

The extraction of surplus value, crime and punishment: A preliminary examination

MICHAEL J. LYNCH

School of Criminology, Florida State University, FL 32306, U.S.A.

Introduction

It has been suggested elsewhere (Lynch 1987a) that the Marxist position on crime and punishment can be quantitatively assessed by examining the relationship between the extraction of surplus value, and (1) the level of crime (Lynch, Groves and Lizotte 1987; Lizotte et al. 1982), or (2) the level of punishment (Lynch 1987b). This paper constitutes a preliminary empirical examination of these perspectives. Data bearing on the relationship between (1) the extraction of surplus value and the property crime rate in the US from 1950 to 1974, and (2) the relationship between the extraction of surplus value and imprisonment in the US between 1950 and 1980 will be presented. This data suggests that there is a positive and statistically significant relationship between the extraction of surplus value and crime (measured as arrests) or punishment (measured as admissions to prison) over this time period in the US.

Surplus value and crime

The position linking surplus value to the rate of crime in the US has been examined elsewhere (Lynch, Groves and Lizotte 1987; see also Lizotte et al. 1982). For that reason, we will present only a brief summary of this position here.

In its most basic form this theory claims that the extraction of surplus value will be positively related to property crime rates for two reasons. As Marx (1974) noted, the rate of surplus value is a measure of labor's exploitation, and:

... all methods for raising the social productiveness of labour [increasing the rate of surplus value,] are brought about at the cost of the individual labourer; all means for the development of production transform themselves into means of domination over, and exploitation of, the producers; they mutilate the labourer into a fragment of a man, degrade him to the level

of an appendage of a machine, destroy every remnant of charm in his work and turn it into hated toil; they estrange him from the intellectual potentialities of the labour-process in the same proportion as science is incorporated in it as an independent power . . . (Marx 1974: 645)

In effect, Marx's observations may be turned into a hypotheses which states that: the more labor is exploited, the more alienated it becomes, and the more likely it will be to regard criminal behavior as acceptable behavior. Alienated labor, in other words, may have reduced stake in conformity (Spitzer 1980) or it may be deficient in terms of social bonding (Lynch and Groves 1986; Groves and Sampson 1987a), thus increasing the likelihood that alienated labor may turn to criminal behavior. (For criticism and comment see: Bohm 1987; Barak 1987; Groves and Sampson 1987b).

However, it is more likely that the effects of the extraction of surplus value will rest more heavily on unemployed or marginalized populations than on employed laborers (Wright 1982; Mandel 1968). This portion of the theory suggests in accordance with Marx (1974) that as the rate of surplus value increases, labor is displaced from the work force, especially in the manufacturing sector. In this case, the extraction of surplus value is increased through mechanization of the labor process or technological innovations which require reduced labor inputs. Historically, capitalists have attempted to increase the rate of surplus in order to increase the percent of the surplus that they retain as profit (Marx 1974, 1981. For further discussions see also: Sweezy 1942; Baran and Sweezy 1966; Blake 1939; Garaudy 1967; Desai 1979; O'Connor 1973, 1985).

Accordingly, Marx (1974: 640–645) noted that the extraction of surplus value generates a marginal population of individuals who exist in every imaginable form.¹ Thus, the negative consequences which result from increases in the extraction of surplus value rest most heavily upon the marginal segments of the population. Typically, Marxist criminologists have attempted to relate this position to criminal behavior by associating the structural generation of unemployment persons with crime, and suggesting that crime is a rational response to conditions of unemployment (see for example Greenberg 1977; Jankovic 1982a and 1982b. For a critique see Bohm 1985).² However, it is clear that the extraction of surplus value generates more than unemployed populations; it generates floating, latent and stagnant forms of the marginal population (Marx 1974: 640; Wenger and Bonomo 1981: 422)³ which current statistics are incapable of measuring (Bohm 1985; Sweezy and Madoff 1982). And further, Marx's theory of surplus value also relates to the degree to which employed labor is alienated from the work process. Thus, the position relating unemployment to crime, which focuses solely on one segment of the marginal population, and the position which relates the extraction of surplus value to crime (a position

which focuses on the relationship of the entire marginalized segment of the population as well as alienated, employed laborers) are somewhat opposed to each other (Lynch 1987; Lynch, Groves and Lizotte 1987).

