

Research Article

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Why California's 'Three Strikes' Fails as Crime and Economic Policy, and What to Do

Abstract: Although political leaders and the public believe that California's "tough on crime" policies, most notably its "Three Strikes" sentencing framework, put into effect in 1994, are responsible for a 100% crime drop in California since 1992, the evidence from research and a logical examination of data on violent crime state by state over the past 50 years conclusively shows this is not the case. A multivariate time series model for California over the last five decades shows that the imposition of Three Strikes in 1994 has had no impact on violent crime in the state, but alcohol consumption and unemployment have important impacts on the rate of violent crime. If these results are correct, the budget of California has suffered a tremendous burden caused by the excess imprisonment of many nonviolent offenders under the Three Strikes policy. The time has come to take action to wean California from its obsession with punishment and help relieve the budget crises on a permanent basis by revising California Prison Policy.

Keywords: corrections; crime; penal systems; prisons; Three Strikes policy

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1 Introduction

During the past two decades an amazing and wonderful trend in violent crime has been witnessed in California. In 1990, the violent crime rate, including murder, robbery, rape and assault was more than 1000 crimes per 100,000 population in the state. In 2009, the California Department of Justice reported that violent crime had declined below 500 per 100,000, and preliminary figures for 2010 indicated another 6% drop in this most serious crime rate.¹

¹ Office of the Attorney General of California. <http://oag.ca.gov/crime>, examined October 2011.

In other words, in 20 years the rate of violent crime went down more than 50% from its peak in 1990, or, from the point of view of 2010, violence in California declined more than 100% in these two decades. If one was to ask a room full of political leaders, activists, law enforcement personnel, and elected officials in California if the state's famous or infamous "Three Strikes" law was the cause of this magnificent decline in violence, they would overwhelmingly say yes. This is evident from a number of actions the leaders of California, supported by law enforcement and others, have either taken or not taken since the law was first passed and put into effect in 1994.

First, although there have been a number of attempts in the legislature and by referendum to amend Three Strikes, and some of the individuals involved in the initial campaign to enact the legislation have changed their minds and now oppose the law, no changes have been made to reduce the punitiveness of Three Strikes. No major political leader or elected official has come out on record against Three Strikes, nor called for its reform or repeal. Further, when the state was sued in 1990 (before Three Strikes was enacted), and in 2001 over the sub-standard provision of mental healthcare and general medical care for prisoners, federal judges ruled repeatedly in favor of the prisoners and issued numerous court orders calling on the state to reform the prison system. California ignored or contested almost all of these orders, and the situation continued to deteriorate as more inmates were admitted as a result of Three Strikes and a very strict parole system which sent as many as 60,000 parolees back to state prison each year on technical violations (Rosynsky 2009).

Under a 1995 federal law, the Prison Litigation Reform Act, which allows courts to order inmate releases as a last resort, judges who had issued these orders were asked by the original plaintiffs to seek the appointment of a three-judge panel in the US 9th Circuit Court of Appeals to oversee this case. This panel was appointed in 2009, and ruled in August 2009, that overcrowding was the primary cause of the problems with the delivery of mental health and medical care; the remedy was to order the release of about 40,000 inmates. Once again, the state and its leaders resisted this ruling and filed an appeal to the Supreme Court of the United States; on May 23, 2011, the Supreme Court Affirmed the order of the appeals court panel in a 5–4 decision.²

Again, as evidence of my assertion that the elected, political, and law enforcement officials of California believe so powerfully in the idea that Three Strikes is the main reason behind the drop in violent crime, the state has resisted even the Supreme Court, and has yet to reduce in any significant way its population of

2 Brown, Governor of California, et al. v. Plata et al., 2011.

inmates. Instead Governor Jerry Brown has proposed transferring 30,000–40,000 inmates to local jails, facilities that also have a history of overcrowding and inhumane treatment of inmates, based in part on assertions that crime would rise dramatically if the Court's orders were to be followed.³ In short, the state and its leaders insist on clinging to the idea that Three Strikes is essential to the safety of Californians and a fundamental cause of the tremendous drop in violence the state has experienced over the last 20 years, and they remain so strongly attached to this belief that they are attempting to resist and/or undermine the intent of a US Supreme Court ruling.

However, it is the case that California's Three Strikes policy for sentencing convicted offenders has had nothing whatsoever to do with the drop in violent crime. Given the fact that violence has declined, and the strong beliefs of all these officials and practitioners that Three Strikes is the cause of this decline, how can such an assertion be made? In this paper I will demonstrate that there is not a single shred of scientific evidence, research, or data that can be used to show that Three Strikes caused the observed decline in violence. Further, simple logic and the examination of basic data on violent crime trends in California and elsewhere demonstrates clearly that California's Three Strikes policy could not have caused the decline in violent crime we have seen. In short, logic, data and research all show that, in fact, Three Strikes had nothing to do with this decline in violence.

2 Data

One way to examine the impact of Three Strikes is to compare California's experience to other states over the same time period that: 1) had Three Strikes laws or policies; and 2) did not have Three Strikes laws or policies. If Three Strikes is a significant reason for a drop in the California violence rate, states that also enacted Three Strikes laws should also show a drop in violence similar to that of California. Figure 1 shows the violent crime rates, including murder, robbery, rape and assault, from 1960 to 2006, for states that at some point between 1994 and 1998 passed a version of Three Strikes.

If we just looked at this graph, we might be tempted to agree with the California officials and leaders who are attempted to fight even the Supreme Court; it looks like all these states had a significant decrease in violence which began to occur in the period 1990–1996, and by 1998 every state in this graph was showing

3 Orange County Register, 5–30–2011.

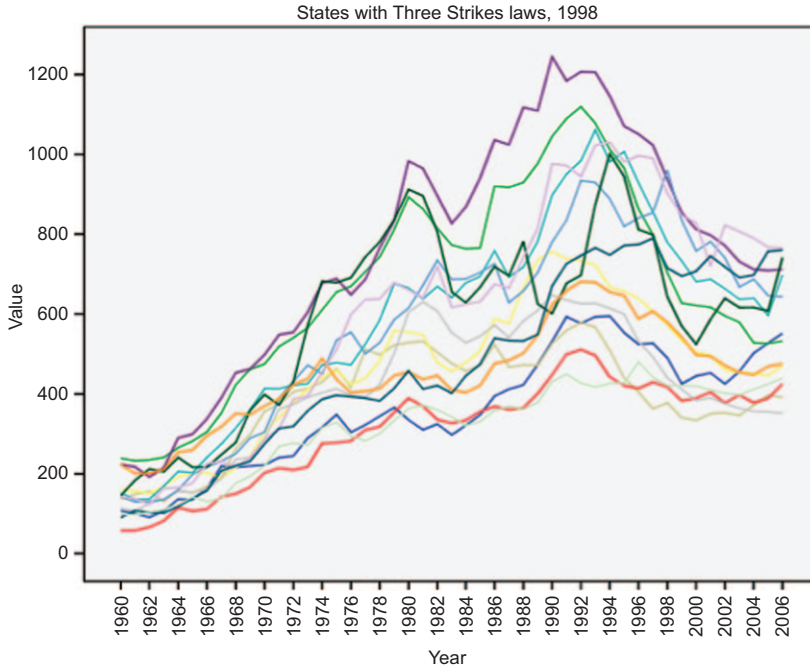


Figure 1: States with Three Strikes legislation, 1994–1998.

a decline and by then some form of Three Strikes was in effects. (I will say more on the difference in these laws below.) These declines continue in almost every state through the end of the data shown here, with a few exceptions in which small and perhaps not important upturns take place in the period 2002 to 2005 or 2006; none of these is long enough that we would want to suggest a major reversal is occurring, and in fact national data continue to show declines in violence through 2010.⁴

There are several problems with this “obvious” conclusion from the data in Figure 1. The first major challenge can be seen by examining the data in Figure 2; these are the same data displayed in Figure 1, except that these data are for states that do not and never did have any form of Three Strikes legislation and/or sentencing policy.

