				-, p< .01
	U.S./England/Sweden, 1981-87					Arrests/Crime				-, p< .05
						Conv./Arrests				-, p> .05
						Conv./Crime				-, p< .01
						Prison Ad. /Conv.				-, p> .05
						Prison Ad. /Crime				-, p< .01
	U.S/England/Sweden, 1987-91					Arrests/Crime				-, p< .01
						Conv./Arrests				+, p> .05
						Conv./Crime				-, p< .05
						Prison Ad. /Conv.				+, p> .05
						Prison Ad. /Crime				-, p> .05
Viren (1994)	13 countries, 1979-1990	2SLS	I.V.	Panel	CE	Arrests/Crime	Multiple	4	No	-, p< .05
Levitt (1995)	59 large cities, 1970-1992	OLS	Lags	Panel	Non Prob.	Formula	Murder	10	Yes	-, p> .05
							Rape			-, p> .05
							Robbery			-, p< .05
							Assault			-, p< .05
							Burglary			-, p< .05

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							Larceny			-, p< .05
							Auto Theft			-, p< .05
Wong (1995)	England & Wales, 1857-1892	OLS	Lags	Time Series	CE	Conv./Crime	All Crime	8	No	-, p< .05
Brumm & Cloninger (1996)	58 cities in 32 states, 1980-85	GLS	Lags	Panel	Non Prob.	Arrests/Crime	Homicide	9	No	-, p= .005
Reilly & Will (1996)	42 police zones, England, 1980-91	OLS	Lags	Pooled	Non Prob.	Arrests/Crime	Burglary	3	No	-, p< .05
							Theft			-, p< .05
Bodman & Maulthby (1997)	6 Australian states, 1982-1991	2SLS	I.V.	Pooled	CE	Arrests/Crime	Robbery	12	No	-, p< .05
							Burglary			-, p< .05
							Auto Theft			-, p< .05
							Fraud			-, p< .05
							Robbery	3		-, p< .05
Marselli & Vannini (1997)	19 regions in Italy, 1980-89	GLS	I.V.	Panel	Non Prob.	Conv./Crime	Murder	9	No	-, p< .01
							Robbery			-, p< .01
							Fraud			-, p< .01
Benson, et al (1998)	67 Florida counties, 1983-1987	OLS	None	% Change	CE	Conv./Arrests	Index	14	No	-, p> .05
D'Alessio & Stolzenberg (1998)	Florida, 184 days in 1991	VARMA	Lags	Time Series	Non Prob.	Arrests/Crime	Index	3	Yes	-, p< .05
Levitt (1998)	50 states, 1978-1993	WLS	Lags	Panel	CE	Conv./Crime	Juv. Violent	14	No	-, p< .05
							Juv. Property			-, p< .05
						Conv./Crime	Adult Violent			-, p< .05
							Adult Property			-, p< .05
Ehrlich & Liu (1999)	50 states, 1940/1950	2SLS	Lags	Panel	CE	Conv./Arrests	Murder	12	No	-, p< .05
Lott & Landes (1999)	50 states, 1977-1995	Tobit	None	Panel	CE	Arrests/Crime	Public Shooting	47	No	-, p= .11
Sorensen, et al (1999)	Texas, 1984-1997	OLS	Lags	Time Series	CE	Conv./Crime	Homicide	12	Yes	+, p< .05
		NW					Felony Murder			+, p< .05
		OLS				Prison Ad./Crime	Homicide			+, p> .05
		NW					Felony Murder			+, p> .05
Carmichael & Ward (2000)	15 regions in Wales, 1985-95	OLS	None	Panel	Non Prob.	Prison Ad./ Conv.	Burglary	5	No	-, p< .01
							Vandalism			-, p< .01
							Robbery			-, p< .01
							Theft			-, p< .01
							Battery			-, p< .01
							Multiple	5	No	-, p< .01
Entorf & Spengler (2000)	11 regions, W. Germany, 1975-96	OLS	Lags	Panel	CE	Arrests/Crime	Multiple	16	No	-, p< .05
							Robbery			-, p< .05
							Theft			-, p< .05
							Fraud			-, p< .05
							Murder			-, p< .05
							Rape			-, p< .05