For instance, the theory linking the extraction of surplus value to crime indicates that there are some qualities of marginalization that cannot be directly measured (using current statistical methods or official statistics), and that all marginal individuals are not incorporated within a position which relates unemployment to criminal behavior. This is not to suggest that there is no relationship between unemployment and criminal behavior. Rather, this position suggests that available measures of unemployment are:

- inadequate representations of a Marxian position relating marginalization to crime,
- incapable of demonstrating a statistically significant relationship between unemployment and crime, especially when other causal factors are included in analyses of crime rates, and
- fails to address the relationship of employed labor to crime.

It is possible to assess the relevance or appropriateness of these two positions (unemployment is related to crime versus the position that the extraction of surplus value is related to crime) simultaneously by including both the unemployment rate and the rate of surplus value in a regression analysis predicting property crime (in this case, arrest) rates. In addition, this analysis will control for other variables that are suggested as being related to the rate of arrests (i.e., the age structure of non-white males, the number of police and police expenditures). Doing so allows a more rigorous test of the above theoretical positions.

The rate of surplus value and punishment

Building on the work of Rusche and Kirchheimer (1939), radical theorists have traditionally assumed a direct, positive relationship between the structure of the labor market and the amount and types of punishment administered in society (see for example Barak 1982; Melossi 1982, 1976; Melossi and Pavarini 1980; Sheldon 1980). Once again, labor market conditions have been measured, for the most, using unemployment statistics (Greenberg 1977, 1980; Jankovic 1982b; Yeager 1979. For an exception see Wallace 1980).

Building on the same theory, it has been suggested elsewhere (Lynch 1987b), for reasons noted above which link the extraction of surplus value to the creation of several forms of marginal populations, that the rate of surplus value rather than the unemployment rate will be positively related to the level

of punishment. This position differs slightly from the theory relating the extraction of surplus value to crime, and will be reviewed briefly below.

In contemporary American capitalism (post-WW II), the rate of surplus value is consistently driven upward as capitalists attempt to generate larger surpluses in order to increase profits (O'Connor 1973, 1985; Wright 1982). Once again, to increase the rate of surplus value, the level of technology is increased. This releases labor from the market place and forces it into a position of economic marginality. As the rate of surplus value continues to rise and more and more people become marginal to the means of production, social control of marginal groups becomes problematic. Marginal individuals, for example, are not subject to the same work-place controls which impinge upon employed worker (Colvin and Pauly 1983; Burawoy 1979). Therefore, as marginalization increases, controls which are external to the work-place, such as (but not limited to) incarceration, necessarily increase. Thus, increases in incarceration becomes one method for controlling marginalized labor.⁴

Again, both the unemployment-incarceration position and the surplus value-incarceration position predict the same outcome from the same basic principles. And again, the appropriateness of each position may be assessed by entering these variables into a simultaneous regression model.

According to Greenberg's (1977) suggestions, the hypothesis that the extraction of surplus is related to incarceration will be examined by using admissions to corrections data. In this portion of the analysis we will control for organizational factors by including the rate of releases from corrections in the regression procedure. Other factors that will be controlled for are the crime rate (crimes known to police) and the age structure of non-white males age 18 to 25. Again, the addition of variables from other explanations of the prison admissions rate allows for a more rigorous test of our hypotheses.

Data

The data for this study are drawn from several sources. Rates of surplus value are calculated from data available in the *Census of Manufactures* according to the equation provided below. Data on the property crime arrest rate per 100,000 population, the percent non-white males age 14 to 21, number of police per 1000 population, and police expenditures per 100,000 population are drawn from Fox (1975). Unemployment figures are readily available in publications from the Bureau of the Census.

