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Can We Predict Long-Term Future Crime Rates?

- Projection of Crime Rates through 2030
for Individual States in the U.S. -

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ABSTRACT

Can we predict long-term crime rates? In this paper, we offer the use of simple experience curve models as an alternative forecasting method. We use the experience curve models to project total crime and violent crime rates in 2030 for 50 individual states and Washington D.C. in the United States.

Results are encouraging in that projection models developed from historical data for respective states show, in general, high values of R^2 over .85. Our projected crime rates show both increasing trends as well as declining trends compared to 2010. A large variation among individual states is due to highly variable experience curve slopes we estimated across respective states.

Keywords: Projection of crime rates, total crime rates, violent crime rates, classical experience curve, kinked experience curves, kinked slope, kinked year.

1. INTRODUCTION

Fight against crime is often a popular campaign promise in political elections in America. However, rarely such promise is accompanied with a quantitative projection of crime rate to be delivered. However, because of high cost and long lead time required for expanding prison capacity, many state legislatures mandate long-term projection of incarceration rate and prison population. According to Public Safety, Public Spending-Forecasting America's Prison Population 2007-2011(2007), 30 states have used advanced simulation methods for such long-term projection. And at least 10 states have used the projection period of 10 years or longer. For example, the state of Washington uses the projection periods covering 35 years. Due to the association between crime rates and incarceration rate as shown in Figure 1, crime rate projection is often the first step in making projection for future prison population.

However, many academic publications cover forecast methods for crime which may take place in the immediate future at a specific local area (Felson and Poulson, 2003; Gorr et al., 2003; Corcoran, et al., 2003; and Liu and Brown, 2003). Other works cover relatively short-forecasting period of 3 years or less (Harries, 2003; Deadman, 2003).

There are only few publications dealing with long-term projection of crime rates lasting 10 years or longer (Fox, 1978; Steffensmeier and Harer, 1987 and 1999; Cohen and Land, 1987; Pepper, 2008). Each of these works employs a somewhat different methodology projecting either national or city-level crime rates. An overall result of these studies has been recently described that "long-run forecasts have been notoriously poor. Crime rates have risen when forecasted to fall (e.g., the mid-1980s) and have fallen when projected to rise (e.g., the 1990s)"[1] In conclusion, Pepper (2008) calls for more serious research efforts to develop better crime rate forecasting methods by trying out several alternative methodologies.

In this paper, we propose to offer one such alternative forecasting method. We propose the use of simple experience curve models which have been effectively used in energy and health care areas for long-term projection. We will use the experience curve models to project crime rates for 50 individual states plus Washington D.C. in the United States. More specifically, we will project two types of rates – total crime, and violent crime, for the year of 2030.

The rest of this paper is organized as follows. In the second section, we present a brief

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[1] Pepper, p.177.

literature survey on crime rate forecasting. And then, we present two types of models – classical and kinked experience curve. Using historical crime rate data from 1900 to 2010, we develop appropriate projection model for each state. In the fifth section, we discuss the results of our projected crime rates. We, then, present concluding remarks as well as limitations of our study in the sixth section.

2. A BRIEF LITERATURE SURVEY

Any attempt to make a long-term projection of crime rates in America most cope with two types of major challenges. First, the historical patterns of crime rates has undergone a steep increase to be followed by a significant decline during the period of 1900 to 2010 (Baumer, 2008; Blumstein and Wallman, 2006; Zimring, 2006). Second, the past patterns of crime rates may be created by a very large number of social factors, ranging from demographic, economic as well as public policy elements.

According to Levitt (2004), percentage change in violent crime reported in Uniform Crime Index shows an increase of +82.0 during 1973-1991 to be followed by a decline of -33.6 during 1991-2001. The variability of such increase and decline of crime rates will be significantly enlarged when the historical pattern of crime rates are to be examined at individual state level (Winsberg, 1993; Besci, 1999; Cook and Winfield, 2012). Figure 2 shows highly variable patterns of total crime rates for two high-crime states (Washington D.C. and Louisiana) and moderately variable patterns of two low-crime states (North Dakota and South Dakota) in comparison to the national pattern during 1960-2010.

Figure 3 dramatizes what the long-term projection method must be able to deliver. Namely, given historically fluctuating data, the methodology must produce objective and consistent projections across multiple states.

As for multiple factors influencing fluctuating crime rates, there is a large literature involving many disciplines (Becker, 1968; Cohen and Felson, 1979; Cantor and Land, 1985; Smith, 1997; Marvell and Moody, 2001; Rosenfeld and Forango, 2007; Cook and Cook, 2011). Figure 4 reproduces heuristic model on recent crime trends by (Baumer, 2008) which lists fourteen factors. Similarly, Farrell, et al., (2010) list twenty possible hypotheses which may explain for the crime drop since the early 1990s, by adding such factors as abortion, lead exposure, cultural change, and technological change.

As relevant many of these factors may be in explaining the past crime patterns, most of these factors will not help in making future projection. Future values for most of these factors cannot be reliably forecasted. Therefore the projection of long-term crime rate must, by necessity, rely on selected few factors for which future values can be projected with some degree of accuracy. The most likely factor with such reasonable degree of accuracy in forecasting is often demographic measures such as population size, density, age and race.

This explains why the age standardization methods (Hirschi and Gottfredson, 1983; 1989; Steffensmeier and Harer, 1987; 1999) have often been used. The method combines relatively accurate estimates of the age structure of the American population with age-specific arrest rates for various types of crimes to calculate expected numbers of crime rates. By using this methodology, Steffensmeier and Harer (1987) forecasted that violent crime rates would fall about 13 percent and 20 percent for property crime rates during the 1980 to 2000 period. The basic reason is that proportion of young people (ages 15~24 and 15~35) was estimated to decline sharply into the early 1990s by the Census Bureaus.

This projection was updated by Steffensmeier and Harer (1999). Using the same methodology, they projected future rates for both violent and property crimes through 2010. Specifically, they projected 5 percent increase for violent crime rates and 4 percent increase for property crime rates from 1966 levels to 2010. However, it was pointed out by Land and McCall (2008) that "these projections assumed that age-specific arrest rates for Juveniles continues at the levels observed in 1966 to the year 2010"[2]. "If, in fact, these age-specific rates continue to decline, then the modest increases in violent and property crime rates projected could become even more modest or even turn into decrease"[3]. This logic will be decisive in developing our experience curve model.

The alternate approach for long-term projection is the development of time-series regression or structural equations. Works by Fox (1978) and Cohen and Land (1987) are well-known examples of using regressing models of crime rate time series. Fox's model has added both socioeconomic characters of the population, police activities and expenditures as well as

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[2] Land and McCall, p.331

[3] Ibid, p.332

race and age composition of the population. His projection for the 1980s and 1990s was similar to that of Steffensmeier and Harer.

Finally, Cohen and Land (1987) developed log-linear functional forms for relating levels of the homicide and vehicle theft series to the variables using data from 1946 through 1984. The variables include percentage of aged 15 to 24 for motor vehicle theft model and age 15 to 20 for homicide model. Furthermore, they also included other factors such as unemployment, residential population density, imprisonment rate, etc. Regarding the projection of future crime rates, they state that "patterns of projected changes in the age structure variables from the year 1985 to 2001 will be reflected in the corresponding crime rate series. Both vehicle theft and murder rates should continue to trend downward to low points between 1995 and 2001".[4]

As indicated earlier, all of these long-term projection methodologies appear to rely more heavily on the projected population measures on age structure as far as projecting the future crime rates are concerned. Nevertheless, all of these methodologies still face substantial degree of uncertainty in the projections they make. Thus, the need for trying out alternative projection methodologies appears to be real.

3. EXPERIENCE CURVE MODELS AND DATA SOURCES

Experience or learning curve models have been used for long-term projection in both industrial sector (Wright, 1936; Day, 1977; Dutton and Thomas, 1984; Neiji et al., 2006) and health care and energy sectors (IEA, 2000; Jenninger, et al., 2008; Yeh and Rubin, 2012; Birkmeyer, et al., 2003; Halm, et al., 2002; Lipscomb, 2006). In a recent review article, Weiss, et al. (2010) identified 124 cases of manufacturing applications and 207 cases of applications in energy industries reported in the literature.

The experience curve model is based on a simple concept of learning by doing or practices make it perfect. More precisely, the relationship between practices and outcome is assumed to be based on logarithmic or percentage change. Thus, the higher is the rate of accumulated experiences, the greater will be the rate of improvement. Furthermore, another basic assumption of traditional experience curve is that the rate of improvement will remain

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[4] Cohen and Land p.181

constant throughout the life cycle of learning period. However, the issue of constant improvement rate has not been fully explained conceptually and remains unsettled.

How can the experience curve model be used for projecting long-term crime rate? As has been explained earlier, there are a large number of factors which influence the level of crime incidences. Accordingly, each individual state possesses varying levels of demographic, economic and justice-related factors which, in combination, act to determine crime incidents at a given time. Then, rate of accumulated experiences of these combined factors may determine the rate of change of crime rate in the future. In general, the traditional experience concept suggests a constant decreasing rate of crime rate as accumulated experiences increase. However, the model is capable of incorporating both increasing rate of crime rate as well variable rates of improvement over the life cycle of learning period.

Using future crime rate as dependent variable, what can best represent the accumulated experience of combined factors influencing the level of crime rate? As mentioned earlier, for a long-term projection, selection of a demographic measure is essential due to the availability of reasonably accurate projections from the Census Bureau. The lack of projected age-specific arrest rates at state-level, however, indicates that the best candidate as independent variable is population size of individual states. Therefore, a percentage change of cumulative population will assume to determine a percentage reduction of two crime rates under analysis. We will report on how well the relationship has held for these states after our analysis is completed.

Incorporating the case of constant rate of change, we present classical model. For variable rates of change, we present kinked models below.

The classical experience curve equation is:

$$y(X_t) = aX_t^b \quad (1)$$

t=1960, 1961……, 2010

where $y(X_t)$ = subject crime rate per population of 100,000 of year t.

a = constant

X_t = cumulative population beginning 1960 through year t

b = classical experience slope of equation (1)

For the kinked experience curve model, the following two equations are used:

$$y(Xt) = a_1 X_t^{b_1} \quad (2)$$

where t = 1960 through one year before the kinked year

X_t = cumulative population beginning 1960 through one year before the kinked year

b_1 = experience slope for equation (2)

$$y(X_t) = a_2 X_t^{b_2} \qquad (3)$$

where t = k, k+1, ..., 2011

k = kinked year

a_2 = constant

b_2 = kinked slope of equation (3)

In logarithmic form, equation (1), (2), and (3) are expressed as equation (1a), (2a), and (3a):

$$\log y(X_t) = \log a + b \log (X_t) \qquad (1a)$$
$$\log y(X_t) = \log a_1 + b_1 \log(X_t) \qquad (2a)$$
$$\log(X_t) = \log a_2 + b_2 \log(X_t) \qquad (3a)$$

Now we need to select between classical equation (1) and the 2nd kinked equation (3) to be used for future projection. First, we combine the two kinked experience equation (2a) and (3a) using a dummy variable which takes the value of one if the year belongs to the 2nd period and zero otherwise.

$$\log(y) = \log a_1 + (\log a_2 - \log a_1) * P + b_1 \log x_t + (b_2 - b_1)\log x_t * P \qquad (4)$$

where P = 0, if t = 1960, 1961...., k-1,

P = 1, if t = k, k+1, ... 2010.

To find a kinked year for each state, we test all possible years, from 1960 through 2010, by looking for the highest R^2, coefficient of determination, using equation (4). The year that shows the highest R^2 is selected as the kinked year. Then, we test whether the difference between the slopes of a kinked experience curve for the first period and the second period, represented by b_1 and b_2, is statistically significant. If the difference is statistically significant, we choose the kinked experience curve equation (3). Otherwise, we select the classical experience equation (1).

In other to project 2030 crime rates, we need projected future cumulative population

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through 2030 for individual states. We use annual state population projection available. And then, we use either classical or kinked experience curve equation selected for each state to project crime rates for 2030.

Annual state crime index rates per 100,000 inhabitants for total and violent crime as well as population size during 1960 through 2010 come from the U.S. Disaster Center; http://www.disastercenter.com/crime/

Annual population projection for individual states (2011-2030) are obtained from the Centers for Disease Control and Prevention (CDC), while projected U.S. population are from the U.S. Census Bureau; http://www.census.gov/

4. RESULTS OF THE ANALYSIS OF HISTORICAL DATA

We, first, determine whether historical total and violent crime rates of individual states and Washington D.C. fit better into the classical or kinked experience model. The result shows only one state (West Virginia) from total crime rates fits better into the classical model. For violent crime, only Georgia and South Dakota fit better into the classical model. For the rest of states plus Washington D.C. the kinked model become the overwhelmingly better model selected for future projection.

For example, we show the result of our analysis on total crime rates during 1960 to 2010 for the state of New York in Figure 5 and Table 1. The slope of classical experience model is flat at 98%, while very steep kinked slope is 27%. The R^2 of classical model is 0.06 in comparison to R^2 of 0.97 for the kinked model at the kinked year of 1990. Finally, statistical test of difference between b_1 and b_2 shows the t value -20.78 which is significant at near 0%. Thus, the kinked model is selected over the classical model for future projection.

The results of repeating the same analysis are listed in Table 1 of Appendix for 50 individual states plus Washington D.C. as well as for the U.S. as a whole for both total and violent crime rates.

The overall distribution of R^2 associated with the kinked experience curve equations for total crime are very high with 45 out of 51 states having R^2 of 0.85 or higher. A majority of states show R^2s of 0.9 or higher, as shown in Figure 1 of Appendix. Only six states (Illinois at 0.81; Wyoming and Idaho at 0.81 each; Montana at 0.82; Hawaii at 0.83; Arizona at 0.84) show their R^2 at less than 0.85.