In Figure 2 the states have been labeled, but what is remarkable is that the trends for violent crimes in these states over the same 46-year period are almost identical with those displayed in Figure 1. The labels reveal that many of these

⁴ National Institute of Justice, <http://www.ojp.usdoj.gov/bjs>, retrieved on 9/11/2011.

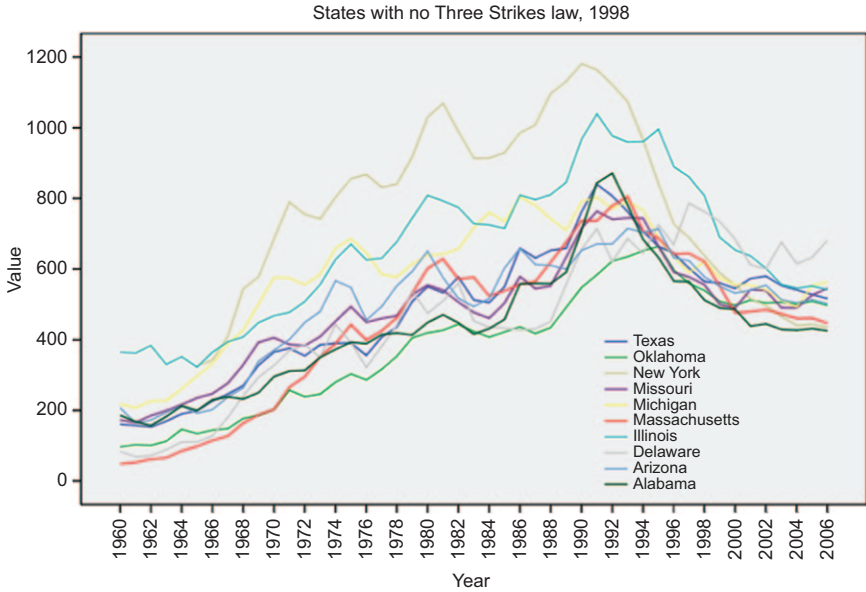


Figure 2: States without Three Strikes legislation/policy.

states are large and populous states which contribute significantly to the US crime rate as a whole – Texas, New York and Illinois, among others. In fact the correlation for the average violent crime rate among the states in Figure 2 with the states in Figure 1 is astonishingly high – an average of 0.85 as measured in a standard Pearson’s correlation, the maximum of which is 1.0.

In Figure 3, I have labeled the states that had some kind of Three Strikes law in effect by 1998; now you can identify California, but it is not really distinguishable from the other states’ trends in Figures 1 and 3, those states with Three Strikes of some kind, or from those in Figure 2, who have no law resembling California’s Three Strikes. If we compare the trend lines in both the Three Strikes and non-Three Strikes graphs with California alone, California’s 47-year trend correlated 0.86 with the other states shown in these two figures. Looking at this relationship another way, California’s trend line correlates at a higher level (0.9) with the states in Figure 2, those that did not have Three Strikes, than it does with those in Figures 1 and 3, which did have Three Strikes (0.87).

What is really remarkable is how high all of these correlations are. These results strongly suggest that whatever is driving the trend in violent crime over the last 46 years in these US states, it is not Three Strikes policy. If this law was having a significant effect, if it was responsible for the crime drops of significant proportions in these Figures, first one would see no drops in Figure 2 as compared to Figures 1 and 3, or at least the drops would be significantly larger in Figures 1

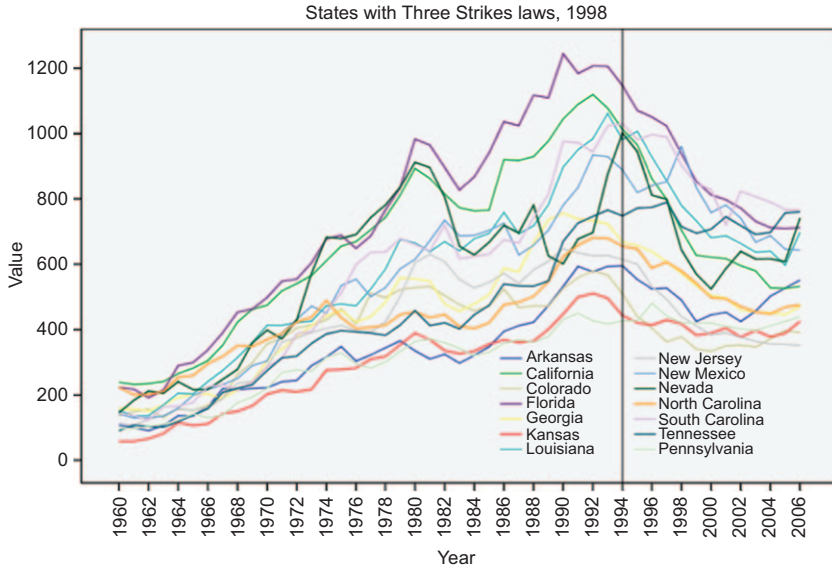


Figure 3: Three Strikes states revealed.

and 3; this is clearly not the case. In fact, the biggest drop seen in either Figure is that for New York, which shows a decline of 171% between the maximum of 1180 violence crimes per 100,000 population in 1990 and the low of about 435 per 100,000 in 2006; New York did not adopt a Three Strikes style of policy, although a large increase in the number of people incarcerated occurred much earlier in New York because of the passage of the “Rockefeller” drug laws in the early 1970s. It is highly unlikely that a wave of increased incarceration in the 1970s would have an impact on a violent crime drop in the 1990s and 2000s; New York did not pass the kind of comprehensive mass imprisonment laws that Three Strikes represents in the 1990s in any case.

So why do Californians think their Three Strikes law had the effect of reducing violent crime when it is clear that other states have similar and similarly timed violent crime declines in situations without such laws and in situations that differed so much than California’s version of Three Strikes. A National Institute of Justice review of Three Strikes legislation (Clark et al. 1997) concluded that only California’s provisions of Three Strikes would significantly increase the prison population; in a comparison with the version of the law passed by Washington State in a similar time frame, Clark et al.⁵ found

5 Clark et al., Op Cit.

that California has imprisoned roughly 300 times the number of inmates under Three Strikes than has Washington. Allowing for the population differential of the two states in the mid-1990s, with California approximately 5.5 times as big, does not explain this enormous differential; differences between California's Three Strikes and those of Washington and other states explains this difference.

California increased its prison population significantly, yet obtained roughly the same crime drop at the same time as states that had similar laws but without their impact, as well as that obtained by states that did not pass any laws aimed at reducing violence through vast increases in the prison population. The data presented so far show that Californians are wrong about the impact of Three Strikes as they enacted it on violent crime between 1990 and the present.

3 Logic

There are well-established and universally accepted logical rules in science and research that apply in trying to assess the impact of one change on an outcome related to the change. By the most simple and basic rule of the logic of causality, Three Strikes fails to pass muster: that is, the drop in violence that California's political and law enforcement leaders claim was caused by Three Strikes actually began 2 years before the law was passed and implemented. Examining the data shown in Figure 3 again, it is clear that the drop in violence in California started with data from the year 1993; the peak in the series of violent crime for California was 1992. The Three strikes package was implemented in 1994; the data that a significant number of Three Strikes sentenced inmates did not begin showing up in state prison until mid-to-late 1994.⁶ The simple rule of cause and effect that applies to all such analyses states that for something to be a cause of something else, that cause must appear or happen prior to the effect showing up in time.

