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Inequality, Unemployment and Crime: A Cross-National Analysis*

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In order to contribute to the development of an international perspective on crime and to examine a central tenet similar to many theoretical perspectives on the etiology of crime, cross-national data on inequality, unemployment, and crime rates were analyzed. It was hypothesized that nations having a high rate of unemployment and an inequitable distribution of income would have a high crime rate. The results of the correlational analyses indicate a moderate positive relationship between the rate of unemployment and homicide rates, whereas there are small negative relationships between unemployment rates and (1) the rates of property crime, and (2) the total crime rates. The variable of inequality is strongly related to the three indices of crime and the directions of the relationships are consistent with those involving unemployment rates. The results were further investigated to examine the possibility that the observed relationships were due to the effects of industrialization. The direction of the zero-order correlations involving property crime rates and total crime rates are not changed in the partial correlations and the strength of the relationships are not consistently reduced. These results are discussed in reference to their implications for criminological theory and the development of a comparative criminology.

IN SPITE OF widespread recognition of the importance of cross-cultural comparisons in sociology, dating at least since the writings of Durkheim (1950:139), few American sociologists have examined theoretical propositions employing data from a number of different societies. This observation would seem to be especially pertinent for criminology. Clinard's description of American criminology, more than a decade ago, as a "national criminology" is still valid today. Clinard forcefully stated his concern over the necessity of establishing an international perspective:

> Indeed, if the sociological study of crime is to be scientific general data, hypotheses and findings should not be derived from only one particular series of historical events taking place in one society, which is often the case, especially in American criminology (Clinard, 1960:253).

While there have been some steps taken in the direction of developing a comparative perspective in the sociology of crime (Clinard, 1960; Clinard and Abbott, 1973; Wellford, 1974; Wolf, 1971) further efforts are clearly needed. The purpose of the present paper is to contribute toward the further development of a comparative criminology by examining the relationship between measures of economic deprivation and crime utilizing cross-national data.

The role of economic deprivation in the production of crime rates has received a great deal of theoretical attention and an increasing number of attempts have been made to refute or validate derivative hypotheses. Major theoretical perspectives such as "strain" or anomie theory (Merton, 1938; Cloward and Ohlin, 1961), the conflict perspective (Engels, 1950; Vold, 1958; Gordon, 1971; Taylor et al., 1973), and neoclassical utility theory (Ehrlich, 1973; Danziger and Wheeler, 1975; Danziger,

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1975), in spite of their differences, all posit that greater economic deprivation or inequality produces higher crime rates.[1] This proposition has not been examined on cross-national data. Therefore, in addition to the substantive significance of data on crime from different societies, the data presented here allows for one type of test of an important tenet of these theoretical perspectives.

Review of the Literature

The research on the relationship between economic deprivation and crime can be divided into three primary categories: (1) studies examining the relationship between social class and crime and/or delinquency, (2) studies examining the effect of fluctuations in the business cycle on the crime rate, and (3) studies examining the influence of unemployment and/or inequality on crime. In all categories the underlying assumption is that the economically disadvantaged will be more likely to commit criminal behavior.

The controversy over the relationship between social class and criminal (delinquent) behavior has generated much research. The research has been reviewed at great length elsewhere (Gibbons, 1970; Nettler, 1973) and it need not be repeated here. It has commonly been assumed that when one operationally defines criminality in terms of official data, a clear inverse relationship is found. Yet, when the criminality is operationally defined in terms of self-report data, the results are not as clear-cut. Gibbons (1970), in reviewing many of the earlier studies, concluded that self-report studies indicate that for serious offenses there is an inverse relationship, whereas no significant relationship is found for petty offenses. Yet, more recent data appear to conflict with Gibbons' conclusion. Williams and Gold (1972), in a nationwide study of self-reported delinquency, found that for both serious and petty offenses there was no significant relationship between social class and delinquency.

