Political Restraint of the Market and Levels of Criminal Homicide: A Cross-National Application of Institutional-Anomie Theory *

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Abstract

This article examines the effects on national homicide rates of political efforts to insulate personal well-being from market forces. Drawing upon recent work by Esping-Andersen and the institutional-anomie theory of crime, we hypothesize that levels of homicide will vary inversely with the "decommodification of labor." We develop a measure of decommodification based on levels and patterns of welfare expenditures and include this measure in a multivariate, cross-national analysis of homicide rates. The results support our hypothesis and lend credibility to the institutional-anomie perspective. The degree of decommodification is negatively related to homicide rates, net of controls for other characteristics of nations.

Interest in explaining differences among nations in rates of crime and violence is as old as the sociology of crime itself. The quantitative measurement of these differences by the nineteenth-century moral statisticians Quetelet and Guerry marks the beginning of scientific criminological inquiry (Beirne 1993). Marx also refers to national crime data in the course of developing his critique of the inherent flaws of capitalism. "There must be something rotten in the very core of a social system," Marx (1859) writes, "which increases its wealth without diminishing its misery, and increases in crimes even more rapidly than in numbers" (*New York Daily Tribune*).

In recent decades, there has been a resurgence of interest in cross-national criminological inquiry as reflected in a growing body of literature on the structural determinants of homicide rates.[1] Although there are some

discrepancies in this literature, the research is supportive of Marx's general suspicion that fundamental features of the economic system affect societal levels of crime. A finding that has emerged with remarkable consistency is that high rates of homicide tend to accompany high levels of inequality in the distribution of income (Krahn, Hartnagel & Gartrell 1986; Neuman & Berger 1988). The cross-national research also indicates that there are additional features of a society's political economy, beyond that of income dispersion, that are systematically related to homicide rates. For example, evidence suggests that levels of homicide are associated with measures of the degree of economic discrimination against social groups (Messner 1989) and measures of the generosity of social welfare policies (Fiala & LaFree 1988; Gartner 1990, 1991).

The present article explores further the relationship between basic features of the economic and political systems of societies and levels of criminal homicide. Our specific focus is on the role of the market as a mechanism for distributing the material resources for personal well-being. Markets play a vital role in all capitalist societies, but, in some of these, physical survival and social position are not as dependent on market considerations as in others. Esping-Andersen (1990) has recently used the concept of the "decommodification of labor" to refer to policies that promote reliance on, or insulation from, pure market forces, and he has developed techniques for measuring this concept for a small sample of advanced capitalist nations. In this research, we build upon Esping-Andersen's work and propose a proxy measure of the decommodification of labor that can be used in multivariate analyses for a reasonably large sample of nations. We link the decommodification of labor specifically with crime by drawing upon a recently proposed macrosocial perspective in criminology: institutional-anomie theory. Our basic hypothesis is that homicide rates and decommodification vary inversely: the higher the level of political protection from the vicissitudes of the market, the lower the national homicide rate.

Decommodification and Crime in Market Society

Esping-Andersen's work on decommodification is part of a long standing intellectual and political tradition that emphasizes the importance of the welfare state in stabilizing market societies (e.g., Bellah et al. 1992; Marshall 1950; Polanyi 1944; Tawney 1920). Decommodification refers in the most general sense to the empowerment of the citizenry against the forces of the market. Decommodified social policies permit actions and choices by citizens — to get married, have children, seek higher education, engage in political activity — that are, in principle, unconstrained by market considerations. Decommodification frees people from the market.

There is some irony in this conception of the interrelation between the market and the state. In the classical writings of Enlightenment thinkers such

as Adam Smith and David Hume, markets are depicted as social arrangements that liberate individuals from the restraints imposed by traditional institutions: the "free market" is an arena for the unfettered pursuit of self-interest (see Hirschman 1992). That the market itself impedes the exercise of free choice is a key intellectual claim of Marxist and social-democratic critics of modern capitalism. That citizens possess social rights and entitlements that transcend market considerations is the principal institutional claim made on the modern capitalist economy by the welfare state (Marshall 1950).

The basic issue of accommodating the market to the functioning of other social institutions is also relevant to the concerns of modernization theorists. In Parsons's (1966) influential formulation, modernization entails the increasing differentiation and interdependence of institutional subsystems. The decommodification policies of the welfare state can be viewed from this perspective as an equilibrating mechanism in highly differentiated societies.[2] In general, the concept of decommodification has been highly useful in attempts to understand the institutional functioning of modern market societies.

In Esping-Andersen's usage, decommodification refers to the granting of services and resources to citizens as a matter of right, thereby reducing their reliance on the market for sustenance and support (1990). It entails "emancipation" of citizens from the market in the most fundamental sense: "citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary" (23). Decommodification involves considerably more than a society's level of expenditure on social welfare policies and programs. It reflects the quality as well as the quantity of social rights and entitlements. Three essential dimensions of entitlements are encompassed by decommodification: ease of access to them, their income-replacement value, and the range of social statuses and conditions they cover (Esping-Andersen 1990).

It is useful to think of a continuum of decommodified social policies along which societies may be arrayed. Near one end would be societies with highly decommodified policies, defined by nearly universal and nonconditional entitlements, with benefit levels close to average market incomes[3], covering most or all of the relevant causes and conditions for assistance (e.g., sickness, old age, unemployment, parenthood). Societies located near the other end would display correspondingly weaker decommodification, reflected in strict eligibility criteria for assistance, benefit levels well below prevailing market incomes, and a narrow range of statuses and conditions meriting assistance. At the extremes, fully decommodified policies would pay everyone a "social wage" guaranteeing a socially acceptable level of earnings regardless of market participation, and fully "commodified" policies would require strict and complete dependence on the market for the resources necessary for survival. Although no existing society can be found at either of the ideal-typical extremes of the continuum, market societies are enormously variable with

respect to the level and types of social assistance available to their populations and the associated degree of decommodification.