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The distribution of R^2s for violent crime is somewhat lower in that 47 out of 51 states have R^2 values of 0.8 or higher. A majority of states again show the value of 0.9 or higher, as shown in Figure 2 of Appendix. Only four states (Louis and at 0.07; Wyoming at 0.74; Virginia at 0.77; Washington D.C. at 0.78) show the values at less than 0.8.

The association between kinked years and kinked slopes for total crime rates and violent crimes rates are shown in Figure 6 and Figure 7 while the respective values of kinked slopes and kinked years are listed in Table 2 of Appendix.

Kinked years of total crime rates for a majority of states (38 out of 50 states) excluding W. Virginia) ranged from 1978 to 1993 with the kinked year for the U.S. at 1990, showing considerable variation among individual states. Similarly, kinked years vary from 1980 to 1992 for a majority of states (39 out of 49 states) excluding Georgia and North Dakota for violent crime rates.

Kinked slopes for total crime range from 46% to 75% for a majority of states (36 out of 50 states) with the national slope at 52%. Kinked slopes for violent crime vary more widely ranging from 40% to 97% for a majority (31 out of 49 states) with the national slope at 48%.

Furthermore, we discovered negative relationships between kinked slopes and kinked years for both total and violent crime. The overall relationship indicates that those states with more recent kinked years are associated with somewhat more steep kinked slope. In other words, there may be greater crime rate reduction possible for late- followers in contrast to early pioneers. However, the extent of such advantage is not large, as indicated by the negative slope of 0.0114 for total crime. For violent crime, negative slope is greater with 0.035, which means that each year delayed on average will generate 3.5% reduction of kinked slope. We show the results of our statistical analysis in Tables 3 and 4 of Appendix.

5. PROJECTION OF CRIME RATES

Next, we proceed to project total and violent crimes rates for the year of 2030. For our projection, we calculate the cumulative population size through 2030. Then, we project crime rates by using either kinked or classical equation estimated earlier for each state.

We use total crime rates of California as an example for projection as shown in Figure 8. The estimated kinked equation for California is $y=(IE+I3)(X)^{-1.046}$ from Table 1 of Appendix. The cumulative population through 2030 form CDC is calculated to be 2,211,806,439.

Applying this number to the above equation, we have:

$$y(2030) = (IE + I3)(2, 211, 866, 439)^{-1.046} = 1680.33$$

Thus, the projected total crime rate per 100,000 inhabitants in California is 1,680.33.

Since the total crime rate of California in 2010 is 3,070, the percentage reduction of total crime rate in California from 2010 to 2030 is -45.38% using the following formula:

$$\frac{\text{crime rate}(2030) - \text{crime rate}(2010)}{\text{crime rate}(2010)}$$

Repeating the same projection procedure, we have projected total and violent crime rates of 50 states and Washington D.C. for the year of 2030, which are listed in Table 2.We show percentage change of total crime rates between 2010 through 2030 in Figure 9. The results show that 47 states have shown reduction of total crime rates compared to 2010. The steepest reduction was in New York at -65% and the smallest reduction was Indiana with -0.2%. Four states (Nevada, Tennessee, Hawaii and West Virginia) have shown increased total crime rates in 2030 compared to 2010.

Percentage change of violent crime rates is shown in Figure 10. The results show that 36 states have shown reduction of violent crime rates. The largest reduction was again in New York at - 62% and the smallest reduction was in Nevada at -0.6%. On the other hand, 15 states led by Georgia (+189%) and Montana (+128%) have increased violent crime rates projected in 2030 compared to 2010.

6. CONCLUSIONS

We have demonstrated the utility of using experience curve models to project long-term future crime rates for 50 individual states plus Washington D.C. This research may be the first such application of experience curve reported in the literature.

It has also been demonstrated that the kinked model is the dominant projection model to be used for all of these states with the exception of one or two states. Similar findings on kinked models have been reported in several previous studies (Chang and Lee, 2012A; Chang et al., 2012B; Chang et al., 2012C)

The use of population size as independent variable in our models appears to be vindicated by high values of R^2s obtained for respective states, where 45 out of 51 cases report R^2 at .85 or higher for total crime rates. Similarly, 47 out of 51 cases show R^2 at .8 or higher for violent

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crime rates.

Results from our 2030 projected crime rates indicate large variations among individual states. For violent crime rates, the variation is even greater. New York is expected to show a decline of 62% in 2030 compared to 2010, whereas Georgia is expected to show an increase of 189% during the same time period.

The reason for this large variation in violent crime is due to another large variation of kinked slopes across individual states. For example, the kinked slope ranged from the minimum of 21 percent for Washington D.C. to the maximum of 336 percent for North Dakota. A large variation among kinked slopes is also accompanied by varying kinked years for respective states, as well. When the relationship between kinked slopes versus kinked years for violent crime rates are analyzed, the results show a negative relation at the slope of 0.035. In other words, each year delayed as kinked year will, on average, result in a reduction of 3.5 percent in kinked slope.

An interesting policy implication is that there may be a large benefit to be gained from benchmarking and learning from the best practices of those early pioneering states who have realized their kinked years earlier.

Although overall results we obtained are encouraging, this study remains exploratory in seeking more reliable long-term projection models. Therefore, there are several limitations and rooms for future studies. First, the model should have the flexibility of coping with multiple kinked slopes, tipping points or break points in the future. Spinal regression techniques (Marsh and Cormier, 2002) may be a useful alternative methodology.

If other elements on population measures can be added as independent variables such as sex or age, the accuracy of projection may improve. Another area of future research may explore further the extent of variation discovered to exist among respective states.

In sum, the search for more reliable projection methods for long-term future crime rates needs to continue. We hope that our research reported may have provided some helpful ideas for this search.

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Table 1. Selection between Classical vs. Kinked Models

New York	Classical Experience Equation						kinked year	Kinked Experience Equation													Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$	year	$\log a_1$	b_1	t-value	p-value	$\log a_1 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	10.29	-0.10 (0.09)**	-1.07	FALSE	0.06	93%	1990	4.08	0.24 (0.02)**	13.92	0.00	42.86	46.94	-1.91 (0.09)**	-20.78	0.00	-2.15 (0.23)**	-22.95	0.00	0.95	27%	Kinked

1990 is the year in which maximized the R^2. Thus, 1990 is selected as the kinked year.

Since $(b_2 - b_1)$ is statistically significant, we select b_2 (Kinked Slope) over b (classical slope) for projection purpose.
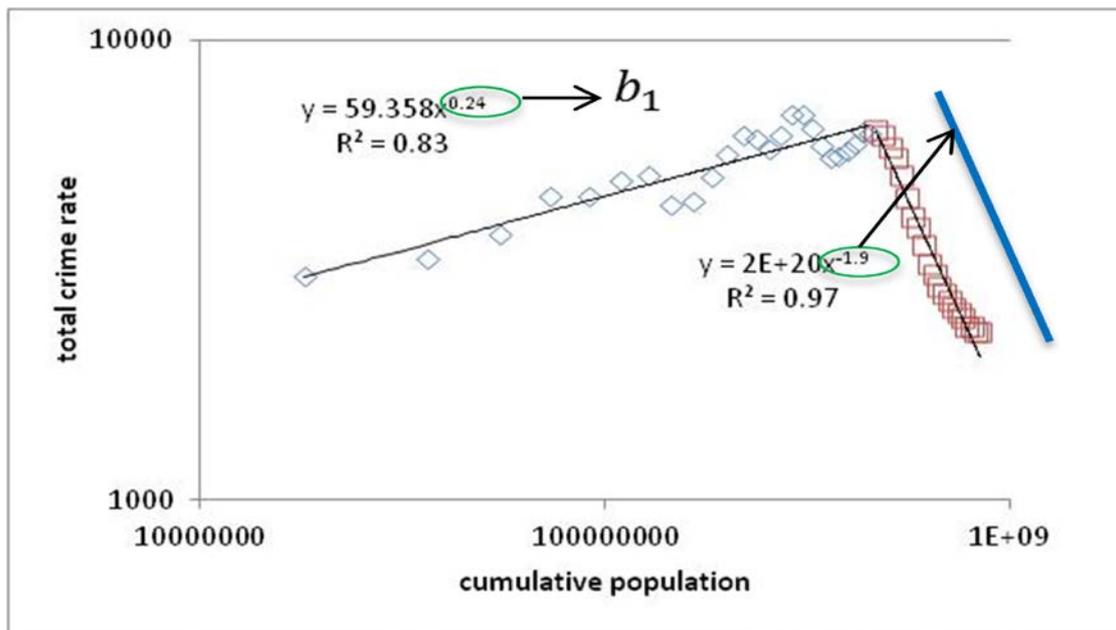
Table 2: Projected Rates by 2030 for Total and Violent Crime

Total Crime					Violent Crime			
STATE/YEAR	(A)1960	(B)2010	(D)2030		STATE/YEAR	(A)1960	(B)2010	(D)2030
New York	3066	2352	812		Maine	30	122	75
South Dakota	1164	2129	1021		Vermont	10	131	107
Virginia	1653	2550	1504		Oregon	70	251	128
Idaho	1771	2221	1513		Rhode Island	37	257	136
Connecticut	1157	2471	1514		Mississippi	103	269	145
North Dakota	891	2010	1595		Kentucky	97	244	146
Vermont	825	2393	1648		New York	325	394	149
Pennsylvania	1049	2540	1651		Virginia	184	214	150
California	3474	3070	1680		New Jersey	114	308	153
Illinois	2342	3163	1830		Connecticut	37	282	165
Nebraska	1220	2946	1866		Nebraska	42	278	167
New Hampshire	690	2387	1882		New Hampshire	13	167	182
Massachusetts	1219	2826	1958		Minnesota	42	236	185
South Carolina	1500	4508	1959		Indiana	85	323	199
Rhode Island	2072	2819	1994		Colorado	137	324	201
Colorado	2172	2998	2044		Wyoming	110	198	204
Iowa	1124	2522	2067		Utah	54	214	220
Utah	2541	3396	2138		Ohio	84	315	229
New Jersey	1491	2388	2216		California	239	440	233
Maryland	1670	3542	2260		Washington	57	314	241
Maine	1188	2601	2266		Illinois	365	445	243
Florida	2705	4093	2281		North Dakota	14	230	244
Kentucky	1213	2795	2339		South Dakota	41	269	253
Wyoming	1924	2655	2355		Idaho	38	221	254
Minnesota	1466	2805	2458		Massachusetts	49	469	264

Total Crime					Violent Crime			
STATE/YEAR	(A)1960	(B)2010	(D)2030		STATE/YEAR	(A)1960	(B)2010	(D)2030
Wisconsin	1146	2758	2514		Alabama	187	384	267
Montana	2053	2840	2517		North Carolina	224	363	268
Michigan	2659	3242	2597		Arizona	208	414	269
Arizona	3014	3950	2642		Texas	161	448	270
Mississippi	705	3252	2666		Hawaii	22	262	281
North Carolina	1180	3806	2712		Louisiana	153	555	291
Oregon	1977	3291	2720		Wisconsin	32	249	302
Louisiana	1495	4200	2782		Iowa	24	269	307
Kansas	1395	3487	2823		Missouri	173	447	321
Delaware	2161	4077	2833		Kansas	58	371	335
Ohio	1559	3581	3040		Michigan	218	493	342
New Mexico	2387	4014	3101		Maryland	151	546	343
Alaska	1649	3472	3155		West Virginia	65	301	357
Texas	2217	4215	3236		Pennsylvania	99	367	365
Georgia	1408	4042	3287		Florida	223	541	379
Washington	2232	4013	3312		Arkansas	108	504	434
Alabama	1222	3912	3355		Oklahoma	97	481	434
Indiana	1554	3394	3386		New Mexico	143	588	460
West Virginia	721	2528	3517		South Carolina	144	602	537
Nevada	3441	3437	3593		Montana	67	276	630
Oklahoma	2015	3924	3622		Delaware	84	623	634
Missouri	1973	3808	3765		Nevada	146	663	659
Washington D. C.	2713	6088	3775		Washington D. C.	554	1327	660
Arkansas	1034	4057	3798		Tennessee	91	612	668
Hawaii	2298	3577	4781		Alaska	104	635	686
Tennessee	1241	4275	5122		Georgia	159	402	1164

Figure 1. Crime and Incarceration Rates by State, 2005
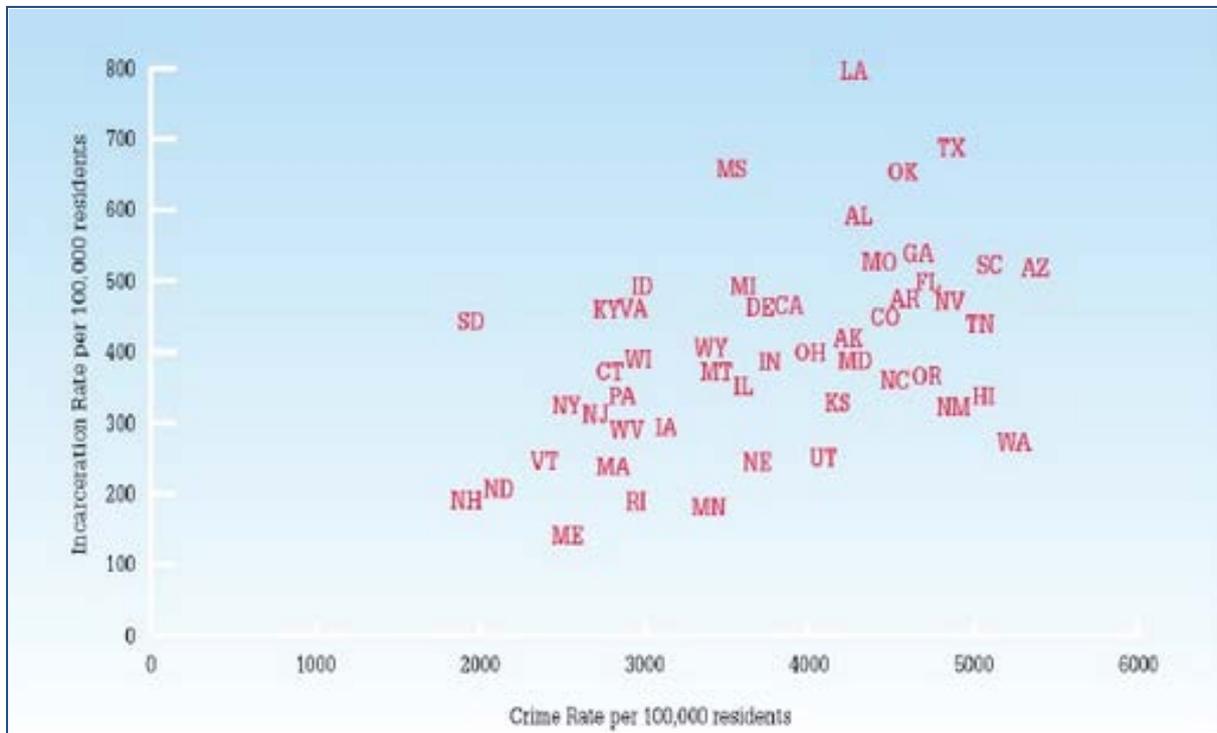
Source: Public Safety, Public Spending – Forecasting America's Prison Population 2007-2011, (2007)