The second type of research on the effect of economic deprivation on crime centers around the notion that crime will vary with fluctuations in the economic cycle of a country. Most of the studies of this nature were performed in the early 1900's and were particularly prominent during the Great Depression. Perhaps the most often cited study is that done by Thomas (1927). In examining data on the British economic situation and rates of crime and suicide, Thomas concluded that the indices of crime do not display a strong nor consistent inverse relationship with the business cycle, but that the number of suicides are inversely correlated with the business cycle. Radzinowicz (1941) analyzed data from Poland during the depression years and concluded that there is an inverse relationship between economic conditions and crime. Yet, Wagner (1936) and Simpson (1931) present data from the United States which contradict Radzinowicz's findings. Snyder and Tilly (1972) focus on the tangential problem of collective violence utilizing longitudinal data from France and also report findings opposite to those of Radzinowicz. The literature cited above is illustrative of the equivocal nature of the results generated from the studies correlating the fluctuations of the business cycle with measures of crime and other forms of disorganization. As Sellin (1937) forcefully argued, these

[1]These perspectives differ in terms of the dynamics of the role played by economic deprivation (particularly regarding whether economic deprivation is seen as an antecedent or intervening variable). Yet, the variable of economic deprivation is of central concern to each theory. The cross-national data limit one's ability to incorporate all of the variables of importance to the theories, and, therefore, my research will not examine all of the propositions derivable from them.

studies were marred by the varying operational definitions of the economic conditions and the sources from which they acquired their data.[2]

The two categories of research cited above either limited the level of analysis to between-group comparisons or did not address the question of the amount of relative deprivation experienced by people in a society. The research investigating the relationship between unemployment and, particularly, inequality and crime overcomes these deficiencies to some degree.

The research investigating the relationship between unemployment and crime has been somewhat sporadic. Earlier studies found either an inconsistent relationship or no significant relationship. Nevertheless, Glaser and Rice (1959) suggested that the failure to find a direct relationship between unemployment and crime was an artifact of combining the data on juveniles with those on adults. When the researchers separated the two sub-populations they found that for adults there was a positive relationship between unemployment and crime whereas for juveniles an inverse relationship was found. Their interpretation was that during times of high unemployment juveniles were accorded more attention by their idle fathers thus decreasing the juvenile delinquency rate. In a reexamination of the Glaser and Rice data, Fleisher (1963) found that if the analysis takes into account the war years, the relationship for all age specific categories is in a positive direction. In addition, Fleisher (1966) has also collected data from three American cities and has found a direct relationship between unemployment and crime. Phillips et al. (1972) also examined this relationship and found only limited support for the hypothesis. More recently, data gathered through sophisticatedly designed studies have called into question the hypothesized relationship between unemployment rates in cities and states within the U.S. and crime rates (COMP, 1973; Danziger and Wheeler, 1975; Ehrlich, 1973; Spector, 1975).

There have been few studies examining the relationship between unemployment and crime internationally. Clinard and Abbott (1973) report on research performed in Sweden by Friday, as well as their own examination of Kampala Uganda, both of which indicate that there is no significant relationship between unemployment and crime and delinquency.

Until recently little research has employed the variable of inequality in the analysis of crime rates. Perhaps this is due to the difficulty of obtaining data on inequality. In the last decade such data has become available (Dye, 1967; Taylor and Hudson, 1972), and a few inroads into this line of inquiry have been made (COMP, 1973; Danziger and Wheeler, 1975; Ehrlich, 1973). The three studies cited above all find a direct relationship between measures of inequality and both crimes against the person and property crimes (the latter being stronger relationships than the former) using either metropolitan areas, states, or the entire U.S. (in a time series analysis) as the units of analysis. It is interesting to note that both the COMP study and the Danziger and Wheeler study indicate that the critical variable explaining the observed relationships was the percentage of families with *high* incomes. The COMP study interpreted this finding as indicating that a crucial feature in the production of crime

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[2]The study of the effects of fluctuations in the business cycle should not be confused with those which address the issue of the effect of the developmental status of a country on crime. For the most part, the latter studies have clearly indicated that there is a positive relationship between industrial development and property crime, while for homicide, an inverse relationship is observed (Wiers, 1945; Porterfield, 1949; Hagedorn et al., 1971; Quinney, 1965; Wolf, 1971; Wellford, 1974).

rates is having high income targets located in an area in which there is relatively great income disparity.

The above discussion demonstrates that the research on the relationship between unemployment and inequality and indices of crime is not conclusive. Moreover, none of the previous studies have examined these hypothesized relationships utilizing data from more than one country. In order to contribute to the development of a comparative criminology and to further the investigation of a central tenet in criminological theories, the current effort will examine the hypothesis that a nation which exhibits a high unemployment rate and/or a high degree of inequality will experience a high rate of criminality.

Method

The difficulty with any international research is acquiring the necessary data. Fortunately, recent data gathering projects have provided comparative data on a number of variables. While the data are certainly not without difficulties, I feel that they do provide an adequate basis on which to form tentative conclusions.