Admissions and release data are taken from publications of the Bureau of Prison Statistics. In this portion of the analysis, age and non-white population figures are drawn from the Bureau of the Census reports of annual population estimates.

Methods of analysis and preliminary data examination

The rate of surplus value is calculated by using the equation:

$$\frac{(\text{value added} - \text{worker's wages})}{\text{worker's wages}} \times 100$$

This equation is the most appropriate for our purposes (for further discussion of different methods of measuring the rate of surplus value see Lynch 1987a, 1987b; Moseley 1985; Cueno 1978, 1982, 1984; Amsden 1981; Varga 1935; Varley 1938). These calculations, in keeping with Marx's theoretical system, have been restricted to manufacturing industries (for a discussion see Moseley 1985; Lynch 1987a).

There are several measurement issues one could raise concerning the above equation for measuring the rate of surplus value (see for example Cueno 1978, 1982, 1984; Van Den Berg and Smith 1982, 1984; Moseley 1985), two of which bear brief mention here. First, there has been considerable debate concerning the most correct method for measuring the rate of surplus value (see: Cueno 1982, 1984; Van Den Berg and Smith 1982, 1984; Wolff 1975, 1979; Weisskopf 1979, 1985; Moseley 1985 and Lynch 1987a. For an excellent and more general discussion see Wright 1982). This debate suggests that some theorists (Van Den Berg and Smith 1982, 1984; Weisskopf 1979; Wolff 1975; Emmerson and Rowe 1982) have devised and employed equations that measure the rate of profit rather than the rate of surplus value. (For a discussion of the distinction between the rate of profit and the rate of surplus value see: Marx 1981: 133; Lynch 1987a: 122 fn 7; Moseley 1985. The rate of profit is only a portion of the rate of surplus value, see Marx 1981: 133; Lynch 1987a: 113–114, 120, 122 fn 7). Weisskopf, for one, recognizes the validity of the criticism (see specifically Moseley 1985) directed at his initial stance on this position and, in fact, has amended his view (see Weisskopf 1985). The equation noted above is consistent with the work of Cueno, Amsden, Lizotte et al., Varga, Lynch and, to a lesser extent, the more complex work of Moseley – those analyses which measure the rate of surplus value rather than the rate of profit.

Second, while the above equation for the rate of surplus value is consistent with Marx's (1974) theoretical arguments, it is rather limited in the extent it applies to the current economic system operating in the US. For example, Marx argued that surplus value was created by productive labor and that productive labor was labor applied in the manufacture of commodities. Considering the era during which Marx wrote – characterized by the rapid rise and unprecedented growth of manufacturing – his prediction that manufacturing would dominate value production appeared solid, and his contention that surplus value was only created in manufacturing sectors was logical and appropriate for his time. However, today's economy is quite different than the

economy of Marx's day. Surplus value is produced in numerous sectors of the economy (Wright 1982; O'Connor 1985); yet the methods of measuring the rate of surplus value have not kept up with these changes and still concentrate solely on manufactured wealth. This indicates a need to revise the methods of measuring the rate of surplus value (Lynch 1987a, 1987b; Lynch et al. 1987). However, this task is clearly beyond the scope of the present analysis.

Figure 1 supplies a graphic depiction of the rate of surplus, the arrest rate per 100,000 and the admissions rate per 100,000 during the era under investigation. This graph indicates rather substantial, linear increases in all three variables, indicating that the data meets the assumptions of ordinary least squares regression procedures. (This figure only presents the trends in the data. Scales have been adjusted to allow these trends to be presented in the same graph.)

In further analysis, OLS regression procedures are used to determine the impact of the theoretically important independent variables (the rate of surplus value and the unemployment rate) on the crime (arrest) and admissions rates controlling for a number of other variables suggested as causal factors throughout the criminology literature. The hypotheses and exact equations tested are stated below.

Hypotheses

Crime rate hypothesis

The rate of surplus value is hypothesized to be a positively and statistically significant variable for predicting the rate of property crime arrests in the US between 1950 and 1974.

