

**Table A17. The Impact of Certainty of Punishment on Crime Rates-Macro-level Cross-sectional Studies**

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
<b>Gibbs (1968)</b>	48 states in 1960	Phi- Coeff.	Lags	CE	Prison Admits/Crime	Murder	1	No	-, p< .01
<b>Gray &amp; Martin (1969)</b>	48 states, 1960	OLS	Lags	CE	Prison Admits/Crime	Murder	5	No	-, p= ?
<b>Bean &amp; Cushing (1971)</b>	48 states, 1960	OLS	None	CE	Prison Admits/Crime	Murder	3	No	-, p< .01
<b>Carr-Hill &amp; Stern (1973)</b>	64 districts, England, 1961 66 districts, England, 1966	OLS	None	Non Prob.	Prison Admits/Conv.	Violent	7	No	-, p< .05
<b>Ehrlich (1973)</b>	50 states, 1960	2SLS	I.V.	CE	Prison Admits/Crime	Robbery	5	No	-, p< .05
						Burglary			-, p< .05
						Larceny			-, p< .05
						Auto Theft			-, p< .05
						Multiple			-, p< .05
	50 states, 1950	OLS				Murder			-, p< .05
	50 states, 1960								-, p< .05
						Rape			-, p< .05
	50 states, 1940					Assault			-, p< .05
	50 states, 1950								-, p< .05
	50 states, 1960								-, p< .05
<b>Erickson &amp; Gibbs (1973)</b>	48 states in 1960	OLS	None	CE	Prison Admits/Crime	Homicide	1	No	-, p< .05
<b>Orsagh (1973)</b>	55 regions in CA, 1960	2SLS	I.V.	Non Prob.	Conv./Crime	Index	4	No	-, p= ?
<b>Sjoquist (1973)</b>	53 U.S. cities > 25,000, 1960	Tobit	None	Non. Prob.	Arrest/Crime	Multiple Theft	8	No	-, p> .05
					Conv./Crime				-, p> .05
					Conv./Arrest				-, p> .05
<b>Bailey et al (1974)</b>	46 states, 1950	Correl.	None	CE	Prison Admits/Crime	Murder	1	No	+, p= ?
						Robbery			-, p= ?
						Assault			-, p= ?
						Burglary			-, p= ?
						Theft			-, p= ?
						Auto Theft			-, p= ?
						Manslaughter			-, p= ?
						Rape			-, p= ?
	47 states, 1960					Murder			-, p= ?
						Robbery			-, p= ?
						Assault			-, p= ?
						Burglary			-, p= ?

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
	48 states, 1964					Theft Auto Theft Murder Robbery Assault Burglary Theft Auto Theft			-, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ?
<b>Tittle &amp; Rowe (1974)</b>	All 67 FL counties, 1971 All FL cities over 2,500, 1971	Correl.	None	CE	Arrests/Crime	Index		No	-, p< .05 -, p< .05
<b>Danzinger &amp; Wheeler (1975)</b>	57 large U.S. SMSAs, 1960	OLS	Lags	CE	Prison Admits/Guilty	Burglary Battery Robbery	11	No	-, p< .05 -, p> .05 -, p< .05
<b>Erickson &amp; Gibbs (1975)</b>	48 states, 1960	Correl.	None	CE	Prison Admits/Crime	Murder Rape Robbery Assault Burglary Auto Theft Larceny	1	No	-, p< .05 -, p< .05 -, p< .05 -, p< .05 -, p< .05 -, p< .05 -, p< .05
					Prison Admits/Crime	Murder Rape Robbery Assault Burglary Auto Theft Larceny			-, p> .05 -, p< .05 -, p< .05 -, p> .05 -, p< .05 -, p< .05 -, p> .05
<b>Kau &amp; Rubin (1975)</b>	60 U.S. cities, 1960 60 U.S. cities, 1970	2SLS	I.V.	Non Prob.	Conv./Crime	Violent Property Violent Property	7	No	-, p< .05 -, p< .05 -, p> .05 -, p< .05
<b>Passell (1975)</b>	41 states, 1950 44 states, 1960	2SLS	I.V.	Non Prob.	Prison Admits/Crime	Homicide	6	No	-, p> .05 -, p> .05
<b>Phillips &amp; Votey (1975)</b>	50 counties in U.S., 1966	2SLS	I.V.	Non Prob.	Conv./Arrest Prison Admits/Conv.	Felony	5	No	-, p< .05 -, p< .05
<b>Bailey (1976a)</b>	All Florida cities > 2,500, 1972	Correl.	None	CE	Arrests/Crime	Murder Rape	1	No	+, p< .001 +, p< .001

