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## INCREASES IN CRIME: THE UTILITY OF ALTERNATIVE MEASURES\*

ROLAND J. CHILTON† AND ADELE SPIELBERGER‡

Reported increases in offenses known to the police in the United States for the years since 1958 suggest that the United States crime rate has increased dramatically in recent years, with the rate for 1967 being double that reported for 1958.<sup>1</sup> Interpretation of this sharp rise in the crime rate is complicated by a number of factors, but primarily by the sparseness of national data with which the trend may be compared. More complete and more comparable arrest data, for example, would provide an additional series with which "offense-known" trends could be compared. Periodic victim surveys might also provide independent confirmation of the trends reported by the FBI, as might systematic and reasonably complete records from the juvenile and adult courts in the United States. But for all practical purposes only offense-known data is available.

The use of offenses known to the police as an official government index of crime in the United States began in 1930 when legislation was enacted permitting the Division of Identification and Information in the Department of Justice (later the FBI) to adopt a program developed by the International Association of Chiefs of Police. In the decade preceding that development, other measures of crime were considered. And for some time after 1930, an attempt was made to collect uniform judicial and prisoner statistics.<sup>2</sup> However, only the

FBI's program succeeded in gaining widespread acceptance as an index of crime and for this reason is presently the only available, national indicator of crime in the United States.

Criticism of this use of offenses known to the police has been voiced since 1930, including major critiques by Cressey, Beattie, and Robison.<sup>3</sup> Although some of the most often questioned features of the program, such as the use of population estimates based on the preceding decennial census and the inclusion of petty larceny in the index, were changed in 1959, the basic procedure developed by the International Association of Chiefs of Police in 1928 and 1929 is still in use. Moreover, not all academic criminologists have been critical of the offense-known index. Some have used it in their analyses of crime and its distribution, sometimes in connection with other criminal justice indices. The same index was also used extensively by the assessment staff of the President's Commission on Law Enforcement and Administration of Justice although the staff did not ignore possibilities for the development of other crime indicators.

Interest in the development of alternative measures persists and finds expression from time to time in proposals such as those put forward by the President's Commission. Nevertheless, no alternative national measures of crime in the United States are currently available for comparison with the trends suggested by offenses known to the police.<sup>5</sup> Consequently, the analysis and discussion which follows is limited almost entirely to crime and delinquency data for Florida. Geographically limited as such data are, they illustrate the utility of additional indicators of trends

\* Revision of a paper presented at the 1969 meeting of the American Sociological Association, San Francisco.

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<sup>1</sup> The crime rates presented in this report are drawn from the Federal Bureau of Investigation's annual reports, *Crime in the United States, Uniform Crime Reports*. Information was available for Florida and six Standard Metropolitan Statistical Areas for most years from 1958 through 1967.

<sup>2</sup> For examples of the debate which preceded and followed the adoption of offenses known to the police as an official measure of crime see Davies, *Criminal Statistics and the National Commission's Report*, 22 J. CRIM. L.C. & P.S. 347 (1931); Mead, *Police Statistics*, 146 ANNALS 74 (1929); Moley, *The Collection of Criminal Statistics in the United States*, 26 MICH. L. REV. 747 (1928); Sellin, *The Basis of a Crime Index*, 22 J. CRIM. L.C. & P.S. 335 (1931); Warner, *Crimes Known to the Police—An Index of Crime?*, 65 HARV. L. REV. 307 (1931).

<sup>3</sup> Beattie, *Criminal Statistics in the United States—1960*, 51 J. CRIM. L.C. & P.S. 49 (1960); Cressey, *The State of Criminal Statistics*, 3 NAT'L PROBATION & PAROLE ASS'N. J. 230 (1957); Robison, *A Critical View of the Uniform Crime Reports*, 64 MICH. L. REV. 1031 (1966).