Figure 2. Patterns of Total Crime Rates for Four States and the U.S., 1960- 2010
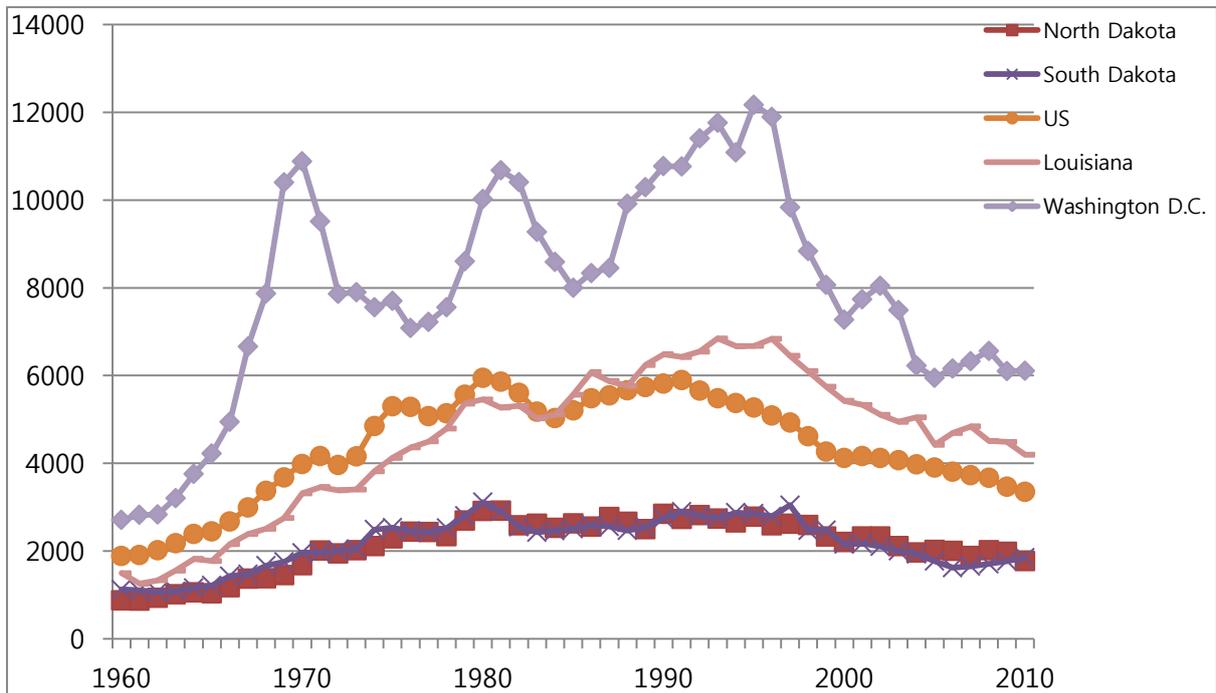
Figure 3. Projecting Crime Rates in 2030
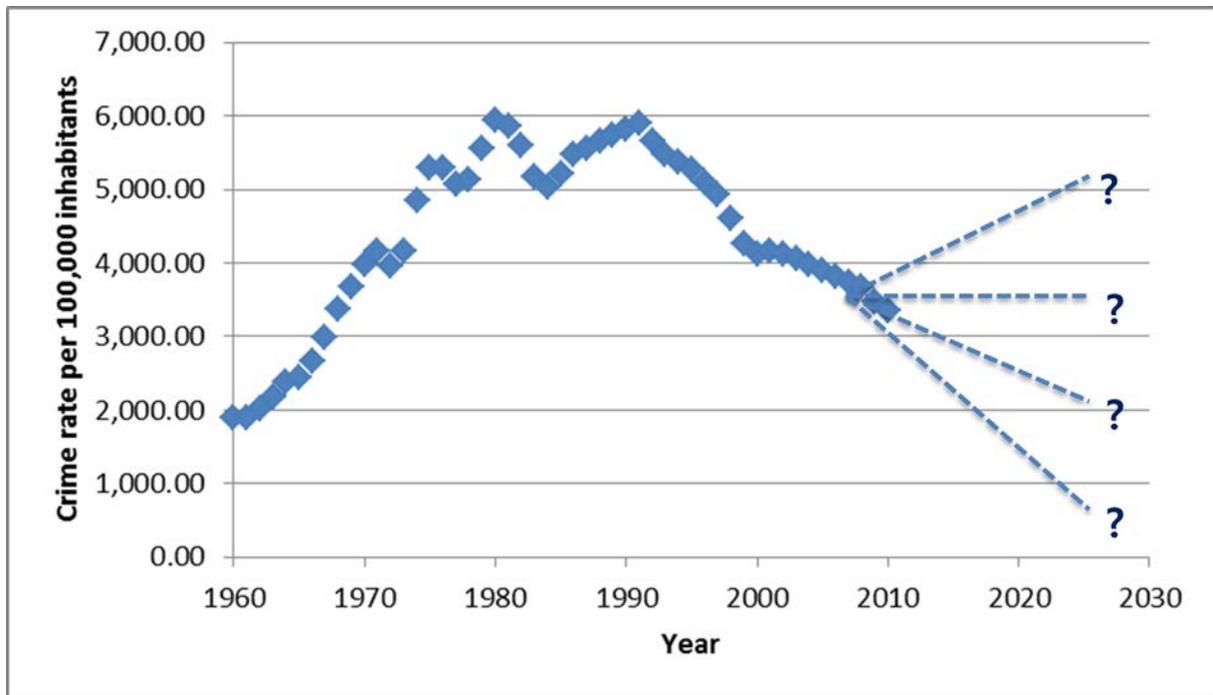
Figure 4. Heuristic model of hypothesized main effects on recent crime trends.
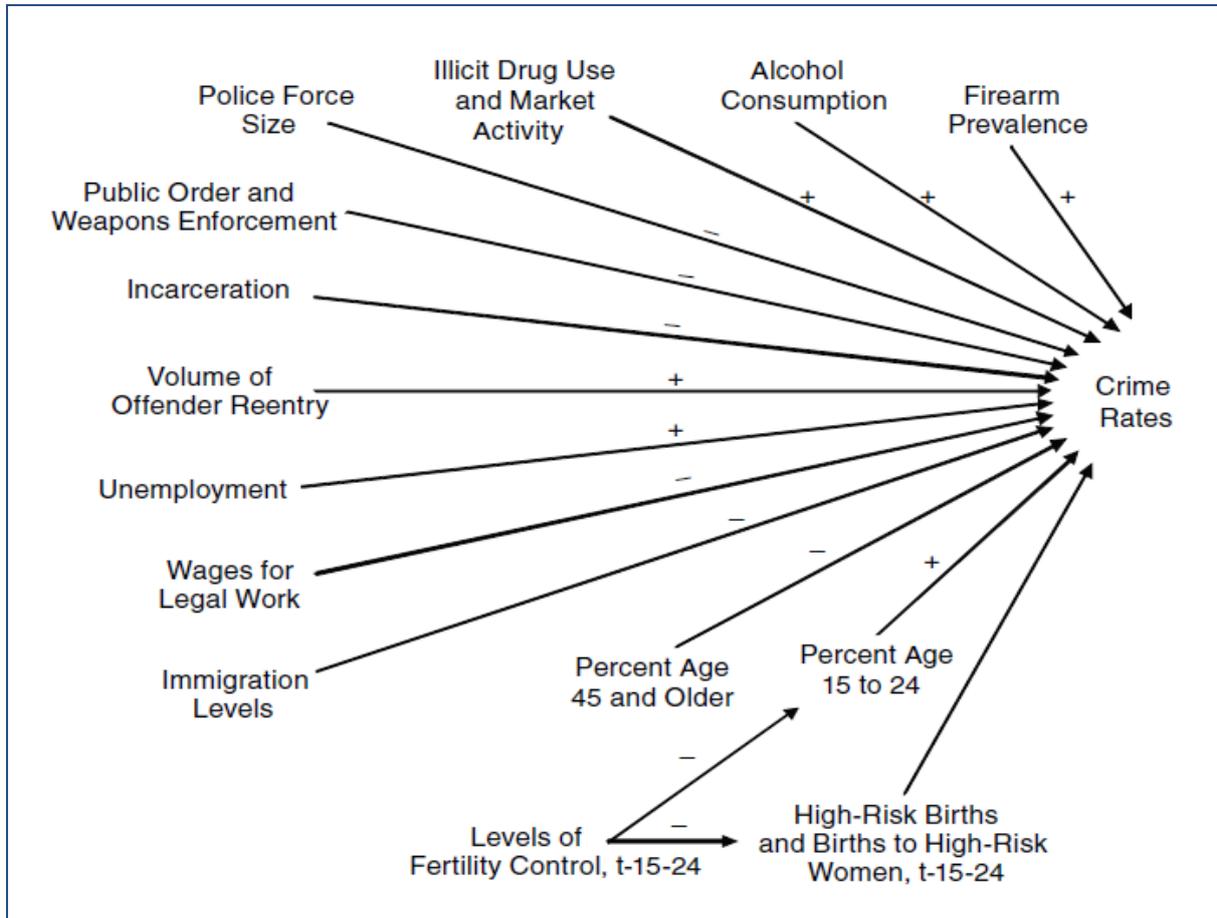
Source: Baumer, 2008