In this portion of the analysis the rate of surplus value lagged two years (SV2), the unemployment rate lagged one year (UNEM1), the level of police expenditures in millions per 100,000 population lagged one year (POLEX1), the rate of property crime arrests per 100,000 population lagged one year (PCA1), the percent of non-white males aged 14 to 21 (MPOPY) and the number of police per 1,000 population (POL) were regressed on the rate of property crime arrests (PCA), or;

$$\begin{aligned} \text{PCA} &= a + \text{SV2} + \text{UNEM1} + \text{POLEX1} + \text{PCA1} + \\ &\quad \text{MPOPY} + \text{POL} + e; \text{ or} \\ \text{PCA}_t &= a + \text{SV}_{t-2} + \text{UNEM}_{t-1} + \text{PCA}_{t-1} + \\ &\quad \text{MPOPY}_t + \text{POL}_t + \text{POLEX}_{t-1} + e. \end{aligned} \tag{1}$$

This equation assumes that the relationship between property crime arrests and the rate of surplus value is not immediate, due to:

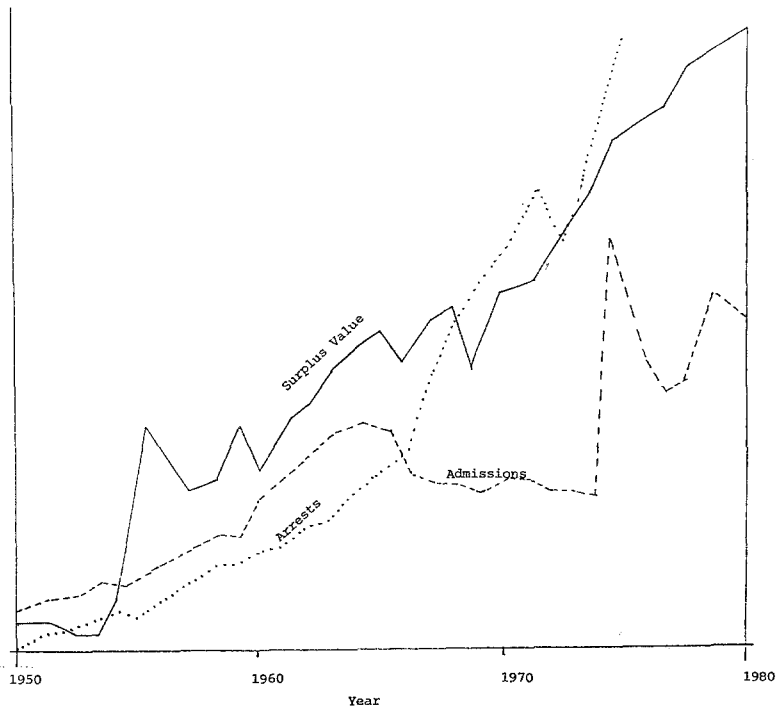


Fig. 1. The rate of surplus value, The rate of arrests (per 100,000) and the rate of admissions to corrections (per 100,000) for the United States.

- governmental relief efforts aimed at the unemployed,
- to allow for time delay effects to take hold in the marginalization process, and
- to allow for the time lag between the time a crime occurs and arrest.

The rate of unemployment is lagged one year to determine if unemployment is an intervening factor between the extraction of surplus value and crime (as indicated theoretically, the extraction of surplus value should precede marginalization temporally). One year lags on property crime arrest rates and police expenditures are included to control for the level of crime and the relationship between police expenditures and the arrest rate. Similarly, the number of police is included because there would appear to be an obvious association between the number of police and their ability to make arrests. Finally, the percent of young (14 to 21) non-white males are included to assess the possibility that there is a relationship between age structure, racial composition and crime (Hirschi and Gottfredson 1981; Greenberg 1985).

Admissions hypothesis

The rate of admissions to corrections is assumed to vary positively with the rate of surplus value, independently of any effect the crime rate may have on the level of punishment. The claim here is that the economic system has a direct effect on the system of punishment which is independent of any effect that:

- crime has on punishment (see Rusche and Kirchheimer 1968: 5; Lynch 1987b), or
- the extraction of surplus value may have on punishment through its relationship to crime (Lynch 1987b).