<sup>4</sup> Schuessler, *Components of Variations in Crime Rates*, 9 SOCIAL PROBLEMS 314 (1962); Tittle, *Crime Rates and Legal Sanctions*, 16 SOCIAL PROBLEMS 409 (1969).

<sup>5</sup> Arrest information is gathered and published by the FBI; but it is not presented in a form which permits comparison with information about offenses known to the police.

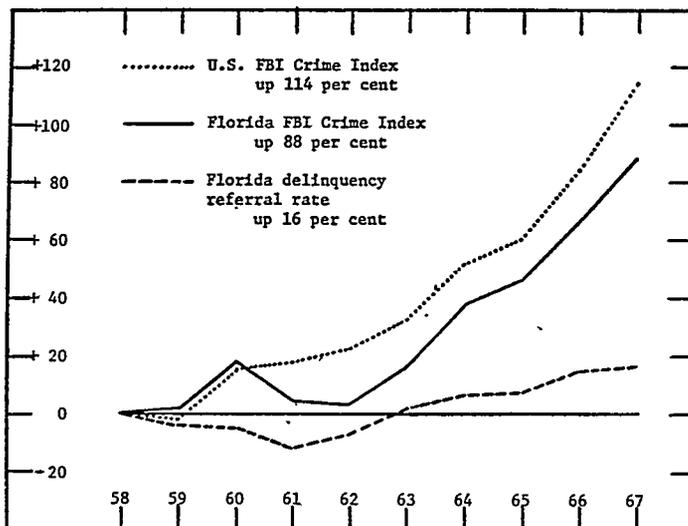


FIGURE 1.

Percentage Increases over 1958 in FBI Crime Index for the U.S. and Florida and Percentage Increases over 1958 in Delinquency Referrals to Juvenile Courts of Florida.

in crime by permitting a comparison of juvenile delinquency referral rates with rates of offenses known to the police for the state of Florida and six metropolitan areas in the state. The additional indicator of criminal activity employed in this analysis is a product of Florida's uniform juvenile court statistical reporting program which has been in operation since 1956.<sup>6</sup>

#### THE STATEWIDE TREND

When percentage increases in the rates of crimes known to the police for Florida and the United States are compared with percentage increases in the Florida juvenile delinquency referral rate for 1958 through 1967, an interesting divergence appears. (See Figure 1). From 1962 to 1967, the percentage change in the crime rate for Florida roughly approximates that for the United States, but the percentage increase in the delinquency referral rate is much smaller at the end of this period than the increase in both crime rates.

There is no way to know why the delinquency referral trend diverges so sharply from the offense-known trend. But arrest data for the United States

and delinquency data for Florida provide support for an explanation which has been put forward by a number of criminologists.<sup>7</sup> This explanation, which recognizes the relation of changes in the age composition of a population to changes in its crime rates, suggests that total population is not the most appropriate base for the computation of a crime rate, and that its use may produce a distorted indication of trends in crime.

An examination of percentage increases in the number of children in selected age categories and the results obtained when these figures are used to compute rates illustrates the importance of using the population base to compute crime rates for a state with a rapidly changing age structure. The number of children in Florida in grades 7 through 12 (approximate ages, 12-17) increased 76 per cent from 1958 to 1967, while the state experienced only a 33 per cent growth in total population.<sup>8</sup> Since most children referred to the juvenile-

<sup>7</sup> Robison, *supra* note 3, at 1046; Sellin, *The Significance of Records of Crime*, 67 L.Q. REV. 489 (1951). See also PRESIDENT'S COMMISSION ON LAW ENFORCEMENT AND THE ADMINISTRATION OF JUSTICE, *CRIME AND ITS IMPACT—AN ASSESSMENT* (1967).

<sup>8</sup> School enrollment data for the state and its 67 school districts (one per county) were provided by the Florida Department of Education. This information under-represents the number of school-age children because it does not reflect private school enrollment. For this analysis, we have assumed that the proportion of children missed in this way would not greatly alter the trend lines presented. An examination of private school enrollments for the period suggests that three

<sup>6</sup> Uniform statistical reports on all children referred to the 67 juvenile courts of Florida were submitted by the courts to the Florida Department of Public Welfare from 1956 through July, 1968. We are indebted to the department and the Florida Division of Youth Services, the agency presently charged with the responsibility for collecting and compiling the information, for making these data available to us.

