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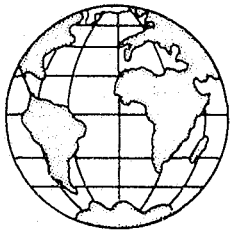

International Summaries

A Series of Selected Translations in Law Enforcement and Criminal Justice

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From Great Britain

Clearing Up Crime

Britain's clearance rates are influenced by many factors; increased manpower is not necessarily the solution to clearing more crimes.

By John Burrows and Roger Tarling

Introduction

It is frequently argued that only a stronger and better equipped police force is capable of reducing rising crime rates (Clark and Hough; Morris and Heal).[1] This presupposes that substantial increases in police manpower would immediately improve police clearance rates. However, a growing body of research suggests that police effectiveness depends on the public's ability to give police good leads and not on increases in manpower. But could police clear up[2] more crime if their strength were increased?

Available evidence does not bear this out with any finality. An examination of the changing relationship between police strength and clear-up rates over the last decade shows that police strength has been increased by 21 percent, but clear-up rates have declined slightly. The rate for England and Wales was 45 percent in 1970 but, after rising to 47 percent in 1973, declined steadily and was only 41 percent in 1979. Of course, the *number* of crimes cleared has steadily increased (from 704,700 in 1970 to 980,700 in 1979), but so has the rise in overall crime (up 52 percent). The number of crimes cleared per policeman has increased in this period of increasing crime, but so has the number of uncleared crimes per policeman.

Furthermore, national figures for different years conceal important differences in police performance among forces. In 1978, clear-up rates among forces ranged from a low of 21 percent to a high of 64 percent.

This report describes research designed to measure the impact of police strength and other key factors on clearance rates. It looks at previous literature in this area, considers the feasibility of the clear-up rate as a measure of investigative performance, and assesses and compares alternative indices. Having established appropriate measures, it describes a model designed to identify determinants of these measures.

The methodology used, advocated by McClintock and Avison, takes into account the different characteristics of the area served by each force, the size and structure of the force, the crime in that area, the socioeconomic conditions, and other variables likely to affect the investigation of crime.

Finally, the report discusses the policy implications of the research results.

Previous research

The main American studies seeking to explain differences in police effectiveness by comparison of different geographical areas or police departments are Orsagh, Wellford, Mathieson and Passell, Pogue, Thaler, and Wilson and Boland. In addition, Phillips and Votey, Fox, Vandaele, and Cloninger and Sartorious analyzed U.S. data over time. The only comparable study in England was conducted by Carr-Hill and Stern, who compared clear-up rates for most police forces in England and Wales for the census years 1961, 1966, and 1971. Their study extensively developed some earlier unpublished work by Greenhalgh; both studies compared police forces in existence prior to the reorganization and consequent amalgamation of forces completed in 1974.

The above studies differ in their design, in the type of offense analyzed, and in the measures of investi-

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Clearing up Crime (NCJ 87135), 1982. (Home Office Research Study No. 73. London: Home Office)

[1]References appear at the end of this summary (Ed. note)

[2]An offense is "cleared" if a person is charged, summoned, or cautioned for that offense, or if it is "taken into consideration (TIC) by the court when sentencing an offender found guilty of another charge. Technical obstacles to prosecution, e.g., death of the offender, clear the offenses.

gative performance used. Carr-Hill and Stern, however, used the standard definition of clearance rate: the proportion of indictable offenses cleared to the total number of reported indictable offenses. All the studies considered three types of influences on investigative performance: incidence and nature of crime in an area, the area's socioeconomic features, and the police resources available.

Generally, these studies found that demographic and socioeconomic factors had little effect on explaining the differences in clearance rates and that level of crime was unrelated to investigation performance. Carr-Hill and Stern, however, found that the "mix" of crimes in an area had a greater, although not statistically significant, impact on clearance rates than did crime rates.

The association between police strength variables and measures of investigative performance found by these studies appears less consistent, and the different ways police resources were measured could be to blame. Orsagh, Wellford, Pogue, Fox, Vandaele, and Cloninger and Sartorious defined police resources as police manpower per capita or expenditure on the police per capita. They generally found no significant relationship between either measure and indices of police effectiveness. Carr-Hill and Stern also used police manpower per capita and found it often to be negatively related to clear-up rates, suggesting that more police per capita actually resulted in a reduction in clear-up rates. However, by 1971, this effect had largely dissipated.