In this portion of the analysis, the rate of surplus value and the unemployment rate are both lagged two years to allow for the time delay between the occurrence of crime and the apprehension, trial and incarceration of criminals.

In this equation we also control for the rate of releases per 100,000 lagged one year (RRELI) as well as the age and racial composition of non-white males age 18 to 25 lagged two years (MM18242). Lag of the age structure of non-white males two years is performed to allow for the effects of court processing of this assumed 'criminogenic' group (Hirschi and Gottfredson 1981). In addition, the rate of crimes known per 100,000 population lagged two years (CRIMEK2) is included to assess whether or not the relationship between the rate of surplus value and the rate of admissions fluctuates independently of the number of known crimes in society. The admissions equation is as follows:

$$\begin{aligned}
 \text{RTADM} &= a + \text{SV2} + \text{UNEM2} + \text{MM18242} + \text{RREL1} + \\
 &\quad \text{CRIMEK2} + e; \text{ or} \\
 \text{RTADM}_t &= a + \text{SV}_{t-2} + \text{UNEM}_{t-2} + \text{MM1824}_{t-2} + \\
 &\quad \text{RREL}_{t-1} + \text{CRIMEK}_{t-2} + e
 \end{aligned}
 \tag{2}$$

Analysis and findings*Crime and surplus value: findings*

Table 1 presents a description of variables used in the crime arrest rate equation, while Table 2 includes a description of the variables used in the prison admissions equation.

Table 3 presents the zero-order correlation matrix for the property crime arrest equation. This table suggests the possibility of multicollinearity between several of the independent variables (those with zero-order relations above .700). Further evidence of multicollinearity can be assessed by examining the

standardized beta coefficients from the regression procedure. Since none of the coefficients from the regression procedure is 1.00 or greater, we can assume that the problem of multicollinearity is not greater enough to affect the outcome of the regression procedure.

In Table 4 we present the findings from the regression analysis. Of the six independent variables examined, only the unemployment rate and the percent

Table 1. Description of variables, crime and surplus value equations.

Variable name	Variable description	Mean	Std. dev.
PCA	Property crime arrests per 100,000	563.86	181.89
PCA1	Property crime arrests per 100,000 lagged 1 year	537.32	174.24
SV2	Rate of surplus value lagged 2 years	199.57	25.63
POL	Number of police per 100,000	2.00	0.24
POLEX1	Police expenditures in millions of dollars per 1,000 population lagged 1 year	2.12	0.40
UNEM1	Unemployment rate lagged 1 year	4.89	1.05
MPOPY	Percent minority males age 14–21	17.11	3.34

Table 2. Description of variables, admissions to prison and rate of surplus value equations.

Variable name	Variable description	Mean	Std. dev.
RTADM	Rate of total admissions per 100,000	55.18	6.99
SV2	Rate of surplus value lagged 2 years	214.07	36.08
MM18242	Percent non-white males age 18 to 24 lagged 2 years	0.68	0.14
UNEM2	Unemployment rate lagged 2 years	5.20	1.39
RREL1	Release rate per 100,000 lagged 1 year	55014.77	9652.37
CRIMEK2	Crimes known to police per 100,000 lagged 1 year	2784.52	1361.54

Table 3. Zero-order correlation matrix: property crime arrests and the rate of surplus value.

Variable	PCA	PCA1	SV2	UNEM1	POLEX1	POL	MPOPY
PCA	1.000						
PCAL	0.984	1.000					
SV2	0.871	0.852	1.000				
UNEM1	-0.090	-0.013	-0.035	1.000			
POLEX1	0.917	0.944	0.779	0.154	1.000		
POL	0.976	0.983	0.811	0.020	0.971	1.000	
MPOPY	0.983	0.979	0.866	-0.105	0.931	0.965	1.000

of non-white males aged 14 to 21 are statistically insignificant controlling for the effect of the remaining variables. This equation demonstrates that the rate of surplus value is significantly related to the rate of property crime arrests, and that this relationship is positive and statistically significant controlling for a number of other relationships.