Figure 5. Classical vs. Kinked Model For Total Crime Rates in New York
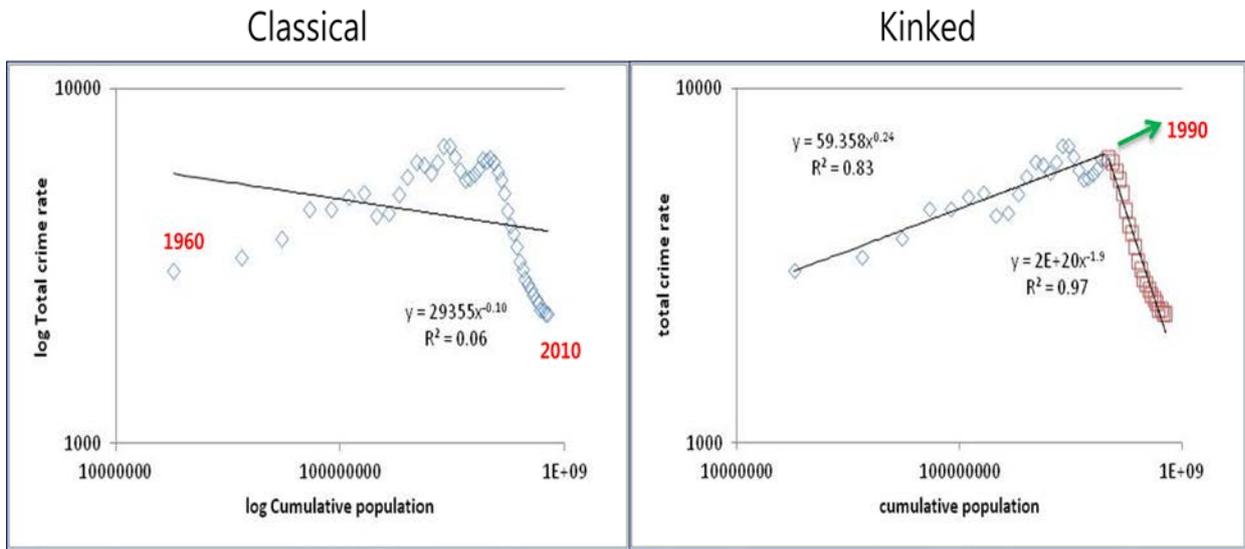
Figure 6. Slope vs. Kinked Year for Total Crime Rates
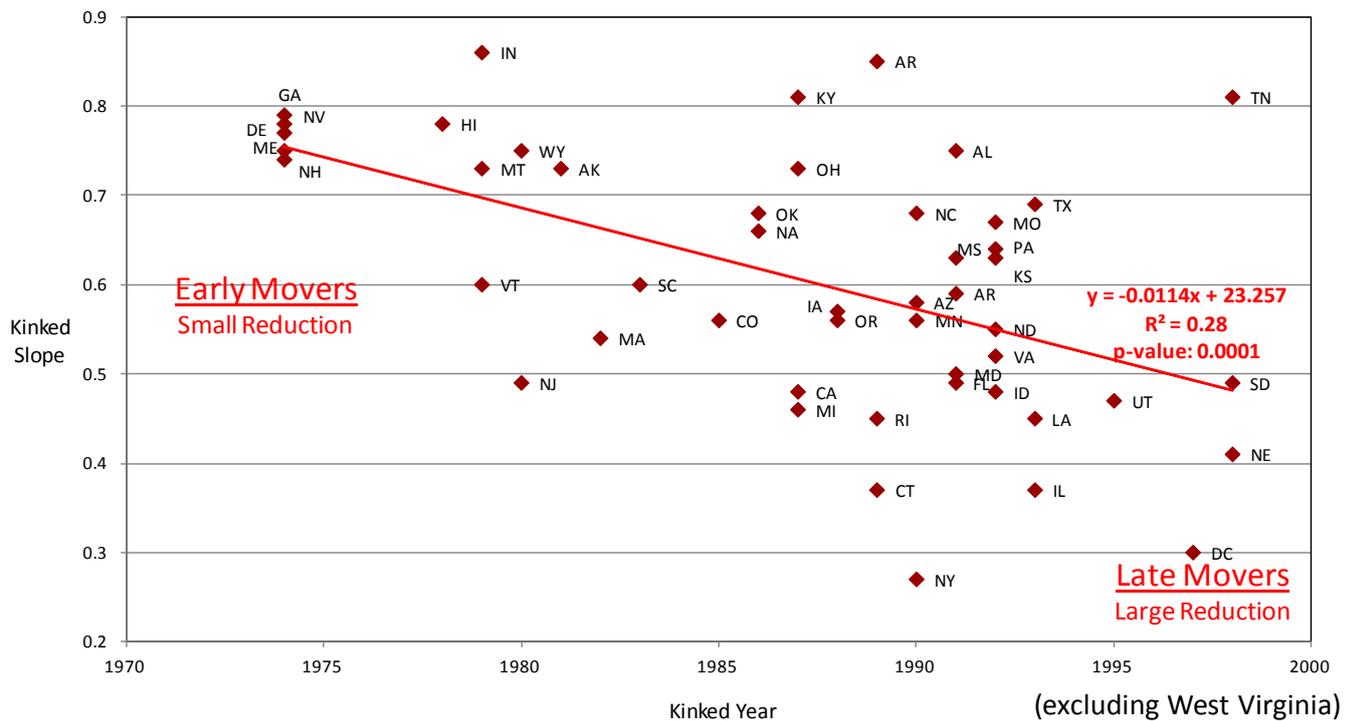
Figure 7. Slope vs. Kinked Year for Violent Crime Rates
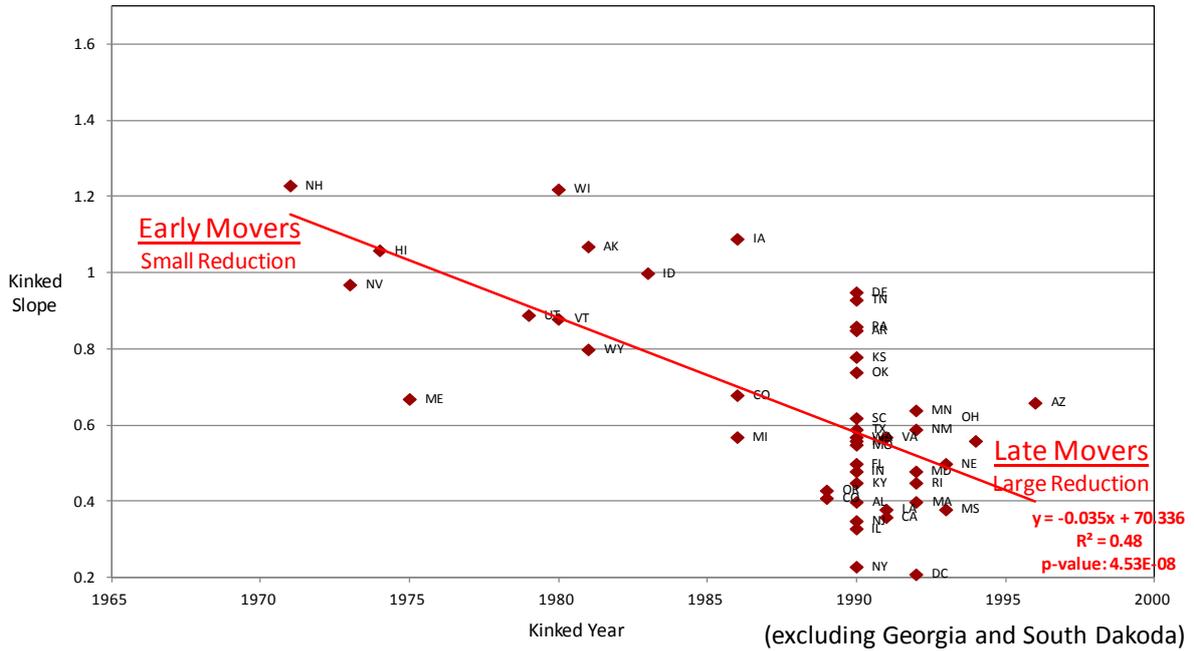
Figure 8. Forecasting Future Total Crime Rate for California
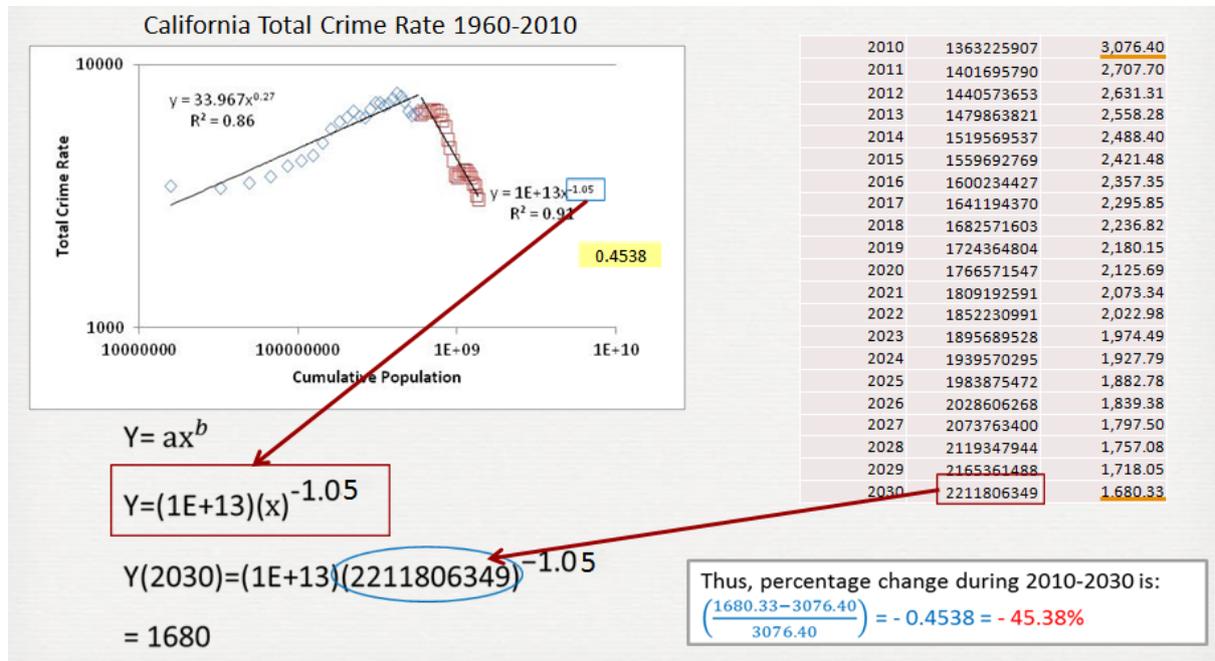
Figure 9. Percentage Change of Total Crime 2010-2030
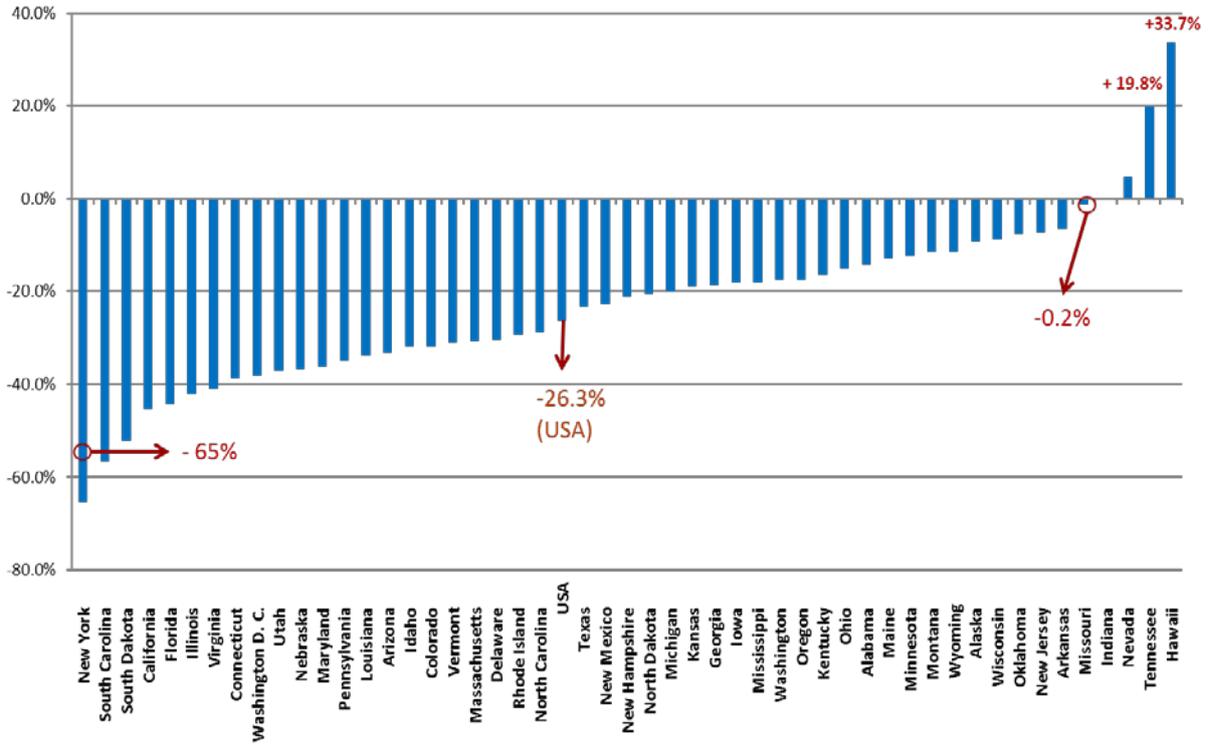
Figure 10. Percentage Change of Violent Crime 2010-2030
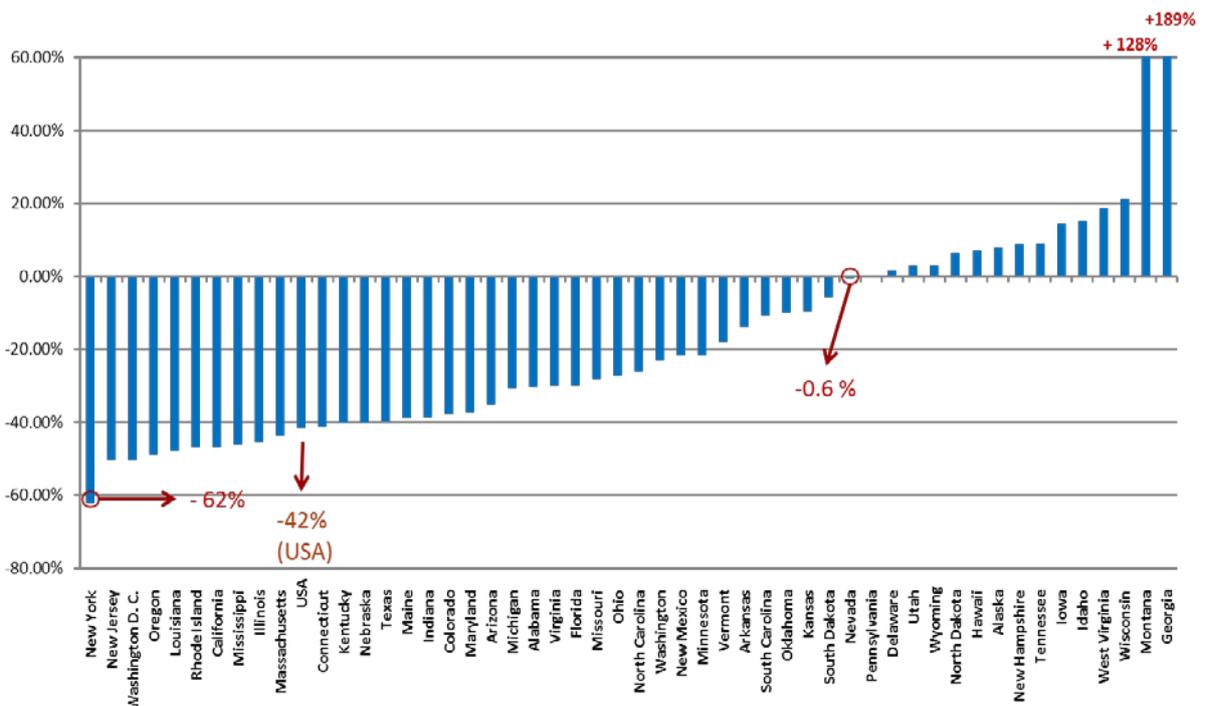
APPENDIX: Table 1: Classical and Kinked Experience Curve for 50 States, Washington D.C. and the U.S.