In contrast to these findings, Mathieson and Passell and Wilson and Boland used the ratio of police manpower to the number of crimes as a means of measuring police workload. Both found it to be significantly related to clearance rates: the lower the number of crimes per officer, the higher the clearance rate. Crust, in a survey of 26 representative police divisions in this country, found evidence of a relationship between the caseload borne by all divisional staff and the clear-up rate. Findings by Greenwood (1970 and 1977) in the United States have reported the same relationship, though between the arrest rates and police workload. However, the effects of police resources on clearance rates, even when significant, have not been great. Mathieson and Passell estimated that a 1 percent increase in police patrol manpower would raise the proportion of robberies solved by 0.2 percent, and Wilson and Boland estimated this figure to be 0.1 percent.

Given the lack of association between performance, crime rates, and background variables, and the finding that police resources had little impact, it is not surprising that the variance in rates (from 13 to 30 percent) could not be satisfactorily explained to any great degree.

Measures of investigative performance

Researchers have been able to describe how police clear up crime and have demonstrated that clearance rates may simply reflect the strategies pursued by particular forces. They have also shown that there is political pressure on police to manipulate their statistics. Overall, police practices are assumed to vary to such an extent from force to force that differences in clearance rates may artificially reflect these practices.

The initial stage of this research involved testing this assumption, namely by subjecting the criticisms of these researchers to comparative analysis. The aim was to test whether disparate practices identified by research in a small number of selected forces invalidated the overall clear-up rates as an indicator of effectiveness.

Data on crime clearances for the period 1975 to 1977, released by Her Majesty's Inspectorate of Constabulary (HMIC), were used to analyze the following hypotheses:

- Clearance rates vary because each force uses different methods of clearance.

- Some forces obtain more clearances despite dealing with about the same number of offenders.

- Some forces boost rates by concentrating on "self-detecting" types of crime (i.e., shoplifting) where the offender's identity is instantly revealed during initial discovery of the crime.

The HMIC data involved all (41) police forces in England and Wales, excluding the Metropolitan Police Force (1977). The study derived several refined measures of police performance and compared these with the actual clearance rate. It then tested whether the wide variation between forces was reduced by the refinement.

Understanding the methods police use to gather data and how data collection varies for different types of crime is important to understanding the data, however.

HMIC asks forces to distinguish the four methods of crime clearance:

- Those achieved by charge or summons.
- Those cleared by cautioning the offender.
- Those cleared by offenders having offenses taken into consideration (TIC)--these are solved indirectly by, for example, a convicted inmate admitting to additional crimes.

To get around these deficiencies in the reported data, for this study police forces were asked to supply information about investigation methods to the Research and Planning Unit. Also, a questionnaire eliciting this type of information was circulated to all police forces in England and Wales through the regional offices of the HMIC. Twenty-eight forces completed questionnaires on crime statistics and clearance rates for the study. Information was requested for crimes cleared in 1977. The results are summarized below.

Methods by which crimes were cleared-up by the police, by offence group, 1977 (28 forces).

Percentages

Type of Offence	*Method of Clearance*			
	Charge/ Summons	*Taken into consideration*	*Caution*	*Otherwise without proceedings*
Violence against the person	83.4	0.5	5.5	10.7
Sexual offences	62.1	9.9	19.0	9.0
Burglary	42.9	33.2	4.5	19.5
Robbery	85.8	4.5	3.6	6.2
Theft and handling stolen goods	51.1	24.9	14.6	9.4
Fraud and forgery	50.3	44.5	2.1	3.0
Criminal damage	74.8	8.4	6.9	10.0
Other indictable offences	74.4	7.9	3.8	13.9
Total	52.8	25.7	10.5	11.0

- Those cleared without proceedings. (These may be crimes committed by juveniles where no useful purpose is served by taking court proceedings, or crimes where there are practical hindrances to proceedings--for instance, the defendant is too old, is serving a custodial sentence, or has died.)

To complete the HMIC returns, police forces apply the counting rules agreed upon with the Home Office Statistical Department with respect to the "number" of crimes cleared. However, no counting rules exist for defining the methods by which clearances are achieved.