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
						Robbery			+, p> .05
						Assault			-, p> .05
						Burglary			-, p> .05
						Theft			-, p< .01
						Auto Theft			-, p> .05
						Multiple			-, p< .01
	All 67 Florida counties, 1972	Correl.	None	CE	Arrests/Crime	Murder			-, p< .05
						Rape			+, p> .05
						Robbery			+, p> .05
						Assault			-, p< .001
						Burglary			-, p< .001
						Theft			-, p< .001
						Auto Theft			-, p< .001
						Multiple			-, p< .001
<b>Danzinger (1976)</b>	222 SMSAs, 1970	OLS	Lags	CE	Prison Admits / Crime	Robbery	14	No	+, p> .05
						Burglary			-, p< .05
<b>Erickson &amp; Gibbs (1976)</b>	24-33 states, 1970	Correl.	Lags	CE	Prison Admits/ Crime	Assault	1	No	-, p = ?
						Auto Theft			-, p = ?
						Burglary			-, p = ?
						Murder			-, p = ?
						Larceny			-, p = ?
						Rape			-, p = ?
						Robbery			-, p = ?
<b>Forst (1976)</b>	50 states, 1970	2SLS	I.V.	CE	Prison Admits/Crime	Index	13	Yes	-, p> .05
<b>Bailey (1977)</b>	50 states, 1951	OLS	Lags	CE	Prison Admits/Crime	Rape	11	No	-, p< .001
	50 states, 1961								-, p< .001
<b>Blumstein &amp; Nagin (1977)</b>	50 states, 1970-1971	OLS	None	CE	Conv. / Arrests	Draft Evasion	12	No	-, p< .05
<b>Boyes &amp; McPheters (1977)</b>	47 states, 1960	OLS	None	CE	Prison Admits/Crime	Homicide	11		-, p< .05
						Rape	12		-, p< .05
						Assault	12		-, p> .05
<b>Brown &amp; McDougal (1977)</b>	126 CA cities > 25,000, 1970	OLS	None	CE	Arrests/Crime	Auto Theft	11	No	-, p> .05
						Theft			-, p< .05
						Burglary			-, p< .05
						Robbery			-, p> .05
						Assault			-, p< .05
						Rape			-, p> .05
						Murder			-, p< .05