USA	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	3.35	0.23	6.26	0.00	0.48	117%	1990	-0.49	0.41	8.01	0.00	30.30	29.81	-0.93	-32.95	0.00	-1.34	-23.03	0.00	0.93	52%	Kinked
		(0.04)**							(0.05)**					(0.03)**			(0.06)**					
Violent Crime Rate	-2.20	0.37	9.76	0.00	0.70	130%	1990	-5.15	0.51	6.50	0.00	36.02	30.87	-1.07	-16.68	0.00	-1.58	-15.56	0.00	0.93	48%	Kinked
		(0.04)**							(0.08)**					(0.06)**			(0.10)**					

Alabama	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	0.21	0.44	11.99	0.00	0.86	135%	1991	-1.09	0.51	6.38	0.00	17.27	16.18	-0.41	-6.69	0.00	-0.92	-9.12	0.00	0.92	75%	Kinked
		(0.04)**							(0.08)**					(0.06)**			(0.10)**					
Violent Crime Rate	-0.58	0.36	8.28	0.00	0.69	129%	1990	-1.52	0.42	4.91	0.00	32.38	30.87	-1.30	-8.05	0.00	-1.72	-9.41	0.00	0.91	40%	Kinked
		(0.04)**							(0.08)**					(0.16)**			(0.18)**					

Alaska	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	4.88	0.22	5.23	0.00	0.44	117%	1981	0.80	0.50	5.60	0.00	15.18	15.98	-0.46	-13.74	0.00	-0.96	-10.00	0.00	0.92	73%	Kinked
		(0.04)**							(0.09)**					(0.03)**			(0.10)**					
Violent Crime Rate	-2.06	0.52	13.36	0.00	0.86	143%	1981	-3.93	0.64	4.38	0.00	8.75	4.82	0.10	2.33	0.03	-0.55	-3.58	0.00	0.91	107%	Kinked
		(0.04)**							(0.15)**					(0.04)**			(0.15)**					

| Arizona	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	13.49	-0.27	-4.48	0.00	0.67	83%	1991	3.54	0.30	9.97	0.00	19.13	22.67	-0.75	-7.65	0.00	-1.06	-10.27	0.00	0.84	59%	Kinked
		(0.06)**							(0.03)**					(0.10)**			(0.10)**					
Violent Crime Rate	1.07	0.29	7.89	0.00	0.64	122%	1996	-1.18	0.42	6.92	0.00	18.49	17.31	-0.59	-8.19	0.00	-1.02	-10.72	0.00	0.89	66%	Kinked
		(0.04)**							(0.06)**					(0.07)**			(0.09)**					

Arkansas	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	-0.05	0.46	12.95	0.00	0.90	138%	1989	-0.89	0.51	6.70	0.00	13.54	12.65	-0.23	-3.97	0.00	-0.75	-7.73	0.00	0.94	85%	Kinked
		(0.04)**							(0.08)**					(0.06)**			(0.10)**					
Violent Crime Rate	-3.08	0.51	11.00	0.00	0.91	142%	1990	-2.88	0.49	6.39	0.00	13.54	10.65	-0.24	-2.50	0.02	-0.74	-5.94	0.00	0.94	85%	Kinked
		(0.05)**							(0.08)**					(0.10)**			(0.12)**					

California

	Classical Experience Equation						kinked year	Kinked Experience Equation															Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R^2	PR₂ (=2^{b_2})	
Total Crime Rate	8.47	0.00 (0.05)**	0.09	0.93	0.00	100%	1987	3.53	0.27 (0.04)**	7.53	0.00	26.53	30.06	-1.05 (0.07)**	-14.57	0.00	-1.31 (0.08)**	-16.40	0.00	0.90	48%	Kinked
Violent Crime Rate	0.49	0.30 (0.04)**	6.80	0.00	0.49	123%	1991	-3.32	0.50 (0.08)**	6.30	0.00	40.74	37.42	-1.49 (0.07)**	-21.15	0.00	-1.99 (0.11)**	-18.76	0.00	0.92	36%	Kinked

Colorado

	Classical Experience Equation						kinked year	Kinked Experience Equation															Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R^2	PR₂ (=2^{b_2})	
Total Crime Rate	6.17	0.13 (0.05)**	2.57	0.01	0.16	109%	1985	1.14	0.43 (0.06)**	7.20	0.00	22.64	23.78	-0.83 (0.05)**	-15.61	0.00	-1.26 (0.08)**	-15.72	0.00	0.90	56%	Kinked
Violent Crime Rate	1.01	0.28 (0.04)**	6.93	0.00	0.50	121%	1986	-2.85	0.51 (0.09)**	5.86	0.00	19.17	16.32	-0.56 (0.07)**	-8.05	0.00	-1.07 (0.11)**	-9.60	0.00	0.84	68%	Kinked

Connecticut

	Classical Experience Equation						kinked year	Kinked Experience Equation															Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R^2	PR₂ (=2^{b_2})	
Total Crime Rate	3.26	0.27 (0.05)**	4.99	0.00	0.38	121%	1989	-1.35	0.55 (0.06)**	9.08	0.00	36.51	35.16	-1.45 (0.06)**	-23.19	0.00	-2.00 (0.09)**	-22.99	0.00	0.93	37%	Kinked
Violent Crime Rate	-7.04	0.70 (0.06)**	11.50	0.00	0.79	163%	1989	-10.95	0.93 (0.14)**	6.80	0.00	40.85	29.90	-1.29 (0.11)**	-11.50	0.00	-2.22 (0.18)**	-12.53	0.00	0.95	41%	Kinked

Delaware

	Classical Experience Equation						kinked year	Kinked Experience Equation															Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R^2	PR₂ (=2^{b_2})	
Total Crime Rate	5.14	0.20 (0.03)**	5.98	0.00	0.39	115%	1974	3.24	0.32 (0.11)**	2.80	0.01	11.45	14.69	-0.37 (0.03)**	-11.20	0.00	-0.69 (0.12)**	-5.78	0.00	0.88	77%	Kinked
Violent Crime Rate	-4.44	0.64 (0.05)**	11.84	0.00	0.90	156%	1990	-5.12	0.69 (0.10)**	6.73	0.00	12.80	7.68	-0.07 (0.07)**	-1.00	0.33	-0.76 (0.12)**	-6.15	0.00	0.92	95%	Kinked

Florida

	Classical Experience Equation						kinked year	Kinked Experience Equation															Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R^2	PR₂ (=2^{b_2})	
Total Crime Rate	5.12	0.19 (0.04)**	4.60	0.00	0.36	114%	1991	1.46	0.39 (0.05)**	7.83	0.00	27.76	29.21	-1.03 (0.05)**	-20.94	0.00	-1.43 (0.07)**	-20.25	0.00	0.92	49%	Kinked
Violent Crime Rate	-0.17	0.35 (0.04)**	8.69	0.00	0.66	128%	1990	-3.29	0.53 (0.08)**	6.98	0.00	29.59	26.30	-0.99 (0.06)**	-16.01	0.00	-1.52 (0.10)**	-15.51	0.00	0.94	50%	Kinked

Georgia

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Georgia	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	4.90	0.19 (0.03)**	5.46	0.00	0.37	114%	1974	2.50	0.32 (0.12)**	2.79	0.01	12.43	14.93	-0.34 (0.03)**	-11.63	0.00	-0.66 (0.12)**	-5.54	0.00	0.88	79%	Kinked
Violent Crime Rate	-5.51	0.63	12.38	0.00	0.89	154%	1978	-7.28	0.73	3.61	0.00	7.08	-0.20	0.35	6.77	0.00	-0.38	-1.84	0.07	0.95	127%	Classical

Hawaii

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Hawaii	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	5.35	0.19 (0.04)**	5.28	0.00	0.42	114%	1978	2.25	0.39 (0.08)**	4.77	0.00	12.49	14.74	-0.35 (0.06)**	-5.82	0.00	-0.75 (0.10)**	-7.30	0.00	0.83	78%	Kinked
Violent Crime Rate	-4.95	0.61 (0.05)**	13.43	0.00	0.84	153%	1974	-8.12	0.81 (0.15)**	5.29	0.00	12.21	4.10	0.08 (0.04)**	2.40	0.02	-0.73 (0.16)**	-4.62	0.00	0.95	106%	Kinked

Idaho

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Idaho	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	5.53	0.15 (0.04)**	4.18	0.00	0.27	111%	1992	2.81	0.33 (0.05)**	7.21	0.00	23.52	26.33	-1.05 (0.11)**	-9.60	0.00	-1.37 (0.12)**	-11.64	0.00	0.81	48%	Kinked
Violent Crime Rate	-4.08	0.56 (0.05)**	12.27	0.00	0.82	147%	1983	-7.73	0.80 (0.16)**	4.90	0.00	13.22	5.49	0.00 (0.06)**	0.05	0.96	-0.79 (0.17)**	-4.60	0.00	0.92	100%	Kinked

Illinois

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Illinois	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	4.72	0.19 (0.03)**	5.66	0.00	0.35	114%	1993	1.73	0.35 (0.05)**	6.91	0.00	35.03	36.76	-1.42 (0.06)**	-24.07	0.00	-1.78 (0.08)**	-22.71	0.00	0.86	37%	Kinked
Violent Crime Rate	1.79	0.24 (0.04)**	5.98	0.00	0.45	118%	1990	0.16	0.33 (0.08)**	4.34	0.00	38.68	38.84	-1.62 (0.12)**	-13.08	0.96	-1.95 (0.15)**	-13.41	0.00	0.89	33%	Kinked

Indiana

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Indiana	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	3.62	0.25 (0.03)**	9.12	0.00	0.65	119%	1979	0.66	0.42 (0.08)**	5.55	0.00	11.95	12.61	-0.23 (0.04)**	-5.61	0.00	-0.64 (0.09)**	-7.54	0.00	0.90	86%	Kinked
Violent Crime Rate	-2.71	0.45 (0.04)**	12.81	0.00	0.81	137%	1990	-3.81	0.52 (0.06)**	8.92	0.00	30.26	26.45	-1.07 (0.13)**	-8.51	0.96	-1.58 (0.14)**	-11.46	0.00	0.94	48%	Kinked

Iowa

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$		$\log a_1$	b_1	t-value	p-value	$\log a_2 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	1.65	0.36 (0.04)**	8.88	0.00	0.63	128%	1988	-1.70	0.56 (0.10)**	5.72	0.00	24.75	23.05	-0.80 (0.08)**	-10.39	0.00	-1.36 (0.12)**	-10.96	0.00	0.90	57%	Kinked
Violent Crime Rate	-10.72	0.88 (0.09)**	10.26	0.00	0.93	184%	1986	-10.61	0.88 (0.17)**	5.13	0.00	14.03	3.42	0.12 (0.11)**	1.07	0.30	-0.75 (0.20)**	-3.69	0.00	0.95	109%	Kinked

Kansas

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$		$\log a_1$	b_1	t-value	p-value	$\log a_2 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	2.29	0.34 (0.03)**	10.66	0.00	0.72	126%	1992	-0.07	0.48 (0.05)**	8.87	0.00	20.72	20.65	-0.67 (0.07)**	-9.05	0.00	-1.14 (0.09)**	-12.55	0.00	0.92	63%	Kinked
Violent Crime Rate	-4.97	0.60 (0.04)**	16.19	0.00	0.91	152%	1990	-6.37	0.68 (0.08)**	8.63	0.00	18.92	12.55	-0.35 (0.11)**	-3.17	0.01	-1.04 (0.14)**	-7.58	0.00	0.96	78%	Kinked

Kentucky

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$		$\log a_1$	b_1	t-value	p-value	$\log a_2 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	3.13	0.26 (0.02)**	11.89	0.00	0.74	120%	1987	1.10	0.38 (0.05)**	7.03	0.00	12.76	13.87	-0.31 (0.04)**	-7.34	0.00	-0.70 (0.07)**	-10.06	0.00	0.91	81%	Kinked
Violent Crime Rate	-1.35	0.38 (0.04)**	9.51	0.00	0.71	130%	1990	-2.93	0.47 (0.08)**	5.96	0.00	30.24	27.31	-1.15 (0.20)**	-5.79	0.00	-1.62 (0.21)**	-7.59	0.00	0.90	45%	Kinked

Louisiana

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$		$\log a_1$	b_1	t-value	p-value	$\log a_2 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	0.47	0.43 (0.04)**	10.01	0.00	0.80	135%	1993	-1.42	0.54 (0.08)**	6.49	0.00	32.02	30.61	-1.16 (0.07)**	-16.15	0.00	-1.71 (0.11)**	-15.45	0.00	0.94	45%	Kinked
Violent Crime Rate	-2.34	0.47 (0.06)**	7.53	0.00	0.55	139%	1991	-4.56	0.60 (0.09)**	6.65	0.00	36.82	32.26	-1.36 (0.37)**	-3.64	0.00	-1.96 (0.38)**	-5.10	0.00	0.67	39%	Kinked

Maine

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	$\log a$	b	t-value	p-value	R^2	$PR(=2^b)$		$\log a_1$	b_1	t-value	p-value	$\log a_2 - \log a_1$	$\log a_2$	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value	R^2	$PR_2 (=2^{b_2})$	
Total Crime Rate	3.11	0.28 (0.04)**	7.43	0.00	0.48	122%	1974	2.11	0.34 (0.14)**	2.40	0.02	13.06	15.18	-0.41 (0.05)**	-8.60	0.00	-0.75 (0.15)**	-5.01	0.00	0.92	75%	Kinked
Violent Crime Rate	-2.06	0.40 (0.05)**	7.66	0.00	0.52	132%	1975	-5.39	0.61 (0.19)**	3.15	0.00	20.39	15.01	-0.58 (0.04)**	-15.47	0.00	-1.18 (0.20)**	-6.05	0.00	0.93	67%	Kinked