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Desimone (2001)	29 large US cities, 1981-95	2SLS	I.V.	Pooled	Non Prob.	Arrests/Crime	Agg. Assault	17	No	- , p< .05
							Murder			- , p< .01
							Rape			- , p< .01
							Assault			- , p< .05
							Robbery			- , p< .01
							Burglary			- , p< .01
							Larceny			- , p< .01
Auto Theft	- , p> .10									
Mocan & Gittings (2001)	U.S., 1977-1997	OLS	Lags	Time-Series	CE	Prison Ad. / Crime	Homicide	17	Yes	- , p< .01
							Multiple Property			- , p< .05
Gould, et al. (2002)	371 US counties, 1979-1995	OLS	None	Panel	Non Prob.	Arrests/Crime	Multiple	7	No	- , p> .10
							Auto Theft			- , p< .05
							Burglary			- , p< .05
							Larceny			- , p< .05
							Multiple Violent			- , p< .05
							Agg. Assault			- , p< .05
							Murder			- , p< .05
Robbery	- , p< .05									
Dezhbakhsh et al. (2003)	3,054 US counties, 1977-1996	2SLS	Lags	Panel	CE	Arrests/Crime	Murder	15	No	- , p< .05
							Rape			- , p< .05
Funk & Kugler (2003)	Switzerland, 1984 - 1998	VAR	Lags	Time Series	CE	Conv./Crime	Theft	1	No	- , p< .05
							Robbery			- , p< .05
Katz, et al. (2003)	50 states, 1950-90	OLS	Lags	Panel	CE	Prison Ad. / Crime	Murder	11	No	- , p> .05
							Violent			- , p> .05
							Property			- , p> .05
Mocan & Gittings (2003)	U.S., 1973 - 1998	OLS	Lags	Time Series	Non Prob.	Arrests/Crime	Homicide	21	No	- , p> .10
Mustard (2003)	214 US counties, 1977-1992	OLS	Lags	Panel	Non Prob.	Arrests/Crime	Murder	11	No	- , p> .10
							Rape			- , p> .05
							Robbery			- , p> .05
							Agg. Assault			- , p> .05
							Burglary			- , p> .05
							Larceny			- , p> .05
						Auto Theft	- , p> .10			
						Conv./Arrests	Murder	- , p> .05		
							Rape	- , p> .05		

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
							Robbery			-, p> .05
							Agg. Assault			-, p> .05
							Burglary			-, p> .05
							Larceny			-, p> .05
							Auto Theft			-, p> .05
Liu (2004)	Death Penalty states, 1940-50	GLS	Lags	Panel	CE	Conv./Arrests	Urban Murder	10	No	-, p< .05
	Abolitionists states, 1940-50									-, p< .05
Machin & Meghir (2004)	42 regions, Eng. & Wales, 1975-96	OLS	Lags	Panel	Non Prob.	Conv./Crime	Mult. Property	7	No	-, p> .05
							Auto Theft			-, p> .05
							Theft			-, p> .05
							Burglary			-, p> .05
Messner, et al (2004)	40 G.A.s in 29 States, 1990 & 2000	2SLS	I.V.	Panel	Non Prob.	Arrests/Crime	Homicide	9	No	-, p< .05
Zimmerman (2004)	50 states, 1979-1997	2SLS	I.V.	Panel	CE	Arrests/Crime	Murder	16	Yes	-, p< .05
Corman & Mocan (2005)	312 months between 1974-99, NYC	OLS	Lags	Time Series	CE	Arrests/Crime	Murder	6	No	-, p< .01
							Assault			-, p< .05
							Burglary			-, p< .05
							Robbery			-, p< .01
							Auto Theft			-, p< .01
							Theft			-, p< .01
							Rape			-, p< .05
Kane (2005)	22 NYC precincts from 1975-96	2SLS	I.V.	Panel	Non Prob.	Arrests/Officers	Violent	7	No	-, p> .05
Baltagi (2006)	90 Counties, N.C., 1981-1987	2SLS	I.V.	Panel	CE	Arrests / Crime	Multiple	21	No	-, p< .05
							Conv. / Arrests			-, p< .05
							Prison / Conv.			-, p< .05
Eckelund, et al (2006)	U.S. states from 1995-1999	Poisson	I.V.	Panel	CE	Arrests/Crime	Murder	19	No	-, p< .05
Fagin, Zimring & Geller (2006)	States, 1978-2002	OLS	Lags	Panel	CE	Prison Ad./ Crime	Fel. Homicide	6	No	+, p< .001
	Texas, 1978-2002	Poisson					Homicide	5		-, p> .05
Kane (2006)	New York City Precincts 1989-98	2SLS	I.V.	Panel	Non Prob.	Arrests/Officers	Robbery	4	No	-, p< .05
							Burglary			-, p< .01
							Agg. Assault			+, p> .05
Mocan & Gittings (2006)	50 States, 1997-2007	OLS	Lags	Panel	CE	Prison Ad./Crime	Homicide	20	Yes	-, p< .01
	Kansas, 1997-2007			Time Series						-, p> .05
	New Hampshire, 1997-2007									+, p> .05
	Massachusetts, 1997-2007									-, p> .05
	Rhode Island, 1997-2007									-, p> .05
	New York, 1997-2007									-, p< .05
	New Jersey, 1997-2007									-, p> .05
Narayan & Smyth (2006)	U.S., 1965-2001	OLS	Lags	Panel	CE	Arrests/Crime	Homicide	12	No	-, p> .05