Removing the insignificant variables from the equation (the unemployment rate and the percent of non-white males age 14 to 21), and regressing the remaining variables on the arrest rate, the rate of surplus value is still found to be a statistically significant variable for predicting property crime arrests, controlling for the effects of police expenditures at $t-1$, the property crime arrest rate at time $t-1$ and the number of police at time t . The reduced form equation ($PCA = a + SV2 + POLEX1 + POL + PCA1 + e$; see Table 5) predicts 98 percent (adjusted R^2) of the variation in the level of property crime arrests in the US between 1950 and 1974. This equation also suggests that for each 1 percentage point increase in the rate of surplus value, the rate of property crime arrests rises by 1.2 per every 100,000 citizens.⁵

These findings suggest that the traditional radical position linking unemployment to crime needs to be reconsidered. Crime does not appear to be a rational response to situations of unemployment (Greenberg 1977), but may in fact be the outcome of forces inherent in capitalistic production patterns that

Table 4. Regression results: the property crime (arrest) rate, full theoretical model, 1950–1974.

Variable	Stand. beta	Sign. T.	
POL	0.26332	0.0018	R^2 equation = 0.991
MPOPY	0.26332	0.1171	Adj. R^2 = 0.987
PCA1	0.26150	0.1690	S.E. equation = 21.11
UNEM1	0.00671	0.8665	Durbin-Watson = 1.78*
POLEX1	-0.37835	0.0117	N = 25
SV2	0.15450	0.0143	

* We are able to reject the null-hypotheses that autocorrelation is present where the Durbin-Watson statistic exceeds 1.65 ($p = 0.025$).

Table 5. Reduced form regression model for the property crime (arrest) rate, 1950–1974.

Variable	Stand. beta	Sign. T.	
POL	0.796	0.0005	R^2 equation = 0.988
PCA1	0.415	0.0226	Adj. R^2 = 0.986
POLEX1	-0.388	0.0022	S.E. equation = 22.312
SV2	0.183	0.0040	Durbin-Watson = 1.66
			N = 25

are beyond individual control, which affect both individuals and enforcement mechanisms (the rate of arrest, see note 4).

Punishment and surplus value: findings

Table 6 contains the zero-order correlation matrix for equation 2. (See Table 2 for description of variables used in this portion of the analysis.) This table indicates the possibility of problems concerning multicollinearity between several of the independent variables. Inspection of initial equation 2 regression results (not shown) indicates that multicollinearity is problematic in this case (the standardized beta value for the lagged rate of releases exceeded 1.00). For this reason, the rate of releases per 100,00 lagged 1 year was dropped from this portion of the analysis. Results from the amended version of equation 2 (which does not account for organizational factors, i.e., the rate of releases) are presented in Table 7.

Table 6. Zero order correlation matrix, admissions to corrections and the rate of surplus value.

Variables	RTADM	SV2	MM18242	UNEM2	CRIMEK2	RREL1
RTADM	1.000					
SV2	0.504	1.000				
MM18242	0.480	0.849	1.000			
UNEM2	0.444	0.563	0.525	1.000		
CRIMEK2	0.393	0.930	0.605	0.529	1.000	
RREL1	0.789	0.750	0.506	0.667	0.687	1.000

Table 7. Regression results, amended version equation 2, the rate of surplus value and admissions to correction, 1950–1980.

	b	SE b	Beta	Sign. T.
SV2	0.186	0.093	0.962	0.058
MM18242	8.983	11.167	0.172	0.429
UNEM2	0.973	1.039	0.175	0.359
CRIMEK2	0.003	0.002	-0.600	0.201
(Constant)	13.236	13.094		0.322