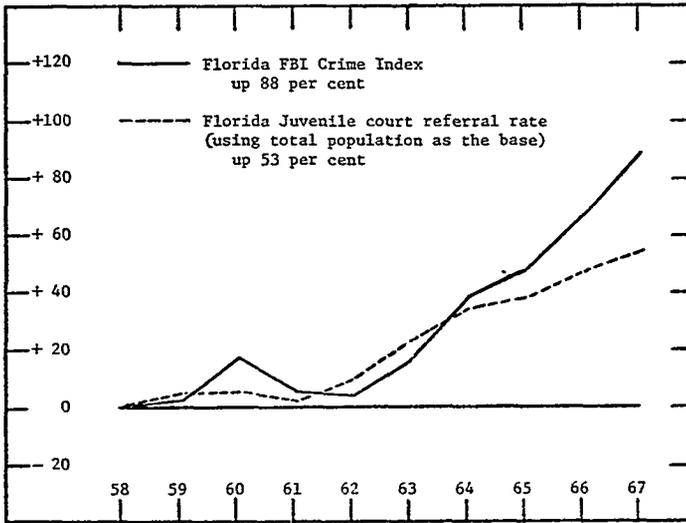


FIGURE 2.

Percentage Increases in Florida's Crime Rate Compared with Increases in the Delinquency Rate when Total Population is used as a Base, 1958 to 1967.

and county courts of the state are between 13 and 16 years of age, it would obviously be inappropriate to use estimates of the total population in the computation of delinquency rates. A more meaningful population base, but one which would still produce misleading results, is the number of children enrolled in grades one through twelve of Florida's public schools.<sup>9</sup> It is a reasonable indication only of the number of children in the state who are 6 through 17 years old. However, limiting the population base to children enrolled in grades 7 through 12 more closely reflects the number of children in the area who are 12 through 17 years old, the age group in which most children referred to juvenile courts are found.<sup>10</sup>

When total school enrollment figures are used to

per cent of the school-age children in the state were enrolled in private schools in 1958 and seven per cent in 1967.

<sup>9</sup> Recognizing that a number of children stop attending school when they reach 16 and that some children are either over or under the age expected for a particular grade, we have assumed that the proportions of children were roughly the same in 1958 and 1967. The loss of 17 and 18 year old young people is not as important a problem as their inclusion in the base because almost all children referred to juvenile court in Florida are 16 or younger.

<sup>10</sup> Our analysis of this information is somewhat less accurate than an age-specific analysis would be if single years of age were used. However, our age-specific analysis produced substantially similar results. See Chilton and Spielberger, *Is Delinquency Increasing? Age Structure and the Crime Rate*, 49 SOCIAL FORCES 487 (1971).

compute delinquency referral rates, there is a noticeable effect on Florida's delinquency trend. The increase in the delinquency rate for 1967 over the 1958 rate would have been 34 per cent if the number of all school age children were used to compute the rate and 53 per cent if estimates of the state's total population were used, but only 16 per cent when the base is limited to children between the ages of 12 and 17. Figure 2 illustrates the effect of the use of a total population base on the delinquency trend relative to the crime trend. Increases in the delinquency rate would still lag behind those in the crime rate, but the results suggest much more similarity in the two trends than is suggested by the data presented in Figure 1.