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
Zimmerman (2006)	50 states, 1978-2000	OLS	Lags	Panel	CE	Arrests/Crime	Murder	14	Yes	-, p> .10
Dubin (2007)	50 states, 1988-2001	GLS	I.V.	Panel	CE	Audit Rate	Tax Cheating	18	No	-, p< .05
Lin (2007)	18 countries from 1971-1996	2SLS	I.V.	Pooled	Non Prob.	Arrests/Crime	Homicide	10	No	+, p> .10
							Rape	5		-, p> .10
							Agg. Assault			-, p> .10
							Robbery			-, p< .01
							Burglary			-, p< .01
							Auto Theft			-, p< .01
							Theft			-, p< .05
							All Crime			-, p< .05
Rickman & Witt (2007)	51 PFAs, England & Wales, 1995-00	OLS	I.V.	Pooled	Non Prob.	Conv./Arrests	Employee Theft	11	No	-, p< .01
Rosenfeld et al (2007)	76 precincts, NYC, 1988-2001	HLM	None	Panel	CE	Prison / Crime	Robbery	5	No	+, p> .05
							Homicide			-, p> .05
Zimmerman & Benson (2007)	50 states from 1978-2000	2SLS	I.V.	Panel	CE	Arrests/Crime	Rape	14	Yes	-, p< .05
Buonanno & Montolio (2008)	46 Provinces, Spain, 1993-1999	GMM	I.V.	Panel	Non Prob.	Arrests / Crime	Property	12	No	-, p< .01
							Personal			-, p> .05
							Total			-, p> .05
							Serious Property			-, p< .01
							Minor Property			-, p< .01
							Serious Personal			+, p> .05
							Minor Personal			-, p< .01
						Conv. / Crime	Property			+, p> .05
							Personal			-, p> .05
							Total			-, p> .05
							Serious Property			-, p> .05
							Minor Property			-, p> .05
							Serious Personal			-, p> .05
							Minor Personal			-, p> .05
Entorf & Winker (2008)	10 states, Germany, 1976-1996	OLS	Lags	Panel	Non Prob.	Charged / Crime	Theft	7	No	-, p< .01
							Robbery			-, p< .01
							Murder			+, p> .05
							Assault			+, p> .05
							Rape			+, p> .05
Lauridsen (2009)	15 counties, Estonia, 2000-2005	SAC	I.V.	Panel	CE	Pros. / Crime	All Crime			-, p< .01
	26 districts, Latvia, 2000-2005					Arrests / Crime				-, p< .01
Almer & Goeschl (2010)	15 states, Germany, 1995-2005	GMM	Lags	Panel	CE	CBP / Crime	Environmental	9	No	-, p< .01
						Pros. / Crime				-, p< .01
						Conv. / Crime				-, p< .01