$R^2 = 0.459$

Adj. $R^2 = 0.369$

Stand. error = 6.12

Durbin-Watson = 0.971

N = 31

The findings from the revised admissions equation indicates that the rate of surplus value is positively and significantly related to the rate of prison admission controlling for the rate of unemployment at time $t-2$, the number of non-white males age 18 to 24 at time $t-2$ and the rate of crimes known to police at time $t-2$. None of the independent variables, except for the rate of surplus value, exhibits a statistically significant relationship to the admissions rate. This equation explains 42 percent of the variation in the admissions rate between 1950 and 1980.⁶

Discussion and conclusion

The brief analysis presented above indicates that the rate of surplus value is related to both the rate of property crime arrests and the rate of admissions to corrections in the US. Furthermore, this relationship is positive and independent of other relationships which have been demonstrated as having an effect on the rate of crime or punishment. This analysis provides strong evidence that the key structural variables of Marxian economic analysis are useful theoretical and empirical tools for explaining crime and punishment.

In addition, this examination supports, to some extent, the work of Rusche and Kirchheimer (1968), who first suggested that punishment was a reaction to the requirements of the system of economic production. Here, we demonstrated that the rate of admissions to incarceration was directly influenced by the rate of surplus value and that this relationship was independent of any effect the level of crime might have on punishment (the homeostatis argument derived from the work of Durkheim. See Greenberg (1977) for a further discussion). This suggests that systems of punishment are an attempt to address economic contradictions (the productions of surplus populations in this case) within the limits of the existing economic structure. Thus, increasing levels of punishment could also be viewed as an indication of increasing economic troubles. Further development of this position appears to be in order.

This analysis has also shown that the rate of surplus value rather than the unemployment rate is more strongly related to both crime and punishment. Further, the empirical evidence mustered here is wholly consistent with Marxian theory. In light of these findings, radicals are urged to redirect or rethink theories relating unemployment to crime or punishment. Certainly, the relationship between these events (structural unemployment and crime or structural unemployment and punishment) is more complex than previous literature suggests, and requires further theoretical and empirical analysis.

The complex relationship between the extraction of surplus value and crime or punishment also suggests that strategies for reducing the use of incarcer-

ation or the level of crime need to be rethought. The simple solution of increasing employment opportunities is insufficient, as Bohm (1985) has noted, because increased levels of employment will not by itself decrease the rate of extraction of surplus value (Lynch 1987b) – will not have an effect on:

- marginalization, or
- alienation of the employed labor force.

A strategy of increasing employment in conjunction with increasing wages, and allowing labor greater control over the production process would be a more appropriate response. However, this strategy is incompatible with the market structure of capitalism. Thus, a restructuring of basic economic relationships, or a restructuring of capitalist ideology (one that would allow workers to increase their share of the economic pie and become more fully involved in production, as owners and participants – unalienated labor) is required if the crime and incarceration rate is to be decreased.

The reader is cautioned about these findings on three accounts. First, the theory presented here suggests that the extraction of surplus value is related to crime or punishment in an indirect manner – through the production of surplus populations. Since no measure of the size of the surplus population currently exists, the exact theoretical specification of this model (surplus value leads to the generation of marginal populations which, in turn, leads to increases in crime or punishment rates) cannot be directly assessed.

Second, the findings presented here apply only to the modern form of advanced American capitalism (post World War II). This relationship between the extraction of surplus value and rates of crime or the use of punishment is expected to vary historically. Thus, further investigations of this relationship during earlier eras or in other societies is necessary if the full historic relationship between these events is to be fully understood.

Third, the analysis presented above has employed arrest data as a measure of crime. This is not always the most appropriate measure, and further analysis using other measures of crime appears to be in order. In addition, arrest, like incarceration, is a form of social control. Thus, it is unclear if we have measured the effect of the rate of surplus value on criminal behavior, or the effect of surplus value on enforcement mechanisms. In fact, other analysis (Lynch, Groves and Lizotte 1987) has demonstrated that the rate of surplus value exhibits a dual effect on the arrest rate – a direct path and an indirect path through police expenditures.