Esping-Andersen does not relate the notion of decommodification directly to the phenomenon of crime. However, Messner and Rosenfeld's institutional-anomie perspective provides a plausible theoretical basis for predicting a relationship between the levels of serious crime in market society and the extent to which labor has been decommodified.

Institutional-anomie theory builds upon the classical anomie tradition, attributing high levels of crime to interrelated cultural and structural dynamics (Messner & Rosenfeld 1997; Rosenfeld & Messner 1994; cf. Chamlin & Cochran 1995). With respect to culture, a basic premise of the theory is that market mechanisms and arrangements are conducive to anomic pressures. Markets presuppose a materialistic goal-orientation among actors, and they promote a calculating, utilitarian orientation towards social relationships (Hirschman 1992:139). When these orientations develop to an extreme degree, anomie in the Mertonian sense is likely to ensue (Merton 1968). Goals — especially, but not exclusively, materialistic ones — receive strong cultural support, whereas the normative means regulating conduct begin to lose "their savor and their force" (Merton 1964:226). In such an anomic environment, actors are preoccupied with "outcomes" (Merton 1968:211), and the efficiency rather than the legitimacy of the means governs behavior. The resulting attenuation of normative controls is likely to lead to high levels of deviant behavior, including crime.[4]

Institutional-anomie theory also assigns a critical role to structural dynamics and, more specifically, to the balance among major social institutions (e.g., the economy, the family, the polity). In all societies of any complexity, the integration of social institutions is inherently problematic. This is because the claims of the social roles associated with the respective institutions are potentially contradictory and competing. For example, the demands and value-orientations associated with economic roles are at times incompatible with those of familial roles. The resolution of these conflicting claims in the course of ongoing social interaction yields a distinctive pattern of institutional relationships for the society at large — a distinctive "institutional balance of power" (Messner & Rosenfeld 1997:68-79).

According to institutional-anomie theory, the form of institutional structure that is particularly conducive to high levels of crime is one in which the economy dominates the institutional balance of power.[5] Economic dominance occurs when: (1) economic goals are assigned high priority in comparison with noneconomic goals; (2) the claims of economic roles are typically honored at the expense of those of noneconomic roles when conflicts occur; (3) social standing tends to be more highly dependent on the performance of economic roles than of noneconomic roles; and (4) the calculating, utilitarian logic of the marketplace penetrates other institutional realms.[6]

Economic dominance leads, in turn, to high rates of crime via two complementary processes. First, this type of institutional imbalance provides

fertile soil for the growth of the anomic cultural pressures associated with market arrangements. This is because the noneconomic institutions that bear primary responsibility for cultivating respect for social norms, such as families and schools, are less capable of fulfilling their distinctive socialization functions. Second, economic dominance weakens the external social controls associated with institutional attachments. When the economy dominates the institutional balance of power, noneconomic roles become relatively unattractive. The result is relatively tenuous institutional engagement, weak social control, and high rates of crime.

This concept of economic dominance in the institutional balance of power, we propose, can be joined with Esping-Andersen's notion of decommodification to derive a hypothesis about societal levels of crime. As noted above, decommodification signals that the balance of institutional power in market society has shifted from the economy toward the polity; it implies that purely economic values and criteria are accommodated to collective, political considerations. The market is not permitted to operate according to its inherent logic alone but rather is subjected to political restraints. In other words, the decommodification of labor can serve as an indicator of one important dimension of the institutional balance of power — the balance between the economy and the polity. A greater degree of decommodification indicates a lower level of economic dominance in this particular institutional interrelationship. Given the general logic of institutional-anomie theory, then, the decommodification of labor should vary inversely with societal levels of crime, including the most serious of crimes — homicide.

We are aware of no previous efforts to join institutional-anomie theory with the concept of decommodification in the analysis of cross-national variation in homicide rates. Nevertheless, there is evidence consistent with our basic hypothesis. Fiala & LaFree (1988) find that measures of welfare expenditures are inversely related to child homicide rates in a cross-sectional analysis of 39 developed countries. Research by Gartner (1990) indicates that these beneficial effects of welfare policies apply to homicide victimization more generally. In a pooled, cross-sectional time-series analysis of 18 capitalist societies observed at five-year intervals between 1950-80, Gartner discovers significant negative effects of indicators of welfare spending on homicide rates for all age-sex-specific groups. Finally, Pampel and Gartner (1995) have examined the effects of a scale of "collectivism" on homicide rates in a cross-national analysis of the same 18 advanced capitalist societies studied by Gartner. The collectivism scale combines Esping-Andersen's decommodification index with indicators of corporatism, consensus government, Leftist political rule, and "governability" (the absence of violent political conflict). The collectivism scale has negative main effects on homicide rates, and it reduces the positive effect of the relative size of the youthful population on annual changes in homicide rates.

These studies lend plausibility to our general hypothesis, but they are limited in important respects. As noted, the research by Fiala & LaFree (1988) is restricted to child homicide (see also Gartner 1991), while the results of the research by Gartner (1990) and Pampel & Gartner (1995) pertain only to the experiences of the 18 most advanced capitalist nations (albeit with observations for multiple time periods). The present study goes beyond these earlier efforts by developing a theoretically grounded measure of decommodification that can be employed in a multivariate analysis of overall homicide rates for a reasonably large sample of contemporary nations.