If California's Three Strikes law was the cause, it would have had to be enacted in 1991 or 1992, and started to take effect in 1993. It could be argued that even through the drop in violence started to occur prior to the passage and implementation of the law, Three Strikes enhanced and incurred the continuation of the decline in violence in California; this argument might be plausible except for the data in the rest of the figures above. If this were the case, we should see no

⁶ Clark et al., *Op Cit.*, Exhibit 3, p. 4

similar drops in violence, or we should see any such drops in other states at differing times and to significantly lesser degrees of decline. This is not what these data reveal, and as such any claim for Three Strikes having an impact on declining violence is not sustainable logically.

4 Research

The question of whether Three Strikes in California had an impact on violence has been the subject of a number of research studies prior to this one. The most prominent of these studies will be reviewed here in detail, but the general conclusion of that review should not be a surprise to the reader, given that data and logic, two of the factors that go into research efforts, have already undermined the possibility that Three Strikes caused the drop in violence in California. Therefore, not surprisingly, the research studies that have been done have found no evidence that Three Strikes had an impact on crime in California.

The first and still perhaps the most influential estimate of the impact of Three Strikes is the Greenwood study (Greenwood et al. 1994). The fact that this is still the most influential study of the impact of this legislation is all the more remarkable, because it was completed before the law even took effect. Therefore it is based on a number of assumptions which, with 20/20 hindsight, have turned out to be very questionable. However, a number of the assumptions were very questionable even at the time, but because the proponents of Three Strikes liked the outcome, these questions which could have easily been raised were not raised. It is worth a detailed look at these assumptions and their implications for the assessment of whether or not Three Strikes is a viable policy, given the continued influence of this study.

The state of California is fortunate indeed that Greenwood's analysis was so very, very wrong. Figure 4 shows the prison inmate population in California between 1994, the year the Three Strikes law took effect, and 2007; the two lines show the actual number of inmates, which peaks during this period at just over 175,000 inmates in 2005, and the number of inmates projected under Greenwood's assumptions and analyses of the impact of Three Strikes, which jumps immediately by about 70,000 inmates in the first 2 years and peaks at over 300,000 inmates by 2006.

Given this scenario, it is easy to see why Greenwood claimed that Three Strikes would reduce crime by 28% over what was projected by Greenwood to be the case if the Three Strikes law were not enacted.⁷ Greenwood assumes a constant crime

⁷ Greenwood et al., 1994, Op Cit., p. 18.

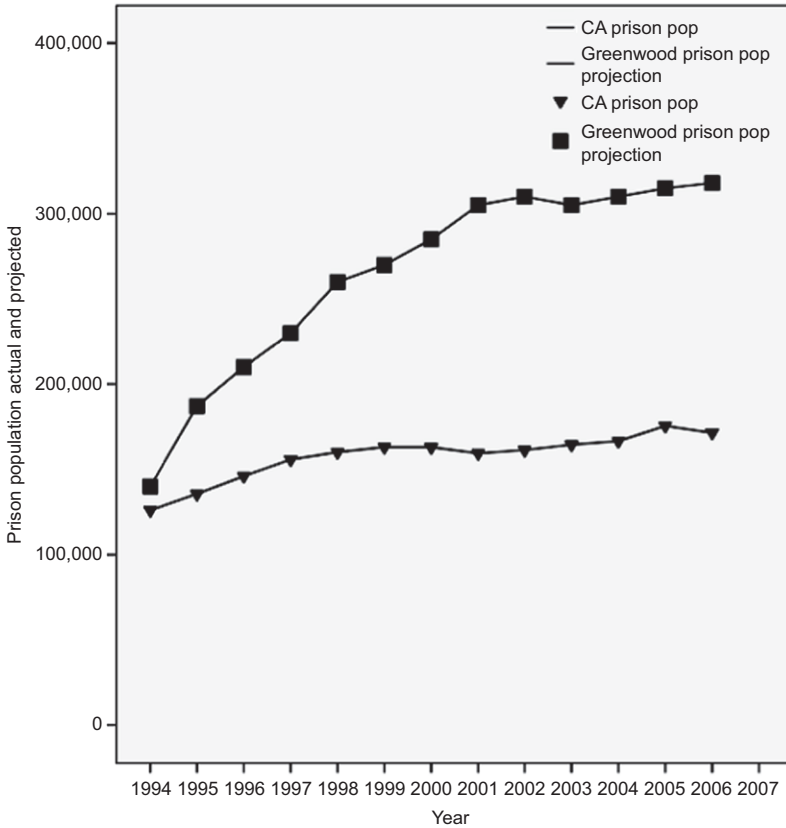


Figure 4: Prison population in California, actual and projected by Greenwood et al. (1994).

rate upon which to base his calculations; this is shown in Figure 5 which compares the constant crime rate assumption with the actual rate of violent crime in California.⁸ However, this does not mean that the number of crimes would be constant, as Greenwood recognizes that the population of California would be growing. This is evident in his Table E-2 (1994, p. 68) in which the projected number of new offenders is given from 1994 annually; these numbers grow at about 3% on average during the 25-year period that Greenwood projects.

This is the first and foremost source of error in Greenwood's calculations. The notion that any projection would use a constant value for the driving force in the projected results is highly unusual, and contrary to the wisdom accumulated by

⁸ Greenwood et al., 1994, Op Cit., p. 18, note 2.

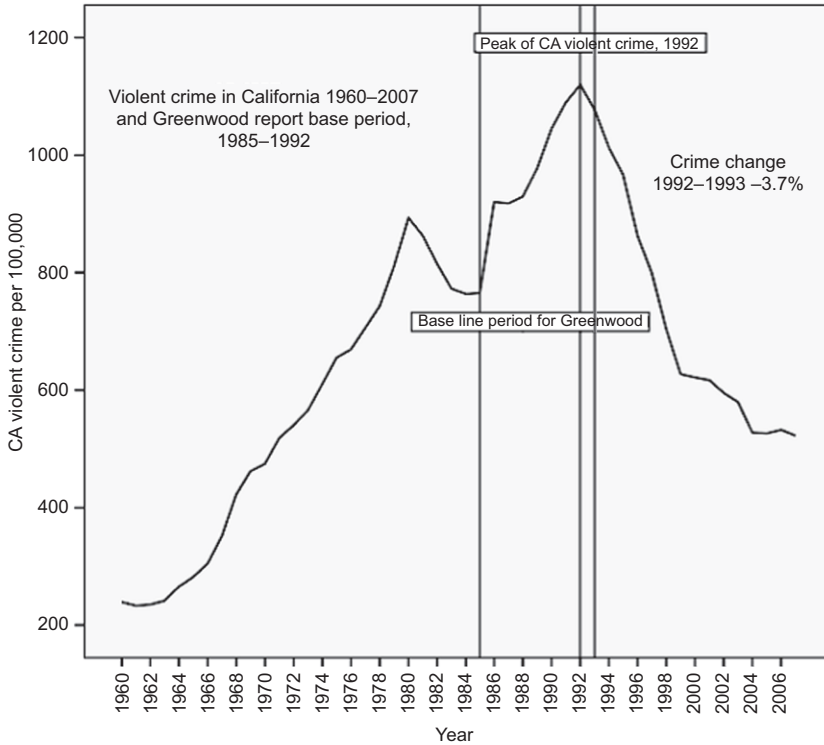


Figure 5: Violent crime in California, projected and actual.

economists and demographers, two groups of specialists who regularly do projections (Haupt and Kane 1998; Carnot et al. 2011). A hallmark of the best projections is that a constant future almost never exists; projections are almost always based on a range of possible outcomes. Usually in such projections, three key points and/or boundaries are identified: the most likely outcome, which usually occupies a mid-point in the range of possible projected outcomes, a possible high point, and a possible low point. Thus the projection provides a range of most likely or possible outcomes, with the actual outcome likely to be within the range. Figure 5 shows why Greenwood might have felt that projecting a flat or constant crime rate was a conservative assumption; the first two vertical lines from the left in Figure 5 identify the recent period prior to the enactment of Three Strikes in California, and they identify a period of 17 years, between 1985 and 1992, during which violent crime in the state increased during the period by more than 6% per year. However, in 1993, during the time Greenwood was conducting this research, again as seen in Figure 5 with the third vertical line from the left, violent crime declined by 3.7% in 1993, prior to the enactment of Three Strikes (California Office

of the Attorney General 1994). Greenwood was, or surely could have been aware of this decline; for example, an article appearing late in 1993 in the *Los Angeles Times* documented a sharp decline in violence crime in LA County, during 1993 (Reich 1993). There were clearly other assumptions made by Greenwood, given the difference in the crime rates and prison populations in Figures 4 and 5 that did not pan out; these are described in detail in a report (Parker, 2012) available from the author of this paper (Parker 2012).