The primary data source for the independent variables was *The World Handbook of Political and Social Indicators: Second Edition* (Taylor and Hudson, 1972). *The World Handbook* represents a data archive which contains 303 variables for 120 countries. Unfortunately, the data on any one variable may not be complete, thus reducing the total N in the analyses that follow. While the absolute figures given on a variable for a particular country may not be completely accurate, Taylor and Hudson have taken great care to acquire reliable and valid data, and their archive is considered to be the best source for international data (Jackman, 1975). They assert that their data can be employed confidently in examining trends either within a longitudinal design or by comparing developing nations with those which are industrialized. Specifically, the data on inequality, gross national product per capita[3] and the level of industrialization (herein operationally defined as the level of energy consumption per capita)[4] are taken from *The World Handbook*. It should be noted that the latter two variables will be employed as control variables in the analyses which follow as they might be expected to have a confounding influence on the relationship between the independent and dependent variables.

The data on the unemployment rate has been obtained from the *Yearbook of Labour Statistics* (International Labour Office, 1967). Again, the completeness of the data on unemployment is problematic.

Of the four independent and/or control variables mentioned above, the only one which demands explication is that of inequality. *The World Handbook* provides several measures of inequality which are, for the most part, highly intercorrelated (Alker and Russett, 1966). The measure employed in the current study is the *Gini Index of Income Inequality*. The measurement of the Gini Index is based upon the depiction of the cumulative value distribution of income by a Lorenz curve. The Lorenz curve is then compared to a line of perfect equality in order to assess the amount of discrepancy between the two graphs. Specifically, the Gini Index:

[3]GNP/capita is reported in constant U.S. dollars even for those countries which normally report their national accounts in terms of net material product or other concepts.

[4]Energy consumption is defined as gross inland consumption of commercial fuels and water power, expressed in terms of its coal equivalent.

...cumulates for a population the difference between a theoretical cumulative distribution of values and the actual one. In geometric terms, the area between a Lorenz curve and the line of equality is divided by the maximum possible area of inequality. The greater this area, the more highly possession of the value is concentrated, or unequal (Alker and Russett, 1966:361).

The source for the crime data is the biannual *International Crime Statistics* published by the International Criminal Police Organization (Interpol). The crime data employed in the current analysis represents crimes known to the police which is standardized by dividing this total by the total population.

The Interpol data does present similar but compounded problems to those found with the use of the *Uniform Crime Reports.* These criticisms have been fully discussed elsewhere (Wellford, 1974), however, a brief recounting is in order.

The potential problem of comparability in the definitions of specific crimes is largely circumvented by employing rather broad categories and avoiding the inclusion of those crimes such as drug or sex offenses which would be more likely to vary in definition from country to country. Specifically, the three indices utilized are property crime rate, homicide rate, and total crime rate.

The other major criticism of the Interpol data is the expected variability in the reporting rates of developing nations as compared to industrialized nations. By comparing rural reporting to those of urban areas within the U.S. (using victimization data) Wellford (1974) concludes that there is little difference in the rate of reporting. If the rural-urban difference within the U.S. is indicative of the differences between developing and industrialized nations, then these data might indicate that the difference between nations may not be problematic. Indeed, the few attempts at conducting victimization studies in underdeveloped countries elicit reporting rates comparable to the U.S. (Bayley, 1968; Tanner, 1970). Archer and Gartner (1975) conclude that errors introduced by underreporting may tend to be "essentially random in nature."

While the evidence cited above does not lead to the conclusion that the Interpol data is a valid and reliable indicator of the actual crime rate, it does suggest that the systematic biases contained in the data are limited. Therefore, these data can be employed in analyses of trends and covariations with structural variables.

As I have noted above, the number of countries for which data are available for a particular variable is problematic. In order to circumvent the problem of the comparability of subsets of countries included in the analyses that follow, while attempting to provide the most complete analyses possible, the results will be reported for those countries for which data were available for a particular set of variables, and for those countries for which data were available for all the variables examined in the complete analysis.