Before describing our measure of decommodification, it is important to confront a key conceptual issue. Esping-Anderson (1990) explicitly focuses his analyses on "advanced" nations and, more specifically, on the "advanced capitalist democracies" (1-2). He does so because these are the nations with the economic and political capacity to achieve a high degree of decommodification. The advanced capitalist democracies have sufficiently large economic surpluses to enable appreciable segments of the population to withdraw from the market, and they have political structures that are conducive to the emergence of class coalitions supportive of decommodification.

A legitimate question to raise, therefore, is whether the very concept of decommodification can be applied to a heterogeneous sample of nations at very different levels of development. We base our analysis on the assumption that decommodification is a meaningful property with which to describe industrial and industrializing nations in general because the provision of basic social security is a concern in virtually all such societies. This assumption is consistent with the underlying rationale for the comparative data sets on social transfers published by the International Labour Office (ILO), which serve as the source for our proxy measure of decommodification. The ILO observes that social security has become an important feature of the economy for member states in "nearly every country" (ILO 1992:3). To assess the applicability of decommodification to industrial nations generally, we have examined whether the effects of our decommodification measure on homicide rates differ significantly for the 18 nation subsample studied by Esping-Andersen and the remaining subsample of nations. As reported below, comparable effects are observed across these subsamples, which is consistent with our assumption that the concept of decommodification can be usefully applied to lesser-developed nations as well as to the advanced capitalist democracies.

Data and Methods

MEASURING DECOMMODIFICATION

Esping-Andersen's measure of decommodification encompasses three primary dimensions of the underlying concept: the ease of access to welfare

benefits, their income-replacement value, and the expansiveness of coverage across different statuses and circumstances. A complex scoring system is used to operationalize each of these dimensions of decommodification for the three most important social welfare programs: pensions, sickness benefits, and unemployment compensation (1990). This scoring system reflects the "prohibitiveness" of conditions for eligibility, the disincentives for and duration of entitlements, and the degree to which benefits replace normal levels of earnings (1990). The indices for these three types of social welfare programs are then aggregated into a combined index reflecting the overall decommodification characteristic of a given nation's social welfare system.

   Esping-Andersen is able to operationalize decommodification in this unique way by using highly detailed information on social policies from an original data source — the Svensk Socialpolitik i International Bleysning (the SSIB data files). The data were collected at the Swedish Institute for Social Research over an eight-year period, beginning in 1981, through contacts with numerous officials in government departments and statistical offices in different nations (1990). Although Esping-Andersen's approach to measuring decommodification is highly appealing from a theoretical standpoint, his measure has been constructed for only 18 capitalist nations. The explanatory scope using this measure will therefore apply to only the most highly developed market societies, and the small size of the resulting sample will seriously limit the possibilities for including decommodification in multivariate statistical analyses. Moreover, the procedures employed by Esping-Andersen to construct his index require data on social policies that are not available in published sources.

   To overcome these limitations, we have developed a proxy measure of decommodification for an appreciably larger sample of nations (maximum $N = 45$). The proxy measure is based on data compiled by the International Labor Office (ILO) on the financial operations of national social security systems. These data include information on absolute and relative levels of expenditures for social security programs, on funding sources for these programs, and on the distribution of the expenditures across different program types (e.g., unemployment benefits, family allowances, work-related injuries). Our approach is based on the assumption that general expenditure patterns reflect the underlying logic of social welfare systems. Consequently, indicators of these general patterns are likely to be correlated with the more refined and theoretically informed measure of decommodification developed by Esping-Andersen.

   We have examined the relationships between Esping-Andersen's decommodification index and a variety of indicators of social security expenditures in the 1980s for the 18 advanced capitalist nations included in the SSIB data files. The indicators encompass four important features of the social security systems: (1) the priority given to social welfare spending, as reflected in expenditures as a percent of total gross domestic product (ILO 1992, Table 3); (2) the generosity of social welfare spending, as reflected in

average annual expenditures per head of population in U.S. dollars (Table 5); (3) the financing of social security systems, as reflected in the percentage of total receipts according to origin (Table 8); and (4) the range of entitlements, as reflected in the percentage distribution of benefit expenditures across different program types (Table 10).[7]

Esping-Andersen's decommodification index is strongly associated with three of the indicators of expenditure patterns. Expenditure levels as a percent of GDP and average annual expenditures per capita exhibit large positive correlations with the decommodification index (.75 and .81, respectively). An indicator of the distribution of expenditures across program types — the percent of total benefit expenditures allocated to employment injuries — also yields a sizeable correlation with the decommodification index: $r = -.67$. The negative sign of this coefficient is theoretically meaningful because it implies that a large share of welfare benefits is not available to all citizens as a basic entitlement but, rather, is contingent on participation in the labor market. Only employed workers can receive benefits for employment injuries. Welfare systems that impose this type of restriction on access are therefore less decommodifying than those covering a wider range of circumstances independent of market participation (e.g., programs such as family allowances and maternity benefits).

Analogous results are obtained in a principal components factor analysis of the decommodification index and the full range of expenditure indicators. The decommodification index, average annual benefits per household, expenditures as a percent of GDP, and the percent of benefit expenditures allocated to employment injuries all load highly on the same factor. These four measures thus exhibit a high level of shared variance, suggesting that they converge on a common, underlying dimension.[8]

Given these results, we have computed a proxy decommodification index by summing the z-scores for the three indicators of expenditure patterns that are highly intercorrelated with Esping-Andersen's index and that cluster along the same dimension.[9] The resulting composite index is highly correlated with Esping-Andersen's original decommodification measure: $r = .84$. Our proxy measure thus exhibits strong predictive validity for the 18 nations with data from the Swedish data source, the SSIB.

