

An Evaluation of the Jamaican Anticrime Program

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A sweeping anticrime package was implemented in Jamaica in 1974. This program included severe penalties for possession of illegal guns, censorship of gun scenes from television and the movies, and greatly broadened police powers. The impact of this anticrime package on crime was assessed using quasiexperimental time-series designs with both months and years as the units of analysis. In a one year period there was a 14% reduction in homicides ($p < .05$), a 32% reduction in rapes ($p < .01$), a 25% reduction in robberies ($p < .05$), and a 37% reduction in nonfatal shootings ($p < .01$). Data from the second year following the implementation of the anticrime package were not available. The data from the first year suggest that strict anticrime measures can reduce crime.

As the problem of crime has grown in recent years, government officials have increasingly sought ways to reduce it. This study presents the results of a quasiexperiment based on a time-series analysis of crime rates in Jamaica before and after a strict anticrime package was instituted. On April 1, 1974, Jamaica instituted two sweeping laws: the Gun Court Act and the Suppression of Crime Act. Police permits were required for gun ownership and the permits were very difficult to obtain. Punishment for possession of an illegal firearm was intended to be immediate and severe in an announced "war with crime." The specific provisions were:

- (1) All guns were outlawed except licensed firearms of permit holders and military and police weapons.
- (2) Indefinite detention (up to life imprisonment) was mandated for those found guilty of gun crimes or illegal gun possession.

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- (3) Searches without warrants were authorized and "raids" were made of homes in certain high crime areas (shanty-towns) to confiscate contraband firearms.
- (4) Curfews in high crime areas and increased patrols were instituted.
- (5) A separate pretrial prison for accused gun offenders was used.
- (6) A specially designed court and prison was constructed for those found guilty of illegal firearm possession.
- (7) Gun segments were censored from television and movies (*Daily Gleaner*, 1974).

It's estimated that there were about 25,000 private licensed guns in circulation held by 12 to 15,000 owners from before the laws were implemented (Note 1). More details about the program and the debate leading to the implementation of the laws are presented in Gendreau & Surridge (1978).

There are both similarities and differences between Jamaica and other countries which might try similar programs. Jamaica is an English speaking former colony of Britain, with a self-governing constitutional government. The island is predominately agricultural, but the one major metropolitan area, Kingston, has about 500,000 inhabitants (McFarlane, 1973). Jamaica's population of approximately 2,000,000 persons is mixed racially and religiously (although predominantly Christian) and there is free public education. The major sources of income in Jamaica are agriculture, bauxite mining, and tourism. As in the U.S., there seems to be a "subculture of violence" composed largely of people from "ghetto" (shanty-town) areas. A very high percentage of Jamaica's crime occurs within Kingston's slums, but the crime also spills over into Kingston's more prosperous areas. Jamaica's crime rate has been growing at a rapid rate since her independence in 1962, and the homicide rate is currently about, 10 per 100,000 people, compared to about 9.3 within the U.S. (Zimring, 1975).

Much of the past research on suppression of crime has focused on the impact of gun control measures. In the majority of these studies, the strictness of gun control laws in many areas (e.g., states) has been correlated with crime rates in those areas. The results of these studies have been mixed, with a tendency to find that gun control reduces crime (e.g., Bakal, 1966; Geisel, Roll, & Wettick, 1969; Hofstadter, 1970; Krug, 1968; Murray, 1975; Zimring, 1968, 1972, 1975). The Jamaican gun acts were part of a more comprehensive social experiment in which an attempt was made to greatly reduce illegally held guns, including both hand guns and long guns. The new prison in downtown Jamaica for firearm offenders looks like a concentration camp, in keeping with the theme, "Jamaican war with crime" (*Time*, 1974). The gun offender prison was painted red and was meant to be a highly visible reminder of the fate of gun offenders. The behavioral scientists who designed the laws and the prison and court procedures were attempting to eliminate the "hero worship" and excitement associated with violence. In order to do this, they censored all firearm segments

from television programs (which are largely imported from the United States) and they dealt harshly with those convicted of gun crimes. The reason that the Jamaican data are of such interest is because the Jamaican anticrime program is a broad package of laws which covers the entire country.