Information available from Criminal Statistics supports the feeling that some types of crimes are likely to be cleared by one particular method, and others are not. Reports submitted to the HMIC are not required to have a breakdown of crime information regarding clearance method.

It can be seen that the method of clearance is markedly different for different types of crime. Offenses of violence or robbery were only infrequently cleared by any means but charge or summons. Burglary, theft, and fraud were often cleared by "TIC," and burglary was also cleared in "otherwise" proceedings a substantial number of times.

The table shows that the proportion of offenses cleared by "TIC" varies considerably among crime types. Researchers have been quick to notice this. The evidence that a high proportion of offenses are cleared by "TIC" has also led to controversy about the weight that should be attached to such clearances. Lambert suggested that the clear-up rate was very dependent upon the whim of offenders declaring their interest in previous exploits. McClintock and Avison, with others, have even argued that forces should exclude such "indirect" clearances. However, this view is not fair, since it suggests that these clearances are somehow less valuable than other clearances and ignores the part played by the officer's modus operandi.

Findings

The principal finding of this research was that the clearance rate is a robust measure. Most refinements did not differ substantially from the actual clearance rate. Only two of the alternative measures produced any appreciable impact on the clearance rate: the clearance rate with both "TIC's" and offenses cleared by other means excluded, and an index of effectiveness based primarily on the number of persons dealt with by the police. However, notwithstanding extremely wide differences between forces in the methods used to clear crime and in their other strategies, the analysis suggests these tend to have a more random impact on force rates rather than producing extensive bias.

Excluding crimes cleared by more contentious methods of clearance, such as the "TIC" method, did to a degree corrupt force clearance rates, particularly in some cases. Bottomley and Coleman found that excluding "TIC" did not have a significant effect on the overall clearance rate. Moreover, excluding crime cleared by both "TIC" and "without proceedings" changed the clearance rate somewhat, but it was still highly correlated with the overall clearance rate.

Determinants of the Clearance Rate

To determine what factors influence the police clearance rate, police statistics from the 41 forces were analyzed. The study first correlated the clearance rate

Summary statistics of the clear-up rate and alternative measures. All police forces in England and Wales excluding the Metropolitan Police Force:† 1977.

Percentages

Clearance Measure	*Mean*	*Minimum*	*Maximum*	*Range*	*Correlation with overall clear-up rate*	*Proportion of cleared offences omitted by refinements (all forces)*
Overall clear-up rate	47.5	22	64	42	1	—
'Self detecting' excluding shoplifting, theft by an employee, handling stolen goods, going equipped to steal	38.6	16	56	40	.97	29.4
'Methods'						
excluding 'Tics'	40.8	20	60	40	.93	24.7
excluding 'Tics' not previously reported	44.1	21	61	40	.96	12.9
excluding 'otherwise without proceedings'	43.4	21	59	38	.84	9.5
excluding 'Tic' and 'other'	31.9	19	51	32	.75	34.2
'Persons dealt with'						
Relative detection rate*	32.6	18	47	29	.88	n/a

†This force does not report to HMIC

*Relative Detection Rate $= \frac{100\,(x + y)}{x + y + z}$

where x = number of persons convicted
y = number of persons cautioned
z = number of crimes not cleared up.

with the following variables: crime rate and crime mix, demographic and socioeconomic variables, and numerous police variables. Multiple regression was the main methodology employed, though a simultaneous equation approach was adopted.

The following table illustrates the results.

Results show crime mix to be more strongly related to the clearance rate than crime rate. The only demographic and socioeconomic variables that seemed important were total population and age distribution. The extent to which a department is urban was a limited predictor of clear-up rates, as were three measures of workload. Police workload, however, was a much more important factor than police presence in determining the clearance rate.

Alternative regression analysis, when carried out to consider combinations of the variables, confirmed that social variables were not significantly related to clear-up rates, and neither was crime rate. Crime mix remained the most important determinant of the clearance rate. Moreover, the number of police per capita was significantly related, while the number of crimes per officer was not.

When crime mix joined crimes per officer and police per capita, police per capita again appeared more important than the crimes per police. This equation--with crime mix the most important influence, police per capita

Possible factors determining police clear-up rates.
All police forces in England and Wales excluding the City of London and Metropolitan Police.