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings	
<b>Clonginger (1977)</b>	48 states, 1960	OLS	Lags	CE	Prison Admits/Crime	All Felonies	6	No	-, p> .05	
	16 U.S. Southern states, 1960					Homicide			-, p> .05	
	32 non Southern states, 1960					Homicide			-, p< .05	
<b>Ehrlich (1977b)</b>	33 states with DP, 1940	GLS	Lags	Non Prob.	Prison Admits/Crime	Homicide	7	No	+, p> .05	
	34 states with DP, 1950					Murder			-, p< .05	
<b>Geerken &amp; Gove (1977)</b>	65 U.S. SMSAs, 1970-1973	Correl.	None	CE	Arrests/Crimes	Murder	1	No	-, p< .05	
						Index			-, p< .05	
						Auto Theft			-, p< .05	
						Larceny			-, p< .05	
						Robbery			-, p< .05	
						Burglary			-, p< .05	
						Rape			-, p< .05	
						Assault			+, p> .05	
						Murder			+, p> .05	
						Property			-, p< .05	
<b>Thaler (1977)</b>	87 Census Tracts, NY, 1972	2SLS	I.V.	Non Prob.	Arrest / Crime	22	No	-, p< .05		
	<b>Avio &amp; Clark (1978)</b>	54 census tracks, Ontario, 1971	2SLS	I.V.	CE			Charge /Crimes	10	No
<b>Black &amp; Orsagh (1978)</b>	43 states, 1950 47 states, 1960	2SLS	Lags	CE	Prison Admits/Crime	Robbery	6	No	-, p< .05	
						Burglary			-, p< .05	
						Theft			-, p< .05	
						Fraud			+, p> .05	
						Conv./Charges			Robbery	-, p> .05
						Burglary			-, p> .05	
						Theft			+, p> .05	
Fraud	-, p> .05									
<b>Brown (1978)</b>	114 CA cities over 25,000, 1971	Correl.	None	CE	Arrests/Crime	Multiple	1	No	+, p> .05	
	110 FL cities over 10,000, 1971					Multiple			-, p< .01	
<b>Hakim, et al (1978)</b>	61 Philadelphia comm., 1970	OLS	None	Non Prob.	Arrest/Crime	Property	7	No	-, p> .05	
						Theft			-, p> .05	
						Auto Theft			-, p> .10	
						Robbery			+, p> .10	
						Burglary			-, p> .05	
<b>Holtman &amp; Yap (1978)</b>	48 states in 1970	2SLS	I.V.	CE	Prison Admits/Crime	Burglary	11	No	-, p< .025	
						Robbery			-, p< .025	
						Larceny			-, p< .05	
<b>Logan (1978)</b>	48 states, 1970	Correl.	Lags	CE	Prison Admits/Crime	1	No	Index	-, p= .37	

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
						Murder			-, p< .001
						Rape			-, p= .02
						Robbery			-, p= .44
						Assault			-, p= .76
						Burglary			-, p= .32
						Larceny			-, p= .00
						Auto Theft			-, p= .52
<b>Mathur (1978)</b>	128 cities > 100,000, U.S., 1960	2SLS	I.V.	CE	Prison Admits/Crime	Murder	9	No	-, p> .10
						Robbery			-, p< .05
						Burglary			-, p> .20
						Battery			-, p> .05
						Rape			-, p> .05
						Auto Theft			-, p< .05
						Theft			-, p< .05
	cities over 100,000, 1960					Murder			-, p> .20
						Robbery			-, p< .05
						Burglary			-, p< .05
						Battery			-, p< .05
						Rape			-, p> .10
						Auto Theft			-, p< .05
						Theft			-, p< .05
<b>Nagin (1978a)</b>	50 states, 1960	2SLS	I.V.	CE	Prison Admits/Crime	Index	11	No	+, p> .05
<b>Pontell (1978)</b>	50 states, 1970	OLS	Lags	CE	Prison Admits/ Crime	Murder	3	No	-, p= ?
						Robbery			-, p= ?
						Assault			-, p= ?
						Burglary			-, p= ?
						Larceny			-, p= ?
						Auto Theft			-, p= ?
						Index			-, p= ?
						Property			-, p= ?
						Personal			-, p= ?
<b>Vandaele (1978)</b>	50 states, 1940/1950/1960	2SLS	I.V.	CE	Prison Ad./Crime	Index	14	Yes	-, p< .05
						Murder			-, p< .05
						Robbery			-, p< .05
						Rape			-, p< .05
						Larceny			-, p< .05