Figures 1, 2, and 3 present another problem in the interpretation of Florida's crime and delinquency trends. Population estimates increased rather evenly during the period selected for these comparisons. But, as shown in Figure 3, the rate of increase was greater for the first half of the period than it was for the last half. However, changes in the state's crime and delinquency rates present a reverse trend. The slope of the crime index (Figure 1), although irregular, shows little increase during the first five years but increased sharply during the last five, while the delinquency referral rate decreased during the first three years of the period and increased thereafter. The net effect of these trends is the suggestion that crime

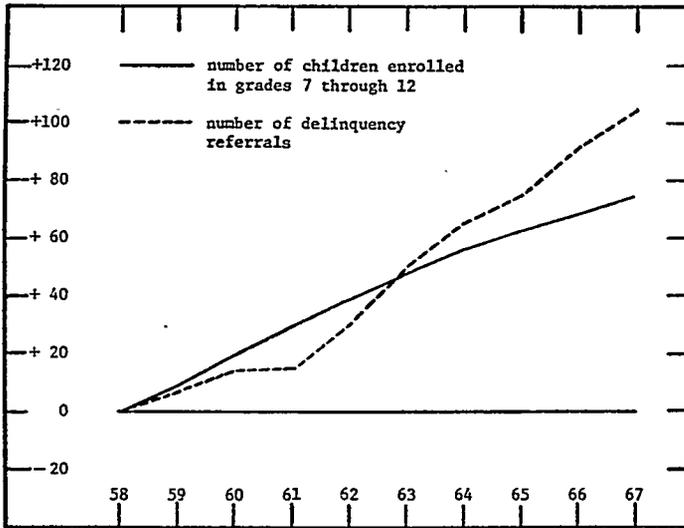


FIGURE 3.

Percentage increases in the number of children in grades 7 through 12 in Florida compared with percentage increases in the number of delinquency referrals.

and delinquency may have been under-reported for the first three or four years of the period and over-reported for the last five years.

One plausible explanation of this lag is the time it takes municipal governments in a rapidly growing urban area to respond to an increase in population. With a sizable influx of population and a relatively stable set of facilities for responding to law violation, the lag suggested by Florida's crime data may simply reflect the failure of police agencies to grow with the population. If, as Erikson<sup>11</sup> and others suggest, there is a constancy of deviance in that the machinery of criminal justice can respond to only so much rule violation, the lag in Figure 3 may reflect a short term failure of several municipal governments to recognize the need for additional police services and to adjust police budgets accordingly. In such a situation, the rates would be expected to rise sharply after the expansion of these forces.<sup>12</sup>

#### METROPOLITAN AREA COMPARISONS

In an attempt to examine in greater detail the questions raised by the state-wide data, comparisons of crime and delinquency trends similar to those made for the state were undertaken for each

<sup>11</sup> K. ERIKSON, *WAYWARD PURITANS* (1966).

<sup>12</sup> The rapid increase in rates for the second half of the period may also be related to changes in reporting practices recommended by the IACP for Jacksonville in 1964 and Miami in 1962.

of six Standard Metropolitan Statistical Areas in Florida for which these data were available. Examination of Figure 4 suggests that the delinquency referral rates for 1967 differed very little from those reported in 1958 for the Orlando, West Palm Beach, and Tampa-St. Petersburg areas and that this rate was almost 25 per cent lower for Miami at the end of the ten year period. Only the Jacksonville and Pensacola courts reported appreciably higher rates in 1967 than in 1958. Jacksonville's 1967 rate had increased 37 per cent over the 1958 rate, and Pensacola's had increased by 69 per cent.

Four of the metropolitan areas show the same divergence between the crime and delinquency trends as that observed for the state. But the trends are reversed for Pensacola, with increases in the delinquency referral rate outstripping increases in the crime rate. The crime rate for Jacksonville suggests a continuous rise from 1962 to 1967, as contrasted with the delinquency referral rate which levels off after 1964.