Results

The results of the zero-order correlational analyses are contained in Tables 1-3. Even though the zero-order correlations contained within the three tables are computed with data from countries which vary somewhat, the intercorrelations among the variables which appear in all three tables are remarkably consistent in direction and strength. The variables of GNP/cap and Energy consumption/cap reveal a rather high positive correlation. The homicide rate varies inversely with the property and total crime rates, whereas the latter two variables are fairly highly correlated in a

TABLE 1. Zero-order Correlation Matrix Including Only Those Countries for Which Data on Unemployment Were Available (N=38)

	Unemployment	Energy Consumption/ cap	GNP/cap	Homicide	Property	Total
Unemployment	1.00					
GNP/cap	.14	1.00				
Energy Consumption/cap	.08	.95	1.00			
Homicide	.23	-.25	-.28	1.00		
Property	.01	.69	.77	-.32	1.00	
Total	.14	.58	.68	-.31	.85	1.00

TABLE 2. Zero-order Correlation Matrix Including Only Those Countries for Which Data on Inequality Were Available (N=27)

	Inequality	Energy Consumption/ cap	GNP/cap	Homicide	Property	Total
Inequality	1.00					
GNP/cap	-.57	1.00				
Energy Consumption/cap	-.60	.95	1.00			
Homicide	.60	-.42	-.45	1.00		
Property	-.62	.65	.73	-.44	1.00	
Total	-.41	.48	.58	-.29	.81	1.00

TABLE 3. Zero-order Correlation Matrix Including Only Those Countries for Which Data on Both Unemployment and Inequality Were Available (N=24)

	Inequality	Unemployment	Energy Consumption/ cap	GNP/cap	Homicide	Property	Total
Inequality	1.00						
Unemployment	.36	1.00					
GNP/cap	-.48	-.05	1.00				
Energy Consumption /cap	-.50	-.17	.94	1.00			
Homicide	.53	.26	-.32	-.35	1.00		
Property	-.67	-.21	.59	.69	-.37	1.00	
Total	-.48	-.003	.45	.54	-.38	.82	1.00

positive direction. Finally, the homicide rate varies inversely with both GNP/cap and Energy consumption/cap whereas the property and total crime rates are positively correlated with the two measures of a country's developmental status. Since these results are consistent with previous studies (Wellford, 1974; Quinney, 1965; Wolf, 1971) and since they remain consistent with all three subsets of countries, it appears that any systematic bias introduced by the availability of data is minimal.

Concerning the variables of central importance for the current study[5], inequality varies inversely with two measures of developmental status, suggesting that the more industrialized a nation is the less inequality it experiences. Unemployment is not significantly related to either GNP/cap or Energy consumption/cap. Inequality is positively correlated with the homicide rate while it is negatively correlated with both the property crime rate and the total crime rate. The unemployment rate is directly related to the homicide rate and not significantly related to either the property crime rate or the total crime rate.

From the zero-order correlations it is evident that the hypothesized relationship between inequality and unemployment and property and total crime rates was not substantiated by the data. In fact, the relationships between inequality and property and total crime rates were significant in the opposite direction. The only correlation which conformed to expectations was that involving the relationship between the homicide rate and inequality. The theoretical perspectives suggested earlier would have de-emphasized the importance of this relationship.

The failure to find the hypothesized relationships in the zero-order correlations between inequality, unemployment, and the crime indices might be due to the effects of the variables measuring the level of development of a country. To examine this possiblity, first and second order correlations, partialling out the effects of these variables, were computed.

Table 4 contains the results of the first and second order correlations using the data only from those countries for which a complete data set was available. The correlations between inequality and property and total crime rates are somewhat reduced, however, they do not disappear as would be expected had the previously observed zero-order correlations been due to the effects of either GNP/cap or Energy consumption/cap. The same reduction in the correlations (or in the case of the total crime rate change in direction) of the relationships is observed in the first and second order correlations between property and total crime rates and unemployment. Yet, once again the change is not as substantial as would have been expected.

To further examine the effect of the four independent and control variables on the crime indices, stepwise regression analyses were performed (Table 5). As anticipated by the zero-order correlations the inequality variable explained a greater proportion of the variance in homicide while GNP/cap contributed most highly to the explanation of the variance in property and total crime rates.[6] Perhaps the only unan-

[5]In order to minimize confusion, the following discussion will be based upon the results contained in Table 3. The only results in Table 3 which are discrepant with those contained in either Table 1 or Table 2 are those involving unemployment, property and total crime rates. The differences are not substantial and the correlations are for the most part statistically insignificant.

[6]In order to investigate the possibility that inequality and GNP/cap had an interactive effect on the production of crime rates, an interaction term was entered into the regression analysis, but it did not contribute to the explanation of the variance in crime rates. Non-linear equations were also examined and also did not improve the explanatory power of the variables.