It is possible to compute the decommodification proxy measure for a fairly large sample of nations (a maximum of 55) using ILO (1992) data for the mid-1980s. The presence of missing data on other variables (explained below) limits the sample size for the analysis to 45 cases. The proxy measure of decommodification yields a respectable level of reliability for this sample: alpha coefficient = .702.

DEPENDENT VARIABLE

The dependent variable for the analysis is the homicide rate per 100,000 population as reported in the World Health Organization's (WHO) *World*

Health Statistics Annual (various years). WHO defines homicide as death by injury purposely inflicted by others. One limitation of the WHO data on homicide is that underdeveloped nations, especially those in Africa and Asia, are not well represented in this data source (Krahn, Hartnagel & Gartrell 1986). Therefore caution should be exercised in generalizing our findings to the larger population of nations. In addition, the WHO data on homicide may be biased because they necessarily exclude deaths with undetermined cause, some of which may be homicides. Nevertheless, Kalish (1988) argues that the WHO data serve as the best source of information on homicide for international comparisons because they are "based on an actual count of deceased persons" and therefore are not susceptible to biases resulting from intercountry differences in the treatment of "attempted homicides."[10]

To minimize the effect of random yearly fluctuations in homicide levels, we follow the conventional practice of computing multi-year averages (Kick & LaFree 1985; Krahn, Hartnagel & Gartrell 1986). The averages refer to the 1980-90 period, or in cases with missing data, to the subset of years within that period for which data are available. We employ an extended time period for measuring homicide (a maximum of 11 years) because decommodification is conceptualized as a basic structural feature of societies that is not likely to vary in a meaningful way over the short run.

Examination of the univariate distribution for homicide rates reveals considerable skewness. The value for the highest nation (Colombia, 41.2) is approximately 6.5 times the mean value for the sample at large (6.27). We accordingly convert homicide rates to natural logarithms to reduce skewness and induce homogeneity in error variance.[11] Although the log transformation successfully reduces the overall degree of skewness in the homicide distribution, a possible outlier remains at the lower tail of the distribution. The logged value for Syria (-3.00; untransformed value = .05) is considerably smaller than the value for the nation (Egypt) with the next smallest value (-.38; untransformed value = .69). The possibility that this case is an atypical one that distorts the regression estimates is addressed in the statistical analysis.

CONTROL VARIABLES

Data have also been collected on additional characteristics of nations to serve as controls. Previous comparative research on homicide typically includes some combination of indicators of the general economic well-being of national populations and of demographic structure (see LaFree & Kick 1986, and Neuman & Berger 1988, for comprehensive reviews). Consistent with this research, we have collected information on the following socioeconomic and demographic characteristics of nations:[12] gross national product per capita in U.S. dollars; infant mortality rate (under age 1); life expectancy at birth; percent of the population over 64 years of age; average annual population growth 1980-85; percent of the population urban; males per 100 females.

GNP per capita and the sex ratio are logged transformed to reduce the effect of cases with extreme values. With the exception of the measure of population growth, the time of measurement for these socioeconomic and demographic characteristics is 1985, the midpoint of the 1980-90 period, or the closest year with available data. The sources for the sex ratio and percent over 64 years of age are the Population Reference Bureau's (1987) *Population Data Sheet* and United Nations' (various years) *Demographic Yearbook*. The other measures are taken from the World Bank's (1987) *World Development Report*.

In the comparative homicide literature, age structure is typically measured by an indicator of the relative size of the young population. This approach is based on the assumption that the young population is at a relatively high risk of offending (see Krahn, Hartnagel & Gartrell 1986). We employ a measure of the relative size of the elderly population because this variable has been identified as a key determinant of welfare expenditures (Wilensky 1975; see also Pampel, Williamson & Stryker 1990), and because the elderly are likely to have low homicide offending rates (thereby creating the possibility of spuriousness in the bivariate relationship between homicide rates and social welfare measures). Not surprisingly, measures of the youthful population and the elderly population are strongly correlated. The correlation between percent less than 15 years of age and the percent over 64 for the sample of 45 nations is -.90. Thus, the results of our regression analyses are highly similar if the former measure of age structure is substituted for the latter.

Several of the control variables are strongly intercorrelated. To simplify the regressor space and lessen the problem of multicollinearity (Land, McCall & Cohen 1990), a principal components analysis has been performed on these socioeconomic and demographic variables. The results reveal that all the measures except the sex ratio cluster along a single dimension (the eigenvalue for the principal component is 4.2, and the variance explained is 71%). The positive pole of this dimension reflects socioeconomic development, as indicated by high life expectancy, high GNP/capita, low infant mortality, relatively large elderly populations, slow population growth, and high levels of urban development. These measures have been combined into a "development index" using the loadings from the principal components analysis as weights.

Two additional variables are also relevant to the analysis on both empirical and theoretical grounds. As noted earlier, previous cross-national research indicates that economic inequality is one of the more important structural correlates of homicide rates. It seems likely that decommodification and economic inequality are inversely related to one another. Decommodification should reduce the dispersion in incomes as well as lessen reliance on the market for economic well-being. However, to the degree that decommodified social welfare practices reflect the broader balance of power between the polity and the economy, as suggested by institutional-anomie theory, decommodification is expected to have an effect on the level of crime independent of its relationship with inequality.