An examination of Figures 4 and 5 suggests that increases in delinquency referrals fluctuate but generally follow increases in the number of children between the ages of 12 and 17 for four of the six metropolitan areas, with Jacksonville and Pensacola being the exceptions. Delinquency referral rates in all six areas appear to decrease or remain constant until 1961 or 1962 and then to rise sharply

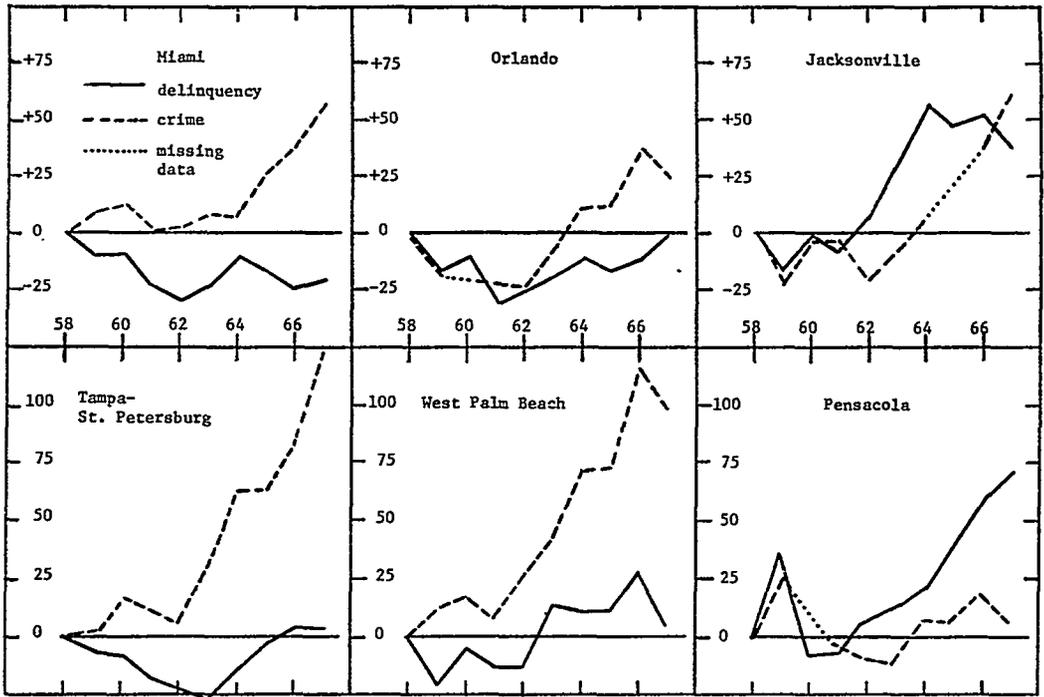


FIGURE 4.

Percentage Increases in Crime and Delinquency Rates for Six Standard Metropolitan Statistical Areas in Florida from 1958 through 1967.

for two, three, or four years in succession, presenting a turning point which is roughly similar to the trend observed in the statewide crime and delinquency rates.

#### DISCUSSION

The information presented in Figure 4 suggests that crime rates for these metropolitan areas remained relatively stable from 1958 to 1962 and increased sharply during the following five-year period. There is no way to know the extent to which this reflects actual changes in the amount of criminal activity in these areas as opposed to a tendency to under-report during the earlier period of time. But if under-reporting did occur, it would suggest that some portion of the subsequent increase in crime rates for these areas must be attributed to improved reporting practices.

Since the delinquency rates for this period also decline or remain constant, it is conceivable that increases in the number of criminal events in the state were actually exceeded by increases in the number of inhabitants. But this contingency seems extremely unlikely in view of Florida's urban

growth and the crime trends in urban areas outside of Florida. It is more plausible to assume that the delay in governmental response which is discussed above is responsible for these trends. In any event, when the initial lag is examined in connection with the sharp increases in the crime rates which begin after 1962 for Miami, Jacksonville, Tampa-St. Petersburg, and Orlando, it suggests that factors other than the occurrence of criminal events have influenced the ten-year trends.