Maryland

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^b2)	
Total Crime Rate	4.01	0.24 (0.05)**	5.38	0.00	0.50	118%	1991	1.07	0.42 (0.03)**	12.17	0.00	26.51	27.57	-1.00 (0.07)**	-13.93	0.00	-1.42 (0.08)**	-17.80	0.00	0.90	50%	Kinked
Violent Crime Rate	-1.25	0.42 (0.05)**	8.15	0.00	0.70	134%	1992	-4.27	0.60 (0.06)**	9.83	0.00	30.77	26.50	-1.04 (0.06)**	-17.07	0.00	-1.64 (0.09)**	-19.03	0.00	0.91	48%	Kinked

Massachusetts

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^b2)	
Total Crime Rate	3.95	0.23 (0.06)**	3.68	0.00	0.28	117%	1982	-2.56	0.60 (0.08)**	7.18	0.00	27.90	25.33	-0.89 (0.08)**	-10.96	0.00	-1.50 (0.12)**	-12.79	0.00	0.90	54%	Kinked
Violent Crime Rate	-7.88	0.74 (0.05)**	13.64	0.00	0.82	167%	1992	-11.48	0.95 (0.11)**	8.32	0.00	42.96	31.48	-1.30 (0.15)**	-8.94	0.00	-2.25 (0.19)**	-12.17	0.00	0.93	40%	Kinked

Michigan

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^b2)	
Total Crime Rate	6.43	0.11 (0.05)**	2.24	0.03	0.12	108%	1987	1.99	0.36 (0.05)**	7.07	0.00	28.45	30.44	-1.12 (0.05)**	-24.54	0.00	-1.47 (0.08)**	-17.80	0.00	0.92	46%	Kinked
Violent Crime Rate	0.70	0.29 (0.04)**	7.67	0.00	0.60	123%	1986	-2.38	0.47 (0.07)**	6.39	0.00	24.54	22.16	-0.80 (0.06)**	-12.68	0.00	-1.27 (0.10)**	-13.13	0.00	0.91	57%	Kinked

Missouri

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^b2)	
Total Crime Rate	4.40	0.22 (0.03)**	8.52	0.00	0.67	116%	1992	2.74	0.31 (0.02)**	14.16	0.00	16.63	19.37	-0.57 (0.07)**	-8.33	0.00	-0.88 (0.07)**	-12.25	0.00	0.90	67%	Kinked
Violent Crime Rate	-0.52	0.36 (0.03)**	11.84	0.00	0.78	128%	1990	-1.85	0.44 (0.06)**	7.71	0.00	24.88	23.04	-0.87 (0.09)**	-9.98	0.00	-1.31 (0.10)**	-12.57	0.00	0.93	55%	Kinked

Mississippi

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^b2)	
Total Crime Rate	-2.83	0.60 (0.06)**	9.50	0.00	0.86	152%	1991	-3.49	0.64 (0.12)**	5.51	0.00	24.19	20.70	-0.67 (0.13)**	-5.29	0.00	-1.32 (0.17)**	-7.62	0.00	0.91	63%	Kinked
Violent Crime Rate	-1.41	0.40 (0.05)**	8.47	0.00	0.69	132%	1993	-2.45	0.46 (0.07)**	6.36	0.00	34.05	31.60	-1.39 (0.17)**	-8.21	0.00	-1.85 (0.18)**	-10.05	0.00	0.82	38%	Kinked

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Maryland

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R²	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R²	PR2 (=2^b2)	
Total Crime Rate	4.01	0.24	5.38	0.00	0.50	118%	1991	1.07	0.42	12.17	0.00	26.51	27.57	-1.00	-13.93	0.00	-1.42	-17.80	0.00	0.90	50%	Kinked
		(0.05)**							(0.03)**					(0.07)**			(0.08)**					
Violent Crime Rate	-1.25	0.42	8.15	0.00	0.70	134%	1992	-4.27	0.60	9.83	0.00	30.77	26.50	-1.04	-17.07	0.00	-1.64	-19.03	0.00	0.91	48%	Kinked
		(0.05)**							(0.06)**					(0.06)**			(0.09)**					

Massachusetts

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R²	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R²	PR2 (=2^b2)	
Total Crime Rate	3.95	0.23	3.68	0.00	0.28	117%	1982	-2.56	0.60	7.18	0.00	27.90	25.33	-0.89	-10.96	0.00	-1.50	-12.79	0.00	0.90	54%	Kinked
		(0.06)**							(0.08)**					(0.08)**			(0.12)**					
Violent Crime Rate	-7.88	0.74	13.64	0.00	0.82	167%	1992	-11.48	0.95	8.32	0.00	42.96	31.48	-1.30	-8.94	0.00	-2.25	-12.17	0.00	0.93	40%	Kinked
		(0.05)**							(0.11)**					(0.15)**			(0.19)**					

Michigan

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R²	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R²	PR2 (=2^b2)	
Total Crime Rate	6.43	0.11	2.24	0.03	0.12	108%	1987	1.99	0.36	7.07	0.00	28.45	30.44	-1.12	-24.54	0.00	-1.47	-17.80	0.00	0.92	46%	Kinked
		(0.05)**							(0.05)**					(0.05)**			(0.08)**					
Violent Crime Rate	0.70	0.29	7.67	0.00	0.60	123%	1986	-2.38	0.47	6.39	0.00	24.54	22.16	-0.80	-12.68	0.00	-1.27	-13.13	0.00	0.91	57%	Kinked
		(0.04)**							(0.07)**					(0.06)**			(0.10)**					

Missouri

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R²	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R²	PR2 (=2^b2)	
Total Crime Rate	4.40	0.22	8.52	0.00	0.67	116%	1992	2.74	0.31	14.16	0.00	16.63	19.37	-0.57	-8.33	0.00	-0.88	-12.25	0.00	0.90	67%	Kinked
		(0.03)**							(0.02)**					(0.07)**			(0.07)**					
Violent Crime Rate	-0.52	0.36	11.84	0.00	0.78	128%	1990	-1.85	0.44	7.71	0.00	24.88	23.04	-0.87	-9.98	0.00	-1.31	-12.57	0.00	0.93	55%	Kinked
		(0.03)**							(0.06)**					(0.09)**			(0.10)**					

Mississippi

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R²	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R²	PR2 (=2^b2)	
Total Crime Rate	-2.83	0.60	9.50	0.00	0.86	152%	1991	-3.49	0.64	5.51	0.00	24.19	20.70	-0.67	-5.29	0.00	-1.32	-7.62	0.00	0.91	63%	Kinked
		(0.06)**							(0.12)**					(0.13)**			(0.17)**					
Violent Crime Rate	-1.41	0.40	8.47	0.00	0.69	132%	1993	-2.45	0.46	6.36	0.00	34.05	31.60	-1.39	-8.21	0.00	-1.85	-10.05	0.00	0.82	38%	Kinked
		(0.05)**							(0.07)**					(0.17)**			(0.18)**					

New Jersey

New Jersey	Classical Experience Equation						Kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	4.50	0.20 (0.06)**	3.46	0.00	0.23	115%	1980	-0.89	0.50 (0.10)**	5.24	0.00	28.97	28.07	-1.02 (0.07)**	-14.85	0.00	-1.52 (0.12)**	-12.91	0.00	0.90	49%	Kinked
Violent Crime Rate	-1.65	0.40 (0.05)**	8.68	0.00	0.59	132%	1990	-5.46	0.62 (0.09)**	6.67	0.00	41.15	35.69	-1.52 (0.07)**	-21.69	0.00	-2.13 (0.12)**	-18.39	0.00	0.92	35%	Kinked

New Mexico

New Mexico	Classical Experience Equation						Kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	4.52	0.24 (0.04)**	6.71	0.00	0.54	118%	1990	1.97	0.40 (0.06)**	6.43	0.00	20.51	22.48	-0.78 (0.07)**	-11.18	0.00	-1.17 (0.09)**	-12.64	0.00	0.91	58%	Kinked
Violent Crime Rate	-2.71	0.53 (0.05)**	10.97	0.00	0.84	144%	1992	-4.42	0.63 (0.10)**	6.38	0.00	24.71	20.30	-0.77 (0.05)**	-14.27	0.00	-1.40 (0.11)**	-12.40	0.00	0.93	59%	Kinked

New York

New York	Classical Experience Equation						Kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	10.29	-0.10 (0.09)**	-1.07	FALSE	0.06	93%	1990	4.08	0.24 (0.02)**	13.92	0.00	42.86	46.94	-1.91 (0.09)**	-20.78	0.00	-2.15 (0.23)**	-22.95	0.00	0.95	27%	Kinked
Violent Crime Rate	5.47	0.05 (0.10)**	0.57	FALSE	0.02	104%	1990	-0.99	0.40 (0.03)**	13.41	0.00	50.75	49.76	-2.14 (0.10)**	-21.00	0.00	-2.54 (0.11)**	-23.94	0.00	0.96	23%	Kinked

North Carolina

North Carolina	Classical Experience Equation						Kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	0.00	0.44 (0.04)**	12.42	0.00	0.85	136%	1990	-1.36	0.52 (0.08)**	6.76	0.00	20.63	19.27	-0.56 (0.07)**	-7.77	0.00	-1.08 (0.11)**	-10.24	0.00	0.94	68%	Kinked
Violent Crime Rate	1.28	0.26 (0.03)**	8.64	0.00	0.69	120%	1990	0.60	0.30 (0.05)**	6.24	0.00	21.90	22.50	-0.84 (0.10)**	-8.60	0.00	-1.14 (0.11)**	-10.46	0.00	0.91	56%	Kinked

North Dakoda

North Dakoda	Classical Experience Equation						Kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	2.37	0.32 (0.03)**	10.66	0.00	0.70	125%	1992	0.43	0.45 (0.06)**	7.13	0.00	22.31	22.74	-0.87 (0.09)**	-10.10	0.00	-1.32 (0.11)**	-12.36	0.00	0.90	55%	Kinked
Violent Crime Rate	-4.96	0.55 (0.05)**	10.73	0.00	0.77	147%	1985	-3.51	0.46 (0.04)**	11.41	0.00	-21.75	-25.26	1.75 (0.28)**	6.34	0.00	1.29 (0.28)**	4.62	0.00	0.87	336%	Kinked

Ohio

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	2.47	0.30	9.72	0.00	0.67	123%	1987	-0.38	0.46	6.04	0.00	17.65	17.27	-0.45	-7.97	0.00	-0.91	-9.60	0.00	0.88	73%	Kinked
		(0.03)**							(0.08)**						(0.06)**			(0.09)**					
Violent Crime Rate	-3.30	0.47	9.86	0.00	0.71	139%	1994	-6.70	0.66	7.99	0.00	29.51	22.81	-0.85	-4.24	0.00	-1.51	-6.97	0.00	0.91	56%	Kinked
		(0.05)**							(0.08)**						(0.20)**			(0.22)**					

Oklahoma

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	2.88	0.30	8.94	0.00	0.71	124%	1986	1.57	0.38	4.29	0.00	17.44	19.01	-0.57	-12.49	0.00	-0.95	-9.50	0.00	0.88	68%	Kinked
		(0.03)**							(0.09)**						(0.05)**			(0.10)**					
Violent Crime Rate	-3.91	0.55	12.14	0.00	0.91	146%	1990	-4.14	0.56	6.79	0.00	18.58	14.44	-0.44	-4.30	0.00	-1.00	-7.62	0.00	0.95	74%	Kinked
		(0.05)**							(0.08)**						(0.10)**			(0.13)**					

Oregon

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	4.57	0.22	4.81	0.00	0.39	117%	1988	0.57	0.46	7.67	0.00	23.48	24.05	-0.84	-7.30	0.00	-1.31	-10.03	0.00	0.90	56%	Kinked
		(0.05)**							(0.06)**						(0.12)**			(0.13)**					
Violent Crime Rate	-1.93	0.44	7.21	0.00	0.55	135%	1989	-7.32	0.76	7.59	0.00	35.72	28.40	-1.22	-14.43	0.00	-1.98	-15.10	0.00	0.93	43%	Kinked
		(0.06)**							(0.10)**						(0.08)**			(0.13)**					

Pennsylvania

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	1.59	0.33	11.20	0.00	0.73	125%	1992	-0.68	0.45	8.20	0.00	21.63	20.96	-0.65	-8.29	0.00	-1.10	-11.50	0.00	0.91	64%	Kinked
		(0.03)**							(0.05)**						(0.08)**			(0.10)**					
Violent Crime Rate	-6.33	0.48	11.78	0.00	0.91	140%	1990	-4.23	0.52	6.66	0.00	14.70	10.47	-0.22	-3.04	0.00	-0.74	-6.93	0.00	0.93	86%	Kinked
		(0.04)**							(0.08)**						(0.07)**			(0.11)**					

Rhode Island

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR$_2$ (=2^{b_2})	
Total Crime Rate	5.74	0.15	2.90	0.01	0.18	111%	1989	1.72	0.41	5.86	0.00	26.48	28.20	-1.15	-17.22	0.00	-1.55	-16.15	0.00	0.85	45%	Kinked
		(0.05)**							(0.07)**						(0.07)**			(0.10)**					
Violent Crime Rate	-4.41	0.59	10.42	0.00	0.72	151%	1992	-8.57	0.86	10.19	0.00	34.67	26.10	-1.17	-9.61	0.00	-2.02	-13.70	0.00	0.94	45%	Kinked
		(0.06)**							(0.08)**						(0.12)**			(0.15)**					