FIGURE 1: Scatterplot of Homicide Rates and Decommodification Scores for Esping Andersen's 18 Nation Sample
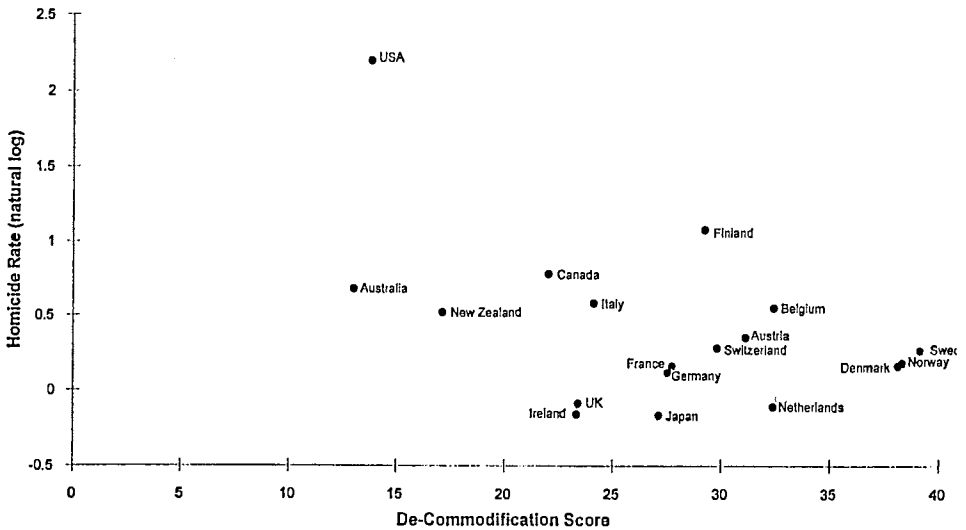
We include two measures of economic inequality. One is the commonly used Gini coefficient of household income distribution. The primary data source for this measure is Hoover (1989), supplemented in a few cases with data from Krahn, Hartnagel & Gartrell (1986). Unfortunately, the available data for the Gini coefficient of income inequality refer to the period "circa 1969" (Hoover 1989), which is earlier than our time period of interest (1980-90). Although income distribution is a reasonably stable feature of societies (Muller 1988), the measurement error associated with this time lag could attenuate the effects of income inequality in our analyses.

The second measure reflects an ascriptive form of economic inequality: economic discrimination against social groups. The specific measure is an ordinal rating scale based on expert judgments about the extent to which groups experience objective economic disadvantages that are attributable to deliberate discrimination. A nation's score represents the most extreme level of economic discrimination experienced by any minority group in that nation. The economic discrimination index is based on information contained in the "Minorities at Risk" data file compiled by Gurr (Gurr & Scarritt 1989).

Data for all variables except the Gini coefficient and economic discrimination are available for the maximum sample of 45 nations (see Appendix A). In the analysis of this sample, mean substitution is applied to cases with missing data on the two measures of economic inequality. We also conduct parallel analyses on the subsample of nations with complete data across all variables to assess the sensitivity of the results to mean substitution.

TABLE 1: OLS Regressions of the Average Homicide Rate, 1980-90, on the Proxy Decommodification Index and Controls

	Equation			
Independent variable	1	2	3	4
Development index	-.104*	-.017	-.097*	-.097*
	[-.342]	[-.057]	[-.355]	[-.363]
Gini coefficient of	3.802	3.274	1.474	1.432
income inequality	[.246]	[.212]	[.108]	[.108]
Economic discrimination	.213*	.172	.151*	.146
index	[.226]	[.182]	[.180]	[.176]
Sex ratio (ln)	-5.709*	-5.754*	-5.509*	-5.551
	[-.248]	[-.250]	[-.268]	[-.157]
Decommodification index	—	-.209*	-.161*	-.161*
		[-.386]	[-.334]	[-.337]
R^2	.357	.402	.547	.548
Adjusted R^2	.293	.326	.487	.480
N	45	45	44	39

[a] Standardized regression coefficients are reported in brackets. Homicide rates are log (ln) transformed.
* Unstandardized regression coefficient is at least 1.5 times its standard error.

Results

Before turning to the multivariate analysis of homicide rates for the full sample of nations, it is instructive to examine the bivariate relationship between levels of homicide and Esping-Andersen's original decommodification index for the 18 advanced capitalist nations with available data. As expected, the Pearson correlation coefficient is inverse and statistically significant at the .05 level despite the small sample: $r = -.48$.[13] Nations with greater decommodification scores thus tend to have lower homicide rates.

Figure 1 presents the scatterplot for these two variables. A striking feature of the scatterplot is the distinctiveness of the U.S. Even with homicide rates expressed in natural logarithms, the rate for the U.S. is unusually high. The U.S. also has a very low decommodification score (the second from the bottom), suggesting that this case plays a major role in producing the observed inverse association.[14] It is thus important to determine whether decommodification exhibits the predicted association with homicide rates in a larger sample of nations not as sensitive to the influence of any single case.

The bivariate relationship between the decommodification proxy measure and homicide rates for the sample of 45 nations is highly similar to that observed with the original measure in the smaller 18-nation sample: $r = -.52$ (see Appendix B). Of course, the nations in this larger sample are quite heterogeneous, raising the possibility that at least some of the simple association between decommodification and homicide is confounded with the effects of other structural characteristics of nations.