Similar questions are raised by the delinquency trends. It is possible but unlikely that the children in the Jacksonville metropolitan area are more delinquent than the children in the Miami or Tampa-St. Petersburg metropolitan area.<sup>13</sup> It is even less likely that the children in the Jacksonville area in 1967 were more delinquent than the children in the Jacksonville area in 1958-1962, especially since no similar change occurred in any

<sup>13</sup> The rates reported for Jacksonville in 1958 suggested that 62 children per 1000 enrolled in grades seven through twelve were referred to the court. The figure for the same year was 64 for Tampa-St. Petersburg and 56 for Miami. By 1967 Jacksonville's rate rose to 85, whereas Tampa-St. Petersburg was 66 and Miami's 44.

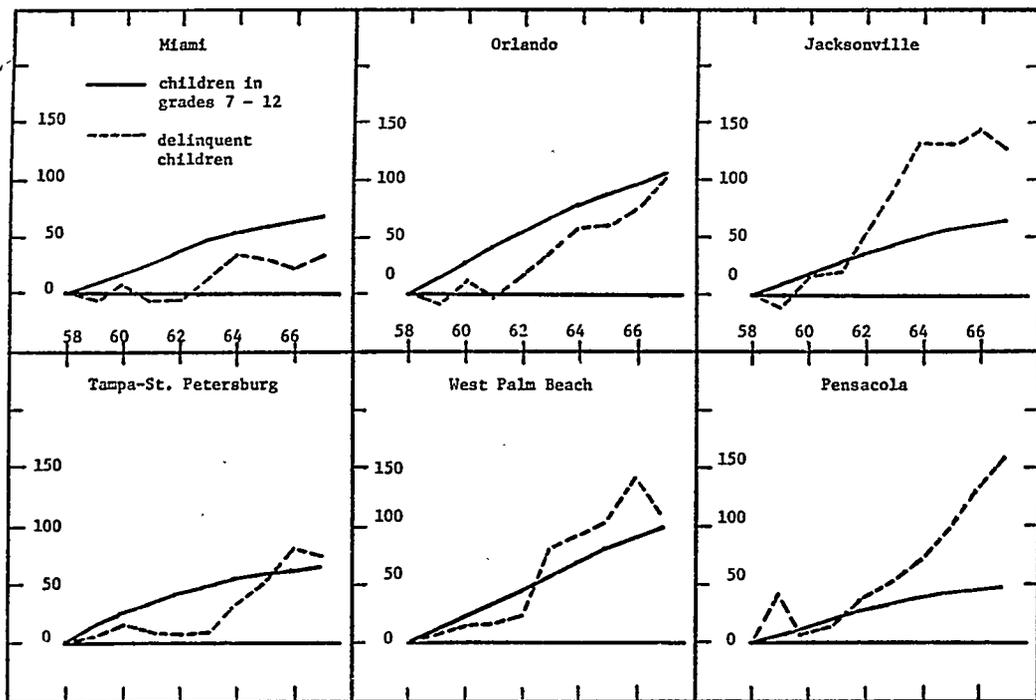


FIGURE 5.

Percentage Increases in the Number of Children Enrolled in Grades 7 through 12 and in the Number of Children Referred to Juvenile Court for Six Metropolitan Areas in Florida, 1958 through 1967.

other major metropolitan area of the state. Of the six metropolitan areas examined, only the trends for Jacksonville and Pensacola suggest that increases in the number of delinquent acts increased more rapidly than the number of children available for the commission of delinquent acts.

A more reasonable explanation is that the changes in the delinquency referral rates in Duval County (Jacksonville) reflect changes in the operation of the police departments of the county, possibly combined with changes in the philosophy or the record keeping procedures of the juvenile court. In brief, the most compelling indications that crime and delinquency trends in Florida reflect reporting variations rather than changes in the rate of occurrence of criminal acts in the state are 1) the divergence of crime and delinquency trends for the urban counties of the state, 2) the divergence of delinquency trends from school enrollment in Jacksonville and Pensacola, and 3) the fact that increases in national crime and delinquency trends have been more or less constant for the period from 1958 through 1962.