Method

Jamaican crime statistics for 1964 through 1971 were obtained from the Statistical Yearbook of Jamaica (McFarland, 1973), from the Jamaican Director of Statistics (1972-1974) for 1972, and from the Jamaican Ministry of National Security and Justice for 1973 to 1975 (Note 2). Crime statistics were thus available for an 11-year period. Jamaica uses a crime year beginning April 1 of one year and extending to March 31 of the following year. The statistics available from 1965-1972 were for entire years, whereas monthly figures were available for 1973-1974 and 1974-1975. The gun laws went into effect on April 1, 1974, so monthly crime data are available for the preceding and following year. A time-series analysis was completed, comparing crime trends before and after the gun laws. The data for several crime categories were analyzed, including homicide, rape, robbery, and shooting.

Results

The effects of the new laws can be analyzed both as a change from the previous year and as a change from the trend over the previous 10 years. Table 1 shows data for all 11 years for homicides and rapes. The data reveal that both crimes increased in frequency over the 11-year period. Homicides increased an average of 15% per year prior to the gun laws, while rapes increased at approximately 9% each year. The 1974-1975 crime data show a marked decline for both homicides and rapes. The 1974 homicide rate represents a 14.2% reduction in homicides from the previous year. When the 1974-1975 crime data is predicted based upon a linear regression least squares extension of the previous 10 years, it is predicted that 220 homicides should have occurred in 1974. The actual homicide count of 199 suggests that, based upon long-term trends, the gun laws saved about 21 lives, and confidence interval estimation from the predicted value shows that this decrease could have occurred by chance less than 5 times in 100. The estimated number of lives saved, based upon the 1973-74 data as a baseline, is as many as 68, but such a figure could be misleading since 1973-74 appeared to be atypically high in homicides.

The linear regression prediction of rapes for 1974-1975 is 653, indicating that the actual figure of 447 was a reduction of 206 rapes below what would have occurred the past trends continued (confidence interval estimation, $p < .01$). This 1974 rape figure represents a 32% reduction in rapes from the

TABLE 1
NUMBER OF HOMICIDES AND RAPES,
1964-1975

Year	Homicides	Rapes
1964-65	81	312
1965-66	65	331
1966-67	111	351
1967-68	104	377
1968-69	110	352
1969-70	153	429
1970-71	152	553
1971-72	145	544
1972-73	188	571
1973-74	232	641
1974-75	199	447

Note. 1964-1971 data are from Statistical Yearbook (McFarlane, 1973); 1972-1975 data are from the Director of Statistics and the Ministry of National Security and Justice. Gun laws were in effect from the beginning of the 1974 crime year (which began April 1, 1974). Homicides exclude manslaughter.

previous-year. Based upon long-range trends, it appears that the gun laws and anticrime program substantially decreased both homicides and rapes.

More detailed data are available for reporting years 1973-1974 and 1974-1975. Available crime data from April, 1973 to March, 1974, and from April, 1974 to March, 1975 are shown in Table 2. These data were available monthly on firearm and nonfirearm crimes. For purposes of simplicity and compactness, the data are presented by yearly quarters. The monthly crime data were examined with a time-series analysis. This is preferable to more traditional analyses primarily because it takes into account interdependence and trends in the points over time (Bower, Padia, & Glass, 1974; Glass, Willson, & Gottman, 1975; Gottman & Glass, 1978). As it turned out, six of the seven crime categories were identified by the time-series analyses as containing independent points which were then analyzed by traditional f-tests.

It can be seen in Table 2 that firearm homicides decreased substantially

TABLE 2
1974 AND 1975 CRIME DATA REPORTED BY QUARTERS

Crime	April 1973-March 1974				April 1974-March 1975					
	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Total	
Homicides (excluding manslaughter)										
Firearm involved	39	35	21	29	124	8	8	18	21	55
Nonfirearm	31	36	19	22	108	30	48	32	34	144
Total	70	71	40	51	232	38	56	50	55	199
Percent of homicides in which firearms used	56%	49%	53%	67%	53%	21%	14%	36%	38%	28%
Rapes										
Firearm involved	14	40	16	5	75	7	23	20	17	67
Nonfirearm	164	158	119	125	566	57	113	110	100	380
Total	178	198	135	130	641	64	136	130	117	447
Percent of rapes in which firearms used	8%	20%	12%	4%	12%	11%	17%	15%	15%	15%
Robbery										
Firearm involved	457	373	589	472	1891	272	407	351	280	1310
Nonfirearm	419	500	308	99	1326	139	242	405	321	1107
Total	876	873	897	571	3217	411	649	756	601	2417
Percent of robberies in which firearms used	52%	43%	66%	83%	59%	66%	63%	46%	47%	54%
Nonfatal shootings										
	229	235	227	188	879	69	156	207	124	556