To assess this possibility, we turn to the multivariate analyses. Table 1 reports the estimates from four multiple regressions. The first column of the table provides a baseline model that includes only the control variables. Consistent with past research (Krahn, Hartnagel & Gartrell 1986; Messner 1989), the two indicators of economic inequality — the Gini coefficient of income dispersion and the index of economic discrimination against social groups — yield moderate positive effects on homicide rates, although the coefficient for the Gini coefficient does not quite reach statistical significance. Both the development index and the sex ratio are negatively related to homicide rates. The negative coefficient for development is consistent with the "modernization thesis" on crime, which predicts a decline in rates of violent crime with greater urbanization and industrialization (Gurr 1989; Shelley 1981). This finding is similarly compatible with arguments that development is associated with reduced opportunities for the kinds of interpersonal contacts that lead to homicide (LaFree & Kick 1986). In addition, the negative effect of development probably reflects demographic factors captured by the composite index (an elderly population and low population- growth rates).

The negative association observed for the sex ratio is counter-intuitive. It indicates that low homicide rates tend to be found in nations with large numbers of males relative to females. This association is contrary to individual-level research on criminal violence, which shows higher levels of victimization and offending for males, but it is compatible with arguments by Messner & Sampson (1991). They suggest that low sex ratios may promote family arrangements that are conducive to crime and that counterbalance the crime-reducing compositional effect at the macro-level of relatively small male populations.

In equation 2, the decommodification proxy index is added to the baseline model. The results are consistent with theoretical predictions. Decommodification exhibits a significant, negative relationship with homicide rates net of the control variables. The standardized coefficient ($B = -.386$) is moderately strong and is the largest for any of the predictors in this model.[15] Comparing across equations 1 and 2, including the decommodification measure in the model reduces slightly the effect of the Gini coefficient and the economic discrimination index, while the coefficient for the sex ratio remains virtually unchanged. The most dramatic change is observed for the development index, the effects of which become trivial in equation 2.

Equation 3 estimates the same model as equation 2 for the subsample of 44 nations without Syria, an outlier on homicide. Excluding this case raises

TABLE 2: Effects of the Proxy Decommodification Index on the Average Homicide Rate, 1980-90, across Alternative Specifications

	Sample[a]		
Model	A	B	C
1. Excluding the development index	-.227* [-.419]	-.258* [-.535]	-.232* [-.487]
2. Excluding the Gini coefficient	-.225* [-.414]	-.166* [-.345]	-.159* [-.333]
3. Excluding the economic discrimination index	-.240* [-.443]	-.187* [-.387]	-.187* [-.392]
4. Excluding the sex ratio (ln)	-.208* [-.383]	-.160* [-.331]	-.175* [-.367]
N	45	44	39

[a] Standardized regression coefficients are reported in brackets. Homicide rates are log (ln) transformed.

[b] Sample A is the maximum sample yielded with mean substitution for income inequality and economic discrimination; sample B excludes Syria; sample C is the sample yielded with listwise deletion of cases with missing values.

* Unstandardized regression coefficient is at least 1.5 times its standard error.

the explanatory power of the model appreciably (compare the adjusted R^2s) and increases the observed effect of the development index in comparison with the previous model. The effect for the decommodification index is lessened slightly in equation 3 in comparison with equation 2, but it remains significant and moderately strong.

In the final equation (equation 4), the analysis is repeated without mean substitution, which is required in the analysis of the larger samples for cases with missing values on the Gini coefficient and the economic discrimination index. The results for the theoretically strategic measure prove to be very similar to those in the previous equations. Nations with high scores on the decommodification index tend to have low homicide rates, net of the effects of the other variables in the models.[16]

To assess further the sensitivity of the effects of the decommodification proxy to alternative specifications, we re-estimate the regressions deleting each of the control variables, one at a time. These analyses are performed on the full sample of nations, the subsample without Syria, and the subsample without mean substitution. Table 2 reports the regression coefficients for the decommodification proxy across these alternative specifications for the respective samples. The results reveal a highly robust pattern. Consistent with

our theoretical argument, the coefficients for decommodification are negative, significant, and moderately strong in all specifications.

Our findings for other predictors of homicide are less stable, as shown in Table 1, although the overall patterns of relationships are theoretically meaningful. The instability in the estimates for the development index may reflect problems of multicollinearity. Despite our efforts to simplify the covariance structure of predictors through principal components indexing, a troublesome degree of multicollinearity remains for this variable.[17] We also suspect that the rather unimpressive effects of income inequality are attributable, at least in part, to measurement error (noted earlier) resulting from the time lag between the measurement of inequality and homicide rates.

Finally, we consider the possibility that the observed effect of decommodification applies only to the nations originally studied by Esping-Andersen and not to other nations in the sample. We do so by creating a dummy variable coded 1 for nations in Esping-Andersen's sample and 0 for the other nations, and by constructing a product term for this dummy variable and the decommodification proxy. The product term is then added to the regression models for each of the three samples reported in Table 1, along with the constituent terms. In all cases, the coefficients for the product term fail to attain statistical significance. This finding suggests that the net effect of decommodification on homicide rates for the nations originally studied by Esping-Andersen is comparable to the effect observed for the other nations in the analysis.

SUMMARY AND CONCLUSIONS

In this article, we have addressed the consequences of political restraints on the market for societal levels of lethal violence. Drawing upon recent work on the nature of welfare state regimes, the institutional-anomie theory of crime, and previous cross-national analyses of homicide, we have derived a specific hypothesis that overall levels of homicide will be lower in capitalist societies that have decommodified labor by reducing dependence on the market for personal well-being. This hypothesis has been tested in cross-national regression analyses using a theoretically grounded measure of decommodification, along with relevant controls.