Finally, these findings direct criminologists to attend to the relationship between broader structural forces and crime/punishment. While many theorists predict a relationship between several ‘middle range’ structural variables (e.g., the unemployment rate, age structure, percent minority, percent minority, percent males, etc.) and crime/punishment rates, the relationship of these middle range variables to broader structural variables needs to be addressed in

greater detail. It is only in this way that the effects of broad social structural phenomenon can be considered and 'brought back' into the study of crime and punishment. Radical theorists should pay particular attention to such issues, and where possible, address issues theoretically as well as empirically. Thus, it would appear that radicals must come to terms with empirical methods of the mainstream, while the mainstream must begin to incorporate and respect radical theory and analysis. We are, as other analysis has demonstrated (Groves and Sampson 1987) in an age where criminology is beginning to be reassembled from divergent paths. We can continue to pursue theoretical segregation, or we take an active role in restructuring and reorienting criminology.

Notes

1. This observation led to Marx's well known quotation: '... [I]f a surplus labouring population is a necessary product of accumulation or the development of wealth on a capitalist basis, this surplus-population becomes, conversely, the lever of capitalistic accumulation, nay, a condition of existence of the capitalistic mode of production' (1974: 632). If this is true, and the levels of crime and punishment in capitalist society can be traced to the creation of surplus value (the heart of the accumulation process), then the level of crime or punishment a capitalist society experiences can be directly tied to the accumulation process which dominates that nation. Since the process of accumulation varies from one nation to the next, or from one form of capitalism to the next, we can not simply equate an abstract 'capitalism' with crime: we can not, in other words, posit that capitalism causes crime. This is a historically and culturally specific relationship (see for example Rusche and Kirchheimer's [1968] discussion of punishment and variations in the form of punishment historically and culturally).
2. I do not think that the question of whether or not criminal behavior is 'rational' behavior has been sufficiently answered by radical theorists. Thus, in one sense, criminal behavior may be a rational response to conditions of deprivation caused by the processes of capitalist production (e.g. Greenberg 1977; Spitzer 1980). It may not, however, be rational from the workers' objective class position – that is, criminal behavior may not be conscious behavior (i.e. it may be an expression of false consciousness) and, in this regard, cannot be considered rational. Radicals, in my opinion, appear to have adopted the mainstream economists' definition of the word 'rational', and have not defined this word relative to Marxian theory.
3. In Marx's words, 'The relative surplus-population exists in every possible form. Every labourer belongs to it during the time when he is only partially employed or wholly unemployed' (1974: 640).
4. Incarceration is only one method for controlling marginal labor. There are a number of control mechanism which may be used to 'render docile' the marginal (Foucault 1979). These institutions range from welfare, to unemployment insurance, mental health commitments, jail, and even the simple act of arrest. Thus, in order to test a 'full blown' Marxist theory of control, one would be required to examine the theoretical relationship between other control institutions and the extraction of surplus value. Such an endeavor is beyond the scope of the present analysis.
5. It should be noted that arrests may be a poor indicator of the actual crime rate. Arrests could be a better indicator of police activity than the actual occurrence of crime. If this is true, police activity rather than crime responds to changes in the rate of surplus value. Lynch et al.'s [1987]

analysis also indicates that this might be the case. In their analysis, they are also able to explain the rate of police expenditures using the rate of surplus value. As a result, the rate of surplus value effects the arrest rate both directly and indirectly through police expenditures. Further analysis of the relationship between surplus value and crime rates, measured as crimes known to police, may help solve this problem.

6. In other analyses, the relationship between the rate of surplus value and imprisonment, measured as the number incarcerated per 100,000 in 1978, was found to hold cross-sectionally for a sample of all fifty states, controlling for age structure, percent black, crimes known to police and the unemployment rate (see Lynch 1987b). Longitudinally, there was no such relationship. This may be attributed to the small variation in the dependent variable (the aggregate incarceration rate, 1950–1980). Regional variations were also noted in this analysis (the incarceration rate in the midwest and southern regions was statistically significant – the relationship was positive in the midwest and negative, but expected, for the south) but the sample size was too small to be reliable.

Cross-sectional analysis of the relationship between the rate of surplus value and crime rates has not been undertaken.

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