($t(22) = 3.6, p < .002$), whereas nonfirearm homicides actually increased, but not significantly ($r(22) = 1.5, p < .15$). The nonfirearm homicide increase could represent persons switching from firearms to other lethal means (e.g., Zimring, 1968), or could be due to general trends in homicide increase over the years.

Rapes in both gun and nongun categories fell from 1973-1974 to 1974-1975. Nonfirearm related rapes decreased significantly ($f(22) = 3.64, p < .002$). The gun related rape data showed some interdependence among points (Model 0,0, 1) and so were analyzed using the time-series program. The analysis revealed that the change in firearm related rapes was nonsignificant ($r(22) = .11$). The percentage of rapes in which guns were used as a threat prior to the gun laws was quite low (about 12%), so we would not expect that the number of rapes would be substantially influenced by the availability of firearms. Yet the incidence of nonfirearm rapes dropped precipitously.

Robberies committed with firearms decreased about 31% from 1973-1974 to 1974-1975, a significant drop ($t(22) = 3.07, p < .01$), and robberies decreased 25% overall. Unlike the pattern for homicides, there was a slight (but nonsignificant) decrease in nongun robberies ($r(22) = .73, n.s.$). Robbery is usually not a crime of impulse or passion. It may be that in a planned crime such as robbery, reducing gun use does not lead to a large-scale substitution of other weapons. There was also a significant decrease in nonfatal shootings ($r(22) = 3.44, p < .01$). Since April 1, 1974, approximately 500 guns have been voluntarily surrendered or confiscated by the police (Criminal Investigation Department, Note 3).

Discussion

The data show that there were overall declines for all categories of crime available for analysis. During the first year after enactment of the law there was a 14% reduction in homicides, a 32% reduction in rapes, a 25% reduction in robberies, and a 37% reduction in nonfatal shootings. Both the monthly and long-term yearly data show the significant decreases in crime. It appears that the anticrime measures adopted in Jamaica led to a substantial decrease in crime. Firearm homicides were reduced substantially, as well as the percentage of homicides committed with firearms. There was some increase in homicide by other methods, but overall there was a reduction in killings. In addition to homicides, there were large decreases in rapes, robbery, and shootings, even when nonfirearm categories are considered. In fact, the impact of the anticrime measures was greatest on crimes other than homicide, where both gun and nongun crimes dropped.

Given the large decreases in crime, the logical question is what components of the anticrime package were responsible for reducing crime? Was the decrease due to fear generated by the severe punishments for gun crimes, to a reduced number

of firearms, or to increased police surveillance and curfews? There are indications that fear of gun use and police tactics were heavily responsible for the decrease. It is possible that the decreased number of guns had a relatively small impact. Note first that 500 or so guns were taken out of circulation, which probably does not represent a large proportion of the illegal guns in the country. It is our conjecture that a majority of the illegal guns in Jamaica before the ban were still in circulation a year later. If there were several thousand illegal guns in the hands of potential criminals, most would have remained in circulation, since many guns which were voluntarily surrendered were probably turned in by law-abiding citizens. The 500 firearms in the possession of the police, plus those which have broken and so become unusable, could easily have been replaced by smuggled imports, so it is possible that there was no absolute reduction in guns. Of course, any argument based on the number of guns in Jamaica is bound to be somewhat speculative because nobody really knows the number of illegal guns in circulation. Probably many illegal guns were hidden or buried for possible future use or the day when gun laws become less strict.