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings	
<b>Wilson &amp; Boland (1978)</b>	35 largest cities, U.S., 1975	2SLS	I.V.	CE	Arrests/Crimes	Auto Theft	5	No	-, p< .05	
						Battery			-, p< .05	
						Robbery			-, p< .05	
						Burglary			-, p> .05	
<b>Parker &amp; Smith (1979)</b>	32 states, 1970	OLS	Lags	CE	Prison Admits/Crime	Auto Theft	7	No	-, p> .05	
						Murder			-, p> .05	
<b>Bailey (1980b)</b>	50 states, 1960	OLS	Lags	CE	Prison Admits/Crime	Murder	8	No	-, p> .05	
<b>Loftin (1980)</b>	50 states, 1960	OLS	Lags	CE	Prison Admits/ Crime	Homicide	8	No	-, p> .05	
<b>Myers (1980)</b>	26 U.S. cities >250,000, 1970	2SLS	I.V.	CE	Arrests/Crime	Robbery	24	No	-, p> .05	
						Burglary			-, p> .05	
						Larceny			-, p> .05	
						Prison Admits/Arrests			Auto Theft	-, p> .05
						Robbery			-, p> .05	
					Property	Burglary	-, p> .05			
						Larceny	-, p> .05			
						Auto Theft	-, p> .05			
						Property	-, p< .05			
						Conv./Crime	-, p< .05			
<b>Corman (1981)</b>	62 counties, NY	OLS	None	CE	Arrests/Crime	Property	10	No	-, p< .05	
<b>Ehrlich (1981)</b>	50 states, 1960	2SLS	I.V.	CE	Prison Admits/Crime	Index	6	Yes	-, p< .05	
<b>Furlong &amp; Mehay (1981)</b>	291 Cen. Tracks, Montreal, 1971	2SLS	I.V.	Non Prob.	Arrests / Crime	Robbery	7	No	-, p< .05	
						Burglary			-, p< .05	
						Theft			-, p< .05	
						Property			-, p< .05	
						Multiple			-, p< .05	
<b>Sesnowitz &amp; Hester (1982)</b>	31 states, 1970	2SLS	I.V.	Non. Prob.	Conv./Crime	Robbery	6	No	-, p< .01	
<b>Willis (1982)</b>	45 neighborhoods in Eng., 1971	2SLS	I.V.	CE	Arrests/Crime	Burglary	9	No	-, p< .05	
						Theft			-, p < .05	
						Violence			-, p < .05	
						Sex Offenses			-, p < .05	
						Conv./Arrests			Theft	-, p < .05
					Prison Admits/Conv.	Violence	-, p < .05			
						Sex Offenses	-, p < .05			
						Theft	-, p < .05			
						Violence	-, p < .05			
						Sex Offenses	-, p < .05			
<b>Zedlewski (1983)</b>	137 SMSAs, 1977.	OLS	None	Non Prob.	Arrests/Crime	Burglary	12	No	+, p> .05	

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
<b>Hakim, et al (1984)</b>	401 NJ cities, 1970	3SLS	I.V.	Non Prob.	Arrest/Crime	Larceny	5	No	+, p> .05
						Multiple			-, p> .05
						Burglary			-, p< .01
						Larceny			-, p< .05
						Multiple			-, p< .01
						Auto Theft			-, p< .05
<b>Witte &amp; Woodbury (1985)</b>	567 U.S. zip code areas, 1967-70	WLS	I.V.	CE	% Taxpayers Aud.	11	No	-, p< .05	
					% Taxpayers Conv.			Tax Fraud	?, p> .05
					% Audited			Tax Cheating	-, p< .05
<b>Dubin and Wilde (1986)</b>	5580 zip codes in the U.S., 1969	2SLS	IV	Non Prob.	% Audited	8	No	-, p< .05	
<b>Sampson (1986)</b>	171 cities over 100,000, 1980	OLS	Lags	CE	Jail Admits/Crime	9	No	-, p> .10	
Robbery	-, p< .05								
Prison Admits/Crime	Murder	+, p> .05							
Robbery	-, p< .05								
Jail Admits/Crime	Robbery-Boys, 15-17	-, p< .05							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-Men, 18-19	-, p< .05							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-Men, 20-24	-, p< .05							
Prison Admits/Crime	-, p> .10								
Jail Admits/Crime	Robbery-Men, 25-29	-, p< .05							
Prison Admits/Crime	-, p> .10								
Jail Admits/Crime	Robbery-White Adults	-, p> .10							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-Black Adults	-, p< .05							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-White Youth	-, p< .05							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-Black Youth	-, p< .05							
Prison Admits/Crime	-, p< .05								
Jail Admits/Crime	Robbery-White Adults	-, p< .05							
Prison Admits/Crime	+, p> .10								
Jail Admits/Crime	Robbery-Black Adults	-, p< .05							
Prison Admits/Crime	-, p> .10								
<b>Sandelin and Skogh (1986)</b>	278 Swedish cities, 1975-1976	3SLS	I.V.	Non Prob.	Arrests/Crime	15	No	+, p< .05	