A number of other studies have been conducted since Three Strikes were enacted to attempt to ascertain the impact of any of this policy. I will review only a handful of the more prominent ones, but the conclusion is the same as the results of the analysis of Greenwood presented here: there is no research-based evidence that suggests that Three Strikes prevents crime. I will examine five studies in detail here that use different data and methods to reach this same, negative conclusion (with one exception) about the impact of Three Strikes on crime in California and elsewhere.

Shepard (2002) examined the impact of Three Strikes at the county level in California from 1983 through March of 1996, with a post-implementation period of about 2 years. Shepard specifies an elaborate theoretical model based on economic rational choice theory, in which the deterrent effect of Three Strikes is thought to rest on the probability of apprehension and conviction as well as the rewards and costs from illegal activity.⁹ Although Shepard argues that the impact of Three Strikes can be taken into account by introducing a new term into the standard economic model which accounts for the delayed risk of punishment that having an additional strike represents, the multiplicative utility function posited is dependent on all of the terms being non-zero. However, the function depends, as do all theoretical economic models, on the notion that a potential offender would have complete information about the probability of being caught for the crime they commit. If this term, or any other term in the model, were to approach zero, the function would approach zero and this would render the model inoperable, that is, no viable estimate of the deterrent effect would be possible, as the entire expression of model parameters would approach zero. One way to see the impact of this assumption is that if offenders estimate that their chances of being caught are almost zero, any deterrent effect from the current or future strikes would approach zero. So the ability of offenders to reasonably accurately estimate their chances of being caught is a fundamental part of Shepard's deterrent estimates, discussed below.

⁹ Shepard, *Op Cit.*, p. 172.

Although Shepard does not reference any studies that empirically examine offenders' abilities to estimate their risk of being caught, given the relatively low and declining clearance rates for most criminal offenses in the USA, this estimate is likely to be lower than that assumed by Shepard (Cassell 1998). In addition, a substantial body of research exists in which actual offenders have been asked to assess their probability of arrest. For example, Horney and Marshall (1992) asked a sample of over 1000 offenders about their perception of being caught, and found that prior arrests and convictions had no significant impact on an offender's perception of being caught for assault. Piliavin et al. (1986) also studied a serious offender population, and found that neither prior arrests nor prior convictions had any impact on an individual offender's perception of being caught. These and other studies referenced in these two papers suggest that the economic model simply does not apply to offenders. This undermines the sophisticated statistical model estimated by Shepard;¹⁰ other recent reviews of this literature reach similar conclusions about Shepard's findings for similar reasons (Duralof and Nagin 2011).

Finally, Shepard's model suffers from measurement and specification problems, the latter being the problem of omitted variables. Shepard uses arrests per crime committed as a proxy for the perceived risk of being caught; given the declining clearance rates cited above, how good a measure can this be? Further, arrests are subject to non-crime-related political and social manipulation, and definitional disparities across law enforcement agencies, severely undermining the validity of this measure (Sherman and Glick 1984). In addition, no measures of drug or alcohol use are included in Shepard's models, a serious omission given that drug offenses are one of the most common strike sentences in California. Given these and other limitations, claims of any deterrent effect of Three Strikes can only be considered untenable.

Zimring and colleagues (Zimring et al. 2001) were able to examine the impact of Three Strikes on crime and imprisonment in California some 5 years after Three Strikes had taken effect. They constructed an individual-level data set of 1352 repeat offenders residing in three large California cities, San Francisco, San Diego and Los Angeles, in 1993 prior to the implementation of Three Strikes in 1994, a sample that they were able to follow into 1994 and 1995. They examined the impact of Three Strikes in a number of ways on these repeat offenders, just the sort of habitual criminals that the Three Strikes laws were intended to address.¹¹ They looked for incapacitation effects, which Greenwood

¹⁰ Shepard, *Op Cit.*, p. 184–200.

¹¹ Zimring et al., *Op Cit.*, p. 94–100.

was predicting, and they looked for deterrence effects, which many proponents of the Three Strikes approach were expecting. However, no matter which way Zimring and colleagues examined these repeat offenders, they concluded that, “Without any visible special decline in the criminality of Three Strikes targets, it does not seem likely that this new law is the moving force behind the general decline in crime”.¹²

This conclusion applies to any deterrence effects which might be attributed to Three Strikes, a claim the Attorney General of California made in a state report attempting to assess the impact of Three Strikes (Office of the Attorney General 1998). In examining the incapacitation effects of Three Strikes, Zimring and colleagues¹³ show that the rate of incarceration did not significantly increase after Three Strikes was implemented, and that there was no significant change in the degree to which high-rate offenders or those more likely to commit the most serious offences were being imprisoned before and after Three Strikes went into effect. They conclude their analysis of the impact of Three Strikes on the crime rate in California: “The state of California experienced substantial declines in crime rates over the period 1991–1998. Our findings suggest that most of these declines had nothing to do with Three Strikes”.¹⁴

Stolzenberg and D’Alessio (1997) examined the impact of Three Strikes in California’s 10 largest cities, but at the city level rather than the level of the individual repeat offender as approached by Zimring and colleagues. These cities also included Los Angeles, San Diego and San Francisco, but Stolzenberg and D’Alessio also included Anaheim, Fresno, Long Beach, Oakland, Sacramento, San Jose and Santa Ana. Together these cities hold about 25% of the state’s population, and were included in the analysis by Stolzenberg and D’Alessio¹⁵ because, according to these authors, these cities had the highest concentration of serious offenders in the state. This study used a more sophisticated statistical approach, interrupted time series (McCleary and Hay 1980), to examine the impact of Three Strikes by considering the monthly trends in serious crime (homicide, robbery, rape, assault, burglary and motor vehicle theft were included) before the law was implemented, back to 1985, and through the end of 1995, 22 months after the law took effect, or over a total of 120 months. Stolzenberg and D’Alessio¹⁶ also

12 Zimring et al., *Op Cit.*, p. 100.

13 Zimring et al., *Op Cit.*, p 91–94.

14 Zimring et al., *Op Cit.*, p. 102.

15 Stolzenberg and D’Alessio, *Op Cit.*, p. 459.

16 Stolzenberg and D’Alessio, *Op Cit.*, p. 461.

examined the petty theft rate in the state as a comparison; it was expected that Three Strikes would have no impact on the trend in petty theft.