Had a decrease in the number of guns produced the reduction in crime, the pattern of crime decrease probably would have been the opposite of what occurred. If guns are taken out of circulation, then there should be fewer firearms as time progresses because all those guns turned in earlier will be gone plus those confiscated in the latest period. As time progressed, additional firearms would be taken out of circulation incrementally, with a concomitant greater decrease in crime over time. Since the decrease in crime was largest initially, it is probable that the reduced number of guns in circulation was not the major factor in suppressing crime. Last, it may be noted that 500 is a small number compared to the numbers of firearm crimes after the gun laws (shown in Table 2). Unless single firearms were involved in large numbers of crimes, the number of gun crimes suggests that there were a large number of illegal guns in circulation after the gun laws. Ultimately, an analysis of the number of illegal guns still in circulation must be somewhat conjectural. It is possible that the 500 guns collected represented a significant number, enough to substantially reduce crime. However, it is our belief, based on the number of guns confiscated and the pattern of crime decrease in the months following the laws, that the decrease in number of guns was not the major cause of the lowered crime rate.

The "get tough" law-and-order message of the gun laws may have reduced crime at least partly through fear of apprehension and lengthy imprisonment. Crime seemed to drop precipitously in all categories during the first quarter after the law went into effect. This quick drop and suggestive rise to earlier levels indicate that fear was at least partly responsible for producing the decrease. Initially, the new laws were widely publicized and fear among criminals of "indefinite detention" was probably quite high. However, as time went by, the people probably became habituated to the laws and hence less fearful. Also

criminals learned that many or most crimes still went unpunished, and so the initial fear of the laws probably waned. Related to the psychological fear-inducing impact of the program is another potential effect: the reduction in all crime because of the failure of the populace to really understand the law and perceive its different aspects. In other words, the people may have perceived a global crackdown on crime and concomitant harsh sentences, and thus been more fearful of committing either firearm or nonfirearm crimes.

The homicide statistics also indicate a fear effect because there was a decrease in gun homicides but an *increase* in nongun homicides. Since increased penalties were attached only to gun crimes, it appears that people switched to a method which would bring a less severe punishment if they were apprehended. The increase in nongun firearms should be interpreted cautiously since it was not a statistically significant rise. However, the rise was substantial—a 33% increase over the previous year. It does appear that this rise was due to a switchover effect (not simply to a general rise in crime), since it is the only category where crime increased and the rise represented a much larger increase than occurred in homicides in previous years. A shift to other weapons for assault agrees with findings of both Zimring (1968) and Geisel et al. (1969) within the U.S. that people will substitute other weapons when guns are less available. However, a shift to assault by other weapons does not offset the decrease in firearm homicides since other weapons are statistically less likely to kill than guns (Zimring, 1968). Thus, based upon patterns in other countries and the size of the increase in nonfirearm homicides, it appears that some switchover to attacks with other weapons probably occurred. However, an interpretation of the nonfirearm homicide increase in terms of a general rise in crime cannot be totally ruled out, but it does appear unlikely since this is the only one of the nongun categories which increased.

The rape data indicate that increased patrols and curfews also deterred crime. Since rape may be a more impulsive crime, it seems likely that the immediate possibility for apprehension or lessened opportunity (because of curfews) would be more likely to reduce the crime than a long-ran?" fear of prison. Probably more convincing is the fact that nongun-related rapes dropped at least as much as those involving firearms. This means that fear of severe punishment probably was not primarily responsible for the decrease, because rapes committed without firearms were subject to the same penalties before and after the gun statutes. Thus, the evidence suggests that rapes were reduced most by police procedures, not by the gun laws per se or fear of greater penalties. In fact, the precipitous drop in rapes suggests most clearly that the anticrime package was more than just an elaborate antigun program (which was the public focus of the program).

The pattern of data for robbery also suggests that enforcement levels were at least partly responsible for decreases in this category. There were decreases for robbery with and without guns, indicating that neither illegal gun confiscation

nor fear of the gun laws was solely responsible for the decrease. The decrease in nongun robberies suggests a police enforcement effect similar to that for rape. Alternate interpretations of the nongun crime decreases are that the Jamaican war on crime stimulated a strong national sentiment against crime which served to reduce lawlessness or that people perceived the anticrime program as a total crackdown on crime and thus were more fearful of carrying out all types of criminal activity.