Ohio	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2(=2^b2)	
Total Crime Rate	2.47	0.30	9.72	0.00	0.67	123%	1987	-0.38	0.46	6.04	0.00	17.65	17.27	-0.45	-7.97	0.00	-0.91	-9.60	0.00	0.88	73%	Kinked
		(0.03)**							(0.08)**					(0.06)**			(0.09)**					
Violent Crime Rate	-3.30	0.47	9.86	0.00	0.71	139%	1994	-6.70	0.66	7.99	0.00	29.51	22.81	-0.85	-4.24	0.00	-1.51	-6.97	0.00	0.91	56%	Kinked
		(0.05)**							(0.08)**					(0.20)**			(0.22)**					
Oklahoma	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value		R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2(=2^b2)	
Total Crime Rate	2.88	0.30	8.94	0.00	0.71	124%	1986	1.57	0.38	4.29	0.00	17.44	19.01	-0.57	-12.49	0.00	-0.95	-9.50	0.00	0.88	68%	Kinked
		(0.03)**							(0.09)**					(0.05)**			(0.10)**					
Violent Crime Rate	-3.91	0.55	12.14	0.00	0.91	146%	1990	-4.14	0.56	6.79	0.00	18.58	14.44	-0.44	-4.30	0.00	-1.00	-7.62	0.00	0.95	74%	Kinked
		(0.05)**							(0.08)**					(0.10)**			(0.13)**					
Oregon	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2(=2^b2)	
Total Crime Rate	4.57	0.22	4.81	0.00	0.39	117%	1988	0.57	0.46	7.67	0.00	23.48	24.05	-0.84	-7.30	0.00	-1.31	-10.03	0.00	0.90	56%	Kinked
		(0.05)**							(0.06)**					(0.12)**			(0.13)**					
Violent Crime Rate	-1.93	0.44	7.21	0.00	0.55	135%	1989	-7.32	0.76	7.59	0.00	35.72	28.40	-1.22	-14.43	0.00	-1.98	-15.10	0.00	0.93	43%	Kinked
		(0.06)**							(0.10)**					(0.08)**			(0.13)**					
Pennsylvania	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2(=2^b2)	
Total Crime Rate	1.59	0.33	11.20	0.00	0.73	125%	1992	-0.68	0.45	8.20	0.00	21.63	20.96	-0.65	-8.29	0.00	-1.10	-11.50	0.00	0.91	64%	Kinked
		(0.03)**							(0.05)**					(0.08)**			(0.10)**					
Violent Crime Rate	-6.33	0.48	11.78	0.00	0.91	140%	1990	-4.23	0.52	6.66	0.00	14.70	10.47	-0.22	-3.04	0.00	-0.74	-6.93	0.00	0.93	86%	Kinked
		(0.04)**							(0.08)**					(0.07)**			(0.11)**					
Rhode Island	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2(=2^b2)	
Total Crime Rate	5.74	0.15	2.90	0.01	0.18	111%	1989	1.72	0.41	5.86	0.00	26.48	28.20	-1.15	-17.22	0.00	-1.55	-16.15	0.00	0.85	45%	Kinked
		(0.05)**							(0.07)**					(0.07)**			(0.10)**					
Violent Crime Rate	-4.41	0.59	10.42	0.00	0.72	151%	1992	-8.57	0.86	10.19	0.00	34.67	26.10	-1.17	-9.61	0.00	-2.02	-13.70	0.00	0.94	45%	Kinked
		(0.06)**							(0.08)**					(0.12)**			(0.15)**					

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
Ohio	log a	b	t-value	p-value	R²	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R²	PR₂ (=2^b2)	
Total Crime Rate	2.47	0.30 (0.03)**	9.72	0.00	0.67	123%	1987	-0.38	0.46 (0.08)**	6.04	0.00	17.65	17.27	-0.45 (0.06)**	-7.97	0.00	-0.91 (0.09)**	-9.60	0.00	0.88	73%	Kinked
Violent Crime Rate	-3.30	0.47 (0.05)**	9.86	0.00	0.71	139%	1994	-6.70	0.66 (0.08)**	7.99	0.00	29.51	22.81	-0.85 (0.20)**	-4.24	0.00	-1.51 (0.22)**	-6.97	0.00	0.91	56%	Kinked
Oklahoma	log a	b	t-value	p-value	R²	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R²	PR₂ (=2^b2)	
Total Crime Rate	2.88	0.30 (0.03)**	8.94	0.00	0.71	124%	1986	1.57	0.38 (0.09)**	4.29	0.00	17.44	19.01	-0.57 (0.05)**	-12.49	0.00	-0.95 (0.10)**	-9.50	0.00	0.88	68%	Kinked
Violent Crime Rate	-3.91	0.55 (0.05)**	12.14	0.00	0.91	146%	1990	-4.14	0.56 (0.08)**	6.79	0.00	18.58	14.44	-0.44 (0.10)**	-4.30	0.00	-1.00 (0.13)**	-7.62	0.00	0.95	74%	Kinked
Oregon	log a	b	t-value	p-value	R²	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R²	PR₂ (=2^b2)	
Total Crime Rate	4.57	0.22 (0.05)**	4.81	0.00	0.39	117%	1988	0.57	0.46 (0.06)**	7.67	0.00	23.48	24.05	-0.84 (0.12)**	-7.30	0.00	-1.31 (0.13)**	-10.03	0.00	0.90	56%	Kinked
Violent Crime Rate	-1.93	0.44 (0.06)**	7.21	0.00	0.55	135%	1989	-7.32	0.76 (0.10)**	7.59	0.00	35.72	28.40	-1.22 (0.08)**	-14.43	0.00	-1.98 (0.13)**	-15.10	0.00	0.93	43%	Kinked
Pennsylvania	log a	b	t-value	p-value	R²	PR(=2^b)	kinked year	log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R²	PR₂ (=2^b2)	Model Selection
Total Crime Rate	1.59	0.33 (0.03)**	11.20	0.00	0.73	125%	1992	-0.68	0.45 (0.05)**	8.20	0.00	21.63	20.96	-0.65 (0.08)**	-8.29	0.00	-1.10 (0.10)**	-11.50	0.00	0.91	64%	Kinked
Violent Crime Rate	-6.33	0.48 (0.04)**	11.78	0.00	0.91	140%	1990	-4.23	0.52 (0.08)**	6.66	0.00	14.70	10.47	-0.22 (0.07)**	-3.04	0.00	-0.74 (0.11)**	-6.93	0.00	0.93	86%	Kinked
Rhode Island	log a	b	t-value	p-value	R²	PR(=2^b)		log a₁	b₁	t-value	p-value	log a₂-log a₁	log a₂	b₂	t-value	p-value	b₂ - b₁	t-value	p-value	R²	PR₂ (=2^b2)	
Total Crime Rate	5.74	0.15 (0.05)**	2.90	0.01	0.18	111%	1989	1.72	0.41 (0.07)**	5.86	0.00	26.48	28.20	-1.15 (0.07)**	-17.22	0.00	-1.55 (0.10)**	-16.15	0.00	0.85	45%	Kinked
Violent Crime Rate	-4.41	0.59 (0.06)**	10.42	0.00	0.72	151%	1992	-8.57	0.86 (0.08)**	10.19	0.00	34.67	26.10	-1.17 (0.12)**	-9.61	0.00	-2.02 (0.15)**	-13.70	0.00	0.94	45%	Kinked

West Virginia

West Virginia	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	-0.64	0.47	10.61	0.00	0.90	139%	1974	1.57	0.33	2.68	0.01	2.42	3.99	0.21	5.16	0.00	-0.11	-0.88	0.38	0.96	116%	Classical
		(0.04)**							(0.12)**					(0.04)**			(0.13)**					
Violent Crime Rate	-3.25	0.48	9.15	0.00	0.87	139%	1987	-2.15	0.41	5.71	0.00	-15.93	-18.08	1.30	9.59	0.00	0.89	5.77	0.00	0.93	246%	Kinked
		(0.05)**							(0.07)**					(0.14)**			(0.15)**					

Wisconsin

Wisconsin	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	2.46	0.31	7.95	0.00	0.59	124%	1980	-1.18	0.52	4.86	0.00	19.19	18.01	-0.52	-15.47	0.00	-1.03	-9.29	0.00	0.93	70%	Kinked
		(0.04)**							(0.11)**					(0.03)**			(0.11)**					
Violent Crime Rate	-7.79	0.70	11.07	0.00	0.92	162%	1980	-7.09	0.66	4.09	0.00	7.25	0.16	0.28	4.10	0.00	-0.38	-2.15	0.04	0.95	122%	Kinked
		(0.06)**							(0.16)**					(0.07)**			(0.17)**					

Wyoming

Wyoming	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2^b)		log a1	b1	t-value	p-value	log a2-log a1	log a2	b2	t-value	p-value	b2 - b1	t-value	p-value	R^2	PR2 (=2^{b2})	
Total Crime Rate	4.92	0.20	6.42	0.00	0.46	115%	1980	2.66	0.35	2.96	0.01	12.40	15.06	-0.41	-7.12	0.00	-0.77	-5.76	0.00	0.81	75%	Kinked
		(0.03)**							(0.12)**					(0.06)**			(0.13)**					
Violent Crime Rate	-1.38	0.42	5.38	0.00	0.62	134%	1981	-2.98	0.53	1.91	0.06	13.75	10.77	-0.32	-2.76	0.01	-0.84	-2.81	0.01	0.74	80%	Kinked
		(0.08)**							(0.28)**					(0.11)**			(0.30)**					

Utah

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2b)	year	log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR_2 (=2^{b2})	
Total Crime Rate	5.55	0.17 (0.03)**	4.92	0.00	0.42	112%	1995	3.52	0.29 (0.04)**	7.24	0.00	24.66	28.18	-1.10 (0.06)**	-19.04	0.00	-1.39 (0.07)**	-19.74	0.00	0.89	47%	Kinked
Violent Crime Rate	-1.63	0.41 (0.04)**	10.38	0.00	0.75	133%	1979	-4.81	0.61 (0.13)**	4.54	0.00	13.30	8.50	-0.17 (0.04)**	-4.15	0.00	-0.77 (0.14)**	-5.53	0.00	0.92	89%	Kinked

Vermont

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2b)	year	log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR_2 (=2^{b2})	
Total Crime Rate	1.72	0.38 (0.04)**	8.73	0.00	0.53	130%	1979	-1.19	0.57 (0.15)**	3.79	0.00	21.42	20.24	-0.73 (0.04)**	-20.60	0.00	-1.30 (0.16)**	-8.37	0.00	0.89	60%	Kinked
Violent Crime Rate	-6.04	0.65 (0.05)**	13.97	0.00	0.76	157%	1980	-10.60	0.96 (0.16)**	6.19	0.00	18.50	7.90	-0.18 (0.08)**	-2.21	0.00	-1.15 (0.18)**	-6.50	0.00	0.89	88%	Kinked

Virginia

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2b)	year	log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR_2 (=2^{b2})	
Total Crime Rate	5.22	0.16 (0.04)**	4.09	0.00	0.32	112%	1992	2.24	0.33 (0.03)**	10.41	0.00	23.85	26.10	-0.94 (0.03)**	-27.07	0.00	-1.26 (0.05)**	-27.02	0.00	0.88	52%	Kinked
Violent Crime Rate	3.66	0.11 (0.03)**	4.19	0.00	0.33	108%	1991	2.36	0.18 (0.02)**	9.30	0.00	19.14	21.50	-0.82 (0.08)**	-10.34	0.00	-1.00 (0.08)**	-12.28	0.00	0.77	57%	Kinked

Washington

	Classical Experience Equation						kinked year	Kinked Experience Equation														Model Selection
	log a	b	t-value	p-value	R^2	PR(=2b)	year	log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	b_2 - b_1	t-value	p-value	R^2	PR_2 (=2^{b2})	
Total Crime Rate	4.55	0.22 (0.04)**	6.02	0.00	0.49	116%	1986	1.19	0.42 (0.06)**	6.51	0.00	18.58	19.78	-0.59 (0.05)**	-12.02	0.00	-1.01 (0.08)**	-12.49	0.00	0.91	66%	Kinked
Violent Crime Rate	-3.52	0.51 (0.05)**	10.01	0.00	0.73	142%	1990	-7.57	0.75 (0.08)**	8.96	0.00	28.81	21.25	-0.81 (0.06)**	-13.40	0.00	-1.55 (0.10)**	-15.10	0.00	0.94	57%	Kinked

Washington DC

	Classical Experience Equation						kinked year	Kinked Experience Equation													R^2	PR_2 ($=2^{b2}$)	Model Selection
	log a	b	t-value	p-value	R^2	PR($=2^b$)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value			
Total Crime Rate	3.74	0.31 (0.05)**	6.06	0.00	0.48	124%	1997	1.25	0.47 (0.05)**	10.24	0.00	37.64	38.90	-1.75 (0.29)**	-6.07	0.00	-2.22 (0.29)**	-7.62	0.00	0.83	30%	Kinked
Violent Crime Rate	1.39	0.36 (0.05)**	7.45	0.00	0.53	128%	1992	-0.55	0.49 (0.06)**	7.75	0.00	46.53	45.99	-2.25 (0.22)**	-10.25	0.00	-2.73 (0.23)**	-11.99	0.00	0.78	21%	Kinked

West Virginia

	Classical Experience Equation						kinked year	Kinked Experience Equation													R^2	PR_2 ($=2^{b2}$)	Model Selection
	log a	b	t-value	p-value	R^2	PR($=2b$)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value			
Total Crime Rate	-0.64	0.47 (0.04)**	10.61	0.00	0.90	139%	1974	1.57	0.33 (0.12)**	2.68	0.01	2.42	3.99	0.21 (0.04)**	5.16	0.00	-0.11 (0.13)**	-0.88	0.38	0.96	116%	Classical
Violent Crime Rate	-3.25	0.48 (0.05)**	9.15	0.00	0.87	139%	1987	-2.15	0.41 (0.07)**	5.71	0.00	-15.93	-18.08	1.30 (0.14)**	9.59	0.00	0.89 (0.15)**	5.77	0.00	0.93	246%	Kinked