The result of this time series analysis showed that neither the serious crime rate nor the petty theft rate showed any statistical relationship with the implementation and application of Three Strikes in March, 1994 and beyond. Similar to the arguments given above, Stolzenberg and D'Alessio point out that serious crime had already begun to decline in California before the implementation of Three Strikes.¹⁷ They conclude that the interrupted time series analysis, aggregated across the 10 cities, as well as analyzed separately by city, shows little evidence of an impact of Three Strikes. In only one city of the 10 they examined was the intervention effect of Three Strikes found to be significant.¹⁸ Stolzenberg and D'Alessio conclude that, "...Our findings show that California's three-strikes law did not achieve its objective of reducing crime..."¹⁹

Although Zimring and colleagues, and Stolzenberg and D'Alessio, were specifically focused on California, and are therefore the most relevant studies for consideration here, the question of whether increasing the severity and certainty of prison sentences for offenders results in crime decline has been addressed in a number of national studies. These studies include California in their analyses, and the results of these larger scale studies are important for the debate in California. For example, we would argue, given the negative information and arguments presented so far on the basis of data, logic and research, that even if California's Three Strikes policy did not cause California violence rates to decline, if evidence from all the states together show that increases in the rate of imprisonment does reduce violent crime, we should err on the side of caution and continue Three Strikes anyway.

Perhaps the problem is that California being only one state, and we have limited data, that the effect is there although too small for us to find in statistical analyses. The statistical power available across 30 years and for all states together might be enough to detect the effect, although this argument would imply that the effect is very small, given the scale at which California did increase its rates of imprisonment. Zimring and colleagues²⁰ address this issue by showing that their tests for the crime reduction impact of Three Strikes could show significance for an effect as small as a 2% reduction, but that none of the data they examined showed any effects that large.

17 Stolzenberg and D'Alessio, *Op Cit.*, pp. 461; 463.

18 Stolzenberg and D'Alessio, *Op Cit.*, pp. 464–65.

19 Stolzenberg and D'Alessio, *Op Cit.*, p. 467.

20 Zimring et al., *Op Cit.*, p. 99.

Even so, a full analysis of the country over time may show the utility of such an effect, even if it is less than proponents of Three Strikes and similar laws in other states might have hoped for. One study which does a very thorough examination of the imprisonment and crime relationship for all 50 states, with annual data from 1972 to 2000, is that authored by Liedka et al. (2006). In addition to measuring the overall crime rate and the prison population, they include additional variables which might impact this relationship, including age structure, metropolitan population, racial composition, wages and unemployment. They carefully examine lagged effects, curvilinear effects, and a variety of sophisticated specifications, and their findings are complex.

The bottom line for Liedka et al.²¹ is that for violent crime, not only did increasing imprisonment rates have no negative impact on crime rates, increasing rates of imprisonment were found to increase the rates of homicide, robbery and assault. This is especially true at the level at which California was already imprisoning offenders within a few years of Three Strikes implementation. “Our estimates imply that expanding prison population by 10% in California would be associated with a 0.42% increase (emphasis added) in crime...”;²² the year this calculation refers to is 1998, only 3+ years into the Three Strikes driven increases in imprisonment in California.

Austin et al. (1999) review the legal content of a number of different Three Strikes laws, concluding that only California attempted to massively increase imprisonment by substantially expanding the crimes that would result in a strike being added to an offender’s record. They also compare counties in the state that vigorously pursued Three Strikes cases (San Diego, Los Angeles and Sacramento) and those who did not (Alameda, San Francisco) and found little or no differences among them in the trends in crime rates, both before and after Three Strikes was implemented.²³ Comparisons were also drawn, in a similar manner, to states like Washington, Georgia and California, which had Three Strikes laws, and Texas, Michigan and Massachusetts, which did not implement Three Strikes; again, there was no detectable difference in over-time trends in crime rates.²⁴ According to Austin and colleagues: “The bottom line is that California, which is the only state to aggressively implement a three strikes law, has shown no superior reduction in crime rates.”²⁵

²¹ Liedka et al., *Op Cit.*, pp. 270–72.

²² Liedka et al., *Op Cit.*, p. 269.

²³ Austin et al., *Op Cit.*, pp. 155–56.

²⁴ Austin et al., *Op Cit.*, p. 157.

²⁵ Austin et al., *Op Cit.*, p. 158.

In short, there is simply no credible research that shows Three Strikes in California or elsewhere played any role in the national decline in rates of crime and violence in the USA in the last 30+ years. This of course begs the question, why did crime rates go down and why are they still going down?

5 An Alternative Explanation of the Decline in Crime, 1990–2010

It is one thing to argue, as has been the case here, that policies like Three Strikes have no impact on crime and, indeed, do not explain the crime drop experienced by California and all the other 49 states during the past 20 years. If Three Strikes does not explain why violent crime has dropped 100% since its peak in 1992, what does? In 1996, the National Institute of Justice, the Northwestern University School of Law, and the leading law review journal of the Northwestern University School of Law, *The Journal of Criminal Law and Criminology*, jointly sponsored a symposium that asked, “Why is Crime Decreasing?” (Travis 1998) The journal subsequently published the proceedings of this symposium (Vol. 88, Number 4, Summer issue) in 1998.

Scholars from all over the USA and elsewhere contributed a wide variety of theories, hypotheses and sets of empirical findings to answer this question, but one of the papers examined homicide in a 60-year time series frame to put the current decline into a larger historical context (Parker and Cartmill 1998). As Figure 1 in Parker and Cartmill shows, homicide has demonstrated a number of peaks and troughs since the 1930s, and the contemporary drop in homicide, for example, from a peak in the early 1990s of about 10 per 100,000 population to the current (2010) rate of 4.8, is similar to an early drop of about the same magnitude over roughly the same time period, 20–25 years, which began from a peak of 1934 to a low of about five per 100,000 in the late 1950s.²⁶

Parker and Cartmill go on to show in their analysis that alcohol consumption has, six times during this 60-year period, increased a year or two before an upturn in homicide rates, or alcohol consumption has shown a decrease, about 1 or 2 years prior to a decrease in homicide. In the current period, alcohol consumption nationally peaked in 1982, and has declined significantly and steadily

²⁶ Parker and Cartmill, Op Cit., Figure 1; Bureau of Justice Statistics, Homicide Trends in the United States, 1980–2008. <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=2221>, retrieved on 12/7/2011.

ever since. Parker and Cartmill also conduct a multivariate time series analysis to test the effects of alcohol consumption on homicide as well as other factors such as poverty,²⁷ proportion of young people in the population, average earnings, and a measure of welfare or transfer payments. Parker and Cartmill found that beer and spirits consumption were the two most consistent predictors of homicide during this time period.²⁸ Figure 6 shows the total volume of alcoholic beverages consumed by Californians from 1950 to 2002, and these data show a similar dynamic over time as compared to the national data, with a peak of consumption in 1982 at about 13 liters per capita of beer, wine and spirits.²⁹

We conducted a multivariate time series analysis similar to that of Parker and Cartmill, focused on California from 1960 to the present. The focus of this analysis is violent crime in the state, as already shown in Figures 1 and 3, which rose steadily until a peak in 1980, dropped sharply between 1980 and 1985, then rose again sharply until the 1992 peak, after which violence in California has dropped precipitously, by over 100%. Figure 6 shows a somewhat parallel dynamic, rising steadily until the early 1980s, but with a simpler pattern of decline since the early 1980s peak. The time series analysis will examine the relationship between alcohol and violence in this period, with an intervention variable corresponding to the passage and implementation of Three Strikes in 1994.

Although it is somewhat difficult to obtain measures of many important covariates that would need to be accounted for in examining the alcohol, violence and policy-driven imprisonment rates, we have managed to construct time series for the period from 1960 for unemployment in the state of California, a factor which has been found to influence crime (Sampson et al. 1997). In addition, an argument raised by Archer and Gartner (1987) suggests that involvement in international war has a direct impact on violence. Included in the analysis therefore is a one or zero indicator measuring the involvement of the USA in wars – from Viet Nam to the first Gulf War against Iraq, to the second set of Middle East wars including the Iraq invasion and the war in Afghanistan.