The results support our basic hypothesis. Controlling for a wide range of other structural characteristics of nations, the decommodification measure exhibits a significant negative effect on homicide rates. This effect is moderately strong and is robust across alternative specifications and varying subsamples. Our analyses thus replicate the findings of previous cross-national studies of homicide that have incorporated measures of social welfare spending, and they indicate that these earlier findings are generalizable to larger samples of nations and to more inclusive measures of homicide.

Our research also lends credibility to the theoretical perspective informing the analysis — the institutional-anomie theory of crime — and helps to

empirically distinguish this perspective from more conventional stratification-based accounts of variation across societies in the level of homicide. Although these perspectives are in many respects complementary, there are two important distinctions between them.

First, institutional-anomie theory broadens the *structural* focus of traditional economic stress or deprivation perspectives by directing attention to aspects of the economic organization of market societies beyond the stratification system, and to the interplay of the economy and other social institutions. In this article, we have restricted our attention to restraints imposed on market economies by the political system. Additional research is needed on the role of other institutions, such as the kinship, religious, and educational systems, in fostering or curbing crime in market societies. Such an expanded institutional focus might help to account for nations such as Japan and Ireland, which have exceptionally low levels of homicide among the developed countries, and yet only moderate scores on the decommodification index (see Figure 1). In the case of Japan, we would attribute the low rate of homicide to the prominent role of the family and its restraining influence on the anomic forces emanating from the market (cf. Adler 1983). It would seem promising to pursue in further research the corresponding role of organized religion in a nation such as Ireland.

A second difference between institutional-anomie theory and more traditional economic perspectives on societal levels of crime involves the significance assigned by institutional-anomie theory to *cultural* orientations, which ostensibly operate in tandem with features of economic stratification. It is not possible to document any such cultural effects with the existing data because valid and reliable measures of culture are not available for cross-national analysis, but it is interesting to note that our development index captures to some extent levels of economically induced deprivation via the indicators of overall economic resources (GDP/capita) and life chances (infant mortality and life expectancy). The effects of decommodification on homicide rates net of the development index are thus at least suggestive of the kinds of cultural dynamics postulated by institutional-anomie theory.[18] Nevertheless, further research is clearly needed to clarify the precise nature of the social mechanisms linking the welfare state, institutional balance, and levels of crime and violence in market societies.

We close with a final comment on the practical implications of our analysis. It is hardly an exaggeration to claim that the current era is one of profound social change in the history of capitalism. With the fall of the Soviet empire and with the economic reforms taking place in the People's Republic of China, a much larger segment of the world's population is exposed to market arrangements. Moreover, in the U.S. and other advanced capitalist societies, there have been growing concerns about the scope, cost, and even the very logic of the welfare state (e.g., Stevenson 1995; Whitney 1995). If the findings reported here are sustained in subsequent research, then proposals to substantially reduce social welfare spending and deregulate market

economies should be considered with due regard for unintended social consequences, including possibly higher rates of criminal violence.

Notes

1. See, for example, Archer & Gartner (1984); Avison & Loring (1986); Braithwaite & Braithwaite (1980); Conklin & Simpson (1985); Fiala & LaFree (1988); Gartner (1990); Groves, McCleary & Newman (1985); Kick & LaFree (1985); Krahn, Hartnagel & Gartrell (1986); Krohn (1976); LaFree & Kick (1986); Messner (1980, 1982, 1989); and Wellford (1974).

2. From a more critical perspective, the function of the welfare state is to stabilize the capitalist economic order and legitimate class rule (Habermas 1989; O'Connor 1973). See Esping-Andersen (1990:12-14) for a discussion of the similarities between structural functionalist and Marxist approaches to the modernization process.

3. Esping-Andersen (1990) defines the market replacement value of social entitlements as the difference between benefit levels and "normal earnings or the standard of living considered adequate and acceptable in the society" (47).

4. Merton directs attention to the contemporary U.S. in his discussion of the nature and sources of anomie, as do Messner and Rosenfeld (1997) in their discussion. However, as Gouldner (1970) suggests, Merton's arguments (and by extension Messner and Rosenfeld's) can be applied more generally to societies dominated by a market economy, i.e., to "bourgeois utilitarian societies." In Gouldner's words: "The 'almost exclusive concern with outcomes' to which Merton refers is a distinctive characteristic of utilitarian culture; it is not an aberration of utilitarian society but its normal cultural emphasis" (1970:68; see also Rosenfeld & Messner 1997).

5. Messner and Rosenfeld's discussion of economic dominance in the institutional balance of power raises themes similar to those contained in Currie's analysis of a "market society" as distinct from a "market economy." According to Currie (1991:255), a market society refers to "one in which the pursuit of private gain becomes the organizing principle of all areas of social life — not simply a mechanism that we may use to accomplish certain circumscribed economic ends."

6. John Gagnon comments on the general tendency in market societies for the logic of the economy to permeate discourse over an ever widening range of social phenomena, both inside and outside academic social science: "Within the social sciences there has been a 100-year struggle to extend the reach of economic metaphors and analyses to include all aspects of mental and social life. Outside the social sciences, in practical society, a parallel attempt to subject all forms of conduct to the discipline of commodification and pricing has become part of the normal order" (Gagnon 1994:1078).

7. The categories for the origin of social security receipts are: contributions from insured persons, contributions from employers, special taxes, state participation, other public participation, income from capital, and "other" receipts. The categories for the distribution of benefits are: sickness-maternity, employment injuries, pensions, unemployment, and family allowances.

8. The factor loadings for the decommodification index, average annual benefits per household, expenditures as a percent of GDP, and the percent of benefit expenditures allocated to employment injuries are .90, .86, .82, and -.82 respectively. Although these loadings are reasonably high, some unshared variance obviously remains. This probably reflects the limitations of expenditure data as indicators of the "theoretical substance of

the welfare state," as well as random measurement error. See Esping-Andersen (1990:18-21).