In summary, the anticrime package certainly reduced crime but the reasons for the reduction cannot be stated unequivocally. The anticrime measures introduced in Jamaica represent a comprehensive social experiment in combating crime, and as such, the impact of the individual components of the program cannot be pinpointed. Indeed, the impact of the laws could have resulted from an interaction of the measures more than from specific factors. Yet the analysis above suggests that some factors decreased crime more than others. The relatively small number of guns collected indicates that a reduction in the number of firearms was not solely responsible for the impact. The nonincremental nature of the crime decrease also suggests that the number of guns in circulation was not the major factor in crime reduction. The impact of fear is suggested by the switch to other weapons for homicides since other weapons did not carry as severe penalties. A fear effect is also suggested by the very precipitous drop in crime when the laws first went into effect. Last, the trends indicate an effect for police enforcement levels. Both robberies and rapes dropped substantially in nongun categories which can more logically be attributed to enforcement than to fear, since no new penalties were initiated for nongun crimes. The reader is referred to Gendreau and Surridge (1978) for a discussion from the perspective of insiders who were involved in the creation and implementation of the anticrime program. Their approach is complementary to the present analysis. There are several major differences in our studies. Their conclusions about the effectiveness of the program are somewhat more optimistic than ours, their emphasis is more on the gun control aspects, they present less data and do not use time-series analyses, they emphasize the historical and political climate, and they do not discuss the possible separate effects of different aspects of the program such as fear and the reduction in the number of illegal firearms.

The figures for the fall and winter quarters of 1974-1975 raise the question of whether the effect of the program was quite short-lived. However, data in most categories indicate that the laws were still reducing crime in the third and fourth quarters after passage, showing that the impact of the law did not totally dissipate. The apparent trend toward declining effectiveness of the laws may only be a short-term trend due to chance variations. It may be that if the strict measures were kept in effect their impact would grow over the years. This could occur if people were gradually impressed with the futility of opposing the new

laws. Effective police activity could also result in the gradual confiscation of more guns and arrest of an increasing percent of the criminal element.

"Only long-term crime data could clarify what the ultimate effects of the measures would be. Unfortunately, crime data for the second year following the new program have not been available after repeated inquiries to the Jamaican government. During this period there were major political conflicts, falling tourism, and negative publicity about Jamaican crime. The Jamaican government now seems hesitant to publicize anything about crime in Jamaica since this could further decrease tourism. It appears that the long-term effects of this major social experiment may never be known. (See also Gendreau and Surridge (1978) for a discussion of these changes.)

There is often a question about the accuracy of crime statistics (Doleschal & Wilkins, 1972) and if these are not fairly accurate, doubt is cast on the conclusions of the current report. A comparison of Jamaican crime statistics as reported by Interpol (International Criminal Police Organization, 1965, 1967, 1969) and by the Statistical Handbook of Jamaica (1973) reveals a few discrepancies. The data from the two sources are identical in most cases, which casts doubt on the possibility that the crime categories are simply defined differently in the two sources. With so much importance attached to the new programs within Jamaica, deliberate distortion of recent reporting is possible, although this seems unlikely in light of the often complex and not uniformly predictable results. That is, the rather complex trends in the Jamaican data suggest that the statistics were not simply manufactured to impress the public. Personal correspondence with the Jamaican Criminal Investigation Department (Note 3) and one of the psychologists involved in the program (Note 4) indicate that they believe the crime statistics are accurate.

Of course, generalizing from Jamaica to other countries such as the United States can only be done cautiously; the differences between the two countries are too obvious to list. But there are a number of similarities between Jamaica and the U.S.: The homicide rates are roughly similar; both countries are English speaking, capitalistic, and have constitutional governments and an English system of law; both have subcultures of poverty and these subcultures are predominantly responsible for violent crime; crime rates are high and on the rise in both locations; and the majority of crime occurs in the city in both locales. As always, one must be cautious in generalizing from one geographical area to another, but the U.S. and Jamaica are not as dissimilar as one might imagine, based solely on their relative size and wealth.

These data demonstrate that even strict anticrime measures will not eliminate crime, nor reduce crime so that it is no longer a serious concern. While a 14% reduction in homicides and larger reductions in other crime (25% to 37%) represents a substantial reduction in crime, the present data indicate that there will still be a large number of crimes after strict measures are enacted. In other

words, a ban on most guns and concurrent enforcement measures can reduce crime, but not eliminate it. It is important to note that crime levels were still substantial after the anticrime measures were in effect, indicating that crime reduction is a multifaceted process that cannot be attained solely by strict law-and-order legislation.

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