TABLE 4. First and Second Order Correlations Including Those Countries for Which Data on Unemployment and Inequality Were Available (N=24)

CONTROLLING FOR:	ENERGY CONSUMPTION/CAP		GNP/CAP		GNP/CAP AND ENERGY CONSUMPTION/CAP	
	Inequality	Unemployment	Inequality	Unemployment	Inequality	Unemployment
Homicide	.45	.26	.44	.22	.44	.22
Property	-.55	-.22	-.52	-.12	-.55	-.04
Total	-.34	.02	-.29	.10	-.31	.19

TABLE 5. Results from Stepwise Multiple Regression Analysis Including Those Countries for Which Data on Unemployment and Inequality Were Available (N=24)

DEPENDENT VARIABLE	B*	R	R^2
Homicide Rate			
Inequality	.44	.53	.28
GNP/cap	-.11	.54	.29
Unemployment	.08	.54	.30
Property Crime Rate			
GNP/cap	1.14	.69	.47
Inequality	-.50	.79	.62
Energy Consump/cap	-.73	.81	.65
Unemployment	.14	.82	.67
Total Crime Rate			
GNP/cap	1.12	.54	.29
Inequality	-.41	.59	.35
Energy Consump/cap	-.88	.62	.39
Unemployment	.31	.68	.46

ticipated results in the regression analyses are the changes in the direction of the relationships between energy consumption/cap and property and total crime rates. This is probably due to the multicollinearity between GNP/cap and Energy consumption/cap.

Discussion and Conclusion

A crucial concept in theories of crime causation reflecting the strain, conflict, and utility perspectives is that of economic deprivation. In order to examine the explanatory value of this concept within a comparative perspective, I hypothesized that crime, particularly property crime, would be greater in societies where inequality and unemployment were high. The results indicated that neither the variable of inequality nor that of unemployment was consistently correlated in the hypothesized direction with indices of crime. In fact, the correlations involving the property crime rate and the total crime rate were either in the opposite direction or not significant.

The only hypothesized relationship which was supported by the data was that between inequality and homicide.

The present effort only addresses a limited aspect of the aforementioned theoretical perspectives and, therefore, the results cannot be considered a refutation of any of these paradigms. Any conclusive examination would demand data on variables such as anomie, alienation, and the costs of performing a criminal act. To date, cross-national data on such dimensions simply are not available.

While it has been argued that it is necessary to begin to employ cross-national data in examining criminological theories, it must also be recognized that, in the interpretation of such data, one must be concerned with the level at which these data are aggregated. As noted earlier, previous studies examining similar hypotheses within the U.S. have found support for the predicted relationship between inequality and crime. It is quite possible that by selecting the nation-state as the unit of analysis, relationships between inequality and crime within nations may have been camouflaged (Robinson, 1950). With the introduction of the nation-state as a unit of analysis in studies concerning the etiology of crime, theorists and researchers will have to be more concerned with specifying and examining the appropriate unit of analysis.

Although the results did not confirm the research hypotheses, a significant finding was evident. The measures of the level of development, GNP per capita, and energy consumption per capita, were both strongly correlated with the property and total crime rates. The results are consistent with previous theoretical explanations which suggest that with increasing industrialization, a society will experience a breakdown in the social bonds which bind the populace to conforming behavior (Clinard and Abbott, 1974; Hirschi, 1969; Toby, 1967). Additionally, industrialization produces the availability of a greater number of commodities and, hence, more environmental opportunities to commit property offenses (Jeffrey, 1971; Gould, 1969). The observation that a critical component in the production of crime rates was the percentage of families above the median income level (COMP, 1973; Danziger and Wheeler, 1975) is congruent with the notion that an increase in available commodities will be productive of an increase in property crime. Given the combination of these consequences of industrialization, the property and total crime rates would be expected to increase. This interpretation exceeds the scope of the data, but nevertheless, it might delineate a constructive approach for future comparative research on crime.

The present research has examined the relationship between measures of economic deprivation, level of developmental status, and crime within a comparative perspective. The primary impediment was the lack of data both in terms of the number of countries for which data on the variables employed were available, and in terms of data on variables which were suggested by the theoretical perspectives but not available cross-culturally. Certainly, a concerted effort should be directed at obtaining comprehensive data sets. It is only through this type of effort that criminology will no longer be overwhelmingly ethnocentric.

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