9. In the construction of the index, we reverse the polarity of the item on the distribution of benefits by using the percentage of benefits distributed to categories other than employment injuries (i.e., 100 — "the percent distributed to employment injuries"). This ensures that all items are scored in a consistent direction.

10. See Bennett and Lynch (1990), Huang (1993), Kalish (1988), and Messner (1992) for discussions of the quality and comparability of international crime statistics.

11. We plotted the residuals from an OLS regression of the untransformed homicide rate against predicted Y values. The scatterplot conforms to a classic heteroskedastic "fan" pattern, with greater variance in residuals for higher predicted Y values (Hamilton 1992:117). The plot for residuals with the transformed homicide rates reveals a more homoskedastic distribution. The transformation of homicide rates implies that the modeled relationship between homicide and other variables is curvilinear with respect to the original metrics. For a discussion of the interpretation of regression coefficients under different transformations, see Hamilton (1992:145-82).

12. Three additional controls were considered in preliminary analyses but were excluded because they consistently failed to yield appreciable net associations with homicide rates: population size, population density, and Gurr's institutionalized democracy index (ICPSR 1990).

13. Although tests of statistical significance are not technically applicable given the nonrandom nature of the sample, we nevertheless follow the common practice of reporting significance as a rule-of-thumb to identify nontrivial relationships. The criterion for significance in the regression analysis is a t ratio of 1.5, which corresponds approximately to the .05 level (one-tailed test).

14. With the U.S. removed from the sample, the correlation between the homicide rate and decommodification score drops to $r = -.25$. Although still in the expected direction and moderately strong, this correlation is not statistically significant for the remaining 17 nation sample. The outlier status of the U.S. in the homicide distribution depicted in Figure 1 is consistent with the hypothesis derived from institutional-anomie theory that a society characterized by economic dominance will have unusually high levels of serious crime. See Messner and Rosenfeld (1997). More generally, the proposition that the U.S. is distinctive on a number of social and cultural dimensions when compared with other advanced industrial nations is part of the thesis of "American exceptionalism." See Lipset (1996) for a recent statement.

15. In this larger sample of nations, removing the U.S. has a minor impact on the observed relationship between the decommodification proxy and homicide rates. The association is still moderately inverse and statistically significant. The unstandardized regression coefficient without the U.S. is -.200; the B coefficient is -.361.

16. We computed values of Cook's D for each of the three subsamples in Table 1 to search for influential cases in the estimation of regression parameters. No case reaches the generally accepted critical value of "1" on this diagnostic statistic. As a further check for a disproportionate impact of a single case or a small number of cases on the parameter estimates, we performed a robust regression on the full sample using the Huber iteratively reweighted least squares technique (Hamilton 1992:183-216). The robust WLS results for the decommodification index are virtually identical to those obtained through OLS: the unstandardized coefficients are -.217 and -.209, respectively.

17. Appendix C reports variance inflation factors (VIF) for the independent variables in the analyses of the respective samples. The values for the development index in all instances exceed the conventional threshold for high multicollinearity of 4.0. This problem is particularly severe in the analysis of the 39 nation sample without mean substitution. The VIFs for the decommodification proxy, however, are always below the conventional criterion.

18. Similarly, in her analysis of the relationships between family structure, welfare expenditures, and child homicide, Gartner (1991) proposes a broader interpretation of indicators of welfare practices, suggesting that "perhaps spending on social programs should be thought of as an indicator of a cultural orientation or social ideology inhibiting personal violence" (238).

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APPENDIX A: Sample of Nations

Argentina	Mauritius
Australia	Mexico
Austria	Netherlands
Belgium	New Zealand
Brazil	Norway
Canada	Panama
Chile	Peru
Colombia	Portugal
Costa Rica	Singapore
Denmark	Spain
Dominican Republic	Sri Lanka
Ecuador	Sweden
Egypt	Switzerland
El Salvador	Syria
Finland	Thailand
France	Trinidad
Germany, Federal Republic	United Kingdom
Greece	United States
Guatemala	Uruguay
Ireland	Venezuela
Israel	
Italy	
Jamaica	
Japan	
Kuwait	

APPENDIX B: Correlations and Univariate Statistics

I. Correlation Matrix

	Y	X1	X2	X3	X4	X5
(Y) Average homicide rate (ln)	1.00	-.52	-.44	.51	.34	-.02
(X1) Decommodification index		1.00	.82	-.63	-.28	-.38
(X2) Development index			1.00	-.68	-.19	-.46
(X3) Gini coefficient				1.00	.34	.17
(X4) Economic discrimination index					1.00	.13
(X5) Sex ratio (ln)						1.00

(N = 45)

II. Univariate Statistics

	Mean	Standard Deviation
Average homicide rate (ln)	.97	1.29
Decommodification index	.00	2.38
Development index	.00	4.24
Gini coefficient	.40	.08
Economic discrimination index	1.63	1.37
Sex ratio (ln)	4.59	.06

(N = 45)

APPENDIX C: Variance Inflation Factors for Fully Specified Models across Different Samples of Nations

	Sample		
	Maximum	Excluding Syria	No Mean Substitution
Predictors			
Development index	4.2	4.3	7.6
Gini coefficient	2.2	2.3	2.9
Economic discrimination index	1.2	1.2	1.3
Sex ratio (ln)	1.4	1.3	2.6
Decommodification index	3.3	3.3	3.4
N	45	44	39