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
						Prison / Cronv. Sever Fine / Conv.				-, p< .01 -, p> .05
Clarke et al (2010)	163 weeks, Edmonton, 2005-2007	Descr.	Lags	Time Series	CE	Fine / Caught	Fare Evasion	1	No	+, p= ?
Kubrin et al (2010)	181 cities, U.S., 1996-2003	Prais	Lags	Panel	CE	Arrests / Police	Robbery	11	No	-, p< .05
Tao & Kuo (2010)	22 distr, Taiwan, monthly, 1997-01	OLS	Lags	Panel	Non Prob.	Arrests / auto theft	Auto Theft	9	No	-, p< .05
						Arrests / theft				-, p< .05
						Arrests / Violence				-, p> .05
Vaillant & Wolff (2010)	30 court areas, France, 1988-1993	2SLS	I.V.	Panel	CE	Conv. / Crime	Rape	9	No	-, p< .01
						Prison / Conv.				-, p< .01
Han et al (2011)	43 police beats, En.+ Wales, 1992-08	GMM	Lags	Panel	Non. Prob.	CBP / Crime	Burglary	7	Yes	-, p< .01
							Theft			-, p< .01
							Fraud			-, p< .01
							Battery			-, p< .01
							Robbery			-, p< .01
							Sex Offense			-, p< .05
Saridakis (2011)	England & Wales, 1960-2000	2SLS	I.V.	Time Series	CE	Conv. / Crime	Battery	8	No	-, p< .05
							Homicide			?, p> .05
							Rape			?, p> .05
							Violent			-, p< .05
						Prison / Conv.	Battery			-, p< .05
							Homicide			?, p> .05
							Rape			?, p> .05
							Violent			-, p< .05
Bandyopadhyay et al (2012)	43 Police beats, En +Wales, 1993-08	2SLS	I.V.	Panel	Non Prob.	CBP / Crime	Burglary	8	No	-, p< .01
							Theft			-, p< .01
							Robbery			-, p< .01
							Fraud			-, p< .01
Dusek (2012)	8 regions, Czech Repub., 1980-2000	SUR	I.V.	Panel	Non Prob.	Charged / Crime	Murder	9	No	+, p> .05
							Robbery			-, p< .01
							Theft			-, p< .01
							Rape			+, p> .05
							Battery			-, p< .05
						Conv. / Crime	Murder			+, p> .05
							Robbery			+, p> .05
							Theft			+, p> .05
							Rape			+, p> .05
							Battery			+, p> .05
Saridakis & Spengler (2012)	78 regions, Greece, 1991-1998	GMM	Lags	Panel	Non-Prob.	Arrests / Crime	Burglary	5	No	-, p< .05

Study	Sample	Analysis	Causal Order	Design	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
							Auto Theft			-, p> .05
							Robbery			-, p> .05
							Murder			-, p> .05
							Battery			-, p> .05
							Rape			-, p> .05

Clarification of Commonly Used Abbreviations in Table 21

Column Headings

#IV- Number of Independent Variables in the Analysis

INCAP- Did the study control for an incapacitation variable?

Abbreviations Located Under Column Headings

Sample

- CA- California
- Czech Repub.- Czech Republic
- D.P.- Death Penalty
- Distr.- Districts
- En.- England
- Eng.- England
- G.A.s- Geographic Areas
- NYC- New York City
- N.C.- North Carolina
- PA- Pennsylvania
- PFAs- Police Force Areas
- Repub.- Republic
- SMSA- Standard Metropolitan Statistical Area
- TX- Texas
- W. Germany- West Germany
- Youngst.-Warren OH- Youngstown-Warren, Ohio

Analysis

- ARIMA- Autoregressive Integrated Moving Average
- Correl- Correlation Coefficient
- Descr.- Descriptive Statistics
- GLS- Generalized Least Squares Regression

GMM- GMM Estimator
HLM- Hierarchical Linear Model
MLE- Maximum Likelihood Estimate
OLS- Ordinary Least Squares Regression
Path- Path Analysis
Path An. – Path Analysis
SAC- SAC Model
SUR- Seemingly Unrelated Regression
VAR- Vector Autoregressive Model
VARMA- Vector Autoregressive Moving Average
Y.W.- Yule-Walker Estimate

Causal Order

I.V.- Instrumental Variables

Sample

Non Prob. – Non Probability
CE- Complete Enumeration

Certainty

CBP / Crime- Caught by Police / Crime
Conv.- Convictions
Formula - The Study used a Statistical Equation to Measure
Prison Ad. / Crime – Prison Admissions / Crime
Prison Pop. / Pros.- Prison Population / Prosecutions
Prob. Ad. / Conv.- Probation Admissions / Convictions
Pros.- Prosecutions
Rob.- Robbery
Sever Fine- Severe Fine

Crime Type

1st Degree- First Degree Murder
Agg. Assault- Aggravated Assault
Agg. Battery- Aggravated Battery
Fel. Homicide – Felony Homicide
Hij. - Hijacking
HR Pop, 16 & Up- Homicide Rate for those 16 years of Age and Up
Juv. Property- Juvenile Property Crime
Juv. Violent- Juvenile Violent Crime
Multiple- Multiple Crime
Mult. Property – Multiple Property Crimes
Personal- Personal Crime
Serious Prop. – Serious Property Crimes