Wisconsin

	Classical Experience Equation						kinked year	Kinked Experience Equation													R^2	PR_2 ($=2^{b2}$)	Model Selection
	log a	b	t-value	p-value	R^2	PR($=2b$)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value			
Total Crime Rate	2.46	0.31 (0.04)**	7.95	0.00	0.59	124%	1980	-1.18	0.52 (0.11)**	4.86	0.00	19.19	18.01	-0.52 (0.03)**	-15.47	0.00	-1.03 (0.11)**	-9.29	0.00	0.93	70%	Kinked
Violent Crime Rate	-7.79	0.70 (0.06)**	11.07	0.00	0.92	162%	1980	-7.09	0.66 (0.16)**	4.09	0.00	7.25	0.16	0.28 (0.07)**	4.10	0.00	-0.38 (0.17)**	-2.15	0.04	0.95	122%	Kinked

Wyoming

	Classical Experience Equation						kinked year	Kinked Experience Equation													R^2	PR_2 ($=2^{b2}$)	Model Selection
	log a	b	t-value	p-value	R^2	PR($=2b$)		log a_1	b_1	t-value	p-value	log a_2-log a_1	log a_2	b_2	t-value	p-value	$b_2 - b_1$	t-value	p-value			
Total Crime Rate	4.92	0.20 (0.03)**	6.42	0.00	0.46	115%	1980	2.66	0.35 (0.12)**	2.96	0.01	12.40	15.06	-0.41 (0.06)**	-7.12	0.00	-0.77 (0.13)**	-5.76	0.00	0.81	75%	Kinked
Violent Crime Rate	-1.38	0.42 (0.08)**	5.38	0.00	0.62	134%	1981	-2.98	0.53 (0.28)**	1.91	0.06	13.75	10.77	-0.32 (0.11)**	-2.76	0.01	-0.84 (0.30)**	-2.81	0.01	0.74	80%	Kinked

APPENDIX: Table 2: Kinked Slopes and Kinked years for Total and Violent Crime Rates

		Total		Violent	
		Kinked Slope	Kinked Year	Kinked Slope	Kinked Year
Alabama	AL	0.75	1991	0.40	1990
Alaska	AK	0.73	1981	1.07	1981
Arizona	AZ	0.59	1991	0.66	1996
Arkansas	AR	0.85	1989	0.85	1990
California	CA	0.48	1987	0.36	1991
Colorado	CO	0.56	1985	0.68	1986
Connecticut	CT	0.37	1989	0.41	1989
Delaware	DE	0.77	1974	0.95	1990
Florida	FL	0.49	1991	0.5	1990
Georgia	GA	0.79	1974	Classical	Classical
Hawai'i	HI	0.78	1978	1.06	1974
Idaho	ID	0.48	1992	1	1983
Illinois	IL	0.37	1993	0.33	1990
Indiana	IN	0.86	1979	0.48	1990
Iowa	IA	0.57	1988	1.09	1986
Kansas	KS	0.63	1992	0.78	1990
Kentucky	KY	0.81	1987	0.45	1990
Louisiana	LA	0.45	1993	0.39	1991
Maine	ME	0.75	1974	0.67	1975
Maryland	MD	0.5	1991	0.48	1992
Massachusetts	MA	0.54	1982	0.40	1992
Michigan	MI	0.46	1987	0.57	1986
Minnesota	MN	0.56	1990	0.64	1992
Mississippi	MS	0.63	1991	0.38	1993
Missouri	MO	0.67	1992	0.55	1990

		Total		Violent	
		Kinked Slope	Kinked Year	Kinked Slope	Kinked Year
Montana	MT	0.73	1979	2.54	1986
Nebraska	NE	0.41	1998	0.5	1993
Nevada	NV	0.78	1974	0.97	1973
New Hampshire	NH	0.74	1974	1.23	1971
New Jersey	NJ	0.49	1980	0.35	1990
New Mexico	NM	0.58	1990	0.59	1992
New York	NY	0.27	1990	0.23	1990
North Carolina	NC	0.68	1990	0.56	1990
North Dakota	ND	0.55	1992	3.36	1985
Ohio	OH	0.73	1987	0.56	1994
Oklahoma	OK	0.68	1986	0.74	1990
Oregon	OR	0.56	1988	0.43	1989
Pennsylvania	PA	0.64	1992	0.86	1990
Rhode Island	RI	0.45	1989	0.45	1992
South Carolina	SC	0.6	1983	0.62	1990
South Dakota	SD	0.49	1998	Classical	Classical
Tennessee	TN	0.81	1998	0.93	1990
Texas	TX	0.69	1993	0.59	1990
Utah	UT	0.47	1995	0.89	1979
Vermont	VT	0.6	1979	0.88	1980
Virginia	VA	0.52	1992	0.57	1991
Washington	WA	0.66	1986	0.57	1990
Washington D.C.	DC	0.3	1997	0.21	1992
West Virginia	WV	Classical	Classical	2.46	1987
Wisconsin	WI	0.7	1980	1.22	1980
Wyoming	WY	0.75	1980	0.8	1981

APPENDIX: Table 3: Regression Analysis of Kinked Slopes over Kinked Years for Total Crime Rates

Regression Analysis (total)						
	r?	0.282	n	50		
	r	-0.531	k	1		
	Std. Error	0.125	Dep. Var.	slope		
ANOVA table						
Source	SS	df	MS	F	p-value	
Regression	0.2941	1	0.2941	18.85	.0001	
Residual	0.7487	48	0.0156			
Total	1.0428	49				
Regression output					confidence interval	
variables	coefficients	std. error	t (df=48)	p-value	95% lower	95% upper
Intercept	23.2570	5.2167	4.458	4.96E-05	12.7682	33.7459
year	-0.0114	0.0026	-4.342	.0001	-0.0167	-0.0061

APPENDIX: Table 4: Regression Analysis of Kinked Slopes over Kinked Years for Violent Crime Rates

Regression Analysis (Violent)						
	r?	0.482	n	48		
	r	-0.694	k	1		
	Std. Error	0.222	Dep. Var.	slope		
ANOVA table						
Source	SS	df	MS	F	p-value	
Regression	2.1039	1	2.1039	42.72	4.53E-08	
Residual	2.2653	46	0.0492			
Total	4.3692	47				
Regression output					confidence interval	
variables	coefficients	std. error	t (df=46)	p-value	95% lower	95% upper
Intercept	70.3363	10.6567	6.600	3.63E-08	48.8854	91.7872
year	-0.0350	0.0054	-6.536	4.53E-08	-0.0458	-0.0243

APPENDIX: Figure 1: Distribution of R^2s for Total Crime Rates
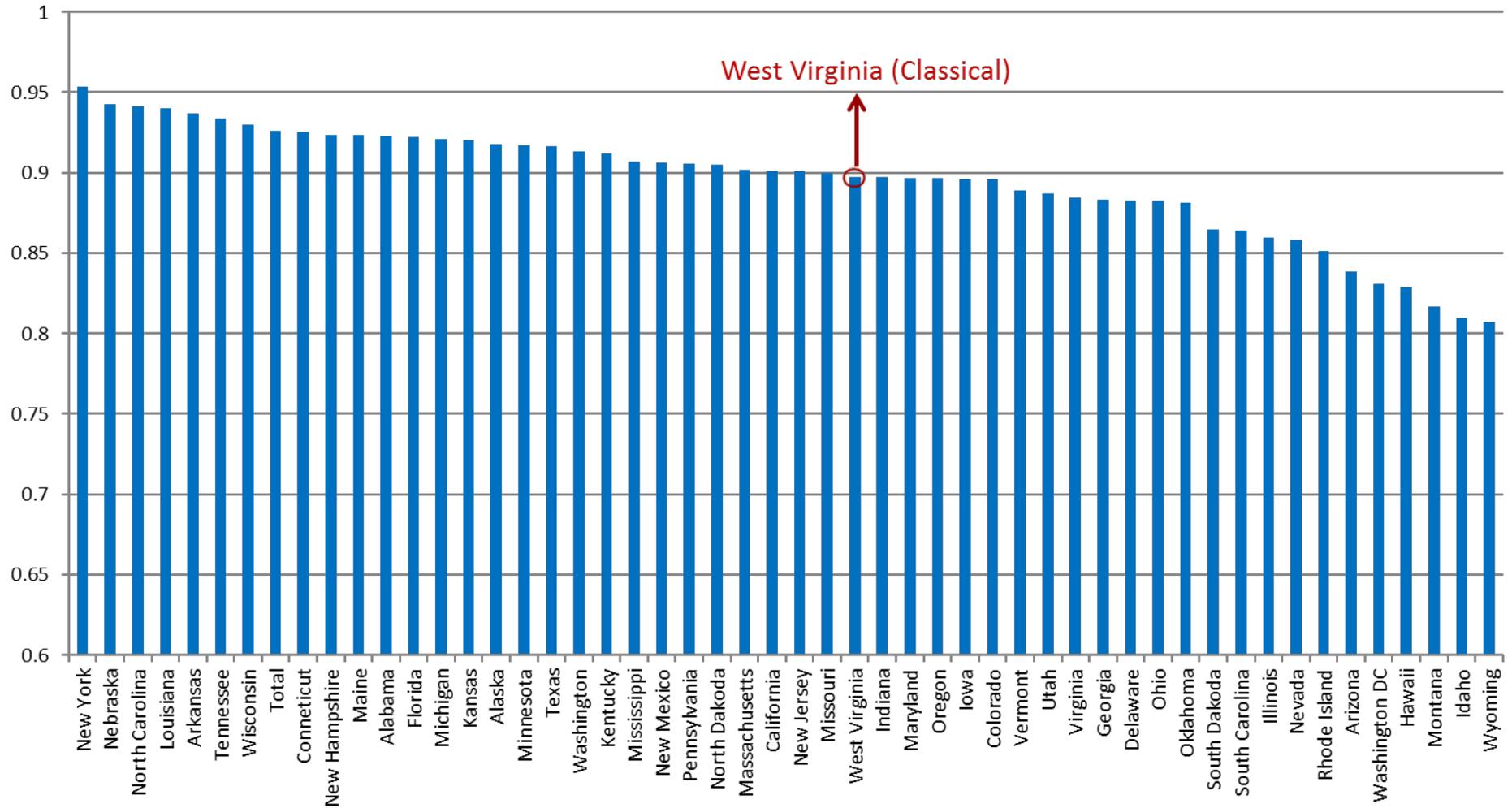
APPENDIX: Figure 2: Distribution of R^2s for Violent Crime Rates
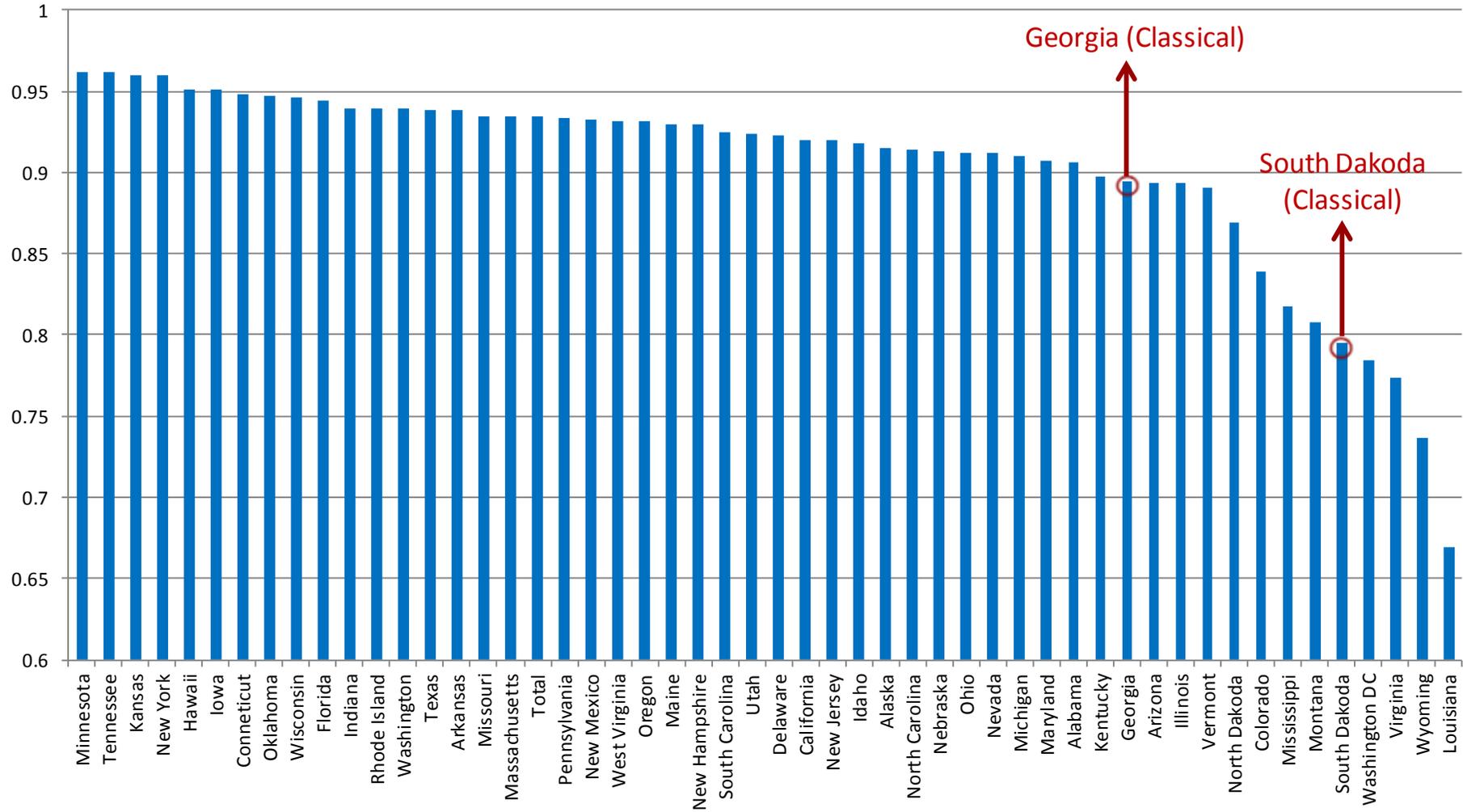
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