Additionally, a variable measuring the interaction between unemployment and alcohol consumption is included. This indicator is based on the notion that when and if both unemployment and alcohol consumption are above the average for this time period, 1960–2007, the impact of this combination on crime would be

²⁷ Parker and Cartmill, *Op Cit.*, p. 1386.

²⁸ Parker and Cartmill, *Op Cit.*, pp. 1393; 1395.

²⁹ NIAAA, Volume beverage and ethanol consumption for states, census regions, and the United States, 1950–2007 (volume and ethanol in 1000 of gallons). <http://pubs.niaaa.nih.gov/publications/Surveillance90/CONS08.htm>.

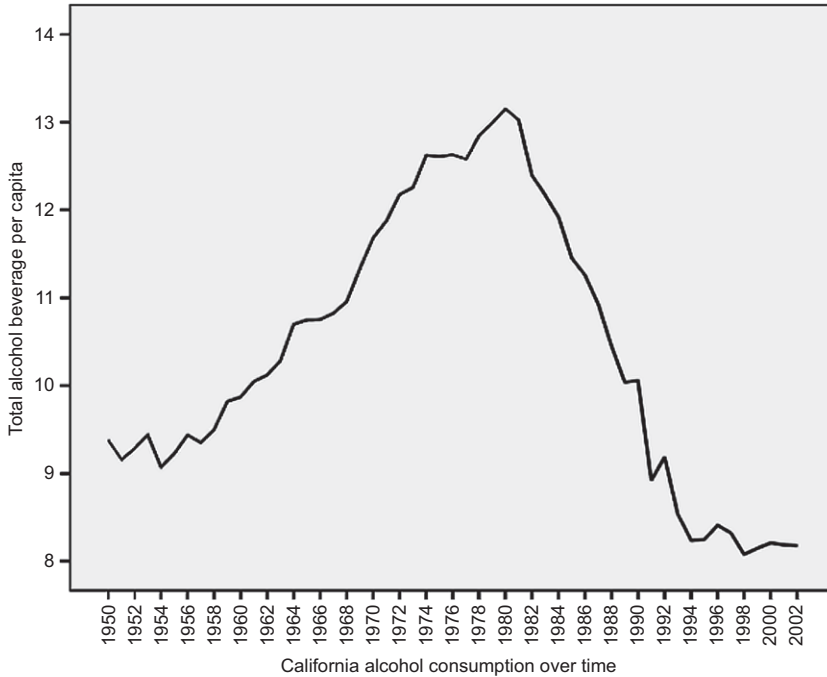


Figure 6: California alcohol consumption, 1950–2002.

enhanced (Khan et al. 2002). Finally, the imposition of Three Strikes is measured as a one and zero impact variable which is coded zero from 1960 to 1993, and 1 for 1994 onward. In this analysis Box Jenkins or Interrupted Times Series modeling is used to estimate the impact of the predictors, alcohol consumption, Three Strikes, state unemployment, war involvement, and the alcohol and unemployment interaction on the rate of violent crime.

One of the advantages of this time series approach is that the endogeneity likely to be present in the year-to-year variation in violent crime caused largely by excluded variables is modeled directly in the analysis in terms of the ARIMA framework used in this approach.³⁰ The results discussed below are estimated controlling for the sources of endogeneity, two of the possible three sources (AR=Autoregressive; I=Integrated process; MA=Moving Average) being significant in this case: AR and MA, Lag 1 year. Given that these effects have been modeled and controlled for, the estimates of the predictor variables on violent crime are likely to be unbiased and stable.

³⁰ McCleary and Hay, Op Cit.

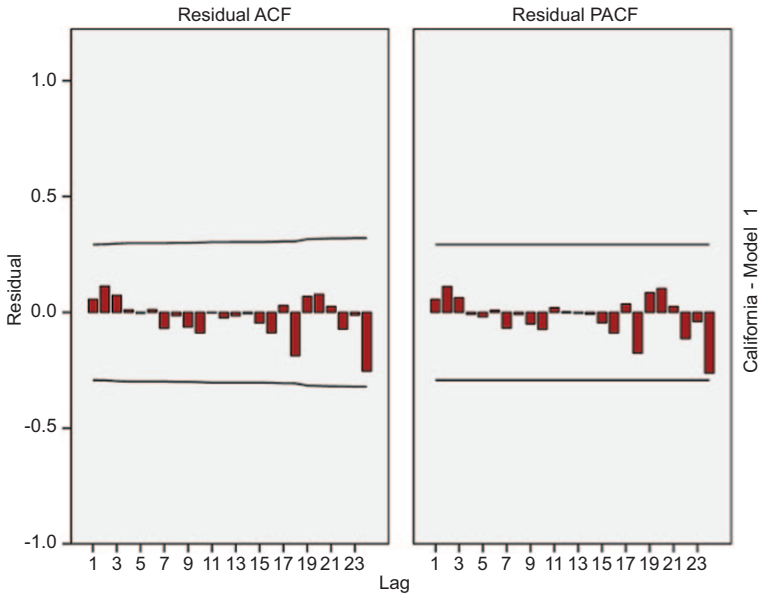


Figure 7: Residuals from the Interrupted Time Series Model.

The substantive results from the Box Jenkins analysis suggest that Three Strikes has had little or no impact on the rate of violent crime, consistent with the results previously discussed. However, alcohol consumption and unemployment are found to have positive and simultaneous effects. Further, the interaction of alcohol consumption and unemployment is found to have a significant positive impact on violent crime at a lag of 1 times period. The impact of war involvement was found to be insignificant in this model.

One of the criteria that demonstrate an appropriate model in this approach is that the residual series does not reflect any unmodeled significant effects; Figure 7 shows the residual series from this model analyzed in terms of the autocorrelation and partial autocorrelation functions.³¹ These functions and the accompanying Ljung Box statistic (5.6 with 18 degrees of freedom, $p=0.992$) show that no significant processes remain unaccounted for by the model.

These results not only further demonstrate the ineffectiveness of Three Strikes as a factor in the reduction of violence in California, but they are consistent with a growing body of research that demonstrates the important relationship between alcohol and violence in the USA (Parker et al. 2011).

³¹ McCleary and Hay, Op Cit.

6 The Impact of Three Strikes on the California Budget

Given the discussion above, there is no justification for continuing Three Strikes from a violence prevention point of view; in fact the analysis presented here suggests that alcohol policy designed to reduce overall consumption in California may be more effective at reducing violence than Three Strikes and/or other criminal justice policy initiatives. If there is no benefit from Three Strikes, what has this policy cost California? The answer to that question is a great deal.

As most readers know, California has been undergoing a severe economic crises, not just because of the shared economic downturn caused by the near collapse of banks and brokerages on Wall Street in 2008, the related burst of the housing bubble of the first decade of the 21st century, the deficit fuelled double wars of the past decade, and other national trends; California has also been suffering since before the recent economic collapse because of the structural difficulties that the state's political system has created. The combination of long-term declines in state revenues caused partly by the Dot.com bust of 2001 is combined with the even longer term difficulties created by the revenue-limiting Proposition 13, passed by popular vote in California in 1978. These multiple sources of economic difficulties, combined with the super-majority requirement also implemented under Proposition 13 for any tax increase to be enacted by the legislature, severely limit the ability of the state to respond to shortages in revenue by raising taxes.