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
<b>Stafford, et al (1986)</b>	48 states, 1959-1961	OLS	Lags	CE	Prison Admits /Conv. Prison Admits/Crime	Murder	3	No	+, p< .05 -, p< .05
<b>Craig (1987)</b>	79 Baltimore police beats, 1972	3SLS	I.V.	No	Arrests/Crime	All Crime	18	No	-, p < .05
<b>Howsen and Jarrell (1987)</b>	120 counties, K.Y., 1980	2SLS	I.V.	Non Prob.	Arrest/Crime	Robbery Burglary Larceny	15	No	-, p> .05 -, p< .01 -, p> .10
<b>Dubin &amp; Wilde (1988)</b>	5580 zip codes, 1969	2SLS	I.V.	Non Prob.	Audits / Tax Returns	Tax Compliance	4	No	-, p< .05
<b>McAleer &amp; Veall (1989)</b>	44 states, 1950	OLS	Lags	CE	Conv. / Crime	Murder	13	No	-, p> .05
<b>Trumbull (1989)</b>	98 counties, NC	OLS	Lags	CE	Arrests / Crime Conv. / Arrest Prison Admits / Conv.	Rearrest	14	No	-, p< .01 -, p< .01 -, p< .01
<b>Decker &amp; Kohfeld (1990a)</b>	32 states, 1970	OLS	Lags	No	Arrests/Crime	Robbery Burglary Larceny Prison Admits/Crime Robbery Burglary Larceny	5	No	-, p< .05 -, p> .05 -, p> .05 -, p< .001 -, p< .001 +, p< .05
<b>Gibbs &amp; Firebaugh (1990)</b>	New England U.S., 1980 Mid Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	Correl.	None	CE	Arrests/Crimes	Index	1	No	-, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ? -, p= ?
<b>Bailey (1991)</b>	42 states, 1960  49 states, 1950	OLS	Lags	CE	Prison Admits/Crime	Murder Manslaughter Assault Rape Robbery Burglary Larceny Auto Theft Murder Assault	8	No	-, p> .05 -, p> .05 -, p> .05 -, p< .05 -, p< .05 -, p> .05 -, p> .05 -, p> .05 -, p> .05 -, p< .05 -, p> .05



Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
						Robbery			-, p> .05
						Burglary			-, p< .05
						Larceny			-, p> .05
						Auto Theft			-, p> .05
<b>Benson &amp; Rassmussen (1991)</b>	67 Florida counties, 1986-87	OLS	Lags	CE	Drug Arrests /Arrests	Property	8	No	-, p< .05
<b>Clonginger (1991)</b>	57 cities in U.S. in 1985	2SLS	I.V.	Non. Prob.	Arrest/Crime	Homicide	10	No	-, p> .05
						Violent			+, p> .05
					Prison Admits/Arrests	Homicide			+, p> .05
						Violent			-, p< .05
<b>McCarthy (1991)</b>	58 counties, CA, 1980	Correl.	None	CE	Arrests/Crime	Property	1	No	-, p< .01
						Violent			+, p> .05
<b>Benson et al (1992)</b>	67 Florida counties, 1986-87	2SLS	Lags	CE	Arrests / Crime	Property	18	No	-, p> .05
					Conv. / Arrest				-, p< .01
<b>Veal (1992)</b>	44 states, 1950	GLS	Lags	CE	Conv. / Crime	Murder	6	No	-, p< .05
<b>Clonginger (1994)</b>	57 U.S. cities, 1984	OLS	Lags	Non Prob.	Arrests/Crime	Homicide	8	No	-, p< .05
					Conv./Crime				-, p< .05
					Arrests/Crime	Assault			?, p> .05
					Conv./Crime				?, p> .05
					Arrests/Crime	Rape			?, p> .05
					Conv./Crime				?, p> .05
					Arrests/Crime	Robbery			?, p> .05
					Conv./Crime				?, p> .05
					Arrests/Crime	Burglary			?, p> .05
					Conv./Crime				?, p> .05
<b>Cornwell &amp; Trumbell (1994)</b>	90 counties, NC	2SLS	I.V.	Non Prob.	Arrests/Crime	Index	20	No	-, p< .05
					Conv./Arrests				-, p< .05
					Conv./Prison				-, p> .05
<b>Andreoni (1995)</b>	47 states, 1960	Correl.	Lags	CE	Prison Admits/Crime	Multiple	1	No	-, p< .01
<b>Brumm &amp; Cloninger (1995)</b>	59 cities, U.S., 1985	GLS	I.V.	Non Prob.	Combined Meas.	Violent	7	No	-, p< .001
<b>Ehrlich &amp; Liu (1999)</b>	44 states, 1950	3SLS	Lags	CE	Conv./Arrests	Murder	14	No	-, p< .05
						Assault			-, p< .05
						Robbery			-, p< .05
<b>Mendes &amp; McDonald (2001)</b>	32 states, 1970	Logistic	None	Non Prob.	Arrests/Crime	Robbery	8	No	-, p> .05
						Burglary			+, p> .05
						Larceny			+, p> .05
		Log-linear				Robbery			-, p< .05
						Burglary			-, p> .05

Study	Sample	Analysis	Causal Order	Sample Type	Certainty	Crime Type	#IV	INCAP	Findings
		Logistic			Conv./Crime	Larceny Robbery Burglary			-, p< .05 +, p> .05 -, p>.05
		Log-linear				Larceny Robbery Burglary			-, p>.05 -, p< .05 -, p< .05
Mendes (2004)	32 states, 1970	OLS	None	Non Prob.	Arrest / Crime	Robbery	5	No	-, p< .05
					Conv. / Arrest	Burglary Robbery Burglary			-, p< .05 -, p< .05 -, p< .05
Dula, et al (2007)	95 counties in S.E., 2001, 2003	Correl.	Lags	CE	Arrests/DUI	DUI Crashes	1	No	-, p> .05
Kubrin et al (2010)	181 cities, U.S., 2000	OLS	Lags	CE	Arrests / Police	Robbery	11	No	-, p< .05

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**Clarification of Commonly Used Abbreviations in Table 17**

*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
- Comm. – Communities
- D.P. – Death Penalty
- Eng.- England
- Fl- Florida
- KY- Kentucky
- NC- North Carolina
- NJ- New Jersey

NY- New York  
S.E.- Southeast  
SMSA- Standard Metropolitan Statistical Area

*Analysis*

Correl- Correlation Coefficient  
GLS- Generalized Least Squares Regression  
OLS- Ordinary Least Squares Regression  
SUR- Seemingly Unrelated Regression  
WLS- Weighted Least Squares Regression

*Causal Order*

I.V.- Instrumental Variables

*Sample Type*

CE- Complete Enumeration  
Non Prob. – Non Probability

*Certainty*

Combined Meas. – Combined Measure  
Conv.- Conviction or Convicted  
% Taxpayers aud. - % Taxpayers audited

*Crime Type*

Multiple- Multiple Crimes