Variable	*Correlation with clear-up rate*	
	r	*p*
Crime variables		
Crime rate (recorded indictable offences *per* capita)	-.36	<.05
Crime 'mix'*	.63	<.001
Demographic and socio-economic variables†		
Total population	-.39	<.05
Age distribution (proportion males aged 15-24 of total population)	-.32	<.05
Proportion of area urban	-.25	ns
Proportion unemployed	.04	ns
Average weekly earnings	-.19	ns
Proportion middle class	.06	ns
Proportion working class	.15	ns
Police variables		
Police *per capita*	.15	ns
Indictable crimes *per* CID and uniform officer	-.46	<.01
Indictable crimes *per* CID officer	-.44	<.01
Indictable crimes *per* all police officers	-.49	<.01
Expenditure on the police *per* officer	-.34	<.05
Proportion of force CID	-.27	<ns

* Proportion of all crime in the major offence categories violence against the person, sexual offences, fraud and forgery and 'other' offences, and of individual offences of shoplifting, theft by an employee, going equipped to steal and handling stolen goods. These were selected on the basis that each offence has a clear-up rate of over 75 per cent (in most cases, over 90 per cent). In total this crime accounted for 20.3 per cent of all indictable crime recorded in 1977.

† Data from *Regional Statistics* (Central Statistical Office, 1977) and *National Dwelling and Housing Survey* (Department of the Environment, 1980). Comparable data for Wales supplied by the Welsh Office.

significantly related, and crimes per officer accounting for little of the variance--was true for 61 percent of the variance in the clear-up rate.

When the analysis was replicated with an alternative measure (the clear-up rate excluding offenses "taken into consideration" and other offenses cleared "without proceedings") as dependent variables, crime mix was again found to be the most important influence, but neither police per capita nor crimes per police obtained significance. Also, the proportion of variance explained fell from 61 to 49 percent. When the relative detection rate was adopted as the dependent variable, all three variables were significantly related, and crime mix again appeared the most important. The three variables accounted for 63 percent of the variance.

Although the results varied slightly depending on the measure of effectiveness used, they consistently indicate that a 1 percent increase in police would not increase the clear-up rate by the same amount.

Implications for policy and practice

Though this analysis has proved to be more successful than earlier studies in accounting for the variance in police clearance statistics, a significant portion of that variance still remains unaccounted for. To what additional factors might these differences be attributed?

One influence might be the difference between forces in arrangements for investigating crime. The presence of specialist squads, for instance, might affect performance. Another factor that might affect the clearance rate is the use of forensic services and other technical support by investigators. Still another is information on how crimes come to police notice; how police find out about an incident may determine the availability of information on which investigators can act. Additional influences might be questions about the organizations' incentives and questions of force policy, particularly regarding case screening procedures.

Evidence suggests that increasing police strength to achieve increases in clearance rates would be unjustified and unrealistic considering the cost of additional manpower. Moreover, a significant number of crimes simply do not offer enough clues for detectives to solve them, so increased manpower would be wasted.

If increasing clearance rates is the goal, police forces should consider strategies designed to extract peak output from existing resources or, at least, to reduce fruitless work. One way to do this would be to identify how detectives and other investigators spend their time to see if their tasks could be performed more efficiently. Another is to experiment with case screening procedures, common in the United States, and channel resources toward the investigation of solvable cases alone.

Although achieving the clearances is important, it is also important to keep in mind that the community's sense of security is based as much on the reassurance provided by detectives visiting crime victims as on their actual productivity. The different functions of investigative work should be defined more explicitly and consideration should be given to the possibility that innovation can be detrimental.

Summary

This report describes research designed to assess the impact that the level of police resources has on clearup rates. In the main analysis, it was found that, of the factors considered, crime mix (a measure of the type of crime with which the police have had to deal) consistently proved to be the main determinant of a force's clear-up rate. Police resources did affect force rates, but the nature of that relationship was such that a 1 percent increase in police manpower would not lead to a commensurate increase in the clear-up rate. The principal implication of these results is that the remedy for declining clear-up rates is not to be sought solely in increased police manpower. The clearance of most routine crime, as various research studies have shown, derives from the help supplied to the police by the public, rather than from the efforts of the police. Although it is recognized that police investigation should have wider aims than clearance, nonetheless some improvements in clearance might accrue from altered methods of crime investigation.

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