Three Strikes has contributed significantly in amplifying the impact of the multiple revenue shortage problems by consuming an ever-increasing portion of the general fund budget each year. The requirement of the longer minimum sentences for second- and third-strike inmates has cost the state enormously. One way to see the impact is displayed in Figure 8, adopted from data available from the California Department of Finance, and adopted from a similar graphic displayed in a recent article in the Economist (Kluth 2011). As Figure 8 shows, in 1985 spending on higher education in California consumed about 11% of the general fund each year; at the same time, long before Three Strikes was imagined, let alone implemented, prison spending consumed about 4%.

During the decade preceding Three Strikes, priorities began to shift, whether anyone was conscious of this shift or not: by 1993, the year preceding Three Strikes, spending on both categories had converged at about 6% of the total annual budget. Significant growth in overall spending because of the booming technology economy resulted in both spending curves declining during the next decade, despite Three Strikes impact on increasing absolute prison spending;

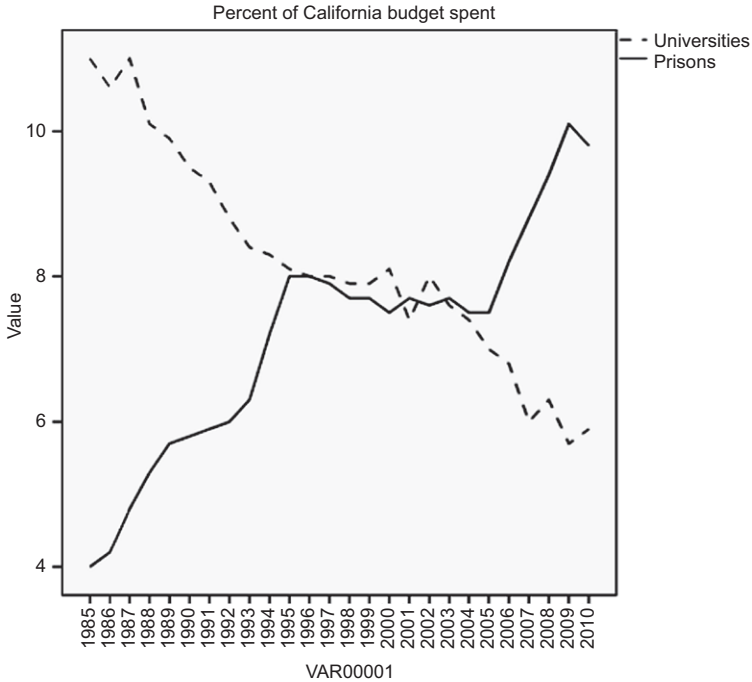


Figure 8: Spending on higher education and prisons in California.

beginning in 2004, the two lines began to diverge, with prison spending increasing and higher education decreasing, both rather dramatically, so that by 2010 higher education spending accounts for less than 6% of total spending while prison spending has reached nearly 10% of the total. As the California State Auditor shows (California State Auditor 2010), prison spending increased 32% between 2004 and 2007, to about \$10 billion.

During this time the state was falling further behind in revenues, and each year budget shortfalls were in the range of \$12–25 billion; the State of California is required by law to achieve a balanced budget, so each year during this period, the then Governor Schwarzenegger would negotiate a series of smoke and mirror tactics to “balance” the budget through various borrowing schemes and other accounting “tricks”. The cost of Three Strikes has been both absolute, in terms of these enormous outlays of state spending, but relative, as not only has spending on higher education been impacted, but cuts in K-12 schooling, and health and welfare spending have also been significant. If Three Strikes has had no discernible impact on violence, why should the enormous financial burden be tolerated?

Another way to understand the impact of Three Strikes is to examine the impact that these sentencing laws have on the future expenditures of the prison

system. The California State Auditor³² has estimated that as of 2009 this future cost was equal to between 19 and 23 billion future dollars in state spending. Each new year brings additional long-term sentences under Three Strikes, adding to the future costs.

This future commitment of state spending is not fully addressed by either of the major events of 2011, the Supreme Court decision nor the AB109 “realignment” proposed by Governor Jerry Brown and passed into law in the later part of 2011. The only way to provide future significant savings that would stop the divergent trend in Figure 8 is to reform Three Strikes, so that those convicted of non-violent and less serious felonies would no longer receive a “strike” for such offenses in their criminal history. Although the Realignment under AB 109 allows for some inmates who would normally receive a strike and be sentenced to state prison to be diverted into the local jails, the state must still bear some of this cost and the conditions and budgets of the jails will be severely impacted.³³ The California Auditor’s report shows that such inmates account for \$7.5 billion of the future costs estimated for the entire population of Three Strikes impacted inmates, based on an estimate of 23,000 such cases.

If these inmates could be immediately released, this would give the state and the counties significant savings now³⁴ of about \$1.3 billion, and significantly more in subsequent years. In addition, the Auditor’s report also addresses the high cost of prison healthcare, another pillar in the Supreme Court case California lost. The savings from this source are included in the above figure, but as the Auditor’s report points out, these costs are not insignificant; the California Department of Corrections and Rehabilitation, using traditional models of contracting fee for service treatment, expends about \$12,600 annually per inmate.³⁵ By comparison, the cost to both the employee and the University of California together spend about \$6,000 per year for health maintenance organization medical care. Under Realignment, these healthcare costs will have to be borne by the counties, many of whom are already providing less than adequate medical and mental health services to the local jails.³⁶

In this past year (2011) two major events occurred which have had an impact on the circumstances under which California’s prison system will be

32 California State Auditor, Op Cit., p, 29.

33 *The Economist*, From Prison to Jail, October 18, 2011.

34 California State Auditor, Op Cit., p, 28; at the rate of \$57,500 per annual costs to house an inmate in 2010; California State Auditor calculated the costs for 2007–2008 as \$49,300; updated figure based on same methodology used in this report.

35 California State Auditor, Op Cit., p. 8.

36 Orange County Register, Op Cit.; *The Economist*, From Prison to Jail, Op. Cit.

managed in the future. In May 2011, the US Supreme Court issued its ruling on the legal challenges to the operation of California's prisons. The Court ruled that California prisons as managed currently constitute cruel and unusual punishment under the US Constitution, and the state was ordered to release 40,000 inmates. Instead of directly complying with this Court Order, the state has embarked on the process of transferring most of these inmates to the county jails where state prison inmates were originally convicted of their offense.

Although AB 109 creates a revenue stream to assist that counties in paying the additional costs of managing these new inmates, most analyses suggest that these revenues will be far from sufficient to the actual costs of housing these inmates and dealing with them after release, as AB 109 requires that the county systems of probation become the exclusive managers of released jail inmates, rather than the state parole system which in the past dealt with inmates released from state institutions. Although this change in post-release systems means that the state prison system will no longer be swollen with parole violaters being returned to prison in significant and costly amounts, thus helping to reduce the state inmate population to the level ordered by the Supreme Court, the extra burden on county post-release systems is likely to be significant, and substantially underfunded by any planned transfers of state revenue to the counties. As discussed above, many local law enforcement leaders have predicted a significant increase in crime with the Realignment, although another change in the parole system enacted in 2010, so called "non-revocable" parole, have resulted in about 12,000 inmates released from state institutions with no discernible impact on the violent crime rate (Turner 2011).

Regardless of the impact of these reforms and the Realignment, the sum total of these efforts can be seen as too little and way too late. A much more effective way to deal with the Supreme Court Ruling of May, 2011 and the budget impact shown here, would be to simply follow the Court's ruling, and release 40,000 inmates from state custody. If Three Strikes has resulted in all this incarceration and expense, yet has little to do with controlling crime, why not release these inmates? In addition to the argument presented above that the political leaders, from the Governor downwards, still cling to the mistaken belief that Three Strikes caused the drop in violent crime California experienced, a second and more immediate problem is, whom should be released?