One explanation for the divergence of the lines representing percentage increases in the state and

standard metropolitan statistical area crime rates and those representing percentage increases in the delinquency referral rates for Florida is that the total population is not only an inappropriate base for the computation of a delinquency referral rate, but also an inappropriate base for the computation of a crime rate which is to be used in a time series analysis. Unfortunately, there is no way to know, at this time, what the most relevant age category for the computation of such a crime rate would be. Arrest data suggest that the highest proportion of persons arrested for robbery, auto theft, and burglary are 18, 16, and 15 years old respectively.<sup>14</sup> Given the weight of these offenses on the crime index, the number of persons 12 through 20 years of age would probably be more relevant than the total population. But this question will probably be satisfactorily resolved only after suitable alternative measures of crime are developed.

CONCLUSION

In this use of juvenile court data, we have examined one alternative to the use of offenses

<sup>14</sup>CRIME IN THE UNITED STATES, UNIFORM CRIME REPORTS 121 (1968).

known to the police as a measure of crime. Other alternative measures would be provided by victim surveys, uniform arrest reports, and judicial statistics for adult courts. Of these, the victim survey seems to be the most promising, although it is also the most expensive alternative to current methods used in the generation of criminal statistics. Experimentation with this procedure by the National Crime Commission produced results which indicated that there is a good deal of unreported crime occurring in the United States.<sup>15</sup> Their findings clearly suggest that increased police activity and effectiveness could result in still larger increases in the number of crimes known to the police without any increase in the actual number of criminal events per year.

However, any single measure of crime will have serious disadvantages if it is used alone. Neither periodic victim surveys nor uniform arrest reports nor judicial statistics can be accurately viewed as a replacement for offenses known to the police as a measure of crime. Such techniques are suggested here only as supplementary, alternative measures which will provide more information and greater reliability than can be obtained from police figures alone. The utility of such additional indicators lies, of course, in the possibilities they provide for more rational interpretations of the amount and kinds of crime occurring in specific areas during selected periods of time. Moreover, alternative measures would contribute to more accurate and more useful descriptions of the nature and extent of crime and would, in this way, make possible more detailed analysis of factors believed to be related to changes in amounts and kinds of crime.

Since the emphasis in our analysis has been on the importance of age composition for crime trends, our results illustrate the potential value of manda-

tory, uniform arrest reports more clearly than they indicate the utility of victim surveys. If a uniform booking report form were developed and all police agencies in a state were required to submit reports for all persons cited or taken into custody, such information could provide an additional indication of the trends in crime in the state. Such a system would have a number of limitations, but it would provide more detailed and more complete information about crime than is currently being provided by reports of the number of offenses known to the police. In particular, it would provide the information on age needed for computation of age-specific rates. Assuming a more or less consistent ratio between offenses and arrests in specific geographical areas, an assumption which could be tested in areas with periodic victim surveys, such data would permit more accurate discussion of trends in crime for specific cities and states.

Although debated by sociologists as recently as 1968, academic criminologists generally recognize the futility of reliance on, or a search for, *the* best index of crime. Clearly a number of indicators are needed and a number of measures are currently feasible.<sup>16</sup> What appear to be required are more detailed examinations of the obstacles to, and pressure against, changes in the measurement and interpretation of crime in the United States. This is most clearly indicated by the continuing and growing influence of the FBI's crime index, despite its serious limitations. This is a phenomenon worthy of study in its own right.

<sup>16</sup>One alternative which is capable of producing useful results was developed by Sellin and Wolfgang in 1964. Their technique attempts to take into account the seriousness of offenses known to the police in the construction of a crime index. Despite its obvious utility, little use has been made of their procedure. Perhaps nothing less than a full-scale experiment with the procedure by the FBI or a state bureau of criminal statistics would be sufficient to overcome the inertia in federal crime statistics.

<sup>15</sup> PRESIDENT'S COMMISSION ON LAW ENFORCEMENT, *supra* note 7, at 17.