The California Department of Corrections and Rehabilitation (CDCR) has been very reluctant to engage in the necessary risk assessment of the inmate population using modern predictive risk assessment tools, such that until recently (2007), no such systematic risk assessment was performed in the system, and even since 2007, there has been tremendous resistance on the part of

correction, parole and probation personnel to using and relying on these risk assessment tools.³⁷ Although the cost of conducting an actuarial risk assessment of all 150,000 or more inmates currently in California prison custody would not be trivial, for speculative purposes say 500 million, the annual savings resulting from the immediate release of 40,000 inmates would be roughly \$2.3 billion, with a net savings of \$1.8 billion, nearly twice what Governor Brownne's 2012 budget proposal requests in cuts from the Department of Corrections.³⁸

The nearly half billion in funds transferred to the counties to partially fund Realignment would also be saved, as realignment would no longer be necessary, and subsequent savings would increase from the elimination of Realignment. In addition, as the transfer of some many inmates to country jails is likely to reproduce at the local level many of the problems of overcrowding and inadequate health and mental healthcare (as discussed previously, local jails such as the LA County jail are already under federal investigation for civil rights violations),³⁹ additional savings would accrue in future years from avoiding the reproduction of the problems the state prison system has been suffering from as a result of Three Strikes. The Governor's January 2012 Budget proposal states that California faces a \$9.2 billion budget problem,⁴⁰ but by following the recommendations here, scrapping the realignment, and including the proposed cut to CDCR in the Governor's Budget proposal, an immediate savings of nearly \$3 billion would be realized, almost one-third of the current budget "problem". This would result in fewer cuts across the board in the current budget, and perhaps even a reduction in the amount of new taxes the Governor's budget asks the citizens of California to approve in November 2012.

None of this is possible, however, without changing the structure of Three Strikes. Leaving this undone, and pursuing the current policies of Realignment, simply kicks the problem and the excess costs of Three Strikes sideways, and this could easily result in significant financial problems in the near future for both the state and the local governments. Instead, the Governor and other state leaders should be campaigning to convince the voters that Three Strikes as currently implemented in California is too costly and too ineffective to sustain. The State of California should give up its addiction to the all-you-can eat buffet of imprisonment, the result of which has been to undermine the financial health of the state, weaken the quality of education at all levels, and

³⁷ Turner, S., *Op Cit.*, p. 919.

³⁸ Governor's Budget Summary, January 2012. www.ca.gov

³⁹ Orange County Register, *Op Cit.*

⁴⁰ Governor's Budget Summary, *Op Cit.*, p. 1.

force California to make draconian cuts in programs that enhance and benefit the lives of its residents in exchange for a mistaken idea that public safety was the result. The bottom line result of Three Strikes has been an almost unbearable financial burden that looms in the future despite current efforts, and which will only be resolved when the pipeline of over-punishment is finally shut down.

References

- Archer, D. and R. Gartner (1987) *Violence and Crime in Cross National Perspective*. New Haven, CT: Yale University Press, pp. 342.
- Austin, J., J. Clark, A. Hardyman and D. A. Henry (1999) "The Impact of 'Three Strikes and You're Out'," *Punishment and Society*, 1:131–162.
- California Office of the Attorney General (1994) *Crime and Delinquency in California*. Sacramento, CA.
- California State Auditor (2010) CDCR: Inmates Sentenced Under Three Strikes and a Small Number of Inmates Receiving Specialty Health Care Represent Significant Costs. May, Report #2009–107.2.
- Carnot, N., V. Koen and B. Tissot (2011) *Economic Forecasting and Policy*. London: Palgrave MacMillian Press.
- Cassell, P. G. (1998) "Handcuffing the Cops: Miranda's Harmful Effects on Law Enforcement," *National Center for Policy Analysis*, 218:1–9. <http://www.ncpa.org/pub/st218?pg=1>.
- Clark, J., J. Austin and D. A. Henry (1997) "Three Strikes and You're Out: A Review of State Legislation," *Research in Brief*, US Department of Justice, National Institute of Justice, September.
- Duralof, S. N. and D. S. Nagin (2011) "Imprisonment and Crime: Can Both be Reduced?" *Crime and Public Policy*, 10:13–54.
- Greenwood, P. W., C. P. Rydell, A. Abrahamse, J. P. Caulkins, J. Chiesa, K. Model and S. P. Klein (1994) *Three Strikes and You're Out: Estimated Benefits and Costs of California's New Mandatory-Sentencing Law*. Los Angeles, CA: Rand Corporation, pp. 87.
- Haupt, A. and T. K. Kane (1998) *Population Handbook*. 4th ed. Washington, DC: Population Reference Bureau.
- Horney, J. and I. H. Marshall (1992) "Risk Perceptions Among Serious Offenders: The Role of Crime and Punishment," *Criminology*, 30:575–594.
- Khan, S., R. P. Murray and G. E. Barnes (2002) "A structural equation model of the effect of poverty and unemployment on alcohol abuse," *Addictive Behaviors*, 27:405–423.
- Kluth, A. (2011) "The People's Will: Democracy in California and What went wrong?" *The Economist*, April 20, print edition, 10 pages. <http://www.economist.com/node/18563638>.
- Liedka, R. V., A. M. Piehl and B. Useem (2006) "The Crime-Control Effect of Incarceration: Does Scale Matter?" *Criminology and Public Policy*, 5:245–276.
- McCleary, R. and R. A. Hay (1980) *Applied Time Series Analysis for the Social Sciences*. Thousand Oaks, CA: Sage Publications.

- Office of the Attorney General (1998) *Three Strikes and You're Out: Its Impact on the California Criminal Justice System After Four Years*. Sacramento, CA: State of California.
- Parker, R. N. (2012) *Analysis of the Greenwood Three Strikes Study*. Available upon request, robnp@aol.com.
- Parker, R. N. and R. S. Cartmill (1998) "U.S. Alcohol Consumption and Homicide, 1934–1995, or One reason Why U.S. Violence Rates are Going Down," *Journal of Criminal Law and Criminology*, 88:1369–1398.
- Parker, R. N., K. R. Williams, K. J. McCaffree, E. K. Asencio, A. Browne, K. J. Strom and K. Barrick (2011) "Alcohol Availability and Youth Homicide in the 91 Largest US Cities, 1984–2006," *Drug and Alcohol Review*, 30:505–514.
- Piliavin, I., R. Gartner, G. Thornton and R. Matsueda (1986) "Crime, Deterrence, and Rational Choice," *American Sociological Review*, 51:101–119.
- Reich, K. (1993) *Three Strikes*. Plan Flawed, Sheriff Says, *Los Angeles Times*, December 30, 3.
- Rosynsky, Paul T. (2009) *Oakland Tribune/Contra Costa Times*, March 23.
- Sampson, R. J., S. W. Raudenbush and F. Earls (1997) "Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy," *Science*, 277:918–924.
- Shepard, L. (2002) "Fear of the First Strike: The full Deterrent effect of California's Two and Three strikes Legislation," *Journal of Legal Studies*, 31:159–201.
- Sherman, L. W. and B. Glick (1984) "The Quality of Police Arrests Statistics," *Police Foundation Reports*, 1–10. <http://www.policefoundation.org/pdf/arreststatistics.pdf>.
- Stolzenberg, L. and S. J. D'Alessio (1997) "Three Strikes and You're Out: The Impact of California's New Mandatory Sentencing Laws," *Crime & Delinquency*, 43:457–469.
- Travis, J. (1998) "Forward to Symposium Proceedings, Why is Crime Decreasing?" *Journal of Criminal Law and Criminology*, 88:1173–1174.
- Turner, S. (2011) "More than Just Early Release," *Criminology and Public Policy*, 10:917–924.
- Zimring, F. E., G. Hawkins and S. Kamin (2001) *Punishment and Democracy: Three Strikes and You're Out*. London and New York: Oxford